SR-60/World Logistics Center Parkway

Aerially Deposited Lead Survey

Riverside County, California

City of Moreno Valley

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Proposed SR-60/WLC Parkway Interchange Improvements
PM 20-22, Bridge No. 56-0488 (N 33.93928, W 117.13927)
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This *Aerially Deposited Lead (ADL) Survey* is presented in support of the *Project Approval and Environmental Document (PA&ED) Phase* of the project. The purpose of the ADL Survey is to develop information on the concentrations of lead in soils in accordance with the California Department of Transportation (Caltrans) Aerially Deposited Lead Guidance (Caltrans, 2007), and establish cost effective management practices of ADL-impacted soils during construction that are protective of human health and the environment, complies with federal, state and local regulations, and minimizes long-term liabilities.

This report has been prepared by Leighton Consulting Inc. (Leighton) under the direction of the following registered professional.

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ACRONYM LIST

ADL - Aerially Deposited Lead
bgs - Below Ground Surface
Caltrans - California Department of Transportation
CEQA - California Environmental Quality Act
CFR - Code of Federal Regulations
CHHSL - California Human Health Screening Level
DI - Deionized Water
DQO - Data Quality Objective
DTSC - Department of Toxic Substances Control
EPA - Environmental Protection Agency
FHWA - Federal Highway Administration
FONSI - Finding Of No Significant Impact
ft - Foot/Feet
GPS - Global Positioning System
HSP - Health and Safety Plan
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
LOS - Level of Service
MDL - Method Detection Limit
mg/kg - Milligrams per Kilogram
mg/L - Milligrams per Liter
mi - Mile
MND - Mitigated Negative Declaration
MS - Matrix Spike
MSD - Matrix Spike Duplicate
NAD 83 - North American Datum of 1983
NEPA - National Environmental Policy Act
OSHA - Occupational Safety and Health Administration
PARCC - Precision, Accuracy, Representativeness, comparability, and Completeness
pH - Negative logarithm of the hydrogen ion concentration of a substance in moles per liter.
PM - Post Mile
PPE - Personal Protective Equipment
PQL - Practical Quantitation Limit
QA/QC - Quality Assurance/Quality Control
RTP - Regional Transportation Plan
RPD - Relative Percent Difference
SCAG - Southern California Area Governments
SCS - Sustainable Communities Strategy
SDG - Sample Delivery Group
SI - Site Investigation
SR-60 - State Route 60
STLC - Soluble Threshold Limit Concentration
TCLP - Toxicity Characteristic Leaching Procedure
TTLC - Total Threshold Limit Concentration

UCL - Upper Confidence Level
USA - Underground Service Alert
USC - United States Code
USCS - Unified Soil Classification System
WET-CA - California Waste Extraction Test Citric Acid
WET-DI California Waste Extraction Test Deionized Water

EXECUTIVE SUMMARY

Leighton Consulting, Inc. (Leighton) performed an Aerially Deposited Lead (ADL) Survey for the State Route 60 (SR-60) Freeway World Logistics Center Parkway (WLC Pkwy) Interchange Improvement Project within the City of Moreno Valley in Riverside County, California (Figure 1). The work has been conducted to assess areas of potential lead impacted soil within the California Department of Transportation (Caltrans) right-of-way.

The subject alignment currently consists of Post Miles (PM) 20-22 and Bridge No. 56-0488 (collectively referred to as the "project") (see Figure 1 – Site Location Map). SR-60 is predominately a four lane divided urban freeway with two 12-foot wide lanes in each direction. The inside and outside shoulders vary in width due to the steep sloping topography in the area. The structural section of the existing mainline is asphalt concrete pavement.

The alignment is and has been historically part of SR-60 and the potential for historical soil impacts from aerially deposited lead (ADL) exists. ADL in soil results from emissions from vehicles using leaded gasoline. The shallow soil in unpaved areas near highways often contains lead in concentrations above thresholds deemed hazardous under California regulations. If hazardous soil is to be excavated or disturbed by construction activities, regulations require the soil to be disposed of at an appropriate facility or placed under roadways using the Department of Toxic Substances Control (DTSC) draft management agreement and assessed for adequate worker protection during construction (DTSC, 2009 and 2016).

On March 2nd and 3rd, 2016, a total of 31 borings and three duplicate borings were advanced at approximately 400-foot intervals on the shoulders and ramps of the study area of SR-60 to investigate the presence of ADL (Figure 2) and collected 134 soil samples (including duplicate samples) in accordance with the Caltrans approved workplan (Leighton, 2015b). Discrete soil samples were collected from each soil boring at depths of 0.5, 1.0, 2.0, and 5.0 feet below ground surface (bgs) or practical refusal utilizing a direct push drill rig. A previous study was conducted (Leighton and Associates, 2008) which included the advancement of 21 borings at approximately 250 foot intervals along the southern shoulder of SR-60 between Redlands Boulevard and Theodore Street and collected 84 soil samples. Discrete soil samples were collected at depths of 0.5, 1.0, 2.5 and 5.0 feet bgs or practical refusal utilizing a hand auger. A copy of this report can be found in Appendix E.

In total, two hundred and eighteen soil samples were analyzed by the laboratory for total threshold limit concentrations (TTLC) lead by EPA Method 6010B. Based on the results of the TTLC lead analyses, eight soil samples with total lead concentrations greater than 50 mg/kg but less than 1,000 mg/kg were analyzed for soluble threshold limit concentration by the California Waste Extraction Test using citric acid (WET-citric) (DTSC, 2009). Three soil samples were found to contain WET-Citric lead concentrations greater than 5mg/l; these samples were subsequently analyzed by the California Waste Extraction Test using deionized water (WET-DI). In addition, twenty five soil samples were also analyzed for soil pH by EPA Method 9045.

Statistical analysis identified the 95% upper confidence limit (UCL) for the population mean for TTLC lead was 17.65 mg/kg. The 95% UCL for soluble lead (STLC WET citric acid), with laboratory supplied data only, was 4.11 mg/l; therefore, tested soil does not represent significant environmental or health hazards and can be classified as non-hazardous (DTSC, 2009 and 2016). The average TTLC lead concentrations are below the revised California Human Health Screening Level (CHHSL) of 80 mg/kg for unrestricted land use (EPA, 2009).

Based on the ADL Survey data and statistical analysis, tested soil does not represent significant environmental or health hazards and, according to the DTSC draft soil management agreement issued to Caltrans, can be classified as soil type X, non-hazardous, and can be reused on site. Per the draft soil management agreement effective June 30, 2016 (DTSC, 2016), the DTSC must be notified of the project, and a Lead Compliance Plan is required for worker safety. A copy of the draft soil management agreement is included in Appendix F.

1.0 INTRODUCTION

1.1 Existing Facilities and Proposed Improvements

A segment of Theodore Street has been renamed to World Logistics Center Parkway (WLC Pkwy). The SR-60/Theodore Street Interchange Project will now be referred to as the SR-60/World Logistics Center Parkway Interchange Project (Project).

The City of Moreno Valley (City), in cooperation with the California Department of Transportation (Caltrans), District 8, proposes to reconstruct and improve the State Route 60 (SR-60)/WLC Pkwy interchange. The majority of the project site is located in the City of Moreno Valley; however, the northeast quadrant of the site is located within unincorporated Riverside County (County) but within the City's Sphere of Influence. The purpose of the project is to alleviate existing and future traffic congestion at the SR-60/WLC Pkwy interchange ramps during peak hours, to improve traffic flow along the freeway and through the interchange, to improve safety by upgrading the geometry at the current interchange, and to provide standard vertical clearance for the WLC Pkwy overcrossing.

The project will be funded with a variety of funding sources including federal and local funds and, as such, will be required to comply with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans will be the Lead Agency for CEQA, the City is a Responsible Agency under CEQA, and the Federal Highway Administration (FHWA) is the federal Lead Agency for NEPA. The environmental review, consultation, and any other action required in accordance with the applicable federal laws for this project will be carried out by Caltrans under its assumption of responsibility pursuant to 23 United States Code (USC) 327. Therefore, preparation of the NEPA compliance documents, including the technical studies and the environmental document, will have oversight by Caltrans District 8. An Initial Study/Environmental Assessment (IS/EA) (joint CEQA/NEPA document) is being prepared and is anticipated to result in a Mitigated Negative Declaration/Finding of No Significant Impact (MND/FONSI).

Although the City's General Plan Circulation Element designates WLC Pkwy as a Minor Arterial (two lanes in each direction), existing WLC Pkwy through the project limits is one travel lane in each direction, including on the overcrossing over SR-60. Existing SR-60 between Redlands Boulevard and Gilman Springs

Road is two mixed-flow travel lanes in each direction. The proposed project would construct modifications to the existing SR-60/WLC Pkwy interchange from Post Mile 20.0 to Post Mile 22.0 on SR-60, a distance of approximately 2 miles (mi). Major improvements to the interchange will include: (1) reconstruction of the westbound and eastbound on- and off-ramps to SR-60, (2) replacement of the existing WLC Pkwy overcrossing with an expanded four-lane overcrossing (two through lanes in each direction) with a minimum 16.5-foot (ft) vertical clearance between the eastbound and westbound SR-60 ramps and reconstruction of WLC Pkwy between the southern limits of the project and the eastbound SR-60 ramps, and (3) construct three lanes each direction on WLC Pkwy between the eastbound SR-60 ramps and Eucalyptus Avenue west (Eucalyptus Avenue west of WLC Pkwy); construct two lanes each direction but grade for three lanes each direction on WLC Pkwy between Eucalyptus Avenue west and Eucalyptus Avenue east (Eucalyptus Avenue east of WLC Pkwy); south of Eucalyptus Avenue east WLC Pkwy would narrow to one lane in each direction. The proposed improvements to the on- and off-ramps would extend west and east of the proposed overcrossing on SR-60 for proposed auxiliary lanes in each direction. The proposed improvements to Theodore Street/WLC Pkwy would extend north of SR-60 to Ironwood Avenue and south of SR-60 to south of Eucalyptus Avenue. Project construction is anticipated to begin in early 2022 and be completed in winter 2023, contingent upon full funding of all phases.

An existing Caltrans paved material transfer area located in the southwest quadrant of the existing SR-60/WLC Pkwy interchange, within the existing eastbound loop on-ramp, is currently used as a temporary site for the transfer of street sweeping materials. The existing paved material transfer area will be relocated to the SR-60/Gilman Springs interchange area as part of the proposed project.

Three alternatives and two design variations will be evaluated in the environmental document for the proposed project: Alternative 1 (No Build Alternative [no project]), Alternative 2 (Modified Partial Cloverleaf), Alternative 6 (Modified Partial Cloverleaf with Roundabout Intersections), Alternative 2 with Design Variation 2a and Alternative 6 with Design Variation 6a. The Design Variations for each Build Alternative are similar and would realign Eucalyptus Avenue to join WLC Pkwy approximately 900 ft south of the existing Eucalyptus Avenue/WLC Pkwy intersection. Both Build Alternatives and Design Variations would require full right-of-way acquisitions. Design Variation 6a would require the

same amount of acquisitions with an additional full acquisition in the southeast quadrant of the interchange that would result in one residential displacement. There would be partial right-of-way acquisitions within all four quadrants of the interchange.

During the construction phase of the proposed project, removal of the existing overcrossing and construction of the new overcrossing and ramps would interfere with access to the SR-60 at WLC Pkwy. The WLC Pkwy overcrossing is being evaluated for closure during construction of the proposed project. Therefore, if not done prior to this project, Eucalyptus Avenue would be extended and improved approximately 5,100 ft between WLC Pkwy and Redlands Boulevard to provide a detour route to SR-60. The improvements to Eucalyptus Avenue will be constructed early in the construction schedule, prior to the closure of the WLC Pkwy overcrossing. North of the freeway, access to SR-60 during construction would be provided via Ironwood Avenue and Redlands Boulevard. South of the freeway, access to SR-60 would be provided via Alessandro Boulevard and Gilman Springs Road and via Eucalyptus Avenue and Redlands Boulevard. Additional intersection improvements are proposed along the detour routes to facilitate vehicle movement. As a result, widening is proposed at the Redlands Boulevard/Ironwood Avenue, WLC Pkwy/Alessandro Boulevard, and Alessandro Boulevard/Gilman Springs Road intersections. Consequently, signal modifications are proposed at the Redlands Boulevard/Ironwood Avenue and Redlands Boulevard/Eucalyptus Avenue intersections. A new signal would be installed at the Gilman Springs Road/Alessandro Boulevard intersection due to the high through movements on Gilman Springs Road conflicting with left turns to and from Alessandro Boulevard. The improvements required for the detour routes also include utility adjustments and/or relocations at Redlands Boulevard/Ironwood Avenue, WLC Pkwy/Alessandro Boulevard, and Alessandro Boulevard/Gilman Springs Road.

Project construction would also involve the import of soils to the project site from a Borrow Site. One borrow site, the City Stockpile, is located at the northwest corner of the intersection of Alessandro Boulevard/Nason Street, approximately 2.3 mi from the western boundary of the project site. Approximately 50,000 cubic yards of import material will be imported to the project from the City Stockpile borrow site. The City Stockpile will be environmentally cleared with this project. Additional fill material beyond the 50,000 cubic yards will be necessary for the

project and will come from another site(s) to be determined during future phases of the project.

1.2 Need and Purpose

The purpose of the proposed project is to:

1. Provide increased interchange capacity, reduce congestion, and improve traffic operations to support the forecast travel demand for the 2045 design year;
2. Improve existing and projected interchange geometric deficiencies; and
3. Accommodate a multimodal facility that has harmony with the community and preserves the values of the area.

The proposed project is needed for the following reasons:

1. According to the demographics and growth forecast prepared for the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), between 2012 and 2040, Riverside County's population is expected to increase by 41 percent, job growth is anticipated to increase by 90 percent, and households are anticipated to increase by 51 percent. For Moreno Valley specifically, between 2012 and 2040, population is anticipated to increase by 30 percent, households jobs are anticipated to increase by 165 percent, and households are anticipated to increase by 41 percent. This calculation of anticipated job growth in Moreno Valley comes from data in the SCAG RTP/SCS Demographics and Growth Forecasts Appendix, and accurately reflects the City's forecasted growth rate for new employment. This employment spike may be due to the anticipated development of the World Logistics Center and other major employment centers within the growth horizon. Without improvements, in the year 2045, the eastbound and westbound on-and off-ramps are anticipated to operate at unacceptable levels of service (LOS) (LOS E in the a.m. peak hour and F in the p.m. peak hour, respectively) and the ramp intersections with WLC Pkwy are anticipated to operate at LOS F for both the a.m. and p.m. peak hours. The westbound mainline segment on SR-60 between WLC Pkwy and Redlands Boulevard is anticipated to operate at LOS E during the a.m. peak hour. The Theodore Street intersections with Ironwood Avenue and the WLC Pkwy intersections with the SR-60 westbound

and eastbound ramps, and Eucalyptus Avenue are forecast to operate at LOS F in the p.m. peak hour.

2. The overpass bridge at the interchange was hit in January 2015 and a costly emergency repair project was required, so there is a need to bring vertical clearance up to current standards. In addition, the WLC Pkwy overcrossing is geometrically deficient and needs additional capacity to accommodate projected future travel volumes.
3. This project will fulfill the need to accommodate the movement of people using multiple modes of transportation by community-based design taking into consideration the natural environment, social environment, transportation behavior, cultural characteristics and economic environment.

2.0 SAMPLING STRATEGY AND RATIONALE

ADL is the result of tetraethyl lead, which was added to gasoline for many years to prevent gasoline engine knocking. Lead was present in the vehicle exhaust emissions, was aerially deposited, and has been found in the soils adjacent to major thoroughfares. The Department has obtained a draft soil management agreement (DTSC, 2016) for ADL impacted soils from the Department of Toxic Substances Control (DTSC, 2016). The ADL Survey was performed in accordance with the Department-approved Workplan (Leighton Consulting, 2015b) and consisted of the following tasks:

- An assessment of possible ADL in exposed soils within the shoulders and ramps of SR-60 at WLC Pkwy by collecting discrete surface and subsurface soil samples for analysis of lead in order to supplement our previous data (Leighton and Associates, 2008).
- Analysis of total lead and leachable lead concentrations in soil samples.
- A statistical analysis of the analytical results and a comparison of these results to disposal and reuse options.

3.0 PRE-FIELD ACTIVITIES

3.1 Health and Safety Plan

In accordance with standard environmental procedures, we prepared a Health and Safety Plan (HSP) describing safety aspects of the work to be performed at the site. The HSP was prepared in compliance with the Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1910.120 and reviewed by a certified industrial hygienist in accordance with Department Guidelines (Department, 2007c). The HSP contains information on chemical and physical hazards, emergency response plans, and information on routes to hospitals and emergency contacts. The site-specific HSP was on site during field activities and reviewed and signed by each of the site personnel.

3.2 Utilities

We contacted Underground Service Alert (USA) a minimum of 48 hours prior to the commencement of subsurface field activities as required by law. Our field personnel met with representatives of the utility services in the field to locate existing utility lines. Utility maps provided by the project engineer were loaded into global positioning system (GPS) software and utilized by field personnel during the investigation to evaluate potential utility conflicts. No utilities were encountered during field operations.

3.3 Encroachment Permit

We had an encroachment permit for the fieldwork conducted within the Department right-of-way. The permit number was referenced 08-RIV-60 PM 20-PM 22 and was dated September 9, 2013, and expired September 1, 2016. We notified the inspector 10 days prior to field sampling activities per the permit requirements. In addition, the Department Environmental Reviewer was notified at least 72 hours in advance of execution of field sampling.

3.4 Traffic Control

A Cone Zone, an experienced traffic control subcontractor, was contracted by us and was on site during the sampling activities and implemented appropriate traffic control (shoulder and ramp closure) in accordance with the encroachment permit and Department guidelines.

4.0 FIELD INVESTIGATION

4.1 ADL Survey

On March 2nd and 3rd, 2016, personnel observed and directed the advancement of 31 soil borings at approximately 400 foot (ft.) intervals (see Figure 2) to a maximum depth of 5.0 feet below ground surface (bgs). Soil samples were collected from each soil boring at depths of 0.5, 1.0, 2.0, and 5.0 feet bgs using a direct push drill rig. Two samples (A017-5.0 and A021-5.0) could not be collected due to shallow refusal at 2.0 feet bgs in these locations. Three duplicate borings were also drilled adjacent to their respective primary boring.

4.2 Sample Collection

Level D Personal Protective Equipment (PPE) was worn during field activities. This equipment included work clothes, steel-toed boots, hard hats, and traffic vests. A new pair of latex or nitrile gloves was worn when collecting each sample. The soils were described and classified using the Unified Soil Classification System (USCS) and description of visible evidence of soil contamination (e.g., odor, staining) was recorded on the boring log by the field geologist during sampling activities. Soil sample logs have been provided in Appendix A. Boreholes were backfilled with bentonite chips and hydrated with tap water.

The location of each borehole was measured by GPS equipment. Horizontal coordinates were calculated within an accuracy of 3 feet and reported in decimal degree units in accordance with the North American Datum of 1983 (NAD 83). Boring locations are depicted on Figure 2. Coordinates of each borehole have been provided in Appendix B.

4.3 Equipment Decontamination

Non-dedicated sampling equipment (i.e., hand auger, direct push sampler) was decontaminated before and after each sample was collected using the following procedures:

- Detergent wash scrub in first 5-gallon bucket
- Potable water rinse in second 5-gallon bucket
- Distilled water rinse in third 5-gallon bucket

- Final distilled water rinse pumped or poured directly from distilled water container into the third 5-gallon bucket

The equipment decontamination station, consisting of three 5-gallon buckets, was located on the opposite side of the direct push drill rig away from the sample preparation area. Sampling equipment was placed on clean Visqueen to dry. Each 5-gallon bucket was contained on top of plastic sheeting.

4.4 Sampling Containers, Preservation, and Holding Times

A summary of the Sampling and Analysis Program is presented in Table 1. The direct push soil samples were collected in new acetate sleeves, which were cut at the appropriate sampling depth in the field with a decontaminated hacksaw and sealed with Teflon sheets and tight-fitting plastic end caps and labeled with sample point identification. Each sample was placed in an ice chest cooled to approximately 4 degrees Celsius for storage and transportation under chain-of-custody procedures to Enviro-Chem, Inc. in Pomona, California, a State of California Certified laboratory.

4.5 Sampling Handling and Storage

In the field, each sample container was marked prior to sample collection with the sampling location number, depth, date and time of sample collection, sampler's name, type of analysis, and preservative used. Each of the sample containers was wiped with clean paper towels, sealed in Ziploc bags, and securely packed in a cooler on ice in preparation for delivery to the laboratory.

4.6 Sample Custody

For each sample that was submitted to the laboratory for analysis, an entry was made on the chain-of-custody form supplied by the laboratory. The information recorded included the sampling date and time, sample identification number, matrix type, requested analyses and methods, preservatives, and the sampler's name. Sampling team members maintained custody of the samples until they were relinquished to laboratory personnel. The chain-of-custody form accompanied the samples from the time of collection until received by the laboratory. Each party taking possession of the samples signed the chain-of-custody form signifying receipt. A copy of the original completed forms was provided by the laboratory along with the report of results. Copies of the chain-of-custody forms have been provided with the laboratory reports in Appendix C.

5.0 LABORATORY ANALYSIS

5.1 Analytical Methods Requirements

Analytical procedures applicable to samples obtained from the site are presented below. The reporting limits (practical quantitation limit) for each analyte tested are provided in the laboratory reports provided in Appendix C. The laboratory, Enviro-Chem, Inc. of Pomona, California, is certified by the Department of Public Health, Environmental Laboratory Accreditation Program (ELAP), certificate number 1555, for each analytical method performed.

5.2 ADL Survey

Soil samples collected during this and our previous ADL Survey were analyzed by a fixed-based State Certified Laboratory for total threshold limit concentration (TTLC) lead by EPA Method 6010B. Samples with TTLC lead above 50 mg/kg but less than 1,000 mg/kg were analyzed for Soluble Threshold Limit Concentration (STLC) by California Waste Extraction Test (WET) method using citric acid (WET-CA) (DTSC, 2009). An additional 10% of random soil samples from this investigation were also analyzed for WET-CA and WET-DI.

In addition, 25 total soil samples were analyzed for soil pH by EPA Method 9045 (Table 2).

6.0 QUALITY ASSURANCE PROJECT PLAN (QAPP)

We recognize that data quality comes from several different procedures, including field procedures, documentation procedures, and quality assurance/quality control (QA/QC) procedures. The necessary QA/QC procedures were performed in accordance with acceptable protocols. The data generated was evaluated to verify that it meets the overall project data quality objectives (DQOs) for precision, accuracy, representativeness, comparability, and completeness (PARCC). Sampling and analysis procedures, personnel requirements, chain-of-custody and documentation requirements, and specific criteria for evaluating data acceptability can be traceable.

We collected two types of QC samples: field duplicate samples and field equipment blank samples.

6.1 Field Duplicate Samples

A minimum of 10% of primary samples collected during this investigation were collected as field duplicates. Sets of samples (primary and duplicate) from a single source from adjacent borings were prepared, labeled with unique sample numbers, and submitted to the laboratory without cross-referencing data and without identification as duplicates on the parameter request sheet. Field duplicates were designated by adding 500-series numbers to the primary sample location numbers (e.g., A512-0.5).

6.2 Field Equipment Blanks

Field equipment blanks were prepared in the field to evaluate whether a sampling device (e.g., direct push sampler) had been effectively cleaned. The sampling device was decontaminated in accordance with the procedures described above. Metal-free, deionized water was then poured through the device, transferred to the appropriate sample bottles, preserved, and returned to the laboratory for analysis. One equipment blank was collected per sampling tool used at the site each day. The equipment blank was analyzed for constituents of concern. Equipment blanks were designated with E-series numbers and results are summarized on Table 2. Lead was not reported above the practical quantitation limits (PQLs) in the equipment blanks analyzed.

6.3 Laboratory QC Requirements

To obtain data on the precision, accuracy, and representativeness of the analytical results, the analytical laboratory analyzed the QC samples with

suspected contamination as specified by the Project Manager. The control limits and corrective actions for each parameter are specified in each analytical method. Laboratory analyses of soil and water required the following QC samples.

- Calibration verification following instrument calibration and once every tenth sample thereafter through the working day.
- Laboratory blank verification at instrument calibration and once every tenth sample thereafter through the working day to check instrument drift.
- Method blank analysis at a rate of once per batch of samples or one per 20 samples of a single matrix, whichever is more frequent, to evaluate contamination levels during preparation.
- Matrix spike/matrix spike duplicate (MS/MSD) analyses at a rate of one per batch of samples for each matrix type (e.g., soil, water) and concentration level (e.g., low, medium) or one in 20 samples, whichever is more frequent. The MS/MSDs are used to check for the ability to accurately and precisely recover compounds of interest from the matrix.
- The results of analyses of these QC samples were used as independent, external checks on laboratory and field contamination.

6.4 Laboratory

A QA/QC evaluation according to precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters was performed relative to the project data quality objectives (DQOs). The results of the laboratory data validation for PARCC parameters were reported to be within the acceptable goals of the EPA guidelines. Of the 134 soil samples collected, none of the sample results were rejected. The completeness was reported at 100% and met the DQO goal of 90%.

Environmental and laboratory QA/QC samples assess the effects of sampling procedures and evaluate laboratory contamination, laboratory performance, and matrix effects. QA/QC samples include: equipment rinsate blanks, field duplicates, method blanks, laboratory control samples (LCSs), surrogate spikes, matrix spike/matrix spike duplicates (MS/MSDs), and laboratory duplicates.

6.4.1 Precision

Precision is a measure of the agreement or reproducibility of analytical results under a given set of conditions. It is a quantity that cannot be

measured directly but is calculated from percent recovery data. Precision is expressed as the relative percent difference (RPD):

$$RPD = (D1-D2)/\{1/2(D1+D2)\} \times 100$$

Where D1 and D2 are the reported concentrations for sample and duplicate analyses, respectively.

Precision is primarily assessed by calculating an RPD from the percent recoveries of the spiked compounds for each sample in the MS/MSD pair. In the absence of an MS/MSD pair, a laboratory duplicate or LCS/LCSD pair can be analyzed as an alternative means of assessing precision. In some cases, samples from multiple sample delivery groups (SDGs) were within one QC batch and therefore are associated with the same laboratory QC samples. An additional measure of sampling precision was obtained by collecting and analyzing field duplicate samples, which were compared using the RPD result as the evaluation criteria (Table 3).

For inorganic analysis, one primary sample is analyzed and accompanied by an unspiked laboratory duplicate. The data reviewer compares the reported results of the primary analysis and the laboratory duplicate and then calculates RPDs, which are used to assess laboratory precision.

An RPD outside the numerical QC limit in either MS/MSD samples or LCS/LCSD indicates imprecision. Imprecision is the variance in the consistency with which the laboratory arrives at a particular reported result. Thus, the actual analytes concentration may be higher or lower than the reported result.

Possible causes of poor precision include sample matrix interference, improper sample collection or handling, inconsistent sample preparation, and poor instrument stability. In some duplicate pairs, results may be reported in either the primary or duplicate samples at levels below the reporting limit or non-detected. Since these values are considered to be estimates, RPD exceedances from these duplicate pairs do not suggest a significant impact on the data quality.

6.4.2 Accuracy

Accuracy is a measure of the agreement of an experimental determination and the true value of the parameter being measured. It is used to identify bias in a given measurement system. Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of MS, MSD, LCS, and samples containing surrogate spikes. Accuracy of

inorganic analyses is assessed using the percent recoveries of MS and LCS analyses.

Percent recovery (%R) is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

Where:

A = measured concentration in the spiked sample

B = measured concentration of the spike compound in the unspiked sample

C = concentration of the spike

The percent recovery of each analyte spiked in MS/MSD samples, LCS, and surrogate compounds added to environmental samples is evaluated with the acceptance criteria specified by the previously noted documents.

6.4.3 Representativeness

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population. It is evaluated by reviewing the QC results of blank samples and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks collected and analyzed are method blanks.

A method blank is a laboratory-grade water or solid matrix that contains the method reagents and has undergone the same preparation and analysis as the environmental samples. Method blanks were within acceptable limits.

6.4.3.1 Method Holding Times

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times are specific for each method and matrix analyzed. Holding times were not exceeded for the samples analyzed during this investigation.

6.4.4 Comparability

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. It provides an assessment of the equivalence of the analytical results to data obtained from other analyses.

It is important that data sets be comparable if they are used in conjunction with other data sets. The samples were collected under similar field conditions, sampling procedures, and laboratory methodologies and are therefore comparable.

6.4.5 Completeness

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness is evaluated to assess whether an acceptable amount of usable data was obtained so that a valid scientific site assessment can be completed. As specified in the project DQOs, the goal for completeness for target analytes in each analytical fraction is 90%.

Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

Where:

%C = percent completeness

T = total number of sample results

R = total number of rejected sample results

Completeness is also evaluated by comparing the planned number of samples per method and matrix with the number determined above. No analyses were rejected from the data sets and completeness is 100%.

6.5 Quality Control Soil Analysis Results

The analytical results of the field duplicates are summarized in Table 2. As a measure of sample precision, the analytical results of the field duplicates were compared to those of the co-located primary samples (Table 3).

As described above, precision is expressed as the relative percent difference (RPD):

$$RPD = (D1-D2)/\{1/2(D1+D2)\} \times 100$$

Where D1 and D2 are the reported concentrations for the primary sample and duplicate analyses, respectively.

Sample results reported below the method detection limit are considered identical, and no RPD is calculated. Only sample results above the practical quantitation limit (PQL) are used in the RPD comparison.

6.5.1 RPD

The RPDs for lead duplicate pairs reported above the PQL ranged from 3% to 180% (Table 4). The RPDs show a certain degree of variability in some of the duplicate pairs and appear to be a result of the heterogeneity within the soil or lead distribution. These heterogeneities may be a result of the mechanisms in which the lead was introduced to the soils and the subsequent disturbance of the soils near the sampling points or from mixed sources of lead. These variances do not appear to pose a significant bias to the data set.

7.0 RESULTS OF INVESTIGATION

This investigation includes the collection of 134 soil samples (including duplicate samples) from 31 soil borings in accordance with the Caltrans approved workplan (Leighton, 2015b) during this investigation and the incorporation of data from 84 samples from a previous ADL sampling performed in August 2008 where twenty-one soil borings and were advanced to depths of 5.0 feet below ground surface (bgs) on the eastbound SR-60 between Redlands Boulevard and Theodore Street (Leighton, 2008; Appendix D).

7.1 Total Lead – TTLC

Two hundred and eighteen (218) total soil samples, collected both from this survey and our previous survey (Leighton and Associates, 2008), were analyzed for TTLC lead by EPA Method 6010B and are summarized in Table 2. Lead was reported above the PQL in 196 of the 218 total soil samples collected during this and our previous investigation. The soil samples exhibited total lead concentrations ranging from 2.37 mg/kg to 378 mg/kg. The concentrations of lead detected are below the California Code of Regulation (CCR), Title 22 waste disposal criteria of 1,000 mg/kg TTLC lead (DTSC, 2009). Eight (8) soil samples exceeded 50 mg/kg lead and therefore were selected to be analyzed for WET-CA and three of those samples exceeded the 5 mg/l and were also analyzed by WET-DI. An additional percentage of soil samples were also selected for WET-CA and WET-DI for statistical purposes.

7.1.1 WET-CA

Twenty (20) soil samples were analyzed for soluble lead using the WET-CA method. Lead was reported above the detection limit in 17 of the 20 soil samples analyzed. WET-CA concentrations ranged from non-detect to 7.45 mg/l and are summarized in Table 2.

7.1.2 WET-DI

Fifteen (15) soil samples were analyzed for soluble lead using the WET-DI method. Lead was reported above the detection limit in 1 of the 15 soil samples analyzed. The single WET-DI concentration was 0.068 mg/l and is summarized in Table 2. None of the soil samples exceeded 5 mg/l soluble lead.

7.1.3 TCLP

The TCLP analysis was not conducted during this investigation. TCLP analyses were required for samples that exceed 5 mg/l when analyzed by the WET-DI Method or a TTLC lead greater than 50 mg/kg. None of the samples analyzed by the WET-DI method during this investigation exceeded the 5 mg/l limit.

7.1.4 pH

Twenty five (25) samples, selected at random, were analyzed for pH using EPA method 9045B. The pH values ranged from 7.55 to 8.94 and are summarized in Table 2. This is within the non-hazardous waste range of 3 to 12 and is more neutral than the 5.5 pH disposal criteria for lead impacted soils.

7.1.5 Statistical Analysis

We evaluated the results of the soil sample analyses to find the mean and the 95% upper confidence limits (UCLs) for lead in soil in accordance with SW-846, Chapter 9 (EPA, 2007). This evaluation was conducted to evaluate whether the soil would be considered a hazardous waste if excavated or whether it could be reused at the subject site in accordance with the DTSC draft soil management agreement, issued to Department, for management of soils containing ADL (DTSC, 2016). The draft soil management agreement uses the mean concentrations and 95% UCLs of the data to evaluate the appropriate disposition of the soil (DTSC, 2016).

Statistical methods were applied to the total and soluble data to analyze the distribution of the data sets (normal, lognormal, gamma, and/or non-parametric), whether there is an acceptable correlation between the total and soluble lead concentrations, and the 95% UCL on the mean value. Statistical methods used during this investigation and the calculated values were generated by utilizing the Environmental Protection Agency (EPA) statistical program, ProUCL, version 5.0 (USEPA, 2013).

The first step in determining the 95% UCL on the mean is establishing the type of distribution of the data set. Distribution was analyzed by creating histograms of the different data sets, including the non-detected values. The laboratory reporting limit was entered as the sample concentration for each of the non-detect samples. The histograms for the TTLC and STLC

citric acid values indicated a non-parametric distribution; therefore, the data could not be transformed. Histograms for the total and soluble lead concentrations are included in Appendix D.

7.1.6 Data Correlation

Data correlation is necessary to indicate the validity of predicted soluble lead concentrations of soil samples not analyzed for soluble lead by the laboratory. Using only those samples analyzed for both total lead (TTLC) and soluble lead (WET-CA), a correlation coefficient, r, was calculated for use as a quality check of the data. Linear regression analysis was used to calculate the R-value. The TTLC values versus the STLC values were plotted on a graph and a best-fit line was plotted for the data. To establish that the predicted values were above zero, the y-intercept was set to zero. The calculated equation of the line is y = 0.17436x and the R-value equals 0.118. Since the calculated value of the correlation coefficient, r, is below the limit of 0.8 (the referenced limit indicating a non-linear relationship between data sets), soluble lead concentrations cannot be predicted for samples that were not analyzed by laboratory. A graph of the linear regression analysis is included in Appendix D.

7.1.7 95% UCL

Once the distribution was confirmed using histograms, the data was again imported into ProUCL. Statistical evaluation of lead analytical results for the complete data set, including non-detects (NDs), was completed to calculate the confidence intervals. The 95% UCL for the population mean for total lead was 17.65 mg/kg. The 95% UCL for soluble lead (WET-CA), with laboratory-supplied data only, was 4.11 mg/l; therefore, the soil does not represent significant environmental or health hazards and can be classified as non-hazardous. The soil does not fit the definition of ADL-contaminated soil according to the DTSC draft soil management agreement issued to the Department effective June 30, 2016. ProUCL data sheets are provided in Appendix D. The soils are below the DTSC HERO Human Health Risk Assessment Note 3 lead screening level for unrestricted land use of 80 mg/kg and do not pose a significant health risk to worker safety (DTSC, 2016b). The following is an inventory of the current lead management criteria under the 2016 agreement:

ADL Soil Management Classification*	Soil Reuse Option	DTSC ADL Soil Management Agreement ‡ (2017) (criteria based on 95% UCL)
Unregulated	No restrictions to onsite or offsite use	TTLC lead ≤ 80 mg/kg STLC lead < 5.0 mg/l
Com	No cover requirement Constrained to offsite commercial/industrial properties under DTSC approved property owner agreement	TTLC lead > 80mg/kg and < 320 mg/kg AND WET-CA lead < 5 mg/l
R-1	Soil may be placed 5 feet above historic high groundwater and must be covered with one foot of Com or non-regulated soil	TTLC lead > 320 mg/kg and ≤ 1,600 mg/kg OR WET-CA ≥ 5 mg/l WET-DI ≤ 1.5 mg/l
R-2	Soil may be placed 5 feet above historic high groundwater and must be covered with pavement in compliance with the ADL Agreement.	TTLC > 1,600 mg/kg and > 3,200 mg/kg OR WET-DI > 1.5 mg/l and WET-DI ≤ 150 mg/l
ADL Soil Management Classification*	**Soil Reuse Option**	**DTSC ADL Soil Management Agreement ‡ (2017) (criteria based on 95% UCL)**
Z-0	Regulated surplus material that must be disposed of at an appropriately permitted California Class II or III disposal facility.	TTLC lead > 320 and < 1,000 mg/kg AND WET-DI ≥ 150 mg/l
Z-2	Caltrans-generated California hazardous waste, must be disposed of at a California Class I disposal facility	Surplus soil with TTLC lead > 1,000 mg/kg OR WET-CA > 5.0 mg/l Any soil with average TTLC lead > 3,200 mg/kg or WET-DI > 150 mg/l
Z-3	Caltrans-generated RCRA hazardous waste, must be disposed of at California Class I disposal facility	TCLP lead ≥ 5mg/l

8.0 CONCLUSIONS AND RECOMMENDATIONS

The soil samples exhibited total lead concentrations ranging from 2.37 mg/kg to 378 mg/kg. The concentrations of lead detected are below the California Code of Regulation (CCR), Title 22 waste disposal criteria of 1,000 mg/kg TTLC lead (DTSC, 2009). Eight (8) soil samples exceeded 50 mg/kg lead and therefore were selected to be analyzed for WET-CA and WET-DI. WET-CA concentrations ranged from less than 0.05 mg/l to 7.45 mg/l.

Statistical analysis identified the 95% UCL for the population mean for total lead was 17.65 mg/kg. The 95% UCL for soluble lead (WET-CA), with laboratory supplied data only, was 4.11 mg/l; therefore, tested soil does not represent significant environmental or health hazards and can be classified as non-hazardous. The average TTLC lead concentrations are below the DTSC HERO Human Health Risk Assessment Note 3 lead screening level for unrestricted land use of 80 mg/kg for unrestricted land use.

Based on the ADL Survey data and statistical analysis, tested soil does not represent significant environmental or health hazards and, according to the DTSC draft soil management agreement issued to the Department, does not meet the definition of ADL-contaminated soil, and can be reused on site. Per the draft soil management agreement, the DTSC must be notified of the project, and a Lead Compliance Plan is required for worker safety.

9.0 REFERENCES

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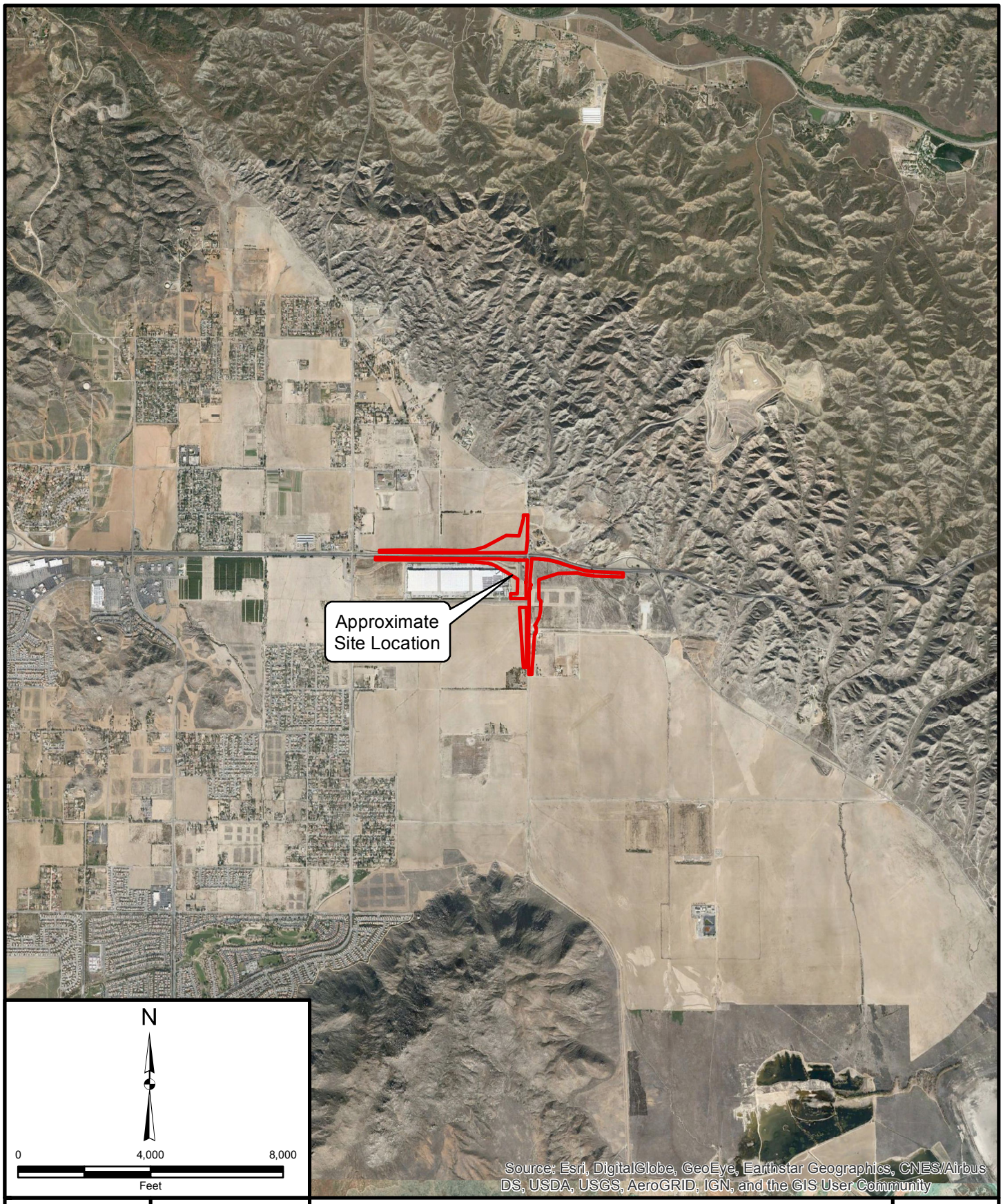

Project: 10326.001	Eng/Geol: ZAF
Scale: 1 " = 4,000 '	Date: October 2018

Base Map: ESRI ArcGIS Online 2018
Thematic Information: Leighton
Author: Leighton Geomatics (mmurphy)

SITE LOCATION MAP

SR/60 WLC Parkway Interchange Improvements Project
Moreno Valley, California

Figure 1

Leighton

Map Saved as P:\Drafting\10326\001\10326_001_F01_SLM_2018-10-16mxd.mxd on 10/16/2018 10:58:37 AM

Project: 10326.001	Eng/Geol: SIS/ROO
Scale: 1 " = 500 '	Date: October 2018

Base Map: ESRI ArcGIS Online 2018
Thematic Information: Leighton
Author: Leighton Geomatics (mmurphy)

SAMPLE LOCATION MAP

Proposed SR-60/WLC Parkwayt Interchange Improvements
PM 20-22, Bridge No. 56-0488
EA 0M590, PN 0813000109
Moreno Valley, California

Figure 2

Leighton

Map Saved as P:\Drafting\10326\001\10326_001_F02_BLM_2018-10-16.mxd on 10/16/2018 2:23:55 PM

TABLE 1
SUMMARY OF SAMPLING AND ANALYSES PROGRAM
SR-60/WLC Pkwy Interchange Improvement Project
Moreno Valley
Riverside County, California

Sample Location/ Number	General Parameters	Test Method of Analyses	Container	Preservative	Holding Time
Aerially Deposited Lead Survey One hundred and twenty-four soil samples will be collected from 31 locations (A001 through A031) within the shoulders and ramps of State Route 60. Soil samples will be collected from depths of 0.5 feet, 1.0 feet, 2.0 feet, and 5.0 feet bgs. Samples will be analyzed for Total Threshold Limit Concentration (TTLC) lead. Twelve soil samples will be analyzed for pH. Samples with TTLC lead above 50 mg/kg but less than 1,000 mg/kg will be analyzed for Soluble Threshold Limit Concentration (STLC) by the California (CA) Waste Extraction (WET) method using citric acid. Samples that exhibit a TTLC exceeding 400 mg/kg but lower than 3,397 mg/kg and/or STLC CA WET above 5 mg/l will be analyzed with an additional CA WET method using deionized water (WET-DI). An additional 10% of random soil samples will also be analyzed for WET-CITRIC and WET-DI. Soil samples with TTLC lead > 1,000 mg/kg will also be analyzed by the Toxicity Characteristic Leaching Procedure (TCLP) by EPA Method 1311. An additional 10% of random soil samples will also be analyzed for TCLP if deemed necessary for the statistical analysis.	TTLC Lead	EPA 6010B	Acetate sleeve	4 ^{o}C	180 days
	pH	EPA 9045	Acetate sleeve	4 ^{o}C	180 days
	STLC Lead	CA WET Citric Acid	Acetate sleeve	4 ^{o}C	180 days
	STLC Lead	CA WET Deionized Water	Acetate sleeve	4 ^{o}C	180 days

TABLE 1
SUMMARY OF SAMPLING AND ANALYSES PROGRAM
SR-60/WLC Pkwy Interchange Improvement Project
Moreno Valley
Riverside County, California

QA/QC SAMPLES					
Sample Description	**General Parameters**	**Test Method of Analyses**	**Container**	**Preservative**	**Holding Time**
Duplicate Samples were collected at a minimum 10% rate of the primary samples. Twelve duplicate samples were collected from the ADL borings. Samples will be analyzed for TTLC lead. Field duplicate samples were designated with 500-series numbers (e.g., A501-0.5).	Lead	EPA 6010B	Acetate sleeve	4 ^{o}C	180 days
	pH	EPA 9045	Acetate sleeve	4 ^{o}C	180 days
	STLC Lead	CA WET Citric Acid	Acetate sleeve	4 ^{o}C	180 days
	STLC Lead	CA WET Deionized Water	Acetate sleeve	4 ^{o}C	180 days
Equipment Blanks will be collected at the end of each sampling day by pouring distilled water through each decontaminated sampling device and collecting the water in an appropriate sample container. Equipment blank samples will be designated as E-series (e.g., E046, E047).	Lead	EPA 6010B	1 - 50-mL poly	HNO3	180 days

Table 2
Laboratory Results
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample ID	Total Lead (mg/kg)	WET CA (mg/l)	WET DI (mg/l)	pH
A001-0.5	9.33	-	-	7.55
A001-1.0	5.75	-	-	-
A001-2.0	3.83	-	-	-
A001-5.0	3.24	-	-	-
A002-0.5	20.7	-	-	-
A002-1.0	34.4	-	-	-
A002-2.0	13.1	-	-	-
A002-5.0	4.18	-	-	-
A003-0.5	18.1	-	-	-
A003-1.0	7.08	-	-	-
A003-2.0	13.3	-	-	-
A003-5.0	4.12	-	-	-
A004-0.5	49.0	-	-	-
A004-1.0	7.14	-	-	7.86
A004-2.0	10.4	-	-	-
A004-5.0	3.34	-	-	-
A005-0.5	**170**	**7.45**	<0.05	-
A005-1.0	4.64	-	-	-
A005-2.0	5.07	-	-	-
A005-5.0	3.66	-	-	-
A006-0.5	13.3	-	-	8.04
A006-1.0	3.21	-	-	-
A006-2.0	3.16	-	-	-
A006-5.0	5.97	-	-	-
A007-0.5	12.7	-	-	-
A007-1.0	**94.0**	**6.62**	<0.05	-
A007-2.0	10.3	0.451	<0.05	-
A007-5.0	8.34	-	-	-
A008-0.5	16.4	-	-	-
A008-1.0	18.4	-	-	-
A008-2.0	15.2	-	-	-
A008-5.0	7.66	-	-	-
A009-0.5	24.2	-	-	-
A009-1.0	9.19	-	-	-
A009-2.0	9.85	-	-	-
A009-5.0	8.50	-	-	7.87
A010-0.5	21.3	-	-	-
A010-1.0	5.22	-	-	-
A010-2.0	7.30	-	-	-
A010-5.0	4.71	-	-	-
A011-0.5	22.2	-	-	-
A011-1.0	16.4	-	-	-
A011-2.0	4.52	-	-	-
A011-5.0	5.29	-	-	-

Table 2
Laboratory Results
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample ID	Total Lead (mg/kg)	WET CA (mg/l)	WET DI (mg/l)	pH
A012-0.5	46.2	-	-	-
A012-1.0	8.37	-	-	8.67
A012-2.0	4.04	<0.05	<0.05	-
A012-5.0	4.84	<0.05	<0.05	-
A013-0.5	15.0	-	-	-
A013-1.0	4.91	-	-	-
A013-2.0	2.37	-	-	-
A013-5.0	3.30	-	-	-
A014-0.5	8.37	-	-	-
A014-1.0	21.4	-	-	-
A014-2.0	3.93	-	-	-
A014-5.0	2.89	-	-	-
A015-0.5	23.3	-	-	-
A015-1.0	5.09	-	-	-
A015-2.0	7.35	-	-	-
A015-5.0	4.07	-	-	-
A016-0.5	20.3	-	-	7.90
A016-1.0	31.0	-	-	-
A016-2.0	4.21	-	-	-
A016-5.0	2.46	-	-	-
A017-0.5	10.5	-	-	-
A017-1.0	11.7	-	-	-
A017-2.0	5.66	-	-	-
A018-0.5	49.3	-	-	-
A018-1.0	18.7	-	-	-
A018-2.0	5.95	-	-	8.02
A018-5.0	5.41	-	-	-
A019-0.5	21.3	-	-	-
A019-1.0	23.4	-	-	-
A019-2.0	3.69	-	-	-
A019-5.0	7.72	0.096	<0.05	-
A020-0.5	27.8	1.15	<0.05	-
A020-1.0	11.5	-	-	7.74
A020-2.0	13.3	-	-	-
A020-5.0	6.58	-	-	-
A021-0.5	11.5	-	-	-
A021-1.0	10.0	-	-	-
A021-2.0	4.66	0.065	<0.05	-
A022-0.5	8.85	-	-	-
A022-1.0	12.3	-	-	-
A022-2.0	9.82	-	-	7.77
A022-5.0	4.25	-	-	-
A023-0.5	17.2	-	-	-
A023-1.0	4.80	-	-	-
A023-2.0	5.33	-	-	-
A023-5.0	3.06	-	-	-

Table 2
Laboratory Results
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample ID	Total Lead (mg/kg)	WET CA (mg/l)	WET DI (mg/l)	pH
A024-0.5	6.30	-	-	-
A024-1.0	3.35	-	-	-
A024-2.0	6.52	-	-	-
A024-5.0	3.74	-	-	-
A025-0.5	20.3	1.81	0.068	-
A025-1.0	4.80	-	-	8.58
A025-2.0	15.4	-	-	-
A025-5.0	5.88	-	-	-
A026-0.5	**70.9**	3.03	-	-
A026-1.0	4.77	-	-	-
A026-2.0	5.17	-	-	-
A026-5.0	8.47	-	-	-
A027-0.5	22.1	-	-	-
A027-1.0	9.51	-	-	-
A027-2.0	4.24	-	-	-
A027-5.0	5.71	-	-	8.94
A028-0.5	**55.1**	3.94	-	-
A028-1.0	5.61	-	-	-
A028-2.0	5.53	0.074	<0.05	-
A028-5.0	4.09	-	-	-
A029-0.5	8.07	-	-	-
A029-1.0	5.86	-	-	-
A029-2.0	5.68	0.100	<0.05	-
A029-5.0	10.4	0.320	<0.05	-
A030-0.5	8.42	-	-	-
A030-1.0	3.85	-	-	-
A030-2.0	5.38	-	-	8.11
A030-5.0	5.12	-	-	-
A031-0.5	**61.4**	**5.63**	<0.05	-
A031-1.0	5.96	-	-	-
A031-2.0	5.39	-	-	-
A031-5.0	4.74	0.079	<0.05	-
Duplicate Samples				
A512-0.5	28.0	-	-	-
A512-1.0	3.78	-	-	8.67
A512-2.0	5.24	-	-	-
A512-5.0	3.85	-	-	-
A523-0.5	31.2	-	-	-
A523-1.0	7.19	-	-	-
A523-2.0	5.48	-	-	-
A523-5.0	4.98	-	-	-
A526-0.5	3.72	-	-	-
A526-1.0	3.98	0.062	<0.05	-
A526-2.0	5.51	-	-	-
A526-5.0	6.82	-	-	-

Table 2
Laboratory Results
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample ID	Total Lead (mg/kg)	WET CA (mg/l)	WET DI (mg/l)	pH
Laboratory Data, Leighton and Associates, 2008				
B1-0.5	37.7	-	-	7.96
B1-1.0	<0.50	-	-	-
B1-2.5	5.60	-	-	-
B1-5.0	**378**	<0.05	-	-
B2-0.5	48.5	-	-	-
B2-1.0	11.1	-	-	8.20
B2-2.5	<0.50	-	-	-
B2-5.0	5.21	-	-	-
B3-0.5	**51.2**	1.64	-	-
B3-1.0	6.38	-	-	8.31
B3-2.5	<0.50	-	-	-
B3-5.0	<0.50	-	-	-
B4-0.5	13.5	-	-	-
B4-1.0	14.3	-	-	-
B4-2.5	9.28	-	-	8.33
B4-5.0	7.34	-	-	-
B5-0.5	15.8	-	-	8.22
B5-1.0	11.3	-	-	-
B5-2.5	9.08	-	-	8.10
B5-5.0	<0.50	-	-	-
B6-0.5	15.8	-	-	-
B6-1.0	17.4	-	-	-
B6-2.5	11.1	-	-	-
B6-5.0	<0.50	-	-	8.30
B7-0.5	16.9	-	-	-
B7-1.0	17.0	-	-	-
B7-2.5	11.5	-	-	-
B7-5.0	<0.50	-	-	-
B8-0.5	45.3	-	-	7.85
B8-1.0	11.2	-	-	-
B8-2.5	4.79	-	-	-
B8-5.0	21.8	-	-	-
B9-0.5	20.5	-	-	-
B9-1.0	5.91	-	-	8.40
B9-2.5	19.5	-	-	-
B9-5.0	<0.50	-	-	-
B10-0.5	20.5	-	-	-
B10-1.0	5.86	-	-	8.65
B10-2.5	5.04	-	-	-
B10-5.0	6.49	-	-	-
B11-0.5	34.7	-	-	8.10
B11-1.0	3.43	-	-	-
B11-2.5	5.86	-	-	-
B11-5.0	4.18	-	-	8.17
B12-0.5	34.7	-	-	-
B12-1.0	6.22	-	-	8.30
B12-2.5	5.10	-	-	-

Table 2
Laboratory Results
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample ID	Total Lead (mg/kg)	WET CA (mg/l)	WET DI (mg/l)	pH
B12-4.0	13.7	-	-	-
B13-0.5	13.4	-	-	8.04
B13-1.0	5.57	-	-	-
B13-2.5	5.24	-	-	-
B13-5.0	8.62	-	-	8.34
B14-0.5	11.0	-	-	-
B14-1.0	5.91	-	-	-
B14-2.5	6.18	-	-	-
B14-5.0	6.86	-	-	8.53
B15-0.5	6.19	-	-	-
B15-1.0	6.51	-	-	-
B15-2.5	19.9	-	-	-
B15-4.0	4.83	-	-	8.48
B16-0.5	<0.50	-	-	8.42
B16-1.0	<0.50	-	-	-
B16-2.5	4.80	-	-	-
B16-5.0	7.72	-	-	-
B17-0.5	8.79	-	-	-
B17-1.0	**51.4**	2.96	-	-
B17-2.5	<0.50	-	-	8.40
B17-5.0	<0.50	-	-	-
B18-0.5	16.8	-	-	-
B18-1.0	21.8	-	-	8.43
B18-2.5	<0.50	-	-	-
B18-5.0	<0.50	-	-	-
B19-0.5	4.78	-	-	-
B19-1.0	6.94	-	-	8.22
B19-2.5	<0.50	-	-	-
B19-4.0	<0.50	-	-	8.18
B20-0.5	<0.50	-	-	-
B20-1.0	5.97	-	-	8.46
B20-2.5	<0.50	-	-	-
B20-5.0	<0.50	-	-	-
B21-0.5	4.68	-	-	8.54
B21-1.0	<0.50	-	-	-
B21-2.5	<0.50	-	-	8.43
B21-5.0	<0.50	-	-	-

Notes:
mg/kg - milligrams per kilogram
WET CA - California Waste Extraction Test, Citric Acid
WET DI - California Waste Extraction Test, Deionized Water
Bolded Total Lead analyses are greater than ten times the STLC limit for lead
Bolded WET CITRIC analyses are greater than 5 mg/l

Table 3
Relative Percent Difference Analysis
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Primary Sample	Lead (mg/kg)	Duplicate Sample	Lead (mg/kg)	RPD
A012-0.5	46.2	A512-0.5	28.0	49
A012-1.0	8.37	A512-1.0	3.78	76
A012-2.0	4.04	A512-2.0	5.24	26
A012-5.0	4.84	A512-5.0	3.85	23
A023-0.5	17.2	A523-0.5	31.2	58
A023-1.0	4.8	A523-1.0	7.19	40
A023-2.0	5.33	A523-2.0	5.48	3
A023-5.0	3.06	A523-5.0	4.98	48
A026-0.5	**70.9**	A526-0.5	3.72	180
A026-1.0	4.77	A526-1.0	3.98	18
A026-2.0	5.17	A526-2.0	5.51	6
A026-5.0	8.47	A526-5.0	6.82	22

Notes:
RPD - Relative Percent difference
mg/kg - milligrams per kilogram

APPENDIX A

Appendix A
Soil Sample Log
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample No.	USCS[1] Symbol	Soil Type	Angularity[2]	Color	Moisture[3]	Grain Size[4]	Plasticity[5]	Comments[6]
A001-0.5	SM	Silty SAND	Sub Rounded	Light Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A001-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A001-2.0	ML	Sandy SILT	Sub Rounded	Olive Brown	Moist	Fine Grained SAND	Non Plastic	
A001-5.0	SM	Silty SAND	Sub Rounded	Dark Yellowish Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A002-0.5	SM	Silty SAND	Sub Rounded	Light Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A002-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A002-2.5	ML	Sandy SILT	Sub Rounded	Olive Brown	Moist	Fine Grained SAND	Non Plastic	
A002-5.0	ML	SILT	N/A	Olive Brown	Moist	N/A	Low	
A003-0.5	SM	Silty SAND	Sub Rounded	Light Grayish-Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A003-1.0	ML	Sandy SILT	Sub Rounded	Dark Yellowish Brown	Moist	Fine Grained SAND	Non Plastic	
A003-2.0	ML	Sandy SILT	Sub Rounded	Dark Yellowish Brown	Moist	Fine Grained SAND	Low	
A003-5.0	ML	Sandy SILT	Sub Rounded	Olive Brown	Moist	Fine Grained SAND	Non Plastic	
A004-0.5	SM	Silty SAND	Sub Rounded	Light Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A004-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A004-2.0	ML	Sandy SILT	Sub Rounded	Dark Brown	Moist	Fine Grained SAND	Non Plastic	
A004-5.0	ML	Sandy SILT	Sub Rounded	Dark Brown	Moist	Fine Grained SAND	Non Plastic	
A005-0.5	SM	Silty SAND	Sub Angular	Light Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A005-1.0	SW-SM	Well-graded SAND with SILT	Sub Rounded	Dark Grayish Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A005-2.0	SW	Well-graded SAND	Sub Rounded	Dark Grayish Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A005-5.0	ML	SILT	N/A	Dark Grayish Brown	Moist	N/A	Non Plastic	
A006-0.5	SW-SM	Well-graded SAND with SILT	Sub Rounded	Light Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A006-1.0	SW-SM	Well-graded SAND with SILT	Sub Rounded	Light Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	

Appendix A
Soil Sample Log
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample No.	USCS[1] Symbol	Soil Type	Angularity[2]	Color	Moisture[3]	Grain Size[4]	Plasticity[5]	Comments[6]
A006-2.0	SW-SM	Well-graded SAND with SILT	Sub Rounded	Grayish Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A006-5.0	ML	Sandy SILT	Sub Rounded	Grayish Brown	Moist	Fine Grained SAND	Low	
A007-0.5	SM	Silty SAND	Sub Rounded	Light Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A007-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A007-2.0	SM	Silty SAND	Sub Angular	Dark Grayish Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A007-5.0	ML	Sandy SILT	Sub Angular	Olive Brown	Moist	Fine to Coarse grained SAND	Low	
A008-0.5	SM	Silty SAND	Sub Angular	Light Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A008-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A008-2.0	SP-SM	Poorly-graded SAND with SILT	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A008-5.0	ML	Sandy SILT	Sub Rounded	Olive Brown	Moist	Fine grained SAND	Non Plastic	
A009-0.5	SM	Silty SAND	Sub Angular	Light Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A009-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A009-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A009-5.0	SW	Well-graded SAND	Sub Rounded	Grayish Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A010-0.5	SM	Silty SAND	Sub Angular	Light Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A010-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A010-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A010-5.0	ML	SILT	N/A	Dark Brown	Moist	N/A	Medium	
A011-0.5	SM	Silty SAND	Sub Angular	Light Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A011-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A011-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A011-5.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	

Appendix A
Soil Sample Log
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample No.	USCS[1] Symbol	Soil Type	Angularity[2]	Color	Moisture[3]	Grain Size[4]	Plasticity[5]	Comments[6]
A012-0.5	SM	Silty SAND	Sub Angular	Light Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	Minor Staining on Shoulder
A012-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Low	
A012-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A012-5.0	ML	Sandy SILT	Sub Rounded	Olive Brown	Moist	Fine Grained SAND	Non Plastic	
A013-0.5	SM	Silty SAND	Sub Angular	Light Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	Minor Staining on Shoulder
A013-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Low	
A013-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A013-5.0	SM	Silty SAND	Sub Rounded	Grayish Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A014-0.5	SM	Silty SAND	Sub Rounded	Light Brown	Dry	Fine to Coarse grained SAND	Non Plastic	
A014-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A014-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A014-5.0	SP	Poorly-graded SAND	Sub Rounded	Grayish Brown	Dry	Fine to Medium grained SAND	Non Plastic	
A015-0.5	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A015-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Low	
A015-2.0	ML	Sandy SILT	Sub Rounded	Olive Brown	Moist	Fine Grained SAND	Low	
A015-5.0	SW	Well-graded SAND	Sub Rounded	Light Brown	Dry	Fine to Coarse grained SAND	Non Plastic	
A016-0.5	SM	Silty SAND	Sub Rounded	Light Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A016-1.0	SM	Silty SAND	Sub Rounded	Light Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A016-2.0	SM	Silty SAND	Sub Rounded	Dark Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A016-5.0	SW	Well-graded SAND	Sub Rounded	Light Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A017-0.5	SP-SM	Poorly-graded SAND with SILT	Sub Rounded	Grayish Brown	Moist	Fine Grained SAND	Non Plastic	
A017-1.0	SP-SM	Poorly-graded SAND with SILT	Sub Rounded	Grayish Brown	Moist	Fine Grained SAND	Non Plastic	

Appendix A
Soil Sample Log
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample No.	USCS[1] Symbol	Soil Type	Angularity[2]	Color	Moisture[3]	Grain Size[4]	Plasticity[5]	Comments[6]
A017-2.0	SP-SM	Poorly-graded SAND with SILT	Sub Rounded	Grayish Brown	Moist	Fine Grained SAND	Non Plastic	
A017-5.0	Refusal @ 2.0' BGS							
A018-0.5	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A018-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A018-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A018-5.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A019-0.5	SM	Silty SAND	Sub Rounded	Brown	Dry	Fine to Coarse grained SAND	Non Plastic	
A019-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A019-2.0	SM	Silty SAND	Sub Rounded	Dark Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A019-5.0	ML	SILT	N/A	Olive Brown	Moist	N/A	Low	
A020-0.5	SM	Silty SAND	Sub Rounded	Light Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A020-1.0	SM	Silty SAND	Sub Rounded	Grayish Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A020-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A020-5.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A021-0.5	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A021-1.0	SW-SM	Well-graded SAND with SILT	Sub Rounded	Light Brown	Dry	Fine to Coarse grained SAND	Non Plastic	
A021-2.0	SW-SM	Well-graded SAND with SILT	Sub Rounded	Light Brown	Dry	Fine to Coarse grained SAND	Non Plastic	
A021-5.0	Refusal @ 2.0' BGS							
A022-0.5	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A022-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A022-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A022-5.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Coarse grained SAND	Non Plastic	

Appendix A
Soil Sample Log
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample No.	USCS[1] Symbol	Soil Type	Angularity[2]	Color	Moisture[3]	Grain Size[4]	Plasticity[5]	Comments[6]
A023-0.5	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine Grained SAND	Non Plastic	
A023-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine Grained SAND	Non Plastic	
A023-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine Grained SAND	Non Plastic	
A023-5.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine Grained SAND	Non Plastic	
A024-0.5	SM	Silty SAND	Sub Rounded	Light Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A024-1.0	SM	Silty SAND	Sub Rounded	Olive Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A024-2.0	SM	Silty SAND	Sub Rounded	Olive Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A024-5.0	ML	Sandy SILT	Sub Rounded	Olive	Moist	Fine to Medium grained SAND	Non Plastic	
A025-0.5	SM	Silty SAND	Sub Angular	Light Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A025-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A025-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A025-5.0	SP-SM	Poorly-graded SAND with SILT	Sub Rounded	Grayish Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A026-0.5	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A026-1.0	SM	Silty SAND	Sub Rounded	Dark Grayish Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A026-2.0	SM	Silty SAND	Sub Rounded	Dark Grayish Brown	Moist	Fine Grained SAND	Non Plastic	
A026-5.0	ML	SILT	N/A	Olive	Moist	N/A	Low	
A027-0.5	SW-SM	Well-graded SAND with SILT	Sub Rounded	Dark Grayish Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A027-1.0	SW-SM	Well-graded SAND with SILT	Sub Rounded	Dark Grayish Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A027-2.0	SW-SM	Well-graded SAND with SILT	Sub Rounded	Dark Grayish Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A027-5.0	ML	SILT	N/A	Olive Gray	Moist	N/A	Medium	
A028-0.5	SM	Silty SAND	Sub Angular	Dark Grayish Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A028-1.0	SM	Silty SAND	Sub Rounded	Dark Grayish Brown	Moist	Fine to Medium grained SAND	Non Plastic	

Appendix A
Soil Sample Log
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Sample No.	USCS[1] Symbol	Soil Type	Angularity[2]	Color	Moisture[3]	Grain Size[4]	Plasticity[5]	Comments[6]
A028-2.0	SM	Silty SAND	Sub Rounded	Dark Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A028-5.0	SM	Silty SAND	Sub Rounded	Dark Yellowish Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A029-0.5	SM	Silty SAND	Sub Angular	Light Grayish-Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A029-1.0	SM	Silty SAND	Sub Rounded	Grayish Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A029-2.0	SM	Silty SAND	Sub Rounded	Grayish Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A029-5.0	SM	Silty SAND	Sub Rounded	Light Grayish-Brown	Moist	Fine grained SAND	Non Plastic	
A030-0.5	SM	Silty SAND	Sub Angular	Light Grayish-Brown	Moist	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A030-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A030-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A030-5.0	ML	Sandy SILT	Sub Rounded	Olive Brown	Moist	Fine grained SAND	Medium	
A031-0.5	SM	Silty SAND	Sub Angular	Grayish Brown	Dry	Fine to Coarse grained SAND with Fine GRAVEL	Non Plastic	
A031-1.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Coarse grained SAND	Non Plastic	
A031-2.0	SM	Silty SAND	Sub Rounded	Brown	Moist	Fine to Medium grained SAND	Non Plastic	
A031-5.0	ML	SILT	N/A	Olive	Moist	N/A	Medium	

Notes:
1 SP = Poorly graded sand, SW = Well Graded Sand, SM = Silty Sand, SC, Clayey Sand, ML = silt/sandy silt, CL = lean clay/sandy clay, CH = fat clay/sandy fat clay, OL = organic soil/with sand/with gravel
2 Angular, Sub-angular, Sub-rounded, Rounded
3 Dry = no moisture, dusty to the touch; Moist = Damp but no visible water; Wet = Visible free water
4 Range of particle sizes for sand (coarse, medium, fine) or gravel (coarse or fine)
5 Non-plastic, Low, Medium, High
6 Other descriptive features about the soil including dilatancy, toughness, or odor

APPENDIX B

Appendix B
Borehole Coordinates
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Boring No.	Northing (ft)	Easting (ft)
A001	2286667.23	6287505.6
A002	2286655.15	6287856.67
A003	2286648.57	6288202.74
A004	2286648.36	6288511.34
A005	2286642.59	6288788.58
A006	2286639.32	6289076.37
A007	2286637.58	6289555.56
A008	2286639.03	6289790.99
A009	2286636.2	6290225.33
A010	2286633.78	6290552.43
A011	2286641.07	6290947.79
A012/A512	2286636.57	6291310.48
A013	2286642.19	6291713.12
A014	2287061.49	6292023.64
A015	2286626.5	6292052.56
A016	2286616.89	6292260.97
A017	2286529.99	6292756.39
A018	2286467.95	6292977.97
A019	2286408.2	6293135.25
A020	2286234.16	6293967.09
A021	2286183.63	6294330.85
A022	2285882.53	6291836.7
A023	2286148.6	6291747.14
A024/A524	2286364.36	6291742.51
A025	2286467.46	6292366.95
A026/A526	2286399.94	6292720.67
A027	2286315.88	6293024.93
A028	2286170.06	6293493.01
A029	2286093.22	6293930.52
A030	2286075.39	6294215.58
A031	2286062.49	6294596.42
B1	2286528.95	6286712
B2	2286527.08	6286960.66
B3	2286524.59	6287227.38
B4	2286526.46	6287476.65
B5	2286528.02	6287729.05
B6	2286530.82	6287594.64
B7	2286527.39	6288227.6

Based on NAD 83 Zone 6 Datum

Appendix B
Borehole Coordinates
SR-60/WLC Pkwy Interchange
SI/ADL Survey
Moreno Valley, California

Boring No.	Northing (ft)	Easting (ft)
B8	2286528.33	6288494.94
B9	2286524.28	6288758.55
B10	2286522.72	6289009.07
B11	2286521.16	6289262.09
B12	2286518.67	6289494.53
B13	2286518.73	6289808.62
B14	2286514.93	6290090.3
B15	2286513.68	6290337.08
B16	2286509.32	6290588.23
B17	2286507.76	6290836.88
B18	2286500.91	6291089.27
B19	2286483.15	6291341.66
B20	2286423.63	6291608.39
B21	2286190.56	6291700.62

Notes:
Highlighted cell indicates the location of sample containing lead concentration in excess of the 2016 Caltrans ADL Guidance

Based on NAD 83 Zone 6 Datum

APPENDIX C

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: March 10, 2016

Mr. Richard Orr
Leighton Consulting
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

Project: **SR-60 ADL**
Project No.: **10326.001**
Lab I.D.: **160302-20 through -86**

Dear Mr. Orr:

The **analytical results** for the soil and water samples, received by our lab on March 2, 2016, are attached. The samples were received chilled, intact and with chain of custody record.

Trace concentrations between the MDL and the PQL have been reported with a "J" flag indicator.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manger

Andy Wang for
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Leighton Consulting
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: SR-60 ADL
MATRIX: SOIL
SAMPLING DATE: 03/02/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: 10326.001
DATE RECEIVED: 03/02/16
DATE ANALYZED: 03/03/16
DATE REPORTED: 03/10/16

pH ANALYSIS
METHOD: EPA 9045C
UNIT: pH UNITS

SAMPLE I.D.	LAB I.D.	pH RESULT
A020-1.0	160302-24	7.74
A018-2.0	160302-33	8.02
A016-0.5	160302-38	7.90
A512-1.0	160302-59	8.67
A009-5.0	160302-73	7.87
A006-0.5	160302-82	8.04

COMMENTS:
pH ANALYSIS CONDUCTED ON 1:1 SOIL/DEIONIZED WATER EXTRACTION

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766
Tel (909)590-5905 Fax (909)590-5907

Matrix: **SOLID/SLUDGE**

QA/QC Report

Analysis	Units	Date Analyzed	Sample I.D.	S.R.	Duplicate	% RPD	ACP %RPD
Alkalinity	mg/Kg					0.0%	0-20
Residual Chlorine	mg/Kg					0.0%	0-20
Density	g/mL					0.00%	0-20
EC	umhos/cm					0.0%	0-20
pH	pH units	3/3/2016	160302-82	8.04	8.07	0.4%	0-20
TDS	mg/L					0.0%	0-20
TSS	mg/Kg					0.0%	0-20
Resistivity	ohms					0.0%	0-20
% Moisture	%					0.0%	0-20
BTU	BTU/lb					0.0%	0-20
Salinity	S					0.00%	0-20

%RPD = Relative Percent Difference **ACP %RPD** = Acceptable Relative Percent Difference

Analysis	Units	Date Analyzed	Sample I.D.	Spk Conc	S.R.	ACP %RPD	ACP %RC	MS	MS %RC	MSD	MSD %RC	% RPD
Acidity	mg/Kg					0	80-120					
Ammonia as N	mg/Kg			50.0		0-20	80-120					#VALUE!
MBAS	mg/Kg			6.00		0-20	80-120					#VALUE!
Chloride	mg/Kg			200		0-20	80-120					#VALUE!
COD	mg/Kg			500		0-20	80-120					#VALUE!
Cr VI	mg/Kg			4.0		0-20	80-120					#VALUE!
Cyanide	mg/wipe			50.0		0-20	80-120					#VALUE!
Fluoride	mg/Kg			10.0		0-20	80-120					#VALUE!
Nitrate as N	mg/Kg			4.0		0-20	80-120					#VALUE!
Nitrite as N	mg/Kg			4.0		0-20	80-120					#VALUE!
Oil and Grease	mg/Kg			667		0-20	80-120					#VALUE!
Phenolics	mg/Kg					0-20	80-120					
Sulfate	mg/Kg			200		0-20	80-120					#VALUE!
Sulfide	mg/Kg			3.00		0-20	80-120					#VALUE!
TRPH	mg/Kg			667		0-20	80-120					#VALUE!
Sulfide, Reactive	mg/Kg			3.00		0-20	80-120					#VALUE!
EPA 1664A	mg/Kg			500		0-20	80-120					#VALUE!

S.R. = Sample Results **%RC** = Percent Recovery **ACP %RC** = Accepted Percent Recovery

Analyst Signature: _____

Final Reviewer: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/02/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/02/16
DATE ANALYZED: 03/07/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TTLC-LEAD; PAGE 1 OF 4
UNITS: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
A021-0.5	160302-20	11.5	1
A021-1.0	160302-21	10.0	1
A021-2.0	160302-22	4.66	1
A020-0.5	160302-23	27.8	1
A020-1.0	160302-24	11.5	1
A020-2.0	160302-25	13.3	1
A021-5.0	160302-26	6.58	1
A019-0.5	160302-27	21.3	1
A019-1.0	160302-28	23.4	1
A019-2.0	160302-29	3.69	1
A019-5.0	160302-30	7.72	1
A018-0.5	160302-31	49.3	1
A018-1.0	160302-32	18.7	1
A018-2.0	160302-33	5.95	1
A018-5.0	160302-34	5.41	1
A017-0.5	160302-35	10.5	1
A017-1.0	160302-36	11.7	1
A017-2.0	160302-37	5.66	1
A016-0.5	160302-38	20.3	1
A016-1.0	160302-39	31.0	1
Method Blank	---	ND	1
	MDL	0.084	
	PQL	0.50	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/02/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/02/16
DATE ANALYZED: 03/07/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TTLC-LEAD; PAGE 2 OF 4
UNITS: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
A016-2.0	160302-40	4.21	1
A016-5.0	160302-41	2.46	1
A014-0.5	160302-42	8.37	1
A014-1.0	160302-43	21.4	1
A014-2.0	160302-44	3.93	1
A014-5.0	160302-45	2.89	1
A015-0.5	160302-46	23.3	1
A015-1.0	160302-47	5.09	1
A015-2.0	160302-48	7.35	1
A015-5.0	160302-49	4.07	1
A013-0.5	160302-50	15.0	1
A013-1.0	160302-51	4.91	1
A013-2.0	160302-52	2.37	1
A013-5.0	160302-53	3.30	1
A012-0.5	160302-54	46.2	1
A012-1.0	160302-55	8.37	1
A012-2.0	160302-56	4.04	1
A012-5.0	160302-57	4.84	1
A512-0.5	160302-58	28.0	1
A512-1.0	160302-59	3.78	1
Method Blank	---	ND	1
	MDL	0.084	
	PQL	0.50	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
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LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/02/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/02/16
DATE ANALYZED: 03/07/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TTLC-LEAD; PAGE 3 OF 4
UNITS: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
A512-2.0	160302-60	5.24	1
A512-5.0	160302-61	3.85	1
A011-0.5	160302-62	22.2	1
A011-1.0	160302-63	16.4	1
A011.2.0	160302-64	4.52	1
A011-5.0	160302-65	5.29	1
A010-0.5	160302-66	21.3	1
A010-1.0	160302-67	5.22	1
A010-2.0	160302-68	7.30	1
A010-5.0	160302-69	4.71	1
A009-0.5	160302-70	24.2	1
A009-1.0	160302-71	9.19	1
A009-2.0	160302-72	9.85	1
A009-5.0	160302-73	8.50	1
A008-0.5	160302-74	16.4	1
A008-1.0	160302-75	18.4	1
A008-2.0	160302-76	15.2	1
A008-5.0	160302-77	7.66	1
A007-0.5	160302-78	12.7	1
A007-1.0	160302-79	94.0	1
Method Blank	---	ND	1
	MDL	0.084	
	PQL	0.50	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/02/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/02/16
DATE ANALYZED: 03/07/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TTLC-LEAD; PAGE 4 OF 4
UNITS: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
A007-2.0	160302-80	10.3	1
A007-5.0	160302-81	8.34	1
A006-0.5	160302-82	13.3	1
A006-1.0	160302-83	3.21	1
A006-2.0	160302-24	3.16	1
A006-5.0	160302-85	5.97	1
Method Blank	---	ND	1
	MDL	0.084	
	PQL	0.50	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/7/2016

Unit : Mg/KG(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	160302-33	1.00	104	PASS	5.95	50.0	45.6	79%	47.6	83%	5%

ANALYSIS DATE. :

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead (Pb)	PASS	PASS	PASS	PASS
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/7/2016

Unit : Mg/KG(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	160302-59	1.00	103	PASS	3.78	50.0	44.1	81%	46.0	84%	5%

ANALYSIS DATE. :

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead (Pb)	PASS	PASS	PASS	PASS
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/7/2016 **Unit : Mg/KG(ppm)**

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	160302-79	1.00	105	PASS	137	50.0	177	80%	178	82%	2%

ANALYSIS DATE. :

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead (Pb)	PASS	PASS	PASS	PASS
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/7/2016 **Unit : Mg/KG(ppm)**

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	160302-84	1.00	104	PASS	3.16	50.0	49.8	93%	51.0	96%	3%

ANALYSIS DATE. :

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead (Pb)	PASS	PASS	PASS	PASS
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Leighton Consulting
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: SR-60 ADL
MATRIX: WATER
SAMPLING DATE: 03/02/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: 10326.001
DATE RECEIVED: 03/02/16
DATE ANALYZED: 03/04/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TOTAL LEAD
UNITS: mg/L = MILLIGRAM PER LITER = PPM

SAMPLE I.D.	LAB I.D.	TOTAL LEAD RESULT	DF
E001	160302-86	ND	1
Method Blank	---	ND	1
	MDL	0.004	
	PQL	0.01	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for TTLC Metals Analysis --WATER MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/4/2016 — **Unit : mg/L(ppm)**

Analysis	Spk.Sample BATCH ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Barium(Ba)	160301-6	1.00	104	PASS	0.085	1.00	0.890	81%	0.892	81%	0%
Lead(Pb)	160301-6	1.00	105	PASS	0.061	1.00	1.13	107%	1.14	108%	1%
Zinc(Zn)	160301-6	1.00	104	PASS	0.406	1.00	1.25	84%	1.23	82%	2%

ANALYSIS DATE. : 3/4/2016

Analysis	Spk.Sample BATCH ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	160303-75	0.00250	92	PASS	0	0.00250	0.00210	84%	0.00220	88%	5%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Barium(Ba)	PASS	PASS	PASS	PASS
Lead(Pb)	PASS	PASS	PASS	PASS
Zinc(Zn)	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
~~X~~ Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Analysis Required: TTLC Lead 6010 B	Analysis Required: pH EPA 9045 TCLP Lead EPA 1311	Analysis Required:	Analysis Required:	Analysis Required:	Analysis Required:	Analysis Required:	Analysis Required:	Analysis Required:	Analysis Required:	Analysis Required:	Analysis Required:	COMMENTS
A021-0.5	160302-20	3-2-16	9:14	Soil	1		Ice	X												
A021-1.0	-21		9:15																	
A021-2.0	-22		9:15																	
A020-0.5	-23		9:24																	
A020-1.0	-24		9:25						X											
A020-2.0	-25		9:26																	
A020-5.0	-26		9:31																	
A019-0.5	-27		9:46																	
A019-1.0	-28		9:48																	
A019-2.0	-29		9:48																	
A019-5.0	-30		9:50																	
A018-0.5	-31		9:56																	
A018-1.0	-32		9:57																	
A018-2.0	-33		9:57						X											
A018-5.0	-34		9:59			P.T														

Misc.

Company Name: Leighton Consulting Inc.
Address: 41715 Entropia Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326.001 SR-60 ADL

Relinquished by:
Relinquished by:
Relinquished by:

Received by:
Received by:
Received by:

Date & Time: 3/2/2016 16:42
Date & Time: 3/2/16 1600
Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 3-2-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
0 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Analysis Required: TTLC Lead 6010 B	Analysis Required: pH EPA 9045 TCLP Lead EPA 1311	COMMENTS
A017-0.5	160302-35	3-2-16	10:08	Soil	1		Ice	X		Homogenize
A017-1.0	-36		10:09							
A017-2.0	-37		10:09							
A016-0.5	-38		10:23						X	
A016-1.0	-39		10:24							
A016-2.0	-40		10:25							
A016-5.0	-41		10:28							
A014-0.5	-42		10:39							
A014-1.0	-43		10:40							
A014-2.0	-44		10:41							
A014-5.0	-45		10:44							
A015-0.5	-46		11:11							
A015-1.0	-47		11:12							
A015-2.0	-48		11:13							
A015-5.0	-49		11:18			PJ				

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature:

Project Name/ID: 10326.001
SR-60 ADL

Relinquished by:
Relinquished by:
Relinquished by:

Received by:
Received by:
Received by:

Date & Time: 3/3/16 14:42
Date & Time: 3/3/16 1600
Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 3-2-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
~~0~~ Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Analysis Required: TTLC Lead 6010 B	Analysis Required: pH EPA 2045 TCLP Lead EPA 1311	COMMENTS
A013 - 0.5	160302 - 50	3-2-16	11:29	Soil	1		Ice	X		Homogenize
A013 - 1.0	- 51		11:30							
A013 - 2.0	- 52		11:31							
A013 - 5.0	- 53		11:32							
A012 - 0.5	- 54		11:42							
A012 - 1.0	- 55		11:43							
A012 - 2.0	- 56		11:44							
A012 - 5.0	- 57		11:46							
A512 - 0.5	- 58		11:51							
A512 - 1.0	- 59		11:52					X		
A512 - 2.0	- 60		11:53							
A512 - 5.0	- 61		11:54							
A011 - 0.5	- 62		12:09							
A011 - 1.0	- 63		12:10							
A011 - 2.0	- 64		12:11			PT				

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326.001 SR-60 ADL

Relinquished by:
Relinquished by:
Relinquished by:

Received by:
Received by:
Received by:

Date & Time: 3/2/2016 14:41
Date & Time: 3/2/16 1600
Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client ~~O~~ Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 3-2-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010 B	pH EPA 9045 TCLP Lead EPA 1311	Misc.	COMMENTS
				Analysis Required							
A011-5.0	160302-65	3-2-16	12:13	Soil	1		Ice	X			Homogenize
A010-0.5	-66		12:37								
A010-1.0	-67		12:38								
A010-2.0	-68		12:39								
A010-5.0	-69		12:41								
A009-0.5	-70		12:52								
A009-1.0	-71		12:53								
A009-2.0	-72		12:54								
A009-5.0	-73		12:56						X		
A008-0.5	-74		1:12								
A008-1.0	-75		1:12								
A008-2.0	-76		1:13								
A008-5.0	-77	X	1:16			PJ					

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326.061
SR-60 ADL

Relinquished by:
Relinquished by:
Relinquished by:

Received by:
Received by:
Received by:

Date & Time: 3/2/2016 14:42
Date & Time: 3/2/16 1600
Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE • YELLOW TO CLIENT

Date: 3-2-16

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Analysis Required: TTLC Lead 6010B	pH EPA 9045 TCLP EPA 1311	OCPs 8081A	Arsenic 6010B	Cam 17-metals 6010B/7471A	TPH Ca-LUFT 8015B	Misc.	COMMENTS
A007-0.5	160302-78		1:35	Soil	1		Ice	X							Homogenize
A007-1.0	-79		1:36					X							
A007-2.0	-80		1:37					X							
A007-5.0	-81		1:47					X							
A006-0.5	-82		2:03					X	X						
A006-1.0	-83		2:04					X							
A006-2.0	-84		2:05					X							
A006-5.0	-85		2:11			PT		X							
E001	-86		2:22	Water	3		Varies	X			X	X	X	X	

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326.061
SR-60 AOC

Relinquished by:	Received by:	Date & Time: 3/2/2016 14:42	Instructions for Sample Storage After Analysis:
Relinquished by:	Received by:	Date & Time: 3/2/16 1600	O Dispose of O Return to Client X Store (30 Days)
Relinquished by:	Received by:	Date & Time:	O Other:

CHAIN OF CUSTODY RECORD

Date: 3-2-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: March 10, 2016

Mr. Richard Orr
Leighton Consulting
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

Project: **SR-60 ADL**
Project No.: **10326.001**
Lab I.D.: **160303-8 through -76**

Dear Mr. Orr:

The **analytical results** for the soil and water samples, received by our lab on March 3, 2016, are attached. The samples were received chilled, intact and with chain of custody record.

Trace concentrations between the MDL and the PQL have been reported with a "J" flag indicator.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manger

Andy Wang
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: WATER
SAMPLING DATE: 03/03/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/03/16
DATE ANALYZED: 03/04/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TOTAL LEAD
UNITS: mg/L = MILLIGRAM PER LITER = PPM

SAMPLE I.D.	LAB I.D.	TOTAL LEAD RESULT	DF
E002	160303-75	ND	1
Method Blank	---	ND	1
	MDL	0.004	
	PQL	0.01	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for TTLC Metals Analysis --WATER MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/4/2016

Unit : mg/L(ppm)

Analysis	Spk.Sample BATCH ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Barium(Ba)	160301-6	1.00	104	PASS	0.085	1.00	0.890	81%	0.892	81%	0%
Lead(Pb)	160301-6	1.00	105	PASS	0.061	1.00	1.13	107%	1.14	108%	1%
Zinc(Zn)	160301-6	1.00	104	PASS	0.406	1.00	1.25	84%	1.23	82%	2%

ANALYSIS DATE. : 3/4/2016

Analysis	Spk.Sample BATCH ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	160303-75	0.00250	92	PASS	0	0.00250	0.00210	84%	0.00220	88%	5%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Barium(Ba)	PASS	PASS	PASS	PASS
Lead(Pb)	PASS	PASS	PASS	PASS
Zinc(Zn)	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/03/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/03/16
DATE ANALYZED: 03/03/16
DATE REPORTED: 03/10/16

pH ANALYSIS
METHOD: EPA 9045C
UNIT: pH UNITS

SAMPLE I.D.	LAB I.D.	pH RESULT
A004-1.0	160303-13	7.86
A001-0.5	160303-24	7.55
A022-2.0	160303-30	7.77
A025-1.0	160303-44	8.58
A027-5.0	160303-58	8.94
A030-2.0	160303-69	8.11

COMMENTS:
pH ANALYSIS CONDUCTED ON 1:1 SOIL/DEIONIZED WATER EXTRACTION

DATA REVIEWED AND APPROVED BY: 
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766
Tel (909)590-5905 Fax (909)590-5907

Matrix: **SOLID/SLUDGE**

QA/QC Report

Analysis	Units	Date Analyzed	Sample I.D.	S.R.	Duplicate	% RPD	ACP %RPD
Alkalinity	mg/Kg					0.0%	0-20
Residual Chlorine	mg/Kg					0.0%	0-20
Density	g/mL					0.00%	0-20
EC	umhos/cm					0.0%	0-20
pH	pH units	3/3/2016	160303-69	8.11	8.14	0.4%	0-20
TDS	mg/L					0.0%	0-20
TSS	mg/Kg					0.0%	0-20
Resistivity	ohms					0.0%	0-20
% Moisture	%					0.0%	0-20
BTU	BTU/lb					0.0%	0-20
Salinity	S					0.00%	0-20

%RPD = Relative Percent Difference **ACP %RPD** = Acceptable Relative Percent Difference

Analysis	Units	Date Analyzed	Sample I.D.	Spk Conc	S.R.	ACP %RPD	ACP %RC	MS	MS %RC	MSD	MSD %RC	% RPD
Acidity	mg/Kg					0	80-120					
Ammonia as N	mg/Kg			50.0		0-20	80-120					#VALUE!
MBAS	mg/Kg			6.00		0-20	80-120					#VALUE!
Chloride	mg/Kg			200		0-20	80-120					#VALUE!
COD	mg/Kg			500		0-20	80-120					#VALUE!
Cr VI	mg/Kg			4.0		0-20	80-120					#VALUE!
Cyanide	mg/wipe			50.0		0-20	80-120					#VALUE!
Fluoride	mg/Kg			10.0		0-20	80-120					#VALUE!
Nitrate as N	mg/Kg			4.0		0-20	80-120					#VALUE!
Nitrite as N	mg/Kg			4.0		0-20	80-120					#VALUE!
Oil and Grease	mg/Kg			667		0-20	80-120					#VALUE!
Phenolics	mg/Kg					0-20	80-120					
Sulfate	mg/Kg			200		0-20	80-120					#VALUE!
Sulfide	mg/Kg			3.00		0-20	80-120					#VALUE!
TRPH	mg/Kg			667		0-20	80-120					#VALUE!
Sulfide, Reactive	mg/Kg			3.00		0-20	80-120					#VALUE!
EPA 1664A	mg/Kg			500		0-20	80-120					#VALUE!

S.R. = Sample Results **%RC** = Percent Recovery **ACP %RC** = Accepted Percent Recovery

Analyst Signature: _____

Final Reviewer: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/03/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/03/16
DATE ANALYZED: 03/07/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TTLC-LEAD; PAGE 1 OF 4
UNITS: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
A005-0.5	160303-8	170 *	1
A005-1.0	160303-9	4.64	1
A005-2.0	160303-10	5.07	1
A005-5.0	160303-11	3.66	1
A004-0.5	160303-12	49.0	1
A004-1.0	160303-13	7.14	1
A004-2.0	160303-14	10.4	1
A004-5.0	160303-15	3.34	1
A003-0.5	160303-16	18.1	1
A003-1.0	160303-17	7.08	1
A003-2.0	160303-18	13.3	1
A003-5.0	160303-19	4.12	1
A002-0.5	160303-20	20.7	1
A002-1.0	160303-21	34.4	1
Method Blank	---	ND	1
	MDL	0.084	
	PQL	0.50	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/03/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/03/16
DATE ANALYZED: 03/07/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TTLC-LEAD; PAGE 2 OF 4
UNITS: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
A002-2.0	160303-22	13.1	1
A002-5.0	160303-23	4.18	1
A001-0.5	160303-24	9.33	1
A001-1.0	160303-25	5.75	1
A001-2.0	160303-26	3.83	1
A001-5.0	160303-27	3.24	1
A022-0.5	160303-28	8.85	1
A022-1.0	160303-29	12.3	1
A022-2.0	160303-30	9.82	1
A022-5.0	160303-31	4.25	1
A023-0.5	160303-32	17.2	1
A023-1.0	160303-33	4.80	1
A023-2.0	160303-34	5.33	1
A023-5.0	160303-35	3.06	1
A523-0.5	160303-36	31.2	1
A523-1.0	160303-37	7.19	1
A523-2.0	160303-38	5.48	1
A523-5.0	160303-39	4.98	1
A024-0.5	160303-40	6.30	1
A024-1.0	160303-41	3.35	1
Method Blank	---	ND	1
	MDL	**0.084**	
	PQL	**0.50**	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
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Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

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LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/03/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/03/16
DATE ANALYZED: 03/07/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TTLC-LEAD; PAGE 3 OF 4
UNITS: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
A024-2.0	160303-42	6.52	1
A025-0.5	160303-43	20.3	1
A025.1.0	160303-44	4.80	1
A025-2.0	160303-45	15.4	1
A025-5.0	160303-46	5.88	1
A026-0.5	160303-47	70.9 *	1
A026-1.0	160303-48	4.77	1
A026-2.0	160303-49	5.17	1
A026-5.0	160303-50	8.47	1
A526-0.5	160303-51	3.72	1
A526-1.0	160303-52	3.98	1
A526-2.0	160303-53	5.51	1
A526-5.0	160303-54	6.82	1
A027-0.5	160303-55	22.1	1
A027-1.0	160303-56	9.51	1
A027-2.0	160303-57	4.24	1
A027-5.0	160303-58	5.71	1
A028-0.5	160303-59	55.1 *	1
A028-1.0	160303-60	5.61	1
A028-2.0	160303-61	5.53	1
Method Blank	---	ND	1
	MDL	**0.084**	
	PQL	**0.50**	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/03/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/03/16
DATE ANALYZED: 03/07/16
DATE REPORTED: 03/10/16

EPA 6010B FOR TTLC-LEAD; PAGE 4 OF 4
UNITS: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
A028-5.0	160303-62	4.09	1
A029-0.5	160303-63	8.07	1
A029-1.0	160303-64	5.86	1
A029-2.0	160303-65	5.68	1
A029-5.0	160303-66	10.4	1
A030-0.5	160303-67	8.42	1
A030-1.0	160303-68	3.85	1
A030-2.0	160303-69	5.38	1
A030-5.0	160303-70	5.12	1
A031-0.5	160303-71	61.4 *	1
A031-1.0	160303-72	5.96	1
A031-2.0	160303-73	5.39	1
A031-5.0	160303-74	4.74	1
A024-5.0	160303-76	3.74	1
Method Blank	---	ND	1
	MDL	0.084	
	PQL	0.50	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX (PAGE 1 of 4)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/7/2016 Unit : Mg/KG(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	160302-84	1.00	104	PASS	3.16	50.0	49.8	93%	51.0	96%	3%

ANALYSIS DATE. :

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead (Pb)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX (PAGE 2 of 4)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/7/2016 Unit : Mg/KG(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	160303-28	1.00	103	PASS	8.85	50.0	50.0	82%	47.8	78%	5%

ANALYSIS DATE. :

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead (Pb)	PASS	PASS	PASS	PASS
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/7/2016 **Unit : Mg/KG(ppm)**

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	160303-46	1.00	104	PASS	5.88	50.0	48.7	86%	50.6	89%	4%

ANALYSIS DATE. :

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead (Pb)	PASS	PASS	PASS	PASS
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX (PAGE 4 of 4)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/7/2016 Unit : Mg/KG(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	160303-66	1.00	104	PASS	10.4	50.0	51.7	83%	52.5	84%	2%

ANALYSIS DATE. :

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead (Pb)	PASS	PASS	PASS	PASS
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
~~0~~ 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	pH EPA 9045	TCLP Lead EPA 1311	OCP's 8081A	[illegible]	Cam 17 Metals 6010B	TPH C6-C40 [illegible]			COMMENTS
A030-1.0		3-3-16	1:09	Soil	1		Ice	X									Homogenize
A030-2.0		↓	1:10	↓	↓		↓	↓	X								↓
A030-5.0		↓	1:12	↓	↓		↓	↓									↓
A031-0.5		↓	1:20	↓	↓		↓	↓									↓
A031-1.0		↓	1:21	↓	↓		↓	↓									↓
A031-2.0		↓	1:22	↓	↓		↓	↓									↓
A031-5.0		↓	1:25	↓	↓		↓	↓									↓
E002		↓	1:31	Water	3		Wet	↓			X	X	X	X			
A024-5.0		3-3-16	11:25	Soil	1		Ice	X									Homogenize

Misc.

Analysis Required

Company Name: Leighton Consulting Inc	Project Contact: Richard orr	Sampler's Signature: [signature]	
Address: 41715 Enterprise Circle North #103	Tel: 909-527-8782	Project Name/ID: 10326-001 SR-60 ADL	
City/State/Zip: Temecula CA 92590	Fax: 909-484-2170		

Relinquished by: [signature]	Received by: [signature]	Date & Time: 3/3/2016 14:00
Relinquished by: [signature]	Received by:	Date & Time:
Relinquished by:	Received by:	Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client ☒ Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 3-3-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Page 5 of 5

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
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Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Analysis Required: TTLC Lead 6010B	pH EPA 9045	TCLP Lead EPA 1311	COMMENTS
A005-0.5	160303-8	3-3-16	9:12	Soil	1		Ice	X			Homogenize
A005-1.0	-9		9:13			1x pt					
A005-2.0	-10		9:14								
A005-5.0	-11		9:16								
A004-0.5	-12		9:27								
A004-1.0	-13		9:28						X		
A004-2.0	-14		9:29								
A004-5.0	-15		9:31								
A003-0.5	-16		9:40								
A003-1.0	-17		9:41								
A003-2.0	-18		9:42								
A003-5.0	-19		9:43								
A002-0.5	-20		9:52								
A002-1.0	-21		9:52								
A002-2.0	-22		9:54								

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-327-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326.001 SR-60 ADL

Relinquished by:
Relinquished by:
Relinquished by:

Received by:
Received by:
Received by: WP

Date & Time: 3/3/2016 1400
Date & Time: 3/3/16 15:30
Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 3-3-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Analysis Required: TTLC Lead 6010 B	Analysis Required: PH EPA 2045 TCLP Lead EPA 1311	Misc.	COMMENTS
A002-5.0	16303-23	3-3-16	9:55	Soil	1		Ice	X			Homogenize
A001-0.5	-24	10	10:02						X		
A001-1.0	-25		10:03								
A001-2.0	-26		10:04								
A001-5.0	-27		10:06								
A022-0.5	-28		10:47								
A022-1.0	-29		10:48								
A022-2.0	-30		10:49						X		
A022-5.0	-31		10:51								
A023-0.5	-32		11:01								
A023-1.0	-33		11:02								
A023-2.0	-34		11:03								
A023-5.0	-35		11:06								
A523-0.5	-36		11:09								
A523-1.0	-37		11:10								

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326.001 SR-60 ADL

Relinquished by:	Received by:	Date & Time: 2/3/2016 16:00	Instructions for Sample Storage After Analysis:
Relinquished by:	Received by:	Date & Time: 3/3/16 15:30	O Dispose of O Return to Client X Store (30 Days)
Relinquished by:	Received by:	Date & Time:	O Other:

CHAIN OF CUSTODY RECORD

Date: 3-3-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Analysis Required: TTLC Lead 6010 B	Analysis Required: pH EPA 9045	Analysis Required: TCLP Lead EPA 1311	Misc.	COMMENTS
A523-2.0	16030-38	3-3-16	11:11	Soil	1		Ice	X				Homogenize
A523-5.0	-39		11:13									
A024-0.5	-40		11:21									
A024-1.0	-41		11:22									
A024-2.0	-42		11:23									
A025-0.5	-43		11:34									
A025-1.0	-44		11:35					X				
A025-2.0	-45		11:36									
A025-5.0	-46		11:38									
A026-0.5	-47		11:47									
A026-1.0	-48		11:48									
A026-2.0	-49		11:49									
A026-5.0	-50		11:51									
A526-0.5	-51		11:53									
A526-1.0	-52		11:54									

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle N #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326.001
SR-60 ADL

Relinquished by:
Relinquished by:
Relinquished by:

Received by:
Received by:
Received by: WP

Date & Time: 3/3/16 1400
Date & Time: 3/3/16 15:30
Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 3-3-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
~~0~~ 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Analysis Required: TTLC Lead 6010 B	Analysis Required: pH EPA 9045 / TCLP Lead EPA 1311	Misc.	COMMENTS
A026 - 2.0	60303-53	3-3-16	11:55	Soil	1		Ice	X			Homogenize
A026 - 5.0	-54		11:57								
A027 - 0.5	-55		12:10								
A027 - 1.0	-56		12:11								
A027 - 2.0	-57		12:12								
A027 - 5.0	-58		12:15						X		
A028 - 0.5	-59		12:31								
A028 - 1.0	-60		12:32								
A028 - 2.0	-61		12:33								
A028 - 5.0	-62		12:35								
A029 - 0.5	-63		12:50								
A029 - 1.0	-64		12:51								
A029 - 2.0	-65		12:52								
A029 - 5.0	-66		12:56								
A030 - 0.5	-67		1:08								

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326.001 SR-60 ADL

Relinquished by:
Relinquished by:
Relinquished by:

Received by:
Received by:
Received by:

Date & Time: 3/3/2016 14:00
Date & Time: 3/3/16 15:30
Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 3-3-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
~~0~~ Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010 B	pH EPA 9045 TCLP Lead EPA 1311	OCP's 8081A	Arsenic 6010B	Cam 17 Metals 6010B	TPH 8015 C6-C40	Misc.	COMMENTS
				Analysis Required											
A030 - 1.0	16033-68	3-3-16	10:9	Soil	1		Ice	X							Homogenize
A030 - 2.0	-69		1:10						X						
A030 - 5.0	-70		1:12												
A031 - 0.5	-71		1:20												
A031 - 1.0	-72		1:21												
A031 - 2.0	-73		1:22												
A031 - 5.0	-74		1:25												
E002	-75		1:31	Water	3		Ice			X	X	X	X		
A024 - 5.0	-76	3/3/16	11:25	Soil	1		ICE	X							

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326-001 SR-60 ADL

Relinquished by:
Relinquished by:
Relinquished by:

Received by:
Received by:
Received by:

Date & Time: 3/3/2016 14:20
Date & Time: 3/3/16 15:30
Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client O Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 3-3-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: March 16, 2016

Mr. Richard Orr
Leighton Consulting
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

Project: **SR-60 ADL**
Project No.: **10326.001**
Lab I.D.: **160303-8 through -76**

Dear Mr. Orr:

The **additional STLC/STLC DI-Pb results** for the soil and water samples, received by our lab on March 3, 2016, are attached. The samples were received chilled, intact, accompanying chain of custody and also stored per the EPA protocols.

Trace concentrations between the MDL and the PQL have been reported with a "J" flag indicator.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manger

for

Andy Wang
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/03/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/03/16
DATE ANALYZED: 03/13-15/16
DATE REPORTED: 03/16/16

EPA 6010B FOR STLC-LEAD
UNIT: mg/L IN THE STLC LEACHATE

SAMPLE I.D.	LAB I.D.	STLC-LEAD RESULT	DF
A005-0.5	160303-8	7.45 ***	1
A025-0.5	160303-43	1.81	1
A026-0.5	160303-47	3.03	1
A526-1.0	160303-52	0.062	1
A028-0.5	160303-59	3.94	1
A028-2.0	160303-61	0.074	1
A029-2.0	160303-65	0.100	1
A029-5.0	160303-66	0.320	1
A031-0.5	160303-71	5.63 ***	1
A031-5.0	160303-74	0.079	1
Method Blank	---	ND	1
	MDL	**0.02**	
	PQL	**0.05**	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
STLC = Soluble Threshold Limit Concentration
mg/L = Milligram Per Liter = PPM
*** = The concentration exceeds the STLC Limit @ 5 PPM, therefore the sample is defined as hazardous waste, as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --STLC

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/15/2016 Unit : *mg/L (ppm)*

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	*Sample Result*	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead(Pb)	160303-65	5.00	102	*PASS*	0.100	5.00	3.73	73%	3.75	73%	1%

ANALYSIS DATE:

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	*Sample Result*	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead(Pb)	*FAIL**	*FAIL**	*PASS*	*PASS*
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

ANALYST: _____

FINAL REVIEWER: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/03/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/03/16
DATE ANALYZED: 03/13-15/16
DATE REPORTED: 03/16/16

EPA 6010B FOR STLC DI-LEAD
UNIT: mg/L IN THE STLC LEACHATE

SAMPLE I.D.	LAB I.D.	STLC-LEAD RESULT	DF
A025-0.5	160303-43	0.068	1
A526-1.0	160303-52	ND	1
A028-2.0	160303-61	ND	1
A029-2.0	160303-65	ND	1
A029-5.0	160303-66	ND	1
A031-5.0	160303-74	ND	1
Method Blank	---	ND	1
	MDL	0.02	
	PQL	0.05	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
STLC = Soluble Threshold Limit Concentration
mg/L = Milligram Per Liter = PPM
Extraction performed using DI Water
*** = The concentration exceeds the STLC Limit @ 5 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --STLC(DI)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/15/2016

Unit : mg/L (ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead(Pb)	160303-74(DI)	5.00	103	PASS	0	5.00	4.81	96%	5.05	101%	5%

ANALYSIS DATE:

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead(Pb)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

ANALYST: _____

FINAL REVIEWER: _____

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X 1 Week (Standard)
Other

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead done B	pH EPA 9045	TCLP Lead EPA 1311	STLC WET CAM	WET DI					COMMENTS
A005-0.5	160303-8	3-3-16	9:12	Soil	1		Ice	X			X						Homogenize
A005-1.0	-9	↓	9:13	↓	↓	1x pt	↓	↓									↓
A005-2.0	-10		9:14														
A005-5.0	-11		9:16														
A004-0.5	-12		9:27														
A004-1.0	-13		9:28						X								
A004-2.0	-14		9:29														
A004-5.0	-15		9:31														
A003-0.5	-16		9:40														
A003-1.0	-17		9:41														
A003-2.0	-18		9:42														
A003-5.0	-19		9:43														
A002-0.5	-20		9:52														
A002-1.0	-21		9:52														
A002-2.0	-22	↓	9:54	↓	↓		↓	↓									↓

Company Name: Leighton Consulting Inc

Address: 41715 Enterprise Circle North #103

City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr

Tel: 909-527-8782

Fax: 909-484-2170

Sampler's Signature: [signature]

Project Name/ID: 10326.001 SR-60 ADL

Relinquished by: [signature]	Received by: [signature]	Date & Time: 3/3/16 1200
Relinquished by: [signature]	Received by: WSP	Date & Time: 3/3/16 15:30
Relinquished by:	Received by:	Date & Time

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE • YELLOW TO CLIENT

Date: 3-3-16

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X 1 Week (Standard)
Other

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010 B	PH EPA 9045 TCLP Lead EPA 1311	SILICA GEL CTRL	WET DT	Misc.	COMMENTS
				Analysis Required									
A523-2.0	16039-38	3-3-16	11:11	Soil	1		Ice	X					Homogenize
A523-5.0	-39		11:13										
A024-0.5	-40		11:21										
A024-1.0	-41		11:22										
A024-2.0	-42		11:23										
A025-0.5	-43		11:34							X	X		
A025-1.0	-44		11:35						X				
A025-2.0	-45		11:36										
A025-5.0	-46		11:38										
A026-0.5	-47		11:47							X			
A026-1.0	-48		11:48										
A026-2.0	-49		11:49										
A026-5.0	-50		11:51										
A526-0.5	-51		11:53										
A526-1.0	-52		11:54							X	X		

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle N #163
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-521-8782
Fax: 909-484-2170

Sampler's Signature:
Project Name/ID: 10326.001 SR-60 ADL

Relinquished by:	Received by:	Date & Time: 3/2/2016 1400	Instructions for Sample Storage After Analysis:
Relinquished by:	Received by:	Date & Time: 3/3/16 5:30	O Dispose of O Return to Client X Store (30 Days)
Relinquished by:	Received by:	Date & Time:	O Other:

CHAIN OF CUSTODY RECORD

Date: 3-3-16

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
- 0 Same Day
- 0 24 Hours
- 0 48 Hours
- 0 72 Hours
- ✓ 1 Week (Standard)
- Other:

Misc.

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	pH EPA 9045	TCLP Lead EPA 1311	STLC WET Citric	WET DI					COMMENTS
A526-2.0	160303-53	3-3-16	11:55	Soil	1		Ice	X									Homogenize
A526-5.0	-54		11:57														
A027-0.5	-55		12:10														
A027-1.0	-56		12:11														
A027-2.0	-57		12:12														
A027-5.0	-58		12:15						X								
A028-0.5	-59		12:31								X						
A028-1.0	-60		12:32								X	X					
A028-2.0	-61		12:33														
A028-5.0	-62		12:35														
A029-0.5	-63		12:50														
A029-1.0	-64		12:51														
A029-2.0	-65		12:52								X	X					
A029-5.0	-66		12:56								X	X					
A030-0.5	-67	↓	1:08	↓	↓		↓	↓									↓

Analysis Required

Company Name: Leighton Consulting Inc.

Address: 41715 Enterprise Circle North #103

City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr

Tel: 909-527-8782

Fax: 909-484-2170

Sampler's Signature: [signature]

Project Name/ID: 10326.001 SR-60 ADL

Relinquished by: [signature]	Received by: [signature]	Date & Time: 3/3/2016 1400	
Relinquished by: [signature]	Received by: [signature]	Date & Time: 3/3/16 15:20	
Relinquished by:	Received by:	Date & Time:	

Instructions for Sample Storage After Analysis:
- O Dispose of
- O Return to Client
- X Store (30 Days)
- O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE • YELLOW TO CLIENT

Date: 3-3-16

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X 1 Week (Standard)
Other:

Misc.

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Analysis Required: TTLC Lead	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TPH C6-C40	STLC WET Citric	WET DI	COMMENTS
A020-1.0		3-3-16	1:09	Soil	1		Ice	X									Homogenize
A020-2.0			1:10						X								
A020-5.0			1:12												X		
A021-0.5			1:20														
[illegible]			[illegible]														
A021-2.0			1:22														
A021-5.0			1:25												X	X	
[illegible]			1:31	Water	3		[illegible]				X	X	X	X			
A024-5.0		3-3-16	11:25	Soil	1		Ice	X									Homogenize

Company Name: [illegible]

Address: [illegible]

City/State/Zip: Temecula CA 92590

Project Contact: Richard [illegible]

Tel: 909-527-8782

Fax: 909-484-2170

Sampler's Signature: [signature]

Project Name/ID: 10326-001 SR-60 ADL

Relinquished by:	Received by:	Date & Time:
[signature]	[signature]	3/3/2016 14:[illegible]
[signature]		

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE • YELLOW TO CLIENT

Date: 3-3-[illegible]

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: March 16, 2016

Mr. Richard Orr
Leighton Consulting
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

Project: **SR-60 ADL**
Project No.: **10326.001**
Lab I.D.: **160302-20 through -86**

Dear Mr. Orr:

The **additional STLC/STLC DI-Pb results** for the soil and water samples, received by our lab on March 2, 2016, are attached. The samples were received chilled, intact, accompanying chain of custody and also stored per the EPA protocols.

Trace concentrations between the MDL and the PQL have been reported with a "J" flag indicator.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manger

Andy Wang
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/02/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/02/16
DATE ANALYZED: 03/13-15/16
DATE REPORTED: 03/16/16

EPA 6010B FOR STLC-LEAD
UNIT: mg/L IN THE STLC LEACHATE

SAMPLE I.D.	LAB I.D.	STLC-LEAD RESULT	DF
A021-2.0	160302-22	0.065	1
A020-0.5	160302-23	1.15	1
A019-5.0	160302-30	0.096	1
A012-5.0	160302-57	ND	1
A512-2.0	160302-60	ND	1
A007-1.0	160302-79	6.62 ***	1
A007-2.0	160302-80	0.451	1
Method Blank	---	ND	1
	MDL	0.02	
	PQL	0.05	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
STLC = Soluble Threshold Limit Concentration
mg/L = Milligram Per Liter = PPM
*** = The concentration exceeds the STLC Limit @ 5 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --STLC

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/15/2016 Unit : mg/L (ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead(Pb)	160303-65	5.00	102	PASS	0.100	5.00	3.73	73%	3.75	73%	1%

ANALYSIS DATE:

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead(Pb)	FAIL*	FAIL*	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

ANALYST: _____

FINAL REVIEWER: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/02/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/02/16
DATE ANALYZED: 03/13-15/16
DATE REPORTED: 03/16/16

EPA 6010B FOR STLC DI-LEAD
UNIT: mg/L IN THE STLC LEACHATE

SAMPLE I.D.	LAB I.D.	STLC-LEAD RESULT	DF
A021-2.0	160302-22	ND	1
A020-0.5	160302-23	ND	1
A019-5.0	160302-30	ND	1
A012-5.0	160302-57	ND	1
A512-2.0	160302-60	ND	1
A007-2.0	160302-80	ND	1
Method Blank	---	ND	1
	MDL	0.02	
	PQL	0.05	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
STLC = Soluble Threshold Limit Concentration
mg/L = Milligram Per Liter = PPM
Extraction performed using DI Water
*** = The concentration exceeds the STLC Limit @ 5 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --STLC(DI)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/15/2016 Unit : *mg/L (ppm)*

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	*Sample Result*	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead(Pb)	160303-74(DI)	5.00	103	*PASS*	0	5.00	4.81	96%	5.05	101%	5%

ANALYSIS DATE:

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	*Sample Result*	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead(Pb)	*PASS*	*PASS*	*PASS*	*PASS*
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X Week (Standard)
Other.

Misc.

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	pH EPA 9045	TCLP Lead EPA 1311	STLC wet CITRIC	STLC WET DI					COMMENTS
A021-0.5	160302-20	3-2-16	9:14	Soil	1		Ice	X									
A021-1.0	-21	↓	9:15	↓	↓		↓	↓									
A021-2.0	-22	↓	9:15	↓	↓		↓	↓			X	X					
A020-0.5	-23	↓	9:24	↓	↓		↓	↓			X	X					
A020-1.0	-24	↓	9:25	↓	↓		↓	↓	X								
A020-2.0	-25	↓	9:26	↓	↓		↓	↓									
A020-5.0	-26	↓	9:31	↓	↓		↓	↓									
A019-0.5	-27	↓	9:46	↓	↓		↓	↓									
A019-1.0	-28	↓	9:48	↓	↓		↓	↓									
A019-2.0	-29	↓	9:48	↓	↓		↓	↓									
A019-5.0	-30	↓	9:50	↓	↓		↓	↓			X	X					
A018-0.5	-31	↓	9:56	↓	↓		↓	↓									
A018-1.0	-32	↓	9:57	↓	↓		↓	↓									
A018-2.0	-33	↓	9:57	↓	↓		↓	↓	X								
A018-5.0	-34	↓	9:59	↓	↓	RT	↓	↓									

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-454-2170

Sampler's Signature: [signature]
Project Name/ID: 10326.001 SR-60 ADL

Relinquished by:	Received by:	Date & Time
[signature]	[signature]	3/2/2016 12:42
[signature]	[signature]	3/2/16 16:00

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE • YELLOW TO CLIENT

Date: 3-2-16

Page 1 of 5

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
✓ Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	pH EPA 9045	TCLP Lead EPA 1311	STLC WET Citric	STLC WET D.I.					COMMENTS
A013 - 0.5	160302-50	3-2-16	11:29	Soil	1		Ice	X									Homogenize
A013 - 1.0	-51	↓	11:30	↓	↓		↓	↓									↓
A013 - 2.0	-52	↓	11:31	↓	↓		↓	↓									↓
A013 - 5.0	-53	↓	11:32	↓	↓		↓	↓									↓
A012 - 0.5	-54	↓	11:42	↓	↓		↓	↓									↓
A012 1.0	-55	↓	11:43	↓	↓		↓	↓									↓
A012 - 2.0	-56	↓	11:44	↓	↓		↓	↓									↓
A012 - 5.0	-57	↓	11:46	↓	↓		↓	↓			X	X					↓
A512 - 0.5	-58	↓	11:51	↓	↓		↓	↓									↓
A512 - 1.0	-59	↓	11:52	↓	↓		↓	↓	X								↓
A512 - 2.0	-60	↓	11:53	↓	↓		↓	↓			X	X					↓
A512 - 5.0	-61	↓	11:54	↓	↓		↓	↓									↓
A011 - 0.5	-62	↓	12:09	↓	↓		↓	↓									↓
A011 - 1.0	-63	↓	12:10	↓	↓		↓	↓									↓
A011 - 2.0	-64	↓	12:11	↓	↓	P.T.	↓	↓									↓

Misc.

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-8782
Fax: 909-484-2170

Sampler's Signature: [signature]
Project Name/ID: 10326.001 SR-60 ADL

Relinquished by: [signature]	Received by:	Date & Time: 3/2/16 14:41	
Relinquished by: [signature]	Received by: [signature]	Date & Time: 3/2/16 1600	
Relinquished by:	Received by:	Date & Time	

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client ✓ Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE - YELLOW TO CLIENT

Date: 3-2-16

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X 1 Week (Standard)
Other

Analysis Required

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	pH EPA 9045	TCLP EPA 1311	OCP's 8081A	Arsenic 6010B	Cam 17 metals 6010B/7471A	TPH C6-C44 8015B	STLC WET CAM	WET DI	Misc.	COMMENTS
A007-0.5	160302-78		1:35	Soil	1		Ice	X										Homogenize
A007-1.0	-79		1:36	↓	↓		↓	X							X			↓
A007-2.0	-80		1:37	↓	↓		↓	X							X	X		↓
A007-5.0	-81		1:47	↓	↓		↓	X										↓
A006-0.5	-82		2:03	↓	↓		↓	X	X									↓
A006-1.0	-83		2:04	↓	↓		↓	X										↓
A006-2.0	-84		2:05	↓	↓		↓	X										↓
A006-5.0	-85		2:11	↓	↓ PT		↓	X										↓
E001	-86		2:22	Water	3		Various	X			X	X	X	X				

Company Name: Leighton Consulting Inc
Address: 41715 Enterprise Circle North #103
City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr
Tel: 909-527-3782
Fax: 909-484-2170

Sampler's Signature: [signature]
Project Name/ID: 10520.051
SR-60 ADL

Relinquished by:	Received by:	Date & Time:
[signature]	[signature]	3/2/2016 14:42
[signature]	[signature]	3/2/16 16:00

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE - YELLOW TO CLIENT

Date: 3-2-16

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: March 23, 2016

Mr. Richard Orr
Leighton Consulting
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

Project: **SR-60 ADL**
Project No.: **10326.001**
Lab I.D.: **160303-8 through -76**

Dear Mr. Orr:

The **additional STLC DI-Pb results** for the soil and water samples, received by our lab on March 3, 2016, are attached. The samples were received chilled, intact, accompanying chain of custody and also stored per the EPA protocols.

Trace concentrations between the MDL and the PQL have been reported with a "J" flag indicator.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manger

Andy Wang
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/03/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/03/16
DATE ANALYZED: 03/19-21/16
DATE REPORTED: 03/23/16

EPA 6010B FOR STLC DI-LEAD
UNIT: mg/L IN THE STLC LEACHATE

SAMPLE I.D.	LAB I.D.	STLC-LEAD RESULT	DF
A005-0.5	160303-8	ND	1
A031-0.5	160303-71	ND	1
Method Blank	---	ND	1
	MDL	0.02	
	PQL	0.05	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
STLC = Soluble Threshold Limit Concentration
mg/L = Milligram Per Liter = PPM
Extraction performed using DI Water
*** = The concentration exceeds the STLC Limit @ 5 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis -STLC-DI

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/21/2016

Unit : mg/L (ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead(Pb)	160303-71	5.00	100	PASS	0	5.00	5.49	110%	5.51	110%	0%

ANALYSIS DATE:

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead(Pb)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
☒ 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	pH EPA 9045	TCLP Lead EPA 1311	STLC WET citric	WET DI					Misc. COMMENTS
A005-0.5	160303-8	3-3-16	9:12	Soil	1		Ice	X			X	X					Homogenize
A005-1.0	-9	↓	9:13	↓	↓	1xpt	↓	↓									↓
A005-2.0	-10		9:14														
A005-5.0	-11		9:16														
A004-0.5	-12		9:27														
A004-1.0	-13		9:28						X								
A004-2.0	-14		9:29														
A004-5.0	-15		9:31														
A003-0.5	-16		9:40														
A003-1.0	-17		9:41														
A003-2.0	-18		9:42														
A003-5.0	-19		9:43														
A002-0.5	-20		9:52														
A002-1.0	-21		9:52														
A002-2.0	-22	↓	9:54	↓	↓		↓	↓									↓

Company Name: Leighton Consulting Inc

Address: 41715 Enterprise Circle North #103

City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr

Tel: 909-527-8782

Fax: 909-484-2170

Sampler's Signature: [signature]

Project Name/ID: 10326.001 SR-60 ADL

Relinquished by: [signature]	Received by: [signature]	Date & Time 3/3/16 1400	
Relinquished by: [signature]	Received by: WP	Date & Time 3/3/16 15:30	
Relinquished by:	Received by:	Date & Time	

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client ☒ Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE • YELLOW TO CLIENT

Date: 3-3-16

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TPH C6-C40	STLC WET Citric	DI WET DI	COMMENTS
A020-1.0	160303-68	3-3-16	1:09	Soil	1		Ice	X									Homogenize
A020-2.0	-69		1:10						X								
A020-5.0	-70		1:12														
[illegible]	-71		1:20												X	X	
[illegible]	-72		[illegible]														
[illegible] 2.0	-73		[illegible]														
A021-5.0	-74		1:25												X	X	
[illegible]	-75		1:31	Water	3		[illegible]				X	X	X	X			
A024-5.0	-76	3-3-16	11:25	Soil	1		Ice	X									Homogenize

Company Name: [illegible] Inc

Address: 41715 Enterprise Circle North #103

City/State/Zip: Temecula CA 92590

Project Contact: Richard [illegible]

Tel: 909-527-8782

Fax: 909-484-2170

Sampler's Signature: [signature]

Project Name/ID: 10326-001 SP.60 ADL

Relinquished by: [signature]	Received by: [signature]	Date & Time: 3/3/2016 14:[illegible]
Relinquished by: [signature]	Received by:	Date & Time:
Relinquished by:	Received by:	Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE • YELLOW TO CLIENT

Date: 3-3-16

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: March 23, 2016

Mr. Richard Orr
Leighton Consulting
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

Project: **SR-60 ADL**
Project No.: **10326.001**
Lab I.D.: **160302-20 through -86**

Dear Mr. Orr:

The **additional STLC DI-Pb results** for the soil and water samples, received by our lab on March 2, 2016, are attached. The samples were received chilled, intact, accompanying chain of custody and also stored per the EPA protocols.

Trace concentrations between the MDL and the PQL have been reported with a "J" flag indicator.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manger

for

Andy Wang
Laboratory Manager

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton Consulting**
41715 Enterprise Circle N, Suite 103, Temecula, CA 92590
Tel(909)527-8782 Fax(909)484-2170

PROJECT: **SR-60 ADL**
MATRIX: SOIL
SAMPLING DATE: 03/02/16
REPORT TO: MR. RICHARD ORR

PROJECT No.: **10326.001**
DATE RECEIVED: 03/02/16
DATE ANALYZED: 03/19-21/16
DATE REPORTED: 03/23/16

EPA 6010B FOR STLC DI-LEAD
UNIT: mg/L IN THE STLC LEACHATE

SAMPLE I.D.	LAB I.D.	STLC-LEAD RESULT	DF
A007-1.0	160302-79	ND	1
Method Blank	---	ND	1
	MDL	0.02	
	PQL	0.05	

COMMENTS:
DF = Dilution Factor
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
J = Trace Concentration between MDL and PQL
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
STLC = Soluble Threshold Limit Concentration
mg/L = Milligram Per Liter = PPM
Extraction performed using DI Water
*** = The concentration exceeds the STLC Limit @ 5 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis -STLC-DI

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 3/21/2016 Unit : *mg/L (ppm)*

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	*Sample Result*	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead(Pb)	160303-71	5.00	100	*PASS*	0	5.00	5.49	110%	5.51	110%	0%

ANALYSIS DATE:

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	*Sample Result*	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Lead(Pb)	*PASS*	*PASS*	*PASS*	*PASS*
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
X 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010 B	pH, EPA 9045 TCLP	EPA 1311 OCP's 8081A	Arsenic 6010B	Cam 17-Metals 6010B/7471A	TPH	C6-C44 8015B	STLC WET CAM	WET NI	COMMENTS
A007-0.5	160302-78		1:35	Soil	1		Ice	X									Homogenize
A007-1.0	-79		1:36	↓	↓		↓	X							X	X	↓
A007-2.0	-80		1:37	↓	↓		↓	X							X	X	↓
A007-5.0	-81		1:47	↓	↓		↓	X									↓
A006-0.5	-82		2:03	↓	↓		↓	X	X								↓
A006-1.0	-83		2:04	↓	↓		↓	X									↓
A006-2.0	-84		2:05	↓	↓		↓	X									↓
A006-5.0	-85		2:11	↓	↓ PT		↓	X									↓
E001	-86		2:22	Water	3		(vents)	X			X	X	X	X			

Company Name: Leighton Consulting Inc

Address: 41715 Enterprise Circle North #103

City/State/Zip: Temecula CA 92590

Project Contact: Richard Orr

Tel: 909-527-8782

Fax: 909-484-2170

Sampler's Signature:

Project Name/ID: 10526.051 SR-60 ADL

Relinquished by:	Received by:	Date & Time: 3/2/2016 14:42	Instructions for Sample Storage After Analysis:
Relinquished by:	Received by:	Date & Time: 3/2/16 1800	O Dispose of O Return to Client X Store (30 Days)
Relinquished by:	Received by:	Date & Time	O Other:

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE - YELLOW TO CLIENT

Date: 3-2-16

APPENDIX D

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	4/8/2016 2:19:38 PM
From File	TTLC.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TTLC

General Statistics

Total Number of Observations	206	Number of Distinct Observations	164
Number of Detects	184	Number of Non-Detects	22
Number of Distinct Detects	163	Number of Distinct Non-Detects	1
Minimum Detect	2.37	Minimum Non-Detect	0.05
Maximum Detect	378	Maximum Non-Detect	0.05
Variance Detects	1036	Percent Non-Detects	10.68%
Mean Detects	15.79	SD Detects	32.19
Median Detects	7.895	CV Detects	2.039
Skewness Detects	8.636	Kurtosis Detects	90.73
Mean of Logged Detects	2.257	SD of Logged Detects	0.838

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.358	**Normal GOF Test on Detected Observations Only**
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.338	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.0653	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

Mean	14.11	Standard Error of Mean	2.147
SD	30.73	95% KM (BCA) UCL	17.65
95% KM (t) UCL	17.66	95% KM (Percentile Bootstrap) UCL	17.8
95% KM (z) UCL	17.64	95% KM Bootstrap t UCL	21.46
90% KM Chebyshev UCL	20.55	95% KM Chebyshev UCL	23.47
97.5% KM Chebyshev UCL	27.52	99% KM Chebyshev UCL	35.47

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	10.5	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.78	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.156	**Kolmogrov-Smirnoff GOF**
5% K-S Critical Value	0.0696	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.133	k star (bias corrected MLE)	1.118
Theta hat (MLE)	13.93	Theta star (bias corrected MLE)	14.12
nu hat (MLE)	417.1	nu star (bias corrected)	411.6
MLE Mean (bias corrected)	15.79	MLE Sd (bias corrected)	14.93

51												
52	**Gamma Kaplan-Meier (KM) Statistics**											
53					k hat (KM)	0.211				nu hat (KM)	86.87	
54					Approximate Chi Square Value (86.87, α)	66.39				Adjusted Chi Square Value (86.87, β)	66.26	
55					95% Gamma Approximate KM-UCL (use when n>=50)	18.47				95% Gamma Adjusted KM-UCL (use when n<50)	18.5	
56												
57	**Gamma ROS Statistics using Imputed Non-Detects**											
58	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
59	GROS may not be used when kstar of detected data is small such as < 0.1											
60	For such situations, GROS method tends to yield inflated values of UCLs and BTVs											
61	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
62					Minimum	0.01				Mean	14.11	
63					Maximum	378				Median	6.55	
64					SD	30.81				CV	2.184	
65					k hat (MLE)	0.557				k star (bias corrected MLE)	0.552	
66					Theta hat (MLE)	25.34				Theta star (bias corrected MLE)	25.56	
67					nu hat (MLE)	229.4				nu star (bias corrected)	227.4	
68					MLE Mean (bias corrected)	14.11				MLE Sd (bias corrected)	18.99	
69										Adjusted Level of Significance (β)	0.0488	
70					Approximate Chi Square Value (227.39, α)	193.5				Adjusted Chi Square Value (227.39, β)	193.3	
71					95% Gamma Approximate UCL (use when n>=50)	16.58				95% Gamma Adjusted UCL (use when n<50)	16.6	
72												
73	**Lognormal GOF Test on Detected Observations Only**											
74					Lilliefors Test Statistic	0.118				**Lilliefors GOF Test**		
75					5% Lilliefors Critical Value	0.0653				Detected Data Not Lognormal at 5% Significance Level		
76	**Detected Data Not Lognormal at 5% Significance Level**											
77												
78	**Lognormal ROS Statistics Using Imputed Non-Detects**											
79					Mean in Original Scale	14.27				Mean in Log Scale	2.055	
80					SD in Original Scale	30.74				SD in Log Scale	0.993	
81					95% t UCL (assumes normality of ROS data)	17.81				95% Percentile Bootstrap UCL	17.95	
82					95% BCA Bootstrap UCL	20.16				95% Bootstrap t UCL	21.68	
83					95% H-UCL (Log ROS)	14.82						
84												
85	**DL/2 Statistics**											
86					**DL/2 Normal**					**DL/2 Log-Transformed**		
87					Mean in Original Scale	14.11				Mean in Log Scale	1.622	
88					SD in Original Scale	30.81				SD in Log Scale	2.004	
89					95% t UCL (Assumes normality)	17.66				95% H-Stat UCL	58.69	
90	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
91												
92	**Nonparametric Distribution Free UCL Statistics**											
93	**Data do not follow a Discernible Distribution at 5% Significance Level**											
94												
95	**Suggested UCL to Use**											
96					95% KM (BCA) UCL	17.65						
97												
98	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
99	Recommendations are based upon data size, data distribution, and skewness.											
100	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											

	A	B	C	D	E	F	G	H	I	J	K	L
101	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
102												

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	4/8/2016 2:22:19 PM
From File	STLC Citric.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

STLC

General Statistics

Total Number of Observations	20	Number of Distinct Observations	18
		Number of Missing Observations	0
Minimum	0.05	Mean	1.781
Maximum	7.45	Median	0.386
SD	2.392	Std. Error of Mean	0.535
Coefficient of Variation	1.343	Skewness	1.348

Normal GOF Test

Shapiro Wilk Test Statistic	0.757	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.905	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.261	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.198	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	2.706	95% Adjusted-CLT UCL (Chen-1995)	2.833
		95% Modified-t UCL (Johnson-1978)	2.733

Gamma GOF Test

A-D Test Statistic	1.126	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.809	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.247	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.206	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

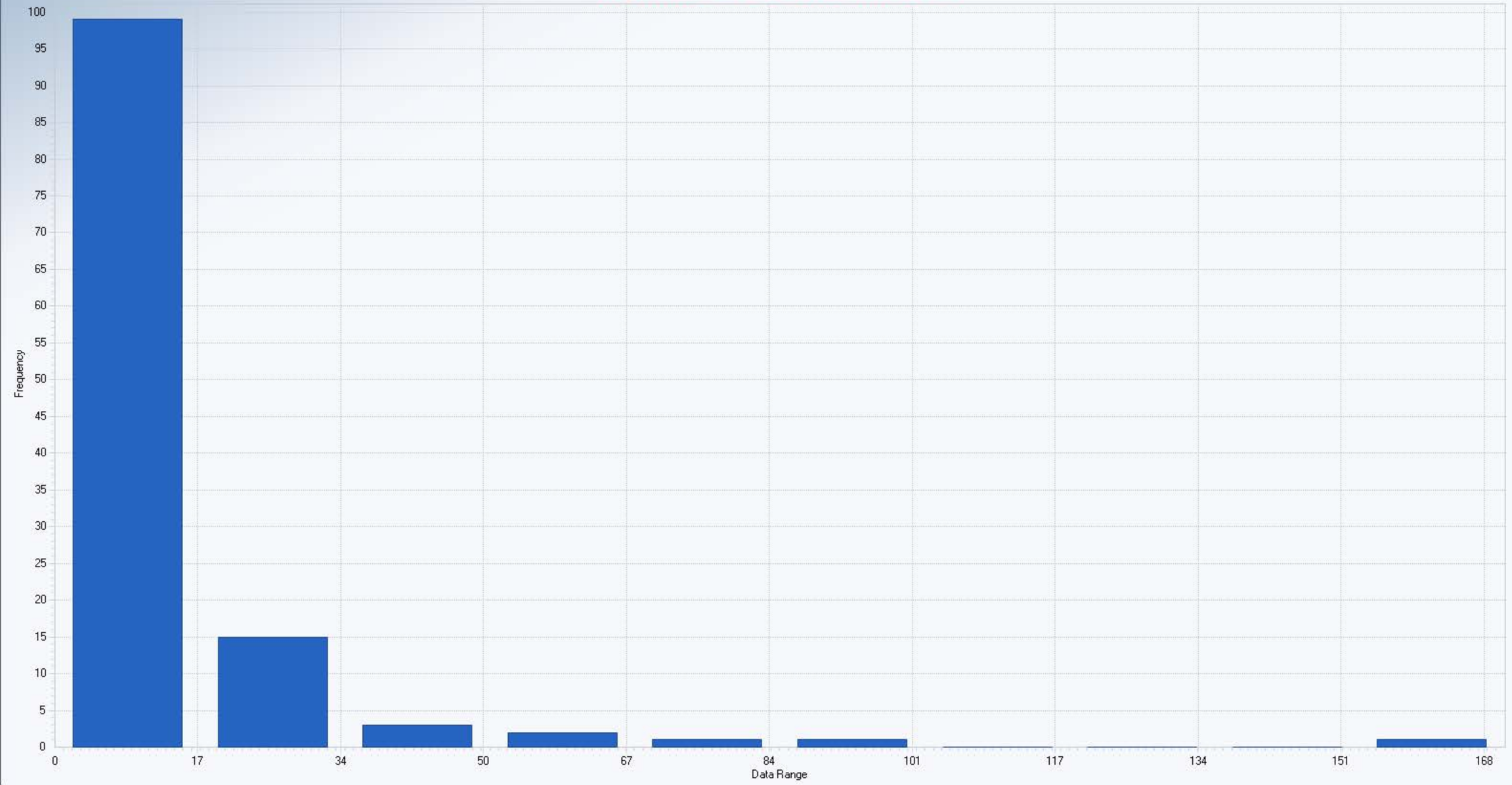
k hat (MLE)	0.469	k star (bias corrected MLE)	0.432
Theta hat (MLE)	3.798	Theta star (bias corrected MLE)	4.123
nu hat (MLE)	18.76	nu star (bias corrected)	17.28
MLE Mean (bias corrected)	1.781	MLE Sd (bias corrected)	2.71
		Approximate Chi Square Value (0.05)	8.874
Adjusted Level of Significance	0.038	Adjusted Chi Square Value	8.4

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	3.469	95% Adjusted Gamma UCL (use when n<50)	3.665

51	**Lognormal GOF Test**											
52					Shapiro Wilk Test Statistic	0.852	**Shapiro Wilk Lognormal GOF Test**					
53					5% Shapiro Wilk Critical Value	0.905	Data Not Lognormal at 5% Significance Level					
54					Lilliefors Test Statistic	0.233	**Lilliefors Lognormal GOF Test**					
55					5% Lilliefors Critical Value	0.198	Data Not Lognormal at 5% Significance Level					
56	**Data Not Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59					Minimum of Logged Data	-2.996	Mean of logged Data	-0.79				
60					Maximum of Logged Data	2.008	SD of logged Data	1.934				
61												
62	**Assuming Lognormal Distribution**											
63					95% H-UCL	18.88	90% Chebyshev (MVUE) UCL	6.144				
64					95% Chebyshev (MVUE) UCL	7.856	97.5% Chebyshev (MVUE) UCL	10.23				
65					99% Chebyshev (MVUE) UCL	14.9						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data do not follow a Discernible Distribution (0.05)**											
69												
70	**Nonparametric Distribution Free UCLs**											
71					95% CLT UCL	2.661	95% Jackknife UCL	2.706				
72					95% Standard Bootstrap UCL	2.661	95% Bootstrap-t UCL	3.073				
73					95% Hall's Bootstrap UCL	2.795	95% Percentile Bootstrap UCL	2.688				
74					95% BCA Bootstrap UCL	2.771						
75					90% Chebyshev(Mean, Sd) UCL	3.386	95% Chebyshev(Mean, Sd) UCL	4.112				
76					97.5% Chebyshev(Mean, Sd) UCL	5.121	99% Chebyshev(Mean, Sd) UCL	7.102				
77												
78	**Suggested UCL to Use**											
79					95% Chebyshev (Mean, Sd) UCL	4.112						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
84	For additional insight the user may want to consult a statistician.											
85												

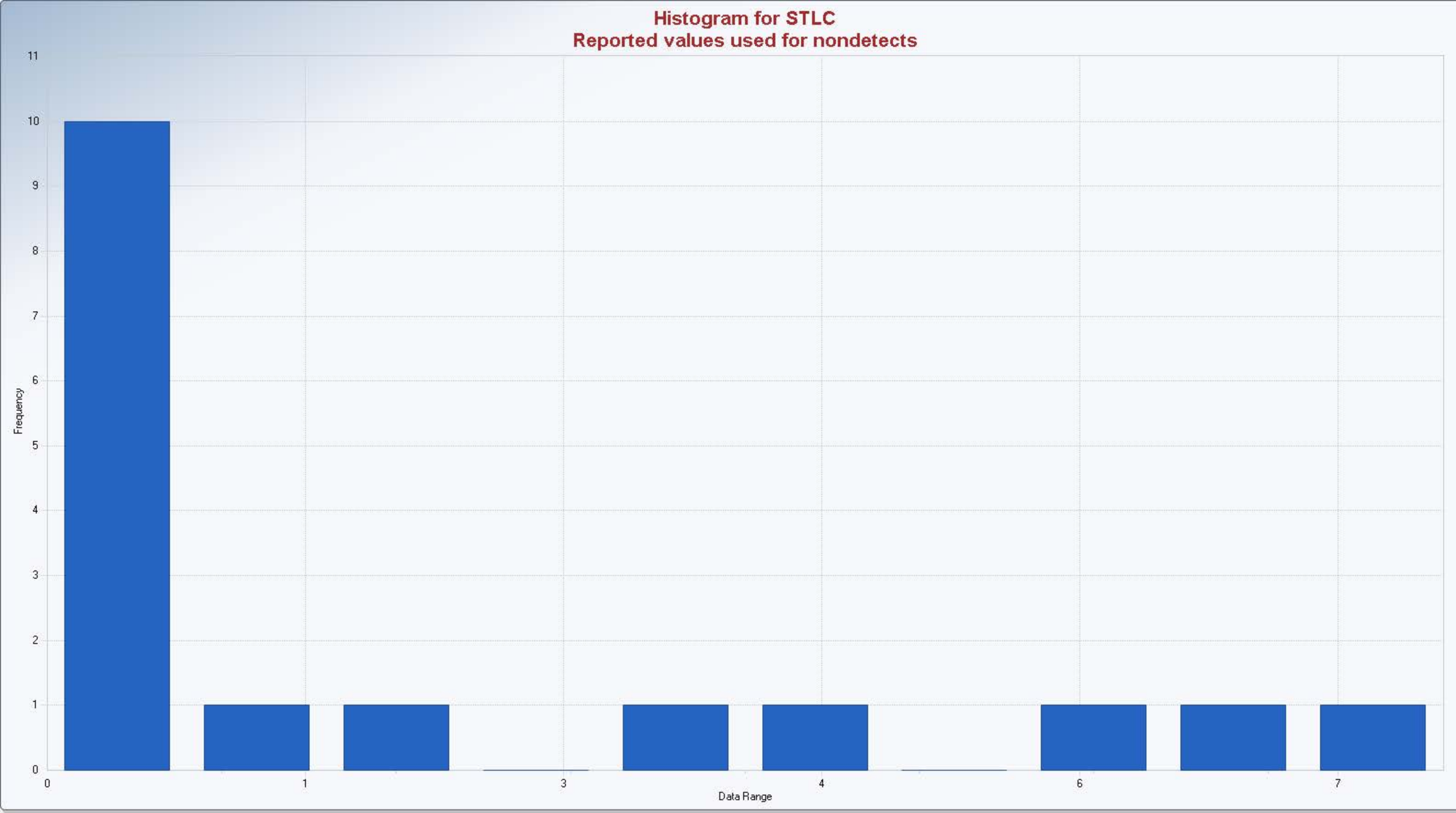
Histogram for TTLC
Reported values used for nondetects



TTLC

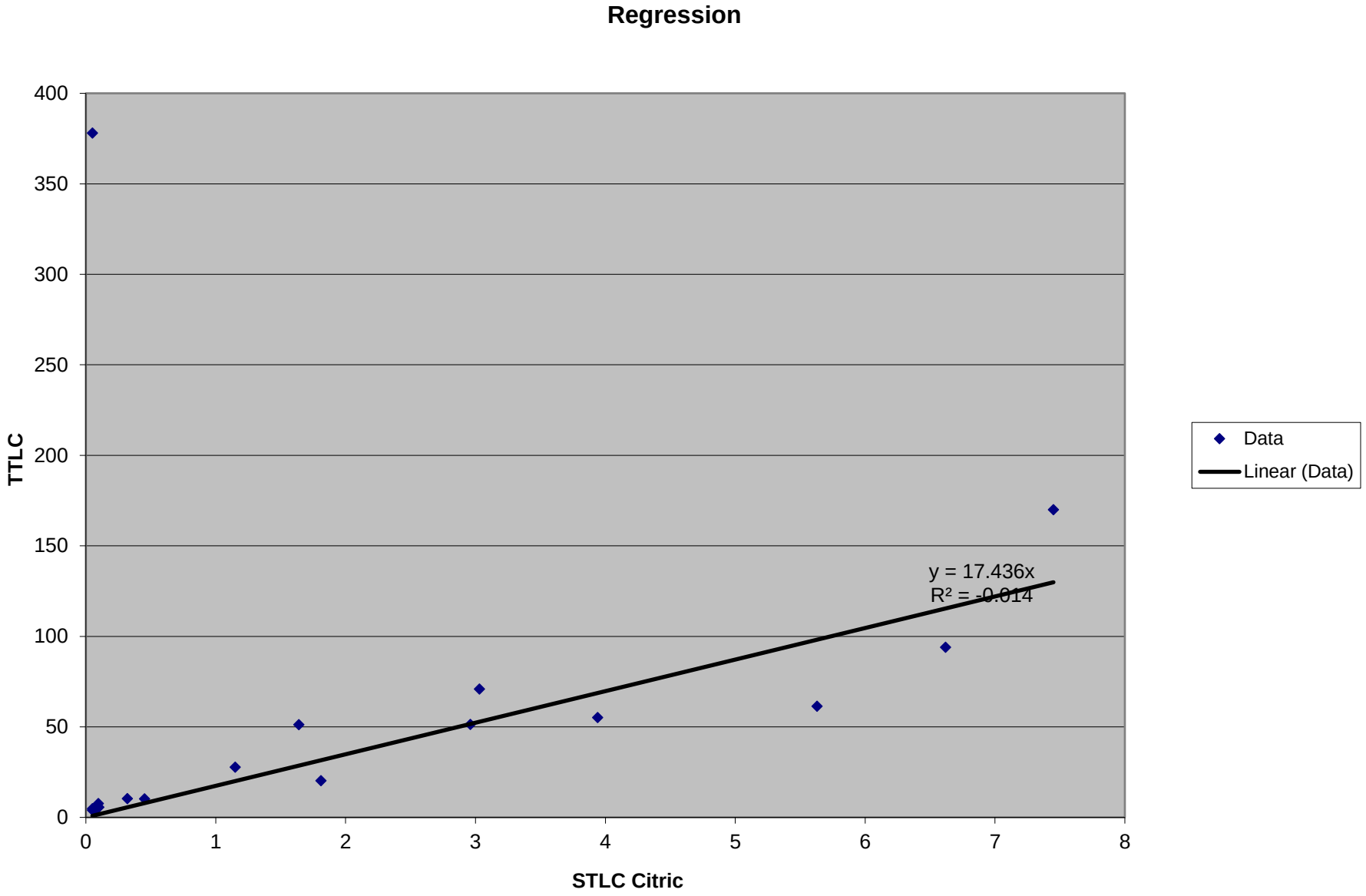
Number of Values	122
Number of Detects	122
☐ Nondetect Limit	

Histogram for STLC
Reported values used for nondetects



STLC

Number of Values	17
Number of Detects	15
☐ Nondetect Limit	0.05


Regression
400
350
300
250
200
150
100
50
0
TTLC
0
1
2
3
4
5
6
7
8
STLC Citric
y = 17.436x
R² = -0.014
Data
Linear (Data)

APPENDIX E

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

TRANSMITTAL

To: Highland Fairview
3070 Bristol Street, Suite 320
Costa Mesa, California 92626

Date: August 26, 2008

Project No. 111061-115

Attention: Mr. Brian Hixson

Transmitted:		The Following:		For:	
X	GSO	___	Draft Report	___	Your Use
___	Via Courier	X	Final Report	X	As Requested
___	Client Pick Up	___	Extra Report		
___	Fed Ex	___	Proposal		
		___	Contracts		

Subject: Aerially Deposited Lead (ADL) Survey Report, SR-60 Widening Between Theodore Street and Redlands Boulevard, Moreno Valley, Riverside County, California

LEIGHTON AND ASSOCIATES, INC.

By: Kristin Stout / Charles Mazowiecki

Copies To: (8) Addressee

41715 Enterprise Circle N. Suite 103 ■ Temecula CA 92590-5626
(951) 296-0530 ■ Fax (951) 296-0534 ■ www.leightongroup.com

AERIALLY DEPOSITED LEAD (ADL) SURVEY REPORT, SR-60 EAST BOUND WIDENING BETWEEN THEODORE STREET AND REDLANDS BOULEVARD, MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

HIGHLAND FAIRVIEW OPERATING COMPANY

3070 Bristol Street, Suite 320
Costa Mesa, California 92626

August 26, 2008

Project No. 111061-115

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

August 26, 2008

Project No. 111061-115

To: Highland Fairview Operating Company
3070 Bristol Street, Suite 320
Costa Mesa, California 92626

Attention: Mr. Brian Hixson

Subject: Aerially Deposited Lead (ADL) Survey Report, SR-60 Widening Between Theodore Street and Redlands Boulevard, Moreno Valley, Riverside County, California

Introduction

Leighton & Associates, Inc. (Leighton) is pleased to present this report summarizing an aerially deposited lead (ADL) investigation conducted within the California Department of Transportation (Caltrans) right-of-way associated with the proposed SR-60 east-bound widening between Theodore Street and Redlands Boulevard, Moreno Valley, California (Figure 1 – Site Location Map).

ADL is the result of tetra ethyl lead, which was added to gasoline to prevent knocking for many years. The lead was present in the vehicle exhaust emissions and is often found in the near-surface soils adjacent to major thoroughfares. The purpose of this survey was to assess the presence or absence of ADL in near-surface soil in the area of the proposed widening in accordance with the California Department of Transportation guidelines (CDOT, 2008). References are presented in Appendix A.

Pre-Field Activities

Health and Safety Plan

Leighton prepared a Site Specific Health and Safety Plan (HSP) for the ADL soil sampling to be performed at the site. The HSP is in compliance with the Occupational Safety and Health and Administration (OSHA) regulation 29 CFR 1910.120 and was signed by a Certified Industrial Hygienist.

Underground Utility Clearance/Encroachment Permit/Traffic Control

An encroachment permit was obtained from the State of California Department of Transportation (CDOT) District 8. A copy of this permit has been provided in Appendix B. Traffic control in the form of a shoulder closure was provided by A Cone Zone per the terms in the encroachment permit. Leighton pre-marked the boring locations and contacted Dig Alert on July 30, 2008.

Field Activities

On August 5, 2008, Leighton personnel observed and directed the placement of 21 soil borings at approximately 250 feet (ft.) intervals (see Figure 2) to a maximum depth of 5 ft. below ground surface (bgs). Soil samples were collected from each soil boring at depths of 0.5, 1.0, 2.5, and 5.0 ft. bgs utilizing a hand auger. Two samples (B15-4.0 and B19-4.0) could not be collected at their 5 ft. depths. Representative samples were collected at depths of 4 ft. in these two borings.

The soil samples were transferred into laboratory supplied glass jars, and then placed in an ice-cooled chest for temporary storage and transportation to Enviro-Chem in Pomona, California. Enviro-Chem is certified by the California Environmental Laboratory Accreditation Program for the analyses as described below. Sampling equipment was decontaminated between boreholes by washing in a solution of trisodium phosphate and water, rinsing with potable water, and final rinsing with de-ionized water, then allowed to air-dry. Chain-of-custody protocol was followed throughout all phases of the sample handling process.

A Trimble GeoXH was used to determine the coordinates of each boring location. The coordinates, based on the NAD 83 Zone 6 datum, are given below. The boring locations are depicted on Figure 2.

Boring Coordinates

Boring No.	Northing (ft)	Easting (ft)
B1	2286528.95	6286712.00
B2	2286527.08	6286960.66
B3	2286524.59	6287227.38
B4	2286526.46	6287476.65
B5	2286528.02	6287729.05
B6	2286530.82	6287594.64
B7	2286527.39	6288227.60
B8	2286528.33	6288494.94
B9	2286524.28	6288758.55
B10	2286522.72	6289009.07
B11	2286521.16	6289262.09
B12	2286518.67	6289494.53
B13	2286518.73	6289808.62
B14	2286514.93	6290090.30
B15	2286513.68	6290337.08
B16	2286509.32	6290588.23
B17	2286507.76	6290836.88
B18	2286500.91	6291089.27
B19	2286483.15	6291341.66
B20	2286423.63	6291608.39
B21	2286190.56	6291700.62

Laboratory Analysis

Eighty four soil samples were analyzed by the laboratory for total lead concentration by EPA Method 6010. Based on this analysis, three soil samples with total lead above 50 mg/kg but less than 1,000 mg/kg were analyzed for soluble lead by California (CA) Waste Extraction Test (WET) citric acid. In addition, twenty-five soil samples were also analyzed for soil pH by EPA Method 9045.

Results of Investigation

Summary

Lead was reported in concentrations above the detection limits in 62 of the 84 soil samples collected. The 62 soil samples exhibited lead concentrations ranging from 3.4 milligrams per kilogram (mg/kg) to 378 mg/kg. These concentrations are below the California Code of Regulation (CCR), Title 22 Total Threshold Limit Concentration (TTLC) for lead of 1,000 mg/kg. Three soil samples exhibited lead concentrations of 378 mg/kg (B1-5.0'), 51.2 mg/kg (B3-0.5'), and 51.4 mg/kg (B17-1.0'), which are more than ten times the Health and Safety Code soluble threshold limit concentration (STLC) of 5 milligrams per liter (mg/l). These three soil samples were analyzed by STLC-Wet Extraction Test (WET) citric acid analysis. The STLC-WET results indicated extractable lead concentrations of 0.05 mg/l, 1.64 mg/l, and 2.96 mg/l, respectively, which are less than 5 mg/l limit.

Results of the pH analyses ranged from 7.85 (B8-0.5ft) to 8.65 (B10-1.0ft) in the twenty five analyzed soil samples.

Results of the laboratory analysis for soil samples are summarized in Table 1. For the purposes of the statistical analysis, an arbitrary value of 0.50 mg/kg was used for those samples with lead concentrations reported as not detected (ND). Copies of the laboratory reports and chain of custody are included in Appendix C.

Statistical Analysis

Leighton evaluated the results of the soil sample analysis to determine the mean and confidence intervals for lead in soil in accordance with SW-846, Chapter 9. This evaluation was conducted to determine if the soil is considered a hazardous waste or if it can be reused at the subject site in accordance with the Department of Toxic Substances Control (DTSC) Variance for Management of ADL issued for soil in Caltrans rights of way (CDOT, 2008). This variance was issued by the DTSC in 2000 and extended through June 30, 2008. Negotiations with the DTSC for a new variance are currently underway. The variance uses the mean concentrations and 90% and 95% upper confidence limits (UCL) of the data to determine the appropriate disposition of the soil.

The mean of the sample analysis data for all 84 samples for total lead is 14.69 mg/kg. Since the mean is significantly less than the variance of the sample set, 1,750.08 mg/kg, the data were normalized by dividing each value by the highest concentration, 378 mg/kg, and then

transformed using the arcsine transformation. The 90% and 95% total lead UCLs were calculated using the transformed data and determined to be 18.63 mg/kg and 19.76 mg/kg, respectively. The 90% and 95% total lead UCL's performed on the STLC-WET using transformed data were determined to be 3.14 mg/kg, and 4.01 mg/kg, respectively. The statistical analysis is presented on Table 1.

Conclusions and Recommendations

Based on the information gathered during our investigation, Leighton concludes that aerial deposited lead in the near surface soil in the area of the proposed east bound 60 freeway widening between Redlands Boulevard and Theodore Street does not represent significant environment or health hazards and can be classified as non-hazardous and be reused onsite per the attached DTSC variance (Appendix D). Handling of the soil will require a lead compliance plan for worker safety.

Leighton appreciates this opportunity to be of service. Should you have any questions regarding this report, please contact the undersigned at (951) 252-8927.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

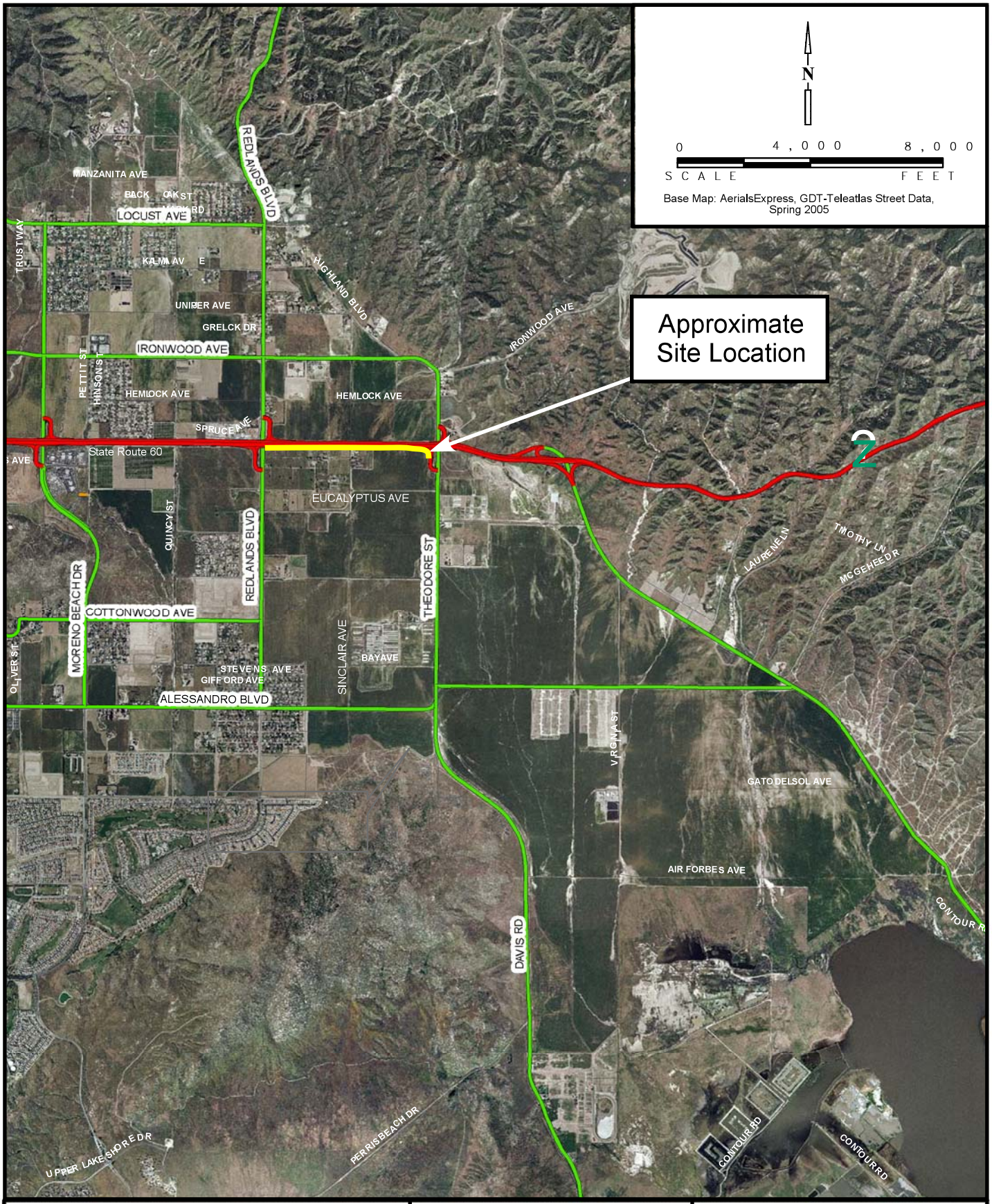
Kristin Stout, REA I
Senior Project Scientist

Charles Mazowiecki, PE
Senior Principal Engineer

KAS/CRM/gv

Attachments: Figure 1 – Site Location Map
Figure 2 – Boring Location Map
Table 1 – Laboratory Results and Statistical Analysis for ADL, State Route 60 between Theodore Street and Redlands Boulevard, Moreno Valley, California
Appendix A – References
Appendix B – Encroachment Permit
Appendix C – Laboratory Results and Chain of Custody
Appendix D – Department of Toxic Substance Control Variance

Distribution: (8) Addressee



State Route 60 ADL Survey

Moreno Valley, California

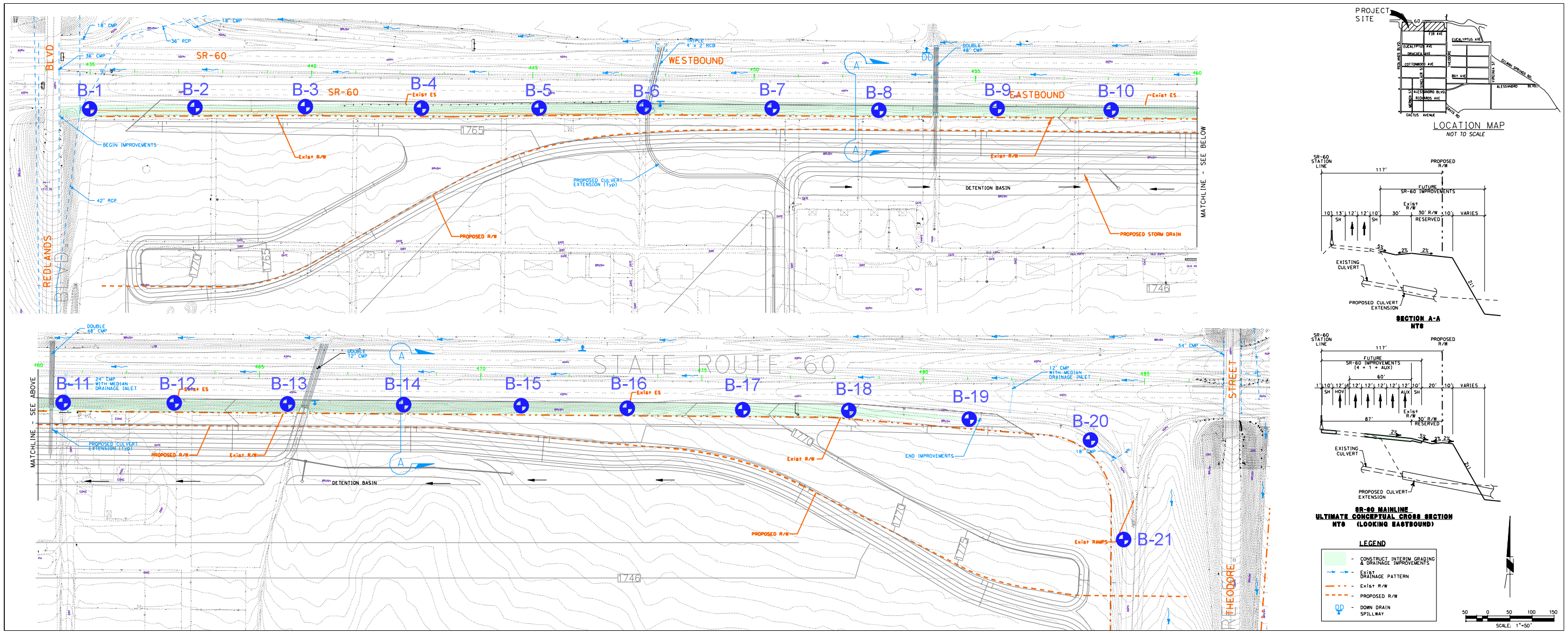
SITE LOCATION MAP

Project No.
111061-115

Date
August 2008

Figure 1

\\GIS\Administration\ArcGISTemplates\NEW_GDT_SiteLocationMap.mxd



RBF CONSULTING — PLANNING ■ DESIGN ■ CONSTRUCTION
3800 E. Guasti Road, Suite 100
ONTARIO, CALIFORNIA 91761
909.974.4900 FAX 909.974.4004 www.RBF.com

SR-60 MAINLINE
INTERIM GRADING/DRAINAGE DESIGN EXHIBIT
REDLANDS BLVD - THEODORE STREET

FOR DISCUSSION PURPOSES ONLY
THIS MAP IS A DRAFT DOCUMENT ONLY. NOT FOR PUBLIC DISTRIBUTION OR REVIEW.
AUGUST 28, 2007

hf

Legend

Approximate Boring Location, spaced every 76 meters (~250 feet)
B-21

AERIALLY DEPOSITED LEAD SURVEY

Riverside County, California

Project No.	111061-115
Scale	As Shown Above
Engr./Geol.	KAS
Drafted By	JTD
Date	August 2008

Figure No. 2

Table 1:
Laboratory Results and Statistical Analysis for Aerially Deposited Lead
State Route 60 Between Theodore Street and Redlands Boulevard, City of Moreno Valley, California

Boring Number	Depth (feet bgs)	Sample Date	Total Lead (mg/kg)	Normalized Data	Transformed Data (Arcsin)	WET STLC Citric Acid (mg/L)	Normalized WET STLC Citric Acid	Transformed WET STLC Citric Acid	WET STLC Deionized Water (mg/L)	TCLP (mg/L)	pH
B-1	0.5	08/05/08	**37.7**	0.0997354	0.099901542	NR	NA	NA	NR	NR	**7.96**
	1	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
	2.5	08/05/08	**5.60**	0.0148148	0.014815357	NR	NA	NA	NR	NR	
	5	08/05/08	**378**	1	1.570796327	**0.05**	0.016891892	0.016892695	NR	NR	
B-2	0.5	08/05/08	**48.5**	0.1283069	0.128661557	NR	NA	NA	NR	NR	
	1	08/05/08	**11.1**	0.0293651	0.029369301	NR	NA	NA	NR	NR	**8.20**
	2.5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
	5	08/05/08	**5.21**	0.0137831	0.013783505	NR	NA	NA	NR	NR	
B-3	0.5	08/05/08	**51.2**	0.1354497	0.135867367	**1.64**	0.554054054	0.587226238	NR	NR	
	1	08/05/08	**6.38**	0.0168783	0.016879108	NR	NA	NA	NR	NR	**8.31**
	2.5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
	5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
B-4	0.5	08/05/08	**13.5**	0.0357143	0.035721882	NR	NA	NA	NR	NR	
	1	08/05/08	**14.3**	0.0378307	0.037839717	NR	NA	NA	NR	NR	
	2.5	08/05/08	**9.28**	0.0245503	0.024552731	NR	NA	NA	NR	NR	**8.33**
	5	08/05/08	**7.34**	0.019418	0.01941921	NR	NA	NA	NR	NR	
B-5	0.5	08/05/08	**15.8**	0.0417989	0.041811123	NR	NA	NA	NR	NR	**8.22**
	1	08/05/08	**11.3**	0.0298942	0.029898634	NR	NA	NA	NR	NR	
	2.5	08/05/08	**9.08**	0.0240212	0.024023475	NR	NA	NA	NR	NR	**8.10**
	5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
B-6	0.5	08/05/08	**15.8**	0.0417989	0.041811123	NR	NA	NA	NR	NR	
	1	08/05/08	**17.4**	0.0460317	0.046048018	NR	NA	NA	NR	NR	
	2.5	08/05/08	**11.1**	0.0293651	0.029369301	NR	NA	NA	NR	NR	
	5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	**8.30**
B-7	0.5	08/05/08	**16.9**	0.044709	0.044723903	NR	NA	NA	NR	NR	
	1	08/05/08	**17.0**	0.0449735	0.04498872	NR	NA	NA	NR	NR	
	2.5	08/05/08	**11.5**	0.0304233	0.030427976	NR	NA	NA	NR	NR	
	5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
B-8	0.5	08/05/08	**45.3**	0.1198413	0.120129998	NR	NA	NA	NR	NR	**7.85**
	1	08/05/08	**11.2**	0.0296296	0.029633967	NR	NA	NA	NR	NR	
	2.5	08/05/08	**4.79**	0.012672	0.012672297	NR	NA	NA	NR	NR	
	5	08/05/08	**21.8**	0.057672	0.057703976	NR	NA	NA	NR	NR	
B-9	0.5	08/05/08	**20.5**	0.0542328	0.054259424	NR	NA	NA	NR	NR	
	1	08/05/08	**5.91**	0.0156349	0.015635558	NR	NA	NA	NR	NR	**8.40**
	2.5	08/05/08	**19.5**	0.0515873	0.05161021	NR	NA	NA	NR	NR	
	5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
B-10	0.5	08/05/08	**20.5**	0.0542328	0.054259424	NR	NA	NA	NR	NR	
	1	08/05/08	**5.86**	0.0155026	0.015503267	NR	NA	NA	NR	NR	**8.65**
	2.5	08/05/08	**5.04**	0.0133333	0.013333728	NR	NA	NA	NR	NR	
	5	08/05/08	**6.49**	0.0171693	0.017170156	NR	NA	NA	NR	NR	
B-11	0.5	08/05/08	**34.7**	0.0917989	0.091928366	NR	NA	NA	NR	NR	**8.10**
	1	08/05/08	**3.43**	0.0090741	0.009074199	NR	NA	NA	NR	NR	
	2.5	08/05/08	**5.86**	0.0155026	0.015503267	NR	NA	NA	NR	NR	
	5	08/05/08	**4.18**	0.0110582	0.011058426	NR	NA	NA	NR	NR	**8.17**
B-12	0.5	08/05/08	**34.7**	0.0917989	0.091928366	NR	NA	NA	NR	NR	
	1	08/05/08	**6.22**	0.016455	0.016455769	NR	NA	NA	NR	NR	**8.30**
	2.5	08/05/08	**5.10**	0.0134921	0.013492473	NR	NA	NA	NR	NR	
	4	08/05/08	**13.7**	0.0362434	0.036251326	NR	NA	NA	NR	NR	

Table 1:
Laboratory Results and Statistical Analysis for Aerially Deposited Lead
State Route 60 Between Theodore Street and Redlands Boulevard, City of Moreno Valley, California

Boring Number	Depth (feet bgs)	Sample Date	Total Lead (mg/kg)	Normalized Data	Transformed Data (Arcsin)	WET STLC Citric Acid (mg/L)	Normalized WET STLC Citric Acid	Transformed WET STLC Citric Acid	WET STLC Deionized Water (mg/L)	TCLP (mg/L)	pH
B-13	0.5	08/05/08	**13.4**	0.0354497	0.035457165	NR	NA	NA	NR	NR	**8.04**
	1	08/05/08	**5.57**	0.0147354	0.014735983	NR	NA	NA	NR	NR	
	2.5	08/05/08	**5.24**	0.0138624	0.013862878	NR	NA	NA	NR	NR	
	5	08/05/08	**8.62**	0.0228042	0.02280621	NR	NA	NA	NR	NR	**8.34**
B-14	0.5	08/05/08	**11.0**	0.0291005	0.029104638	NR	NA	NA	NR	NR	
	1	08/05/08	**5.91**	0.0156349	0.015635558	NR	NA	NA	NR	NR	
	2.5	08/05/08	**6.18**	0.0163492	0.016349935	NR	NA	NA	NR	NR	
	5	08/05/08	**6.86**	0.0181481	0.018149144	NR	NA	NA	NR	NR	**8.53**
B-15	0.5	08/05/08	**6.19**	0.0163757	0.016376393	NR	NA	NA	NR	NR	
	1	08/05/08	**6.51**	0.0172222	0.017223074	NR	NA	NA	NR	NR	
	2.5	08/05/08	**19.9**	0.0526455	0.052669851	NR	NA	NA	NR	NR	
	4	08/05/08	**4.83**	0.0127778	0.012778126	NR	NA	NA	NR	NR	**8.48**
B-16	0.5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	**8.42**
	1	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
	2.5	08/05/08	**4.8**	0.0126984	0.012698754	NR	NA	NA	NR	NR	
	5	08/05/08	**7.72**	0.0204233	0.0204247	NR	NA	NA	NR	NR	
B-17	0.5	08/05/08	**8.79**	0.023254	0.023256065	NR	NA	NA	NR	NR	
	1	08/05/08	**51.4**	0.1359788	0.136401409	**2.96**	1	1.570796327	NR	NR	
	2.5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	**8.40**
	5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
B-18	0.5	08/05/08	**16.8**	0.0444444	0.044459089	NR	NA	NA	NR	NR	
	1	08/05/08	**21.8**	0.057672	0.057703976	NR	NA	NA	NR	NR	**8.43**
	2.5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
	5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
B-19	0.5	08/05/08	**4.78**	0.0126455	0.01264584	NR	NA	NA	NR	NR	
	1	08/05/08	**6.94**	0.0183598	0.01836082	NR	NA	NA	NR	NR	**8.22**
	2.5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
	4	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	**8.18**
B-20	0.5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
	1	08/05/08	**5.97**	0.0157937	0.015794307	NR	NA	NA	NR	NR	**8.46**
	2.5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
	5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
B-21	0.5	08/05/08	**4.68**	0.012381	0.012381269	NR	NA	NA	NR	NR	**8.54**
	1	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	
	2.5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	**8.43**
	5	08/05/08	0.50	0.0013228	0.001322752	NR	NA	NA	NR	NR	

Table 1:
Laboratory Results and Statistical Analysis for Aerially Deposited Lead
State Route 60 Between Theodore Street and Redlands Boulevard, City of Moreno Valley, California

Data Analysis	Total Lead Data	STLC Citric
Number of Samples, n	186	3
Mean (Average), x	14.69	1.55
Std Deviation of sample set, s	41.83	1.457
Variance of sample set, s^2	1750.08	2.123
need to normalize (by highest conc.) and transform data. Assume a Negative Binomial Distribution		
mean of normalized data	0.039	0.524
mean of transformed data	0.046	0.725
Std Dev of transformed data	0.171	0.786
Std Dev of mean of transformed data	0.013	0.454
Variance of transformed data	0.029	0.618
90% CL on transformed data	0.024	0.005
90% UCL on transformed data	0.069	0.730
reverse transformation for 90% UCL	5.00	47.998
Variance ok		
95% CL on transformed data	0.022	0.790
95% UCL on transformed data	0.068	1.515
reverse transformation for 95% UCL	4.86	71.886
Assume a Normal Distribution		
t value (90% UCL)	1.29	1.886
Std Dev of mean data	3.07	0.841
90% UCL on data	18.63	3.136
t value (95% UCL)	1.65	2.920
95% UCL on data	19.76	4.006

mg/kg = Milligrams per Kilogram
mg/L = Milligrams per Liter
TCLP = Toxicity Characteristic Leaching Procedure
STLC = Soluble Threshold Limit Concentrations
2.0 = Below Laboratory Detection Limits
2.9 = Analyte Detected
NR = Not Analyzed
NA= No data available
CI = Confidence Interval
UCL = Upper Confidence Level

Std Dev of mean = $s / n^{1/2}$
reverse transformation for %UCL = sin(%UCL)*72

Normal Distribution:

% UCL of mean data = $x + t_{a,n-1} * s / n^{1/2}$
t= t distribution (Gilbert 1987)
a= (1 - %UCL)

APPENDIX A

References

California Department of Transportation (Caltrans), 2004, Standard Environmental Reference, Volume 1: Guidance for Compliance, Chapter 10: Hazardous Waste, updated June 18.

California Department of Transportation (Caltrans), 2008, Aerially Deposited Lead, ADL Variances, www.dot.ca.gov/hp/env/haz/hw_adl.htm, August 18, 2008.

Leighton Consulting, Inc., 2008, Site Specific Health & Safety Plan, State Route 60 Between Theodore Street and Redlands Boulevard, Moreno Valley, California, dated May 7, 2008.

United States Environmental Protection Agency, SW-846, Chapter Nine, 3rd Edition, 1986.

Appendix B

STATE OF CALIFORNIA · DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT

TR-0120 (REV. 6/2000)

Permit No.	
08-08-6-SV-0565	
Dist/Co/Rte/PM	
08-RIV-60 PM 20.4-PM 21.4	
Date	
06/11/2008	
Fee Paid	Deposit
$	$ 492
Performance Bond Amount (1)	Payment Bond Amount (2)
$ 0	$ 0
Bond Company	
Bond Number (1)	Bond Number (2)

In compliance with (Check one):

☒ Your application of June 10, 2008

☐ Utility Notice No. _____ of _____

☐ Agreement No. _____ of _____

☐ R/W Contract No. _____ of _____

TO:

Highland Fairview
3070 Bristol Street, Suite 300
Costa Mesa, CA 92626
Attn: Brian R. Hixson 714-824-8023

, PERMITTEE

and subject to the following, PERMISSION IS HEREBY GRANTED to:

Enter onto State Route 60 right-of-way between Redlands Boulevard and Theodore Street, in the City of Moreno Valley within Riverside County, to perform aerialy deposited lead (ADL) survey, as per plans date stamped June 10, 2008 by the Department of Transportation, District 8 Encroachment Permits Office and/or as directed by the Department Representative.

All traffic control work shall be per 2006 California MUTCD and/or as directed by the Department Representative.

A pre-job meeting with the assigned Department Representative, Payman Hatam, 909-383-7549, is required prior to start of any work under this permit! Failure to do so may result in permit revocation with no prejudice.

THIS PERMIT IS NOT A PROPERTY RIGHT AND DOES NOT TRANSFER WITH THE PROPERTY OWNER.

The following attachments are also included as part of this permit *(Check applicable)*:

☒ Yes ☐ No General Provisions
☐ Yes ☒ No Utility Maintenance Provisions
☒ Yes ☐ No Storm Water Special Provisions
☒ Yes ☐ No Special Provisions
☐ Yes ☒ No A Cal-OSHA permit, if required: Permit No. _____
☐ Yes ☒ No As-Built Plans Submittal Route Slip for Locally Advertised Projects
☐ Yes ☒ No Storm Water Pollution Prevention Plan / Water Pollution Control Plan

In addition to fee, the permittee will be billed actual costs for:

☒ Yes ☐ No Review
☒ Yes ☐ No Inspection
☒ Yes ☐ No Field Work

(if any Caltrans effort expended)

☐ Yes ☒ No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before December 15, 2008
This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.
No project work shall be commenced until all the other necessary permits and the environmental clearances have been obtained.

PERMIT ENGINEER: Reza Moslemi
COPIES TO:
Dan Garcia/Maintenance
PHatam/EP inspector
file:08-0565

APPROVED:

KARLA SUTLIFF, Acting District Director

BY: Fareha Zinnurayen
for RICHARD GOH , P.E., District Permit Engineer

FM 91 1436 (D8 Permit App.)

RC

☒ All survey operations shall be conducted off the traveled way except where necessary to cross pavements and medians.

☒ When survey operations are being conducted, the permittee shall furnish, place and maintain signs and safety equipment in accordance with the latest edition of the "Manual of Traffic Controls for Construction and Maintenance Work Zones".

☒ All personnel shall wear hard hats and orange vests, shirts or jackets as appropriate. Any painted markings shall be made with water soluble paint.

☒ Permission is also granted to park survey vehicles temporarily within the right of way, outside the shoulders, while survey work is in progress.

☒ SURVEY WORK IS PROHIBITED ON FREEWAYS OR EXPRESSWAY.

☒ Freeway or expressway survey data or information may be obtained upon request to: Survey Section, Department of Transportation, 464 West 4th Street, MS 1066, 10th Floor, San Bernardino, California 92401.

TRAFFIC COUNTERS (SV) SPECIAL PROVISIONS

☐ Personnel installing or removing traffic counters shall wear an orange colored outer garment and a hard hat.

☐ Traffic counters installed on freeway ramps shall be located at the curb return as near as possible to the local street intersection.

☐ Counter tubes shall be securely attached to the pavement by taping. No nails, spikes or other material shall be driven into the pavement except to secure the tube at the outside edge of shoulder, at the lip of a gutter, or in the center line stripe.

☐ A copy of the collected data shall be sent to the Department's District Permit Engineer.

MONITORING WELL SPECIAL PROVISIONS:

☐ The monitoring well locations must be surveyed and marked by the Global Positioning System(GPS). All analytical data collected from these wells, drilling logs, and the established GPS information, must be provided to the Department at no cost. The reports must be submitted to Permit Office at 464 W. 4th Street, MS 619, San Bernardino, CA 92408-1400 with this permit number: 08-08-6-SV-0565 clearly labeled on all correspondence.

☐ The top of the protective well box with locking mechanism shall be one foot below the surface of the surrounding terrain and covered with soil or gravel. The lid shall be secured at all times when monitoring or testing operations are not being conducted.

☐ The top of the protective well box with locking mechanism shall be secured at all times when monitoring or testing operations are not being conducted.

☐ All drilling fluids must be contained, transported and disposed of outside the State right-of-way in accordance to the Federal and State environmental regulations and local ordinances.

☐ All monitoring wells shall be abandoned in accordance to the Federal and State environmental regulations and local ordinances at the end of the monitoring period at the Permittee own expense.

In addition to the attached General Provisions, the following checked special provisions are applicable:

☒ A PRE-JOB MEETING WITH THE ASSIGNED DEPARTMENT'S REPRESENTATIVE, Payman Hatam at 909-383-7549 IS REQUIRED PRIOR TO START OF ANY WORK UNDER THIS PERMIT. FAILURE TO DO SO MAY RESULT IN PERMIT CANCELLATION AND RESUBMITTAL MAY BE REQUIRED.

☐ Notwithstanding General Provision #4, your contractor is required to apply for and obtain an encroachment permit prior to starting work. A fee/deposit of $ _____ for inspection, and $ _____ for electrical equipment is required at the time of application.

☐ You are required to submit an approved Storm Water Pollution Prevention Plan (SWPPP) for projects with a cumulative disturbed soil area equal or greater than 1 acre, and an approved Water Pollution Control Program (WPCP) for projects with a disturbed soil area less than 1 acre, unless otherwise required by other agencies (RWQCBs, U.S. Army Corps of Engineers, Department of Fish and Game, etc.).

☐ Upon the expiration of this permit, the Permittee is required to apply for the countywide annual maintenance permit for this new facilities installed under the Permit No.: _____.

☐ The Permittee is required to apply for a separate permit to maintain and/or replace in kind of these facilities on each occurrence upon the expiration of this permit.

☒ The Permittee shall provide the stage construction traffic handling plans, work schedule and a list of all sub-contractors to the Department's Representative at the time of the pre-construction meeting or prior to start construction.

☒ All traffic control, signing and striping shall comply with 2006 California MUTCD. It is available at:http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd.htm

☒ Contractor shall comply with Department 2006 Standard Specifications, Department 2006 Standard Plans, Revised Standard Plans and the project special provisions. The latest Revised Standard Plans are available at:http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/stdplns-US-customary-units-new06.htm

☒ All personnel shall wear hard hats and orange or lime vests, shirts or jackets as appropriate while on State property.

☒ The Permittee's work shall be subordinated to any operations which the Department may conduct and shall not delay, nor interfere with the Department's Forces or Department's Contractors.

☒ Attention is directed to Standard Specifications Section 7-1.11, Preservation of Property, and Business and Professions Code, Section 8771. The Permittee shall physically inspect the work site and locate survey monuments prior to work commencement. Monuments shall be referenced or reset in accordance with the Business and Professions Code.

☒ No lane may be closed or obstructed at any time unless specifically allowed per the encroachment permit,

shown in approved traffic control plans, and/or as directed by the Department's Representative.

☒ Except for installing, maintaining and removing traffic control devices, any work encroaching within 3 feet of the edge of a travel lane for areas with a posted speed limit below 45mph, or 6 feet of the edge of a travel lane, for areas with a speed limit posted at 45mph or higher, shall require closing of that travel lane. Any work encroaching within 6 feet of the edge of the shoulder, shall require closing of that shoulder. Permittee shall notify the Department's Representative, and obtain approval of, all traffic control, lane closures or detours, at least seven (7) WORKING DAYS prior to setting up of any traffic control.

☒ Traffic control is generally authorized between 9:00 AM and 3:00 PM only on Monday through Thursday and until 1:00 PM on Fridays, excluding holidays except specified in the Permit. Lane closure is not allowed on Saturdays, Sundays and designated holidays. The designated holidays are: January 1st, the third Monday in January, the second and third Mondays in February, March 31, the last Monday in May, July 4th, the first Monday in September, the second Monday in October, November 11th, Thanksgiving Day, the day after Thanksgiving Day, and December 25th. When a fixed holiday falls on Saturday, the preceding Friday shall be designated as holiday.

☒ Should any deviation from these procedures or conditions be observed, all work shall be suspended until satisfactory steps have been taken to ensure compliance.

☒ If time extension is necessary, a request for time extension and the accompanying attachments must be made a minimum of two (2) weeks prior to completion date stated on face of permit. If work has not been started before completion date, the permit will be voided. Failure to comply with rules and regulations stated on permit will jeopardize future permit privileges.

☐ "AS-BUILT" PLANS ARE REQUIRED UPON COMPLETION OF ALL WORK. PLEASE REFER TO THE GENERAL PROVISION TR-0045, ITEM 22 FOR THE "AS-BUILT" REQUIREMENTS. NO FINAL INSPECTION WILL BE PERFORMED UNTIL THE DEPARTMENT IS IN RECEIPT OF "AS-BUILT" PLANS.

☒ No vehicle or equipment shall be stored overnight within the right of way; it shall be removed immediately at the completion of the day's work. Refueling of vehicle or equipment within the right of way is strictly prohibited.

☒ Required traffic control devices shall be installed around fixed objects to warn the motoring public for safety. Personal vehicles of the contractor shall not be parked within freeway right of way.

☒ No materials or waste shall be stockpiled within State right of way.

☒ Except as specifically provided herein, all requirements of the Vehicle Code and other applicable laws must be complied with in all particulars.

☒ When traffic cones or delineators are used to delineate a temporary edge of traffic lane, the line of cones or delineators shall be considered to be the edge of the traffic lane. The permittee shall not reduce the width of the existing lane to less than 10 feet without written approval from the Department's Representative.

☒ Excavations made within the limits of the right of way shall be backfilled and resurfaced to original condition before leaving the work area unless otherwise authorized by the Department's Representative.

☒ Permittee shall be responsible for arranging the services of a qualified traffic control contractor to provide

any needed traffic control.

☒ The permittee shall arrange a meeting between his field representative, traffic control contractor, Department's Representative and/or CHP at least two (2) weeks prior to start of any work covered under this permit to arrange date and time of starting work and determine appropriate methods of handling traffic. At least 3 working days notice shall be given to the Caltrans representative and/or the CHP, prior to the meeting to allow time to arrange for attendance.

☐ A copy of this permit, complete with all attachments, shall be kept by permittee/contractor working under this permit and must be shown to the Department Permit Inspector, Department's Representatives, or Law Enforcement Officer, on demand.

☒ The permittee shall be responsible for notifying the appropriate utility companies or underground service alert prior to any excavation work.

☐ The permittee shall notify the California Highway Patrol Area Commander at least 72 hours prior to implementing traffic control.

☒ When the work area encroaches upon a sidewalk, walkway, or crosswalk area, special consideration must be given to pedestrian safety. Protective barricades, fencing, handrails and bridges, together with warning and guidance devices and signs must be utilized so that the passageway for pedestrians, especially blind and other physically handicapped, is safe and well defined and shown on the approved permit plan.

☒ Pedestrian walkways and canopies within State Right of Way shall comply with the requirements of the applicable local agency or of the latest edition of the Uniform Building Code whichever contains the higher standards.

[For City or County projects with utility relocations:]

☐ If existing public or private utilities conflict with the construction PROJECT, PERMITTEE will make necessary arrangements with the owners of such utilities for their protection, relocation, or removal. PERMITTEE shall inspect the protection, relocation, or removal of such facilities. Total costs of such protection, relocation, or removal which STATE or PERMITTEE must legally pay, will be borne by PERMITTEE. If any protection, relocation, or removal of utilities is required, including determination of liability for cost, such work shall be performed in accordance with STATE policy and procedure. PERMITTEE shall require any utility company performing relocation work in the STATE's right-of-way to obtain a State Encroachment Permit before the performance of said relocation work. Any relocated utilities shall be correctly located and identified on the as-built plans.

[For other projects with utility relocations:]

☐ If existing public or private utilities conflict with the construction PROJECT, PERMITTEE will make necessary arrangements with the owners of such utilities for their protection, relocation, or removal. PERMITTEE shall inspect the protection, relocation, or removal of such facilities. Total costs of such protection, relocation, or removal shall be borne by PERMITTEE in compliance with the terms of the Highway Encroachment Permits, Case Law, Public Utility Regulations, and Property Rights. PERMITTEE shall require any utility company performing relocation work in the STATE's right-of-way to obtain a State Encroachment Permit before the performance of said relocation work. Any relocated utilities shall be correctly located and identified on the as-built plans.

PERMIT NO.: 08-08-6-SV-0565

CO/RTE/PM: 08/RIV/60/20.4-21.4

PRECONSTRUCTION MEETING AGREEMENT

I, _____, acting as an authorized agent for the permittee,_____ , do hereby agree to personally accomplish or have another designated person arrange for all involved company representatives to attend a pre-construction meeting with the authorized Department's Representative at_____ , as specified on this permit. Such meeting must be held two (2) days or more prior to the planned start of the work on this project. The Authorized Department's Representative shall have complete authority to determine whether the permit conditions, either implied or written, have been complied with. The Department's Representative may then allow the permit work to proceed as appropriate. The Pre-construction Meeting Record below must be signed by both the Department's Representative and the permittee before the permit work may start.

I have read and understand the attached General Provisions TR-0045 and other attached prosivions of this permit.

This agreement or a copy thereof, must be mailed back to the **Department's District 8 Encroachment Permit Office at 464 W. 4th. Street, MS 619, San Bernardino, CA 92401-1400**, within three (3) working days prior to the pre-construction meeting. Failure to return this form could delay the release of your bonds. A copy of this document shall be at the job site at all times when work is in progress and failure to do so may result in the suspension of work, as directed by the Department's Representative.

It is the permittee's responsibility to insure that the Department's Representative is notified of work completion and that the attached Completion Notice is mailed to the Department's Permit office.

Signature Date

Print or Type Name

Position or Title

STORM WATER SPECIAL PROVISIONS for MINIMAL or NO IMPACT

TR-0170 (Rev 06/2007) REVISIONS

1. **GENERAL:** Permittee shall comply with the following Special Provisions and as directed by the State Representative:

2. **NPDES REQUIREMENTS:** Permittee shall be responsible for full compliance with the Caltrans Storm Water Program and the Caltrans NPDES permit requirements. For additional information, visit the State Water Resources Control Boards Stormwater Website at http://www.swrcb.ca.gov/stormwtr/index.html

3. **RESPONSIBILITY FOR DEBRIS REMOVAL:** Permittee shall be responsible for preventing all dirt, trash, debris and other construction waste from entering storm drains, local creeks, or any other bodies of water.

4. **SPOILS AND RESIDUE:** Permittee shall vacuum or sweep any saw-cut spoils, debris, residue, etc. No spoils, debris, residue, etc. shall be washed into a drainage system.

5. **SWEEPING:** Roadways and other paved areas shall be swept daily. Roadways or work areas shall not be washed down with water.

6. **VEHICLES AND EQUIPMENT:** Permittee shall prevent all vehicles, equipment, etc. from leakage or mud tracking onto roadways.

7. **MAINTENANCE AND FUELING OF VEHICLES AND EQUIPMENT:** Maintenance and fueling of vehicles and equipment shall not result in any pollution at the job site. The Permittee shall immediately clean up spills, and properly dispose of contaminated soil and materials.

8. **CLEANING VEHICLES AND EQUIPMENT:** Permittee shall clean all equipment within a bermed area or over a drip pan large enough to prevent run-off. No soaps, solvents, degreasers, etc shall be used in State Right of Way. Any water from this operation shall be collected and disposed of at an appropriate site.

9. **DIESEL FUELS:** The use of diesel fuel as a form-oil or solvent is not allowed.

10. **WEATHER CONDITIONS AT WORKSITE:** Any activity that would generate fine particles or dust that could be transported off site by stormwater shall be performed during dry weather.

11. **UNCURED AC:** Runoff from washing uncured AC shall not enter into any drainage conveyances.

12. **PROTECTION OF DRAINAGE:** Permittee shall protect/cover gutters, ditches, drainage courses, and inlets with sand/gravel bags, fiber rolls, etc., to the satisfaction of the State representative during paving operations, saw-cutting, etc. so as not to cause an obstruction to the traveling public.

13. **PAINT:** Rinsing of painting equipment and materials is not permitted in state right-of-way. Oil based paint sludge and unusable thinner shall be disposed of at an approved hazardous waste site.

14. **CONSTRUCTION MATERIALS:** All construction materials including concrete, grout, cement containing premixes and mortar shall be stored under cover and separated away from drainage areas. Stored materials shall not reach a storm drain.

15. **CONCRETE EQUIPMENT/VEHICLES:** Concrete equipment/vehicles shall be washed in a designated washing area that prevents effluent from discharging to drainage conveyances.

16. **EXISTING VEGETATION:** Established existing vegetation is the best form of erosion control. Disturbance to existing vegetation shall be minimized whenever possible. Damaged vegetation shall be replaced as directed by the State Representative.

17. **SOIL DISTURBANCE:** Soil disturbing activities shall be avoided during the rainy season. If construction activities during wet weather are allowed in your permit, all necessary erosion control and soil stabilization measures shall be implemented.

18. **SLOPE STABILIZATION:** In cases where slopes are disturbed during construction, soil shall be secured with erosion control and soil stabilization measures. Fiber rolls may be required down-slope until the soil is secure.

19. **STOCKPILES:** Sand, dirt, and similar materials shall be stored at least 50-feet from drainage features and shall be covered and protected with a temporary perimeter sediment barrier.

20. **DISCOVERY OF CONTAMINATION:** The State representative shall be notified in case any unusual discoloration, odor, texture in ground water, in excavated material or abandoned underground tanks, pipes, or buried debris are encountered.

21. **DEWATERING:** All dewatering operations shall comply with the latest Caltrans guidelines. Any effluent discharged into any storm water system requires approval from the Regional Water Quality Control Board. The permittee shall provide the State Representative with a copy of the Waste Discharge Permit, and a copy of a valid WDID number issued by the Regional Board.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SERVICE AUTHORITY FOR FREEWAY EMERGENCIES (SAFE) ACTION REQUEST FOR CALL BOXES

TR-0167 (REV 06/2005)

Before any work affecting call boxes, please complete this form and fax or mail it at least two weeks in advance to the appropriate county **SAFE**!

DATE

☐ For Riverside County call boxes:
Phone Number: (951) 787-7141
Fax Number: (951) 787-7920

Mr. Jerry Rivera, RCTC SAFE Manager
4080 Lemon Street, 3rd Floor
Riverside, CA 92502

☐ For San Bernardino Call Boxes:
Phone Number: (909) 884-8276, ext. 140
Fax Number: (909) 388-2002

Kelly Lynn, San Bernardino SAFE Manager
1170 W. 3rd Street, 2nd Floor
San Bernardino, CA 92410-1715

FROM *(Contact Name and Organization)*

☐ Permittee* ☐ Construction ☐ Maintenance ☐ Right of Way Utilities ☐ Caltrans

*SAFE may charge Permittee for cost of

ADDRESS

CITY	STATE	ZIP

BUSINESS PHONE *(Include Area Code)*	FAX PHONE *(Include Area Code)*	NUMBER OF PAGES INCLUDING THIS COVER PAGE
( )	( )	

ACTION NEEDED: IF THERE IS A CALL BOX PAIR, BOTH BOXES MAY BE AFFECTED! CALL BOX NUMBERS MUST BE INCLUDED (The number is shown on the call box sign, for example SBd-010-93 for a box on WB (because last number is odd), Route 10 at Post Mile 9, first Quarter Mile.)

Call Box Number(s):

☐ Temporary removal from service: **Bagging ONLY** - needed by
(if K-Rail will block access or the shoulder will be too narrow during construction only)

☐ Temporary removal of **box and pole ONLY** - needed by
(if K-Rail will block access or the shoulder will be too narrow during construction only)

☐ Removal of **box, pole, pad, auger, and any retaining walls** needed by

☐ Relocation - **needed by**
(if MBGR, etc., will permanently affect/block access)

Place call boxes back in service.

1. **AUTHORITY:** The Department's authority to issue encroachment permits is provided under, Div. 1, Chpt. 3, Art. 1, Sect. 660 to 734 of the Streets and Highways Code.

2. **REVOCATION:** Encroachment permits are revocable on five days notice unless otherwise stated on the permit and except as provided by law for public corporations, franchise holders, and utilities. These General Provisions and the Encroachment Permit Utility Provisions are subject to modification or abrogation at any time. Permittees' joint use agreements, franchise rights, reserved rights or any other agreements for operating purposes in State highway right of way are exceptions to this revocation.

3. **DENIAL FOR NONPAYMENT OF FEES:** Failure to pay permit fees when due can result in rejection of future applications and denial of permits.

4. **ASSIGNMENT:** No party other than the permittee or permittee's authorized agent is allowed to work under this permit.

5. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to accept these General Provisions and all attachments to this permit, for any work to be performed under this permit.

6. **BEGINNING OF WORK:** When traffic is not impacted (see Number 35), the permittee shall notify the Department's representative, two (2) days before the intent to start permitted work. Permittee shall notify the Department's Representative if the work is to be interrupted for a period of five (5) days or more, unless otherwise agreed upon. All work shall be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this permit.

7. **STANDARDS OF CONSTRUCTION:** All work performed within highway right of way shall conform to recognized construction standards and current Department Standard Specifications, Department Standard Plans High and Low Risk Facility Specifications, and Utility Special Provisions. Where reference is made to "Contractor and Engineer," these are amended to be read as "Permittee and Department representative."

8. **PLAN CHANGES:** Changes to plans, specifications, and permit provisions are not allowed without prior approval from the State representative.

9. **INSPECTION AND APPROVAL:** All work is subject to monitoring and inspection. Upon completion of work, permittee shall request a final inspection for acceptance and approval by the Department. The local agency permittee shall not give final construction approval to its contractor until final acceptance and approval by the Department is obtained.

10. **PERMIT AT WORKSITE:** Permittee shall keep the permit package or a copy thereof, at the work site and show it upon request to any Department representative or law enforcement officer. If the permit package is not kept and made available at the work site, the work shall be suspended.

11. **CONFLICTING ENCROACHMENTS:** Permittee shall yield start of work to ongoing, prior authorized, work adjacent to or within the limits of the project site. When existing encroachments conflict with new work, the permittee shall bear all cost for rearrangements, (e.g., relocation, alteration, removal, etc.).

12. **PERMITS FROM OTHER AGENCIES:** This permit is invalidated if the permittee has not obtained all permits necessary and required by law, from the Public Utilities Commission of the State of California (PUC), California Occupational Safety and Health Administration (Cal-OSHA), or any other public agency having jurisdiction.

13. **PEDESTRIAN AND BICYCLIST SAFETY:** A safe minimum passageway of 4' shall be maintained through the work area at existing pedestrian or bicycle facilities. At no time shall pedestrians be diverted onto a portion of the street used for vehicular traffic. At locations where safe alternate passageways cannot be provided, appropriate signs and barricades shall be installed at the limits of construction and in advance of the limits of construction at the nearest crosswalk or intersection to detour pedestrians to facilities across the street. Attention is directed to Section 7-1.09 Public Safety of the Department Standard Specifications.

14. **PUBLIC TRAFFIC CONTROL:** As required by law, the permittee shall provide traffic control protection warning signs, lights, safety devices, etc., and take all other measures necessary for traveling public's safety. While providing traffic control, the needs and control of all road users [motorists, bicyclists and pedestrians, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA)] shall be an essential part of the work activity.

    Day and night time lane closures shall comply with the California Manual on Uniform Traffic Control Devices (Part 6, Temporary Traffic Control), Standard Plans, and Standard Specifications for traffic control systems. These General Provisions are not intended to impose upon the permittee, by third parties, any duty or standard of care, greater than or different from, as required by law.

15. **MINIMUM INTERFERENCE WITH TRAFFIC:** Permittee shall plan and conduct work so as to create the least possible inconvenience to the traveling public; traffic shall not be unreasonably delayed. On conventional highways, permittee shall place properly attired flagger(s) to stop or warn the traveling public in compliance with the California Manual on Uniform Traffic Control Devices (Chapter 6E, Flagger Control).

16. **STORAGE OF EQUIPMENT AND MATERIALS:** The storage of equipment or materials **is not** allowed within State highway right-of-way, **unless specified** within the Special Provisions of this specific encroachment permit. If Encroachment Permit Special Provisions allow for the storage of equipment or materials within the State right of way, the equipment and material storage shall comply with Standard Specifications, Standard Plans, Special Provisions, and the Highway Design Manual. The clear recovery zone widths must be followed and are the minimum desirable for the type of facility indicated below: freeways and expressways - 30', conventional highways (no curbs) - 20', conventional highways (with curbs) – 1.5'. If a fixed object cannot be eliminated, moved outside the clear recovery zone, or modified to be made yielding, it should be shielded by a guardrail or a crash cushion.

17. **CARE OF DRAINAGE:** Permittee shall provide alternate drainage for any work interfering with an existing drainage facility in compliance with the Standard Specifications, Standard Plans and/or as directed by the Department's representative.

18. **RESTORATION AND REPAIRS IN RIGHT OF WAY:** Permittee is responsible for restoration and repair of State highway right of way resulting from permitted work (State Streets and Highways Code, Sections 670 et. seq.).

19. **RIGHT OF WAY CLEAN UP:** Upon completion of work, permittee shall remove and dispose of all scraps, brush, timber, materials, etc. off the right of way. The aesthetics of the highway shall be as it was before work started.

20. **COST OF WORK:** Unless stated in the permit, or a separate written agreement, the permittee shall bear all costs incurred for work within the State right of way and waives all claims for indemnification or contribution from the State.

21. **ACTUAL COST BILLING:** When specified in the permit, the Department will bill the permittee actual costs at the currently set hourly rate for encroachment permits.

22 **AS-BUILT PLANS:** When required, permittee shall submit one (1) set of folded as-built plans within thirty (30) days after completion and approval of work in compliance with requirements listed as follows:

1. Upon completion of the work provided herein, the permittee shall send one vellum or paper set of As-Built plans, to the State representative. Mylar or paper sepia plans are not acceptable.
2. All changes in the work will be shown on the plans, as issued with the permit, including changes approved by Encroachment Permit Rider.
3. The plans are to be stamped or otherwise noted AS-BUILT by the permittee's representative who was responsible for overseeing the work. Any original plan that was approved with a State stamp, or Caltrans representative signature, shall be used for producing the As-Built plans.
4. If As-Built plans include signing or striping, the dates of signing or striping removal, relocation, or installation shall be shown on the plans when required as a condition of the permit. When the construction plans show signing and striping for staged construction on separate sheets, the sheet for each stage shall show the removal, relocation or installation dates of the appropriate staged striping and signing.
5. As-Built plans shall contain the Permit Number, County, Route, and Post Mile on each sheet.
6. Disclaimer statement of any kind that differ from the obligations and protections provided by Sections 6735 through 6735.6 of the California Business and Professions Code, shall not be included on the As-Built plans. Such statements constitute non-compliance with Encroachment Permit requirements, and may result in the Department of Transportation retaining Performance Bonds or deposits until proper plans are submitted. Failure to comply may also result in denial of future permits, or a provision requiring a public agency to supply additional bonding.

23. **PERMITS FOR RECORD PURPOSES ONLY:** When work in the right of way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), a fee exempt permit is issued to the permittee for the purpose of providing a notice and record of work. The Permittee's prior rights shall be preserved without the intention of creating new or different rights or obligations. "Notice and Record Purposes Only" shall be stamped across the face of the permit.

24. **BONDING:** The permittee shall file bond(s), in advance, in the amount set by the Department. Failure to maintain bond(s) in full force and effect will result in the Department stopping of all work and revoking permit(s). Bonds are not required of public corporations or privately owned utilities, unless permittee failed to comply with the provision and conditions under a prior permit. The surety company is responsible for any latent defects as provided in California Code of Civil Procedures, Section 337.15. Local agency permittee shall comply with requirements established as follows: In recognition that project construction work done on State property will not be directly funded and paid by State, for the purpose of protecting stop notice claimants and the interests of State relative to successful project completion, the local agency permittee agrees to require the construction contractor furnish both a payment and performance bond in the local agency's name with both bonds complying with the requirements set forth in Section 3-1.02 of State's current Standard Specifications before performing any project construction work. The local agency permittee shall defend, indemnify, and hold harmless the State, its officers and employees from all project construction related claims by contractors and all stop notice or mechanic's lien claimants. The local agency also agrees to remedy, in a timely manner and to State's satisfaction, any latent defects occurring as a result of the project construction work.

25. **FUTURE MOVING OF INSTALLATIONS:** Permittee understands and agrees to relocate a permitted installation upon notice by the Department. Unless under prior property right or agreement, the permittee shall comply with said notice at his sole expense.

26. **ARCHAEOLOGICAL/HISTORICAL:** If any archaeological or historical resources are revealed in the work vicinity, the permittee shall immediately stop work, notify the Department's representative, retain a qualified archaeologist who shall evaluate the site, and make recommendations to the Department representative regarding the continuance of work.

27. **PREVAILING WAGES:** Work performed by or under a permit may require permittee's contractors and subcontractors to pay appropriate prevailing wages as set by the Department of Industrial Relations. Inquiries or requests for interpretations relative to enforcement of prevailing wage requirements are directed to State of California Department of Industrial Relations, 525 Golden Gate Avenue, San Francisco, California 94102.

28. **RESPONSIBILITY FOR DAMAGE:** The State of California and all officers and employees thereof, including but not limited to the Director of Transportation and the Deputy Director, shall not be answerable or accountable in any manner for injury to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property from any cause. The permittee shall be responsible for any liability imposed by law and for injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property arising out of work, or other activity permitted and done by the permittee under a permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit.

The permittee shall indemnify and save harmless the State of California, all officers, employees, and State's contractors, thereof, including but not limited to the Director of Transportation and the Deputy Director, from all claims, suits or actions of every name, kind and description brought for or on account of injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee and the public, or damage to property resulting from the performance of work or other activity under the permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit, except as otherwise provided by statute.

The duty of the permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the Civil Code. The permittee waives any and all rights to any type of expressed or implied indemnity against the State, its officers, employees, and State contractors. It is the intent of the parties that the permittee will indemnify and hold harmless the State, its officers, employees, and State's contractors, from any and all claims, suits or actions as set forth above regardless of the existence or degree of fault or negligence, whether active or passive, primary or secondary, on the part of the State, the permittee, persons employed by the permittee, or acting on behalf of the permittee.

For the purpose of this section, "State's contractors" shall include contractors and their subcontractors under contract to the State of California performing work within the limits of this permit.

29. **NO PRECEDENT ESTABLISHED:** This permit is issued with the understanding that it does not establish a precedent.

30. **FEDERAL CIVIL RIGHTS REQUIREMENTS FOR PUBLIC ACCOMMODATION:**
A. The permittee, for himself, his personal representative, successors in interest, and assigns as part of the consideration hereof, does hereby covenant and agree that:
1. No person on the grounds of race, color, or national origin shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
2. That in connection with the construction of any improvements on said lands and the furnishings of services thereon, no discrimination shall be practiced in the selection and retention of first-tier subcontractors in the selection of second-tier subcontractors.
3. That such discrimination shall not be practiced against the public in their access to and use of the facilities and services provided for public accommodations (such as eating, sleeping, rest, recreation), and operation on, over, or under the space of the right of way.
4. That the permittee shall use the premises in compliance with all other requirements imposed pursuant to Title 15, Code of Federal Regulations, Commerce and Foreign Trade, Subtitle A. Office of the Secretary of Commerce, Part 8 (15 C.F.R. Part 8) and as said Regulations may be amended.
5. That in the event of breach of any of the above nondiscrimination covenants, the State shall have the right to terminate the permit and to re-enter and repossess said land and the land and the facilities thereon, and hold the same as if said permit had never been made or issued.

31. **MAINTENANCE OF HIGHWAYS:** The permittee agrees, by acceptance of a permit, to properly maintain any encroachment. This assurance requires the permittee to provide inspection and repair any damage, at permittee's expense, to State facilities resulting from the encroachment.

32. **SPECIAL EVENTS:** In accordance with subdivision (a) of Streets and Highways Code Section 682.5, the Department of Transportation shall not be responsible for the conduct or operation of the permitted activity, and the applicant agrees to defend, indemnify, and hold harmless the State and the city or county against any and all claims arising out of any activity for which the permit is issued.

Permittee understands and agrees that it will comply with the obligations of Titles II and III of the Americans with Disabilities Act of 1990 in the conduct of the event, and further agrees to indemnify and save harmless the State of California, all officers and employees thereof, including but not limited to the Director of Transportation, from any claims or liability arising out of or by virtue of said Act.

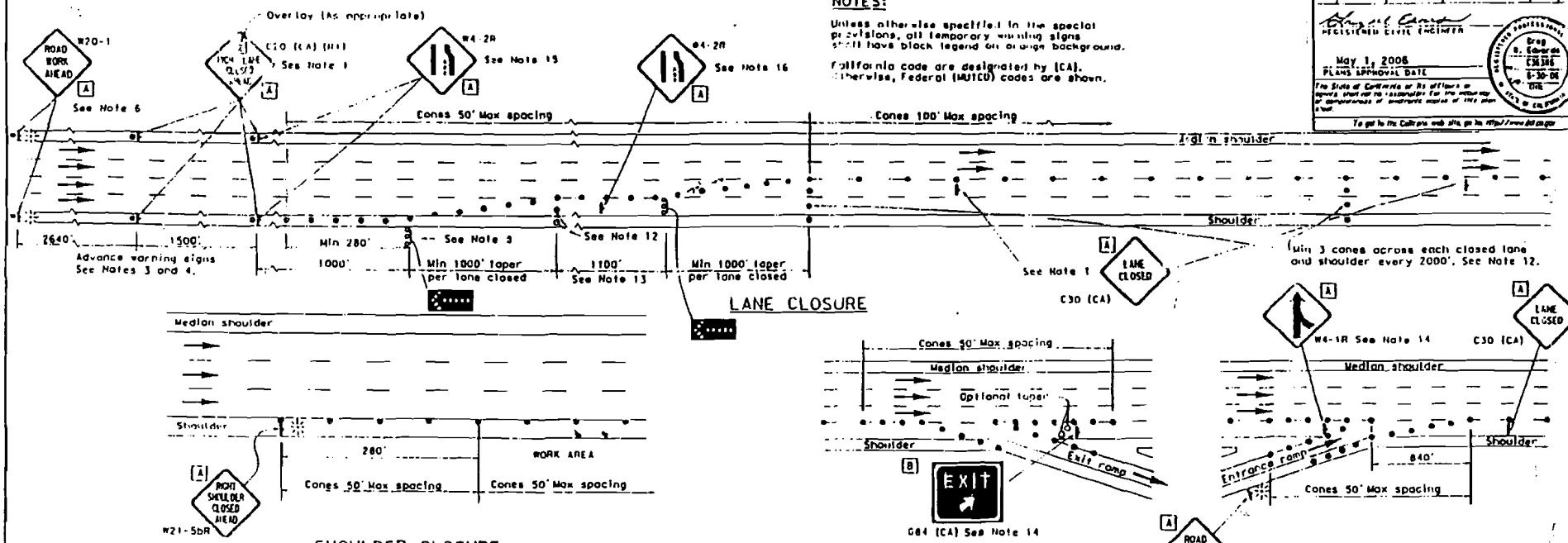
33. **PRIVATE USE OF RIGHT OF WAY:** Highway right of way shall not be used for private purposes without compensation to the State. The gifting of public property use and therefore public funds is prohibited under the California Constitution, Article 16.

34. **FIELD WORK REIMBURSEMENT:** Permittee shall reimburse State for field work performed on permittee's behalf to correct or remedy hazards or damaged facilities, or clear debris not attended to by the permittee.

35. **NOTIFICATION OF DEPARTMENT AND TMC:** The permittee shall notify the Department's representative and the Transportation Management Center (TMC) at least 7 days before initiating a lane closure or conducting an activity that may cause a traffic impact. A confirmation notification should occur 3 days before closure or other potential traffic impacts. In emergency situations when the corrective work or the emergency itself may affect traffic, TMC and the Department's representative shall be notified as soon as possible.

36. **SUSPENSION OF TRAFFIC CONTROL OPERATION:** The permittee, upon notification by the Department's representative, shall immediately suspend all lane closure operations and any operation that impedes the flow of traffic. All costs associated with this suspension shall be borne by the permittee.

37. **UNDERGROUND SERVICE ALERT (USA) NOTIFICATION:** Any excavation requires compliance with the provisions of Government Code Section 4216 et. seq., including, but not limited to notice to a regional notification center, such as Underground Service Alert (USA). The permittee shall provide notification at least 48 hours before performing any excavation work within the right of way.



LANE CLOSURE

SHOULDER CLOSURE

LANE CLOSURE AT EXIT RAMP

LANE CLOSURE AT ENTRANCE RAMP

NOTES:

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on orange background.

California code are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

NOTES:

1. Median lane closures shall conform to the details for outside lane closures except that C20 (CA) (LT) signs shall be used.
2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
3. Duplicate sign installations are not required:
   a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
   b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
5. A C14 (CA) "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
6. If the W20-1 sign would fall within 2000' of a stationary W20-1 or C11 (CA) "ROAD WORK NEXT _____ MILES", use a C20 (CA) sign for the first advance warning sign.
7. Place a C30 (CA) sign every 2000' throughout length of lane closure.
8. One flashing arrow sign for each lane closed. The first flashing arrow sign shall be Type I. All others may be either Type I or Type II.
9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
13. Unless otherwise specified in the special provisions, the 1100' tangent shown along lane lines shall be used between the 1000' tapers required for each closed traffic lane.
14. Unless otherwise specified in the special provisions, the G84 (CA) and W4-1 signs shall be used as shown.
15. When specified in the special provisions, a W4-2 "LANE ENDS" symbol sign is to be used in place of the C20 (CA) "RIGHT LANE CLOSED AHEAD" sign.
16. The W4-2 "LANE ENDS" symbol sign shown at this location is to be used where the W4-2 sign is used as advance warning as described in Not. 15.

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 54" x 48"

LEGEND

- Traffic Cone
- Traffic Cone (optional taper)
- Temporary Sign
- Flashing Arrow Sign (FAS)
- FAS Support or Trailer
- Direction of Travel
- Portable Flashing Beacon

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

NO SCALE

T10

2006 STANDARD PLAN T10

May 1, 2006
PLANS APPROVAL DATE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic media or data shown hereon

To get to the Caltrans web site, go to: http://www.dot.ca.gov

TYPICAL LANE CLOSURE

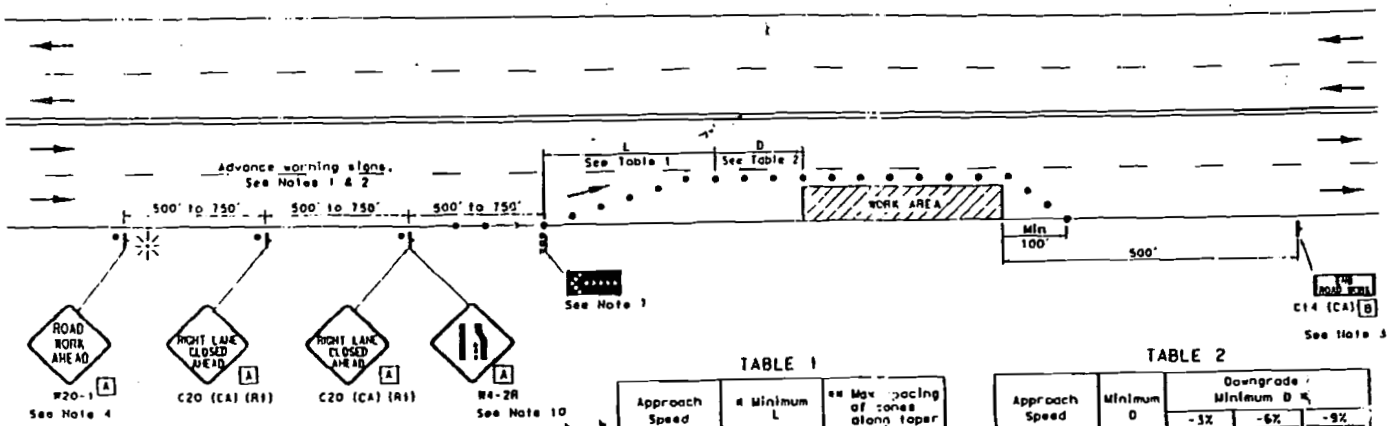


TABLE 1

Approach Speed	* Minimum L	** Max spacing of cones along taper
mph	ft	ft
20 and below	80	20
25	125	25
30	180	30
35	245	35
40	320	40
45	540	45
50	600	50
Over 50	See Note 9	

* Use L for lane widths less than or equal to 12'.
** See Note 8.

TABLE 2

Approach Speed	Minimum D	Downgrade / Minimum D *		
		-3%	-6%	-9%
mph	ft	ft	ft	ft
25 and below	155	158	165	173
30	200	205	215	227
35	250	257	211	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
Over 50	See Note 9			

* Use an sustained downgrade steeper than -3 percent and longer than 1 mile.

NOTES:

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on orange background.

California code are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

LEGEND

- Traffic Cone
- Temporary Sign
- Direction of Travel
- Flashing Arrow Sign (FAS)
- FAS Support or Trailer
- Portable Flashing Beacon

SIGN PANEL SIZE (Min)

[A] 36" x 36"

[B] 36" x 18"

NOTES:

1. Where approach speeds are low, advance warning signs may be placed at 300' spacing and placed closer in urban areas.
2. Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be of least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
3. A C14 (CA) "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
4. If the W20-1 sign would follow within 2000' of a stationary W20-1 or C11 (CA) "ROAD WORK NEXT _____ MILES", use a C20 (CA) sign for the first advance warning sign.
5. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
7. Flashing arrow sign shall be either Type I or Type II.
8. The maximum spacing between cones along a tangent shall be 50' and along a taper shall be approximately as shown in Table 1.
9. For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
10. When specified in the special provisions, a W4-2 "LANE ENDS" symbol sign is to be used in place of the C20 (CA) "RIGHT LANE CLOSED AHEAD" sign.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

T11

TYPICAL RAMP CLOSURES

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 30" x 30"
- D 48" x 48" - Speed of 50 mph or more
  36" x 36" - Speed less than 50 mph
- E 48" x 36"

LEGEND

- Traffic Cone
- Temporary Sign
- Barricades
- Direction of Travel
- Turn Arrow

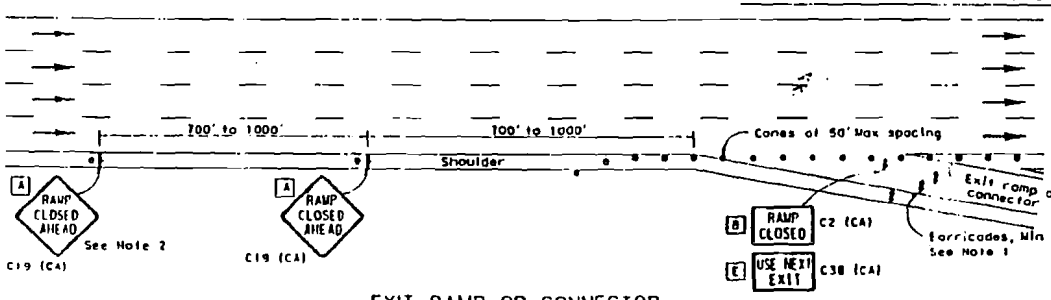
NOTES:

1. Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
2. In addition to placing the C19 (CA) "RAMP CLOSED AHEAD" and C30 (CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
3. Each advance C19 (CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color.
4. All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" sign in the gore area shall be covered during ramp closures.

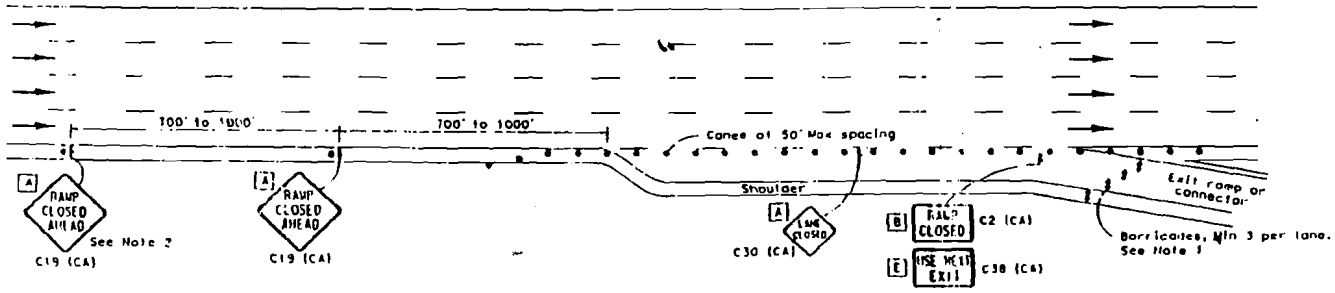
REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

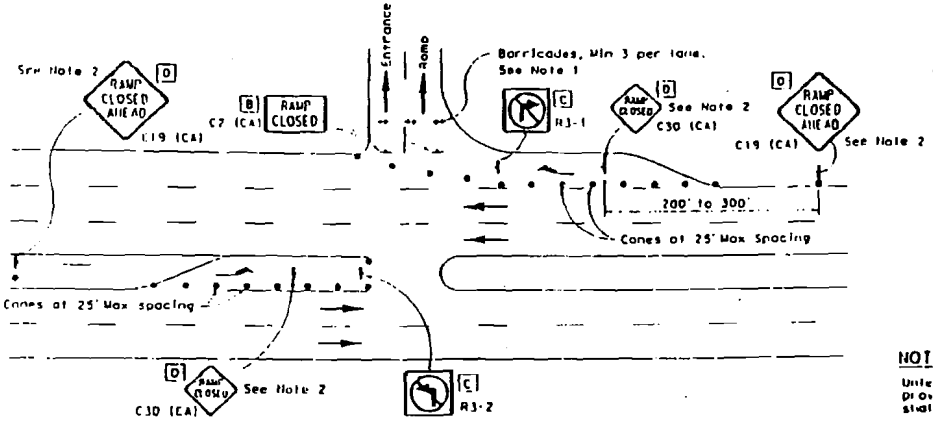
To get to the Caltrans web site go to http://www.dot.ca.gov



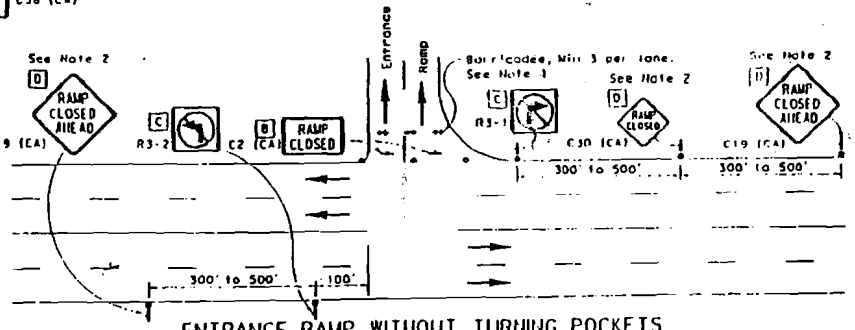
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on orange background.

California code are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURE

NO SCALE

T14

2006 STANDARD PLAN T14

DIST	COUNTY	ROUTE	POST MILES / TOTAL PROJECT	EA / PROJECT NO.	TOTAL SHEETS

REGISTERED Civil ENGINEER

May 1, 2006
PLANS APPROVAL DATE

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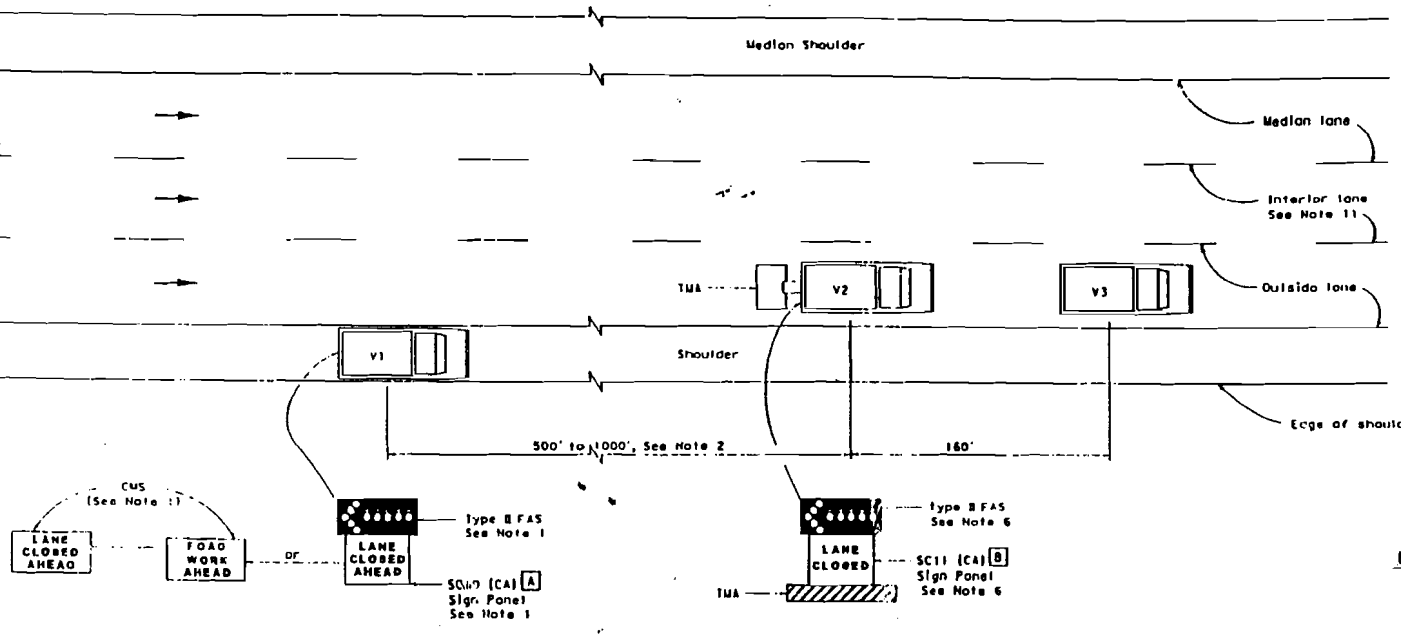
To get to the California web site, go to: http://www.dot.ca.gov



MOVING LANE CLOSURE ON MEDIAN LANE OR OUTSIDE LANE OF MULTILANE HIGHWAYS

SIGN PANEL SIZE (Min)

A 66" x 36"
B 54" x 42"

LEGEND

V1	Sign Vehicle
V2	Shadow Vehicle
V3	Work/Application Vehicle
	Flashing Arrow Sign (FAS)
CMS	Changeable Message Sign
TMA	Truck-Mounted Attenuator
→	Direction of Travel

NOTES:

1. Either a changeable message sign or a SC10 (CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. A Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1 and used with the SC10 (CA) sign panel. A Type II flashing arrow sign will not be required with the changeable message sign provided the flashing arrow sign symbol is displayed on the changeable message sign board. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "LANE CLOSED AHEAD" message and then the flashing arrow sign symbol. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall be Type III, IV, VII, VIII or IX retroreflective sheeting, black on white, black on orange, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Gross Vehicle Weight of shadow vehicle V2 shall be a minimum of 20,000 pounds and shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. Where sufficient shoulder width is not available, sign vehicle V1 may encroach into the traffic lane staying as close to the edge of shoulder as practicable. Both V1 and V2 shall be equipped with a truck-mounted attenuator. The Gross Vehicle Weight of V1 and V2 shall be at least 20,000 pounds, respectively.
10. Where workers would be on foot in the work area, a stationary type lane closure (Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Standard Plan T16.
12. When multiple work vehicles are used in close proximity to each other, only one shadow vehicle is required, and spacing between work vehicles shall be minimized in order to deter traffic from entering the closures.

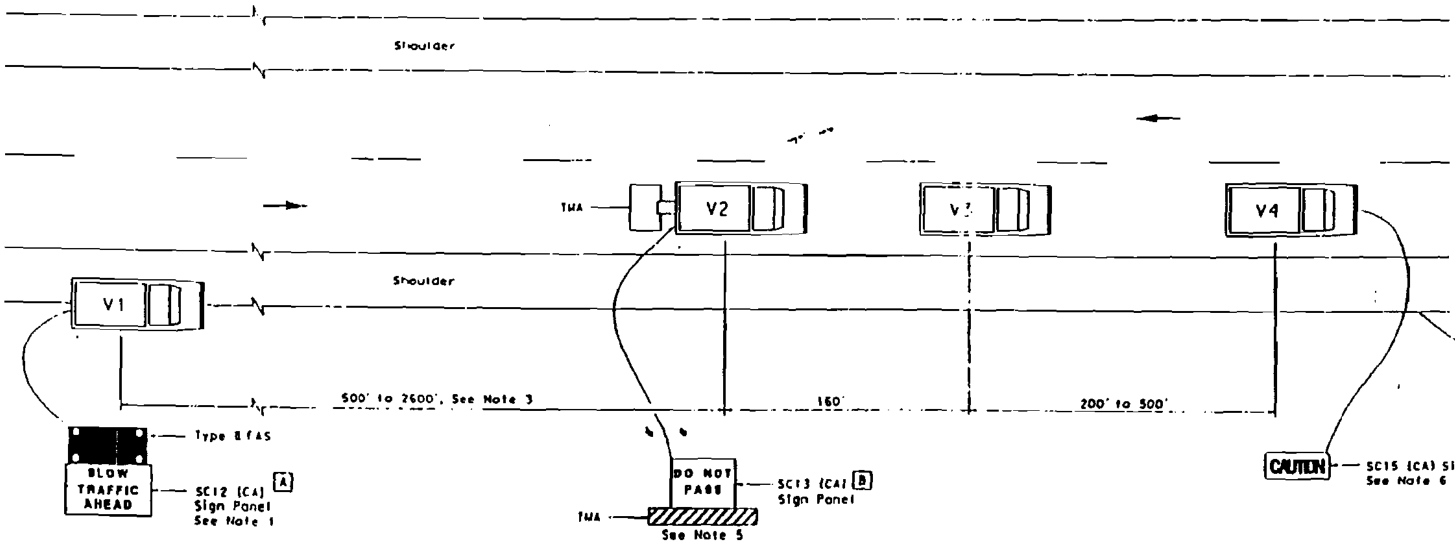
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

T15

2006 STANDARD PLAN T15



SIGN PANEL SIZE (Min)

[A]	72" × 42"
[B]	54" × 42"
[C]	54" × 24"

LEGEND

V1	Sign Vehicle
V2	Shadow Vehicle
V3	Work/Application Vehicle
V4	Sign Vehicle
TMA	Truck-Mounted Attenuator
→	Direction of Travel
▬	Flashing Arrow Sign (FAS) in flashing caution mode

NOTES:

1. Either a changeable message sign or a SC12 (CA) "SLOW TRAFFIC AHEAD" sign shall be mounted on the rear of sign vehicle V1. A Type II flashing arrow sign may be used with the SC12 (CA) sign panel.
2. Sign vehicle V1 should be positioned where highly visible when shoulders are not available.
3. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
4. Vehicle-mounted sign panels shall be Type II, III, VII, VIII or IX retroreflective sheeting, black on white, black on orange, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
5. Gross Vehicle Weight of shadow vehicle shall be a minimum of 20,000 pounds and shall be equipped with a truck-mounted attenuator. The sign panel shown shall be mounted on the rear of shadow vehicle V2. The message "LANE CLOSED" may be used in place of the "DO NOT PASS" message.
6. The sign panel shown shall be mounted on the front of sign vehicle V4, facing opposing traffic.
7. All vehicles shall be equipped with flashing or rotating amber lights.
8. Sign vehicle V4 will not be required when the work and vehicles V2 and V3 are 2' or more from the centerline of the highway during the work or application operations.
9. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
10. This plan shall not be used where workers would be on foot in the work area (as a stationary-type lane closure (Standard Plan T12) for this condition.
11. When multiple work vehicles are used in close proximity to each other, only one shadow vehicle is required and spacing between work vehicles shall be minimized in order to deter traffic from entering the closed lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON TWO LANE HIGHWAYS

NO SCALE

T17

2006 STANDARD PLAN T17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

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Greg E. Edwards C36386 Exp. 6-30-06 CIVIL STATE OF CALIFORNIA

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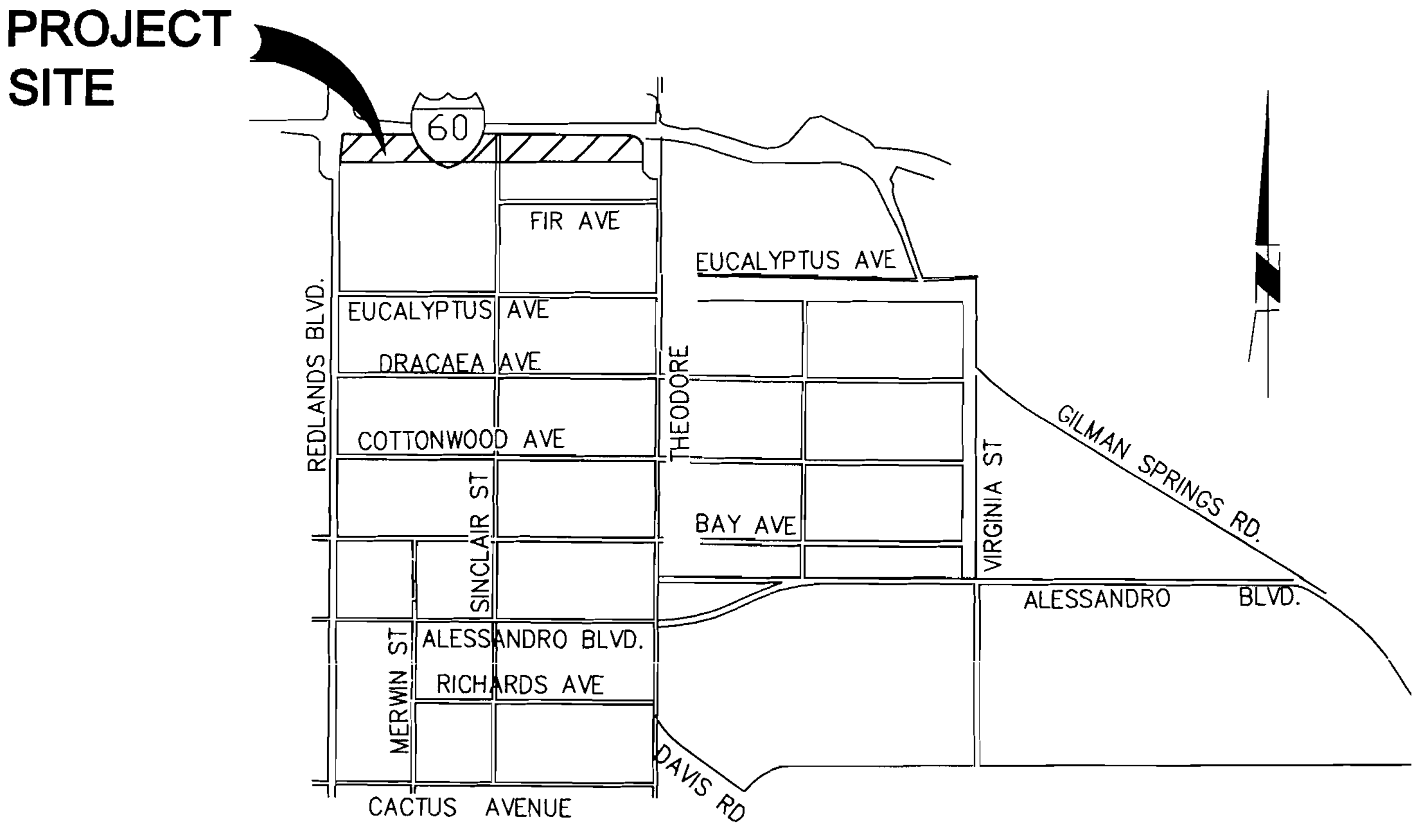
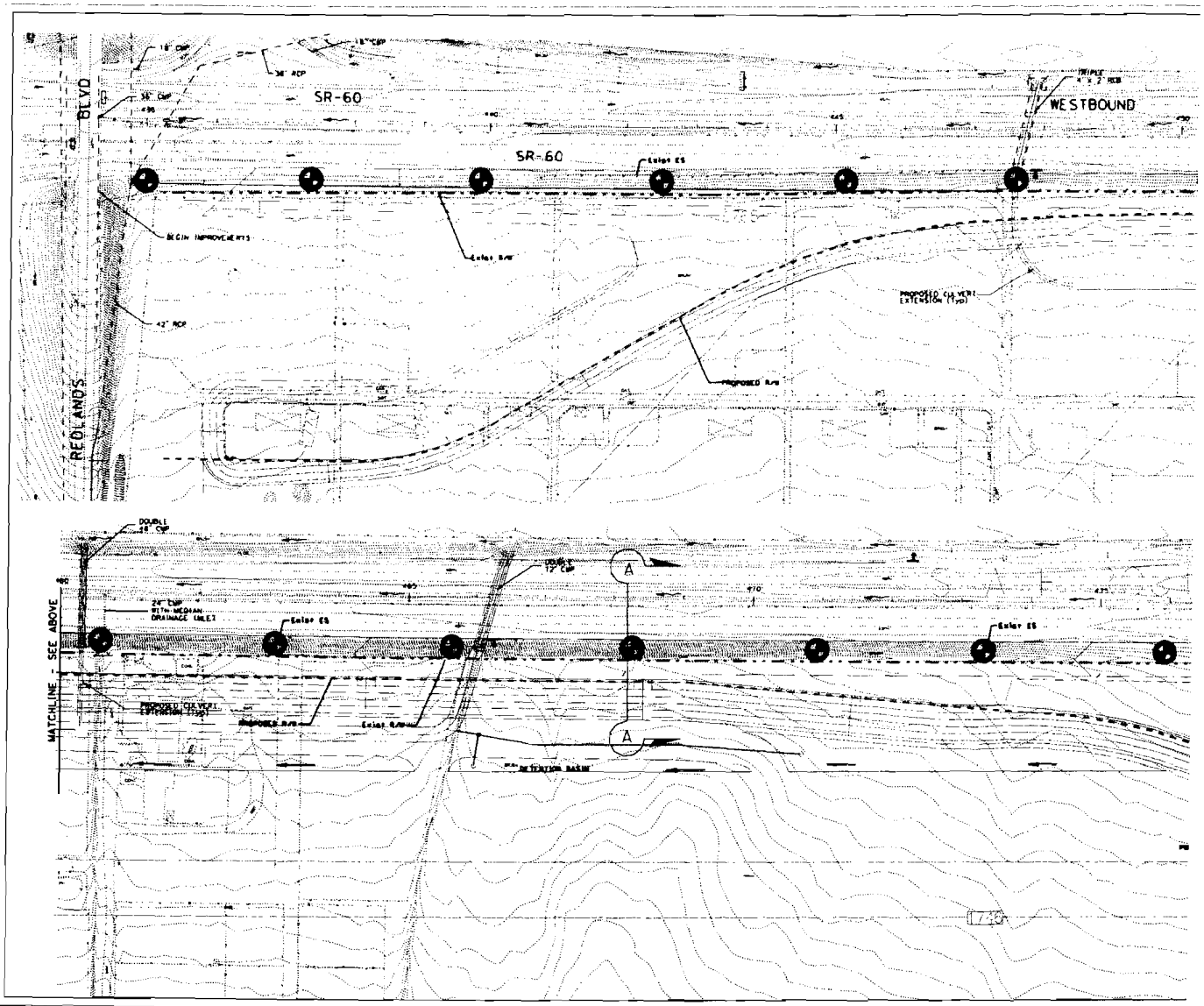
08-0565



VICINITY MAP

NOT TO SCALE

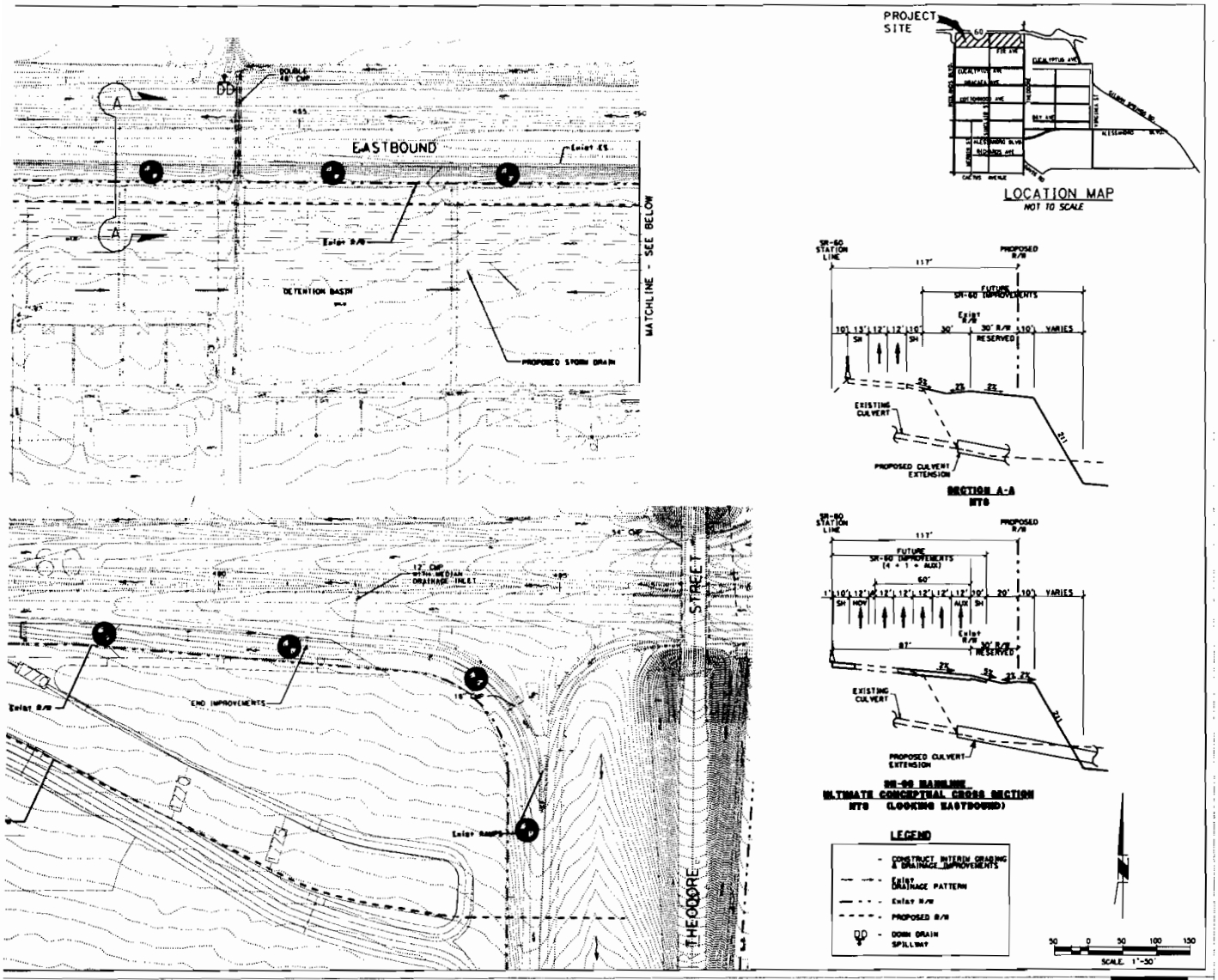


Legend

- Approximate Location of Proposed Boring Location, spaced every 76 meters (~250 feet)

AERIALLY DEPOSITED LEAI

Riverside County, California



ILINE
INAGE DESIGN EXHIBIT
IEODORE STREET

FOR DISCUSSION PURPOSES ONLY

THIS MAP IS A DRAFT DOCUMENT ONLY. NOT FOR PUBLIC DISTRIBUTION OR REVIEW.

AUGUST XX, 2007

SURVEY

Project No.	111061-115
Scale	As Shown Above
Engr./Geol.	KAS
Drafted By	CIM
Date	May 2008

Figure No. 1

PERMIT NO.: 08-08-6-SV-0565
CO/RTE/PM: 08/RIV/60/20.4-21.4

DEPARTMENT OF TRANSPORTATION-DISTRICT 8
ENCROACHMENT PERMITS OFFICE
464 W. 4th. Street, MS 619
San Bernardino, CA 92401-1400

100% COMPLETION NOTICE

Work on Permit No.: 08-08-6-SV-0565 has been completed. A final inspection meeting was held on

Permittee's Representative Date 8/14/08

Department's Representative Date

FAILURE TO COMPLETE AND RETURN THIS TO THE DISTRICT PERMITS OFFICE MAY CAUSE A DELAY IN THE RELEASE OF YOUR BONDS.

Appendix C

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: August 13, 2008

Ms. Kristin Stout
Leighton & Associates
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(951)252-8927 Fax(951)296-0534

Project No.: **111061115**
Lab I.D.: **080806-111 through -194**

Dear Ms. Stout:

The **analytical results** for the soil samples, received by our lab on August 6, 2008, are attached. The samples were received chilled, intact and with chain of custody record.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Curtis Desilets
Vice President/Program Manger

Jesse Tu, Ph.D.
Laboratory Manager

Enviro – Chem, Inc.

1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: Leighton & Associates
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(951)252-8927 Fax(951)296-0534

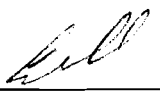
PROJECT No.: 111061115
MATRIX: SOIL
SAMPLING DATE: 08/05/08
REPORT TO: MS. KRISTIN STOUT

DATE RECEIVED: 08/06/08
DATE ANALYZED: 08/06/08
DATE REPORTED: 08/13/08

pH ANALYSIS
METHOD: EPA 9045C
UNIT: pH UNITS

SAMPLE I.D.	LAB I.D.	pH RESULT
B1-0.5'	080806-111	7.96
B2-1.0'	080806-116	8.20
B3-1.0'	080806-120	8.31
B4-2.5'	080806-125	8.33
B5-0.5'	080806-127	8.22
B5-2.5'	080806-129	8.10
B6-5.0'	080806-134	8.30
B8-0.5'	080806-139	7.85
B9-1.0'	080806-144	8.40
B10-1.0'	080806-148	8.65
B11-0.5'	080806-151	8.10
B11-5.0'	080806-154	8.17
B12-1.0'	080806-156	8.30
B13-0.5'	080806-159	8.04
B13-5.0'	080806-162	8.34
B14-5.0'	080806-166	8.53
B15-4.0'	080806-170	8.48
B16-0.5'	080806-171	8.42
B17-2.5'	080806-177	8.40
B18-1.0'	080806-180	8.43
B19-1.0'	080806-184	8.22
B19-4.0'	080806-186	8.18
B20-1.0'	080806-188	8.46
B21-0.5'	080806-191	8.54
B21-2.5'	080806-193	8.43

COMMENTS:
pH ANALYSIS CONDUCTED ON 1:1 SOIL/DEIONIZED WATER EXTRACTION

DATA REVIEWED AND APPROVED BY: 
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766
Tel (909)590-5905 Fax (909)590-5907

Matrix: SOLID

QA/QC Report

Analysis	Units	Date Analyzed	Sample I.D.	S.R.	Duplicate	% RPD	ACP %RPD
Alkalinity	mg/L					0.00%	0-20
Residual Chlorine	mg/Kg					0.00%	0-20
EPA 1664A	mg/Kg					0.00%	0-20
EC	umhos/cm	7/17/2008	080717-34	4717	4545	3.71%	0-20
pH	pH units	8/6/2008	080806-193	8.43	8.45	0.24%	0-20
TDS	mg/L					0.00%	0-20
TSS	mg/Kg					0.00%	0-20
Resistivity	ohms	8/5/2008	080805-155	1890	1872	0.96%	0-20
% SOLID	%	8/5/2008	080804-65	35.3	35.0	0.85%	0-20
BTU	BTU/lb					0.00%	0-20
Salinity	S					0.00%	0-20

%RPD = Relative Percent Difference **ACP %RPD** = Acceptable Relative Percent Difference

Analysis	Units	Date Analyzed	Sample I.D.	Spk Conc	S.R.	ACP %RPD	ACP %RC	MS	MS %RC	MSD	MSD %RC	% RPD
Acidity	mg/Kg					0-20	80-120					#VALUE!
Ammonia as N	mg/Kg	7/25/2008	080723-23	50.0	0.557	0-20	80-120	42.47	84%	44.33	88%	3.7%
MBAS	mg/Kg			6.0		0-20	80-120					#VALUE!
Chloride	mg/Kg	8/6/2008	LCS1/2	200	0.0	0-20	80-120	172	86%	177	89%	2.5%
COD	mg/Kg					0-20	80-120					#VALUE!
Cr VI	mg/Kg			4.0		0-20	80-120					#VALUE!
Cyanide	mg/Kg	8/4/2008	LCS1/2	10.0	0	0-20	80-120	8.64	86%	8.48	85%	1.6%
Fluoride	mg/Kg			1.0		0-20	80-120					#VALUE!
Nitrate as N	mg/Kg	7/24/2008	LCS1/2	4.00	0.0	0-20	80-120	3.49	87%	3.44	86%	1.3%
Nitrite as N	mg/Kg	7/24/2008	LCS1/2	4.00	0.0	0-20	80-120	3.57	89%	3.59	90%	0.5%
Oil and Grease	mg/Kg			667		0-20	80-120					#VALUE!
Phenolics	mg/Kg					0-20	80-120					#VALUE!
Sulfate	mg/Kg	8/6/2008	LCS1/2	200	0.0	0-20	80-120	168	84%	165	83%	1.5%
Sulfide	mg/Kg			3.0		0-20	80-120					#VALUE!
TRPH	mg/Kg	8/6/2008	LCS1/2	667	29.7	0-20	80-120	647	93%	654	94%	1.0%
Sulfide, Dissolved	mg/Kg	7/25/2008	080724-1	3.0	0.0	0-20	80-120	2.73	91%	2.76	92%	1.0%
Sulfide, Reactive	mg/Kg	1/2/1900		0.3		0-20	80-120					#VALUE!

S.R. = Sample Results **%RC** = Percent Recovery **ACP %RC** = Accepted Percent Recovery **Spk Conc** = Spike Concentration

Analyst Signature: _____ **Final Reviewer:** _____

(P.2/2)

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766
Tel (909)590-5905 Fax (909)590-5907

Matrix: SOLID

QA/QC Report

Analysis	Units	Date Analyzed	Sample I.D.	S.R.	Duplicate	% RPD	ACP %RPD
Alkalinity	mg/L					0.00%	0-20
Residual Chlorine	mg/Kg					0.00%	0-20
EPA 1664A	mg/Kg					0.00%	0-20
EC	umhos/cm	7/17/2008	080717-34	4717	4545	3.71%	0-20
pH	pH units	8/6/2008	080806-210	11.48	11.51	0.26%	0-20
TDS	mg/L					0.00%	0-20
TSS	mg/Kg					0.00%	0-20
Resistivity	ohms	8/5/2008	080805-155	1890	1872	0.96%	0-20
% SOLID	%	8/5/2008	080804-65	35.3	35.0	0.85%	0-20
BTU	BTU/lb					0.00%	0-20
Salinity	S					0.00%	0-20

%RPD = Relative Percent Difference **ACP %RPD** = Acceptable Relative Percent Difference

Analysis	Units	Date Analyzed	Sample I.D.	Spk Conc	S.R.	ACP %RPD	ACP %RC	MS	MS %RC	MSD	MSD %RC	% RPD
Acidity	mg/Kg					0-20	80-120					#VALUE!
Ammonia as N	mg/Kg	7/25/2008	080723-23	50.0	0.557	0-20	80-120	42.47	84%	44.33	88%	3.7%
MBAS	mg/Kg			6.0		0-20	80-120					#VALUE!
Chloride	mg/Kg	8/6/2008	LCS1/2	200	0.0	0-20	80-120	172	86%	177	89%	2.5%
COD	mg/Kg					0-20	80-120					#VALUE!
Cr VI	mg/Kg			4.0		0-20	80-120					#VALUE!
Cyanide	mg/Kg	8/4/2008	LCS1/2	10.0	0	0-20	80-120	8.64	86%	8.48	85%	1.6%
Fluoride	mg/Kg			1.0		0-20	80-120					#VALUE!
Nitrate as N	mg/Kg	7/24/2008	LCS1/2	4.00	0.0	0-20	80-120	3.49	87%	3.44	86%	1.3%
Nitrite as N	mg/Kg	7/24/2008	LCS1/2	4.00	0.0	0-20	80-120	3.57	89%	3.59	90%	0.5%
Oil and Grease	mg/Kg			667		0-20	80-120					#VALUE!
Phenolics	mg/Kg					0-20	80-120					#VALUE!
Sulfate	mg/Kg	8/6/2008	LCS1/2	200	0.0	0-20	80-120	168	84%	165	83%	1.5%
Sulfide	mg/Kg			3.0		0-20	80-120					#VALUE!
TRPH	mg/Kg	8/6/2008	LCS1/2	667	29.7	0-20	80-120	647	93%	654	94%	1.0%
Sulfide, Dissolved /	mg/Kg	7/25/2008	080724-1	3.0	0.0	0-20	80-120	2.73	91%	2.76	92%	1.0%
Sulfide, Reactive	mg/Kg	1/2/1900		0.3		0-20	80-120					#VALUE!

S.R. = Sample Results **%RC** = Percent Recovery **ACP %RC** = Accepted Percent Recovery **Spk Conc** = Spike Concentration

Analyst Signature: _____ **Final Reviewer:** _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton & Associates**
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(951)252-8927 Fax(951)296-0534

PROJECT No.: **111061115**
MATRIX: SOIL
SAMPLING DATE: 08/05/08
REPORT TO: MS. KRISTIN STOUT
DATE RECEIVED: 08/06/08
DATE ANALYZED: 08/07/08
DATE REPORTED: 08/13/08

EPA 6010B FOR TTLC-LEAD; PAGE 1 OF 5
UNITS: MG/KG = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
B1-0.5'	080806-111	37.7	1
B1-1.0'	080806-112	ND	1
B1-2.5'	080806-113	5.60	1
B1-5.0'	080806-114	378 *	1
B2-0.5'	080806-115	48.5	1
B2-1.0'	080806-116	11.1	1
B2-2.5'	080806-117	ND	1
B2-5.0'	080806-118	5.21	1
B3-0.5'	080806-119	51.2 *	1
B3-1.0'	080806-120	6.38	1
B3-2.5'	080806-121	ND	1
B3-5.0'	080806-122	ND	1
B4-0.5'	080806-123	13.5	1
B4-1.0'	080806-124	14.3	1
B4-2.5'	080806-125	9.28	1
B4-5.0'	080806-126	7.34	1
B5-0.5'	080806-127	15.8	1
B5-1.0'	080806-128	11.3	1
B5-2.5'	080806-129	9.08	1
B5-5.0'	080806-130	ND	1
Method Blank	---	ND	1
	PQL	0.50	

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = DF X PQL
ND = Non-Detected or below the Actual Detection Limit
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton & Associates**
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(951)252-8927 Fax(951)296-0534

PROJECT No.: **111061115**
MATRIX: SOIL
SAMPLING DATE: 08/05/08
REPORT TO: MS. KRISTIN STOUT
DATE RECEIVED: 08/06/08
DATE ANALYZED: 08/07/08
DATE REPORTED: 08/13/08

EPA 6010B FOR TTLC-LEAD; PAGE 2 OF 5
UNITS: MG/KG = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
B6-0.5'	080806-131	15.8	1
B6-1.0'	080806-132	17.4	1
B6-2.5'	080806-133	11.1	1
B6-5.0'	080806-134	ND	1
B7-0.5'	080806-135	16.9	1
B7-1.0'	080806-136	17.0	1
B7-2.5'	080806-137	11.5	1
B7-5.0'	080806-138	ND	1
B8-0.5'	080806-139	45.3	1
B8-1.0'	080806-140	11.2	1
B8-2.5'	080806-141	4.79	1
B8-5.0'	080806-142	21.8	1
B9-0.5'	080806-143	20.5	1
B9-1.0'	080806-144	5.91	1
B9-2.5'	080806-145	19.5	1
B9-5.0'	080806-146	ND	1
B10-0.5'	080806-147	20.5	1
B10-1.0'	080806-148	5.86	1
B10-2.5'	080806-149	5.04	1
B10-5.0'	080806-150	6.49	1
Method Blank	---	ND	1
	PQL	0.50	

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = DF X PQL
ND = Non-Detected or below the Actual Detection Limit
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

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LABORATORY REPORT

CUSTOMER: **Leighton & Associates**
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(951)252-8927 Fax(951)296-0534

PROJECT No.: **111061115**
MATRIX: SOIL
SAMPLING DATE: 08/05/08
REPORT TO: MS. KRISTIN STOUT

DATE RECEIVED: 08/06/08
DATE ANALYZED: 08/07/08
DATE REPORTED: 08/13/08

EPA 6010B FOR TTLC-LEAD; PAGE 3 OF 5
UNITS: MG/KG = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
B11-0.5'	080806-151	34.7	1
B11-1.0'	080806-152	3.43	1
B11-2.5'	080806-153	5.86	1
B11-5.0'	080806-154	4.18	1
B12-0.5'	080806-155	34.7	1
B12-1.0'	080806-156	6.22	1
B12-2.5'	080806-157	5.10	1
B12-4.0'	080806-158	13.7	1
B13-0.5'	080806-159	13.4	1
B13-1.0'	080806-160	5.57	1
B13-2.5'	080806-161	5.24	1
B13-5.0'	080806-162	8.62	1
B14-0.5'	080806-163	11.0	1
B14-1.0'	080806-164	5.91	1
B14-2.5'	080806-165	6.18	1
B14-5.0'	080806-166	6.86	1
B15-0.5'	080806-167	6.19	1
B15-1.0'	080806-168	6.51	1
B15-2.5'	080806-169	19.9	1
B15-4.0'	080806-170	4.83	1
Method Blank	---	ND	1
	PQL	**0.50**	

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = DF X PQL
ND = Non-Detected or below the Actual Detection Limit
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

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LABORATORY REPORT

CUSTOMER: **Leighton & Associates**
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Tel(951)252-8927 Fax(951)296-0534

PROJECT No.: **111061115**
MATRIX: SOIL
SAMPLING DATE: 08/05/08
REPORT TO: MS. KRISTIN STOUT
DATE RECEIVED: 08/06/08
DATE ANALYZED: 08/08/08
DATE REPORTED: 08/13/08

EPA 6010B FOR TTLC-LEAD; PAGE 4 OF 5
UNITS: MG/KG = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
B16-0.5'	080806-171	ND	1
B16-1.0'	080806-172	ND	1
B16-2.5'	080806-173	4.80	1
B16-5.0'	080806-174	7.72	1
B17-0.5'	080806-175	8.79	1
B17-1.0'	080806-176	51.4 *	1
B17-2.5'	080806-177	ND	1
B17-5.0'	080806-178	ND	1
B18-0.5'	080806-179	16.8	1
B18-1.0'	080806-180	21.8	1
B18-2.5'	080806-181	ND	1
B18-5.0'	080806-182	ND	1
B19-0.5'	080806-183	4.78	1
B19-1.0'	080806-184	6.94	1
B19-2.5'	080806-185	ND	1
B19-4.0'	080806-186	ND	1
B20-0.5'	080806-187	ND	1
B20-1.0'	080806-188	5.97	1
B20-2.5'	080806-189	ND	1
B20-5.0'	080806-190	ND	1
Method Blank	---	ND	1
	PQL	**0.50**	

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = DF X PQL
ND = Non-Detected or below the Actual Detection Limit
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Leighton & Associates**
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(951)252-8927 Fax(951)296-0534

PROJECT No.: **111061115**
MATRIX: SOIL — DATE RECEIVED: 08/06/08
SAMPLING DATE: 08/05/08 — DATE ANALYZED: 08/08/08
REPORT TO: MS. KRISTIN STOUT — DATE REPORTED: 08/13/08

EPA 6010B FOR TTLC-LEAD; PAGE 5 OF 5
UNITS: MG/KG = MILLIGRAM PER KILOGRAM = PPM

SAMPLE I.D.	LAB I.D.	TTLC-LEAD RESULT	DF
B21-0.5'	080806-191	4.68	1
B21-1.0'	080806-192	ND	1
B21-2.5'	080806-193	ND	1
B21-5.0'	080806-194	ND	1
Method Blank	---	ND	1
	PQL	**0.50**	

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = DF X PQL
ND = Non-Detected or below the Actual Detection Limit
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
STLC Limit for lead = 5 PPM
* = STLC analysis is recommended (if marked)
*** = The concentration exceeds the TTLC Limit @ 1000 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --TTLC--SOLID/SOIL *MATRIX*

(P/F's)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 8/7/2008 **Unit : *mg/kg(ppm)***

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	*Sample Result*	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	080806-112	1.00	107	*PASS*	*0*	50.0	49.3	99%	49.5	99%	0%

ANALYSIS DATE. : 8/7/2008

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	*Sample Result*	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	080806-109	0.125	95.8	*PASS*	*0*	0.125	0.109	87%	0.105	84%	4%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
0	*PASS*	*PASS*	*PASS*	*PASS*
Lead (Pb)	*PASS*	*PASS*	*PASS*	*PASS*
0	*PASS*	*PASS*	*PASS*	*PASS*
Mercury (Hg)	*PASS*	*PASS*	*PASS*	*PASS*
Accepted Range	**75 ~ 125**	**75 ~ 125**	**85 ~ 115**	**0 ~ 20**

ANALYST: _____

FINAL REVIEWER: _____

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 8/7/2008

Unit : mg/kg(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	080806-138	1.00	111	PASS	0	50.0	49.8	100%	50.1	100%	1%

ANALYSIS DATE. : 8/7/2008

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	080806-109	0.125	95.8	PASS	0	0.125	0.109	87%	0.105	84%	4%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
0	PASS	PASS	PASS	PASS
Lead (Pb)	PASS	PASS	PASS	PASS
0	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: _____

FINAL REVIEWER: _____

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX (p. 3 of 5)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 8/7/2008 Unit : mg/kg(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	080806-152	1.00	102	PASS	3.43	50.0	47.0	87%	47.7	89%	2%

ANALYSIS DATE. : 8/7/2008

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	080806-109	0.125	95.8	PASS	0	0.125	0.109	87%	0.105	84%	4%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
0	PASS	PASS	PASS	PASS
Lead (Pb)	PASS	PASS	PASS	PASS
0	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: D

FINAL REVIEWER: E

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

(p. 4 of 5)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 8/8/2008

Unit : mg/kg(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Lead (Pb)	080806-172	1.00	100	PASS	0	50.0	42.6	85%	42.6	85%	0%

ANALYSIS DATE. : 8/8/2008

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	080808-4	0.125	95.1	PASS	0	0.125	0.104	83%	0.109	87%	5%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
0	PASS	PASS	PASS	PASS
Lead (Pb)	PASS	PASS	PASS	PASS
0	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: D

FINAL REVIEWER: C

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

(P. 5 of 5)

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 8/8/2008 Unit : mg/kg(ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Arsenic (Pb)	080806-194	1.00	100	PASS	0	50.0	46.2	92%	46.4	93%	0%
Lead (Pb)	080806-194	1.00	99	PASS	0	50.0	44.7	89%	43.9	88%	2%

ANALYSIS DATE. : 8/8/2008

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	080808-4	0.125	95.1	PASS	0	0.125	0.104	83%	0.109	87%	5%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Arsenic (Pb)	PASS	PASS	PASS	PASS
Lead (Pb)	PASS	PASS	PASS	PASS
0	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: _____

FINAL REVIEWER: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

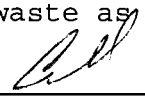
CUSTOMER: **Leighton & Associates**
41715 Enterprise Circle N, Suite 103
Temecula, CA 92590
Tel(951)252-8927 Fax(951)296-0534

PROJECT No.: **111061115**
MATRIX: SOIL
SAMPLING DATE: 08/05/08
REPORT TO: MS. KRISTIN STOUT
DATE RECEIVED: 08/06/08
DATE ANALYZED: 08/09-11/08
DATE REPORTED: 08/13/08

EPA 6010B FOR STLC-LEAD
UNIT: MG/L IN THE STLC LEACHATE

SAMPLE I.D.	LAB I.D.	STLC-LEAD RESULT	DF
B1-5.0'	080806-114	ND	1
B3-0.5'	080806-119	1.64	1
B17-1.0'	080806-176	2.96	1
Method Blank	---	ND	1
	PQL	**0.05**	

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = DF X PQL
ND = Non-Detected or below the Actual Detection Limit
STLC = Soluble Threshold Limit Concentration
MG/L = Milligram Per Liter = PPM
*** = The concentration exceeds the STLC Limit @ 5 PPM, therefore the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)

Data Reviewed and Approved by: 
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --STLC

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 8/11/2008 Unit : mg/L (ppm)

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Copper (Cu)	080811-LCS	1.00	99	PASS	0	5.00	4.93	99%	4.91	98%	0%
Chromium (Cr)	080811-LCS	1.00	98	PASS	0	5.00	4.99	100%	4.97	99%	0%
Lead (Pb)	080811-LCS	1.00	101	PASS	0	5.00	5.12	102%	5.01	100%	2%

ANALYSIS DATE: 8/11/2008

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	080807-79	0.0125	95.0	PASS	0	0.0125	0.0110	88%	0.0107	86%	3%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Copper (Cu)	PASS	PASS	PASS	PASS
Chromium (Cr)	PASS	PASS	PASS	PASS
Lead (Pb)	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: _____

FINAL REVIEWER: _____

Jessica Y. Lin

From: Kristin Stout [kstout@leightongroup.com]
Sent: Monday, August 04, 2008 3:53 PM
To: curt@enviro-chemlab.com; jessica.lin@enviro-chemlab.com
Cc: Jeffrey DeLand; Abraham Marquez
Subject: Lead Sampling

Curtis,

We are collecting 84 soil samples tomorrow and have already scheduled a pickup with you for Wednesday morning. Could you please send a restock of COCs and glass jars? Thank you.

The soil samples will all be analyzed for lead TTLC by EPA Method 6010B. and 25 will need to be analyzed for pH.

Soil samples with TTLC lead above 50 mg/kg but less than 1,000 mg/kg need to be analyzed for STLC by CA WET citric acid. Any sample that exhibits an STLC > or equal to 5 mg/l will also be analyzed with an additional CA WET using deionized water.

Soil samples with TTLC lead > 1,000 mg/kg shall also be anlyzed by TCLP by EPA Method 1311.

I will need to know ASAP how many are being utilized for further analysis.

Do we need to write all these instructions down on the COCs or is this email sufficient?

Curt I will send my cost quote I received from you late last year. Let me know if the fees have increased.

Thank you - enjoy!

Kristin Stout
Sr. Project Scientist
41715 Enterprise Circle Road, Suite 103
Temecula, California 92590
951.252.8927 Direct
951.795.2627 Cell
951.296.0530 Main
Leighton
Solutions You Can Build On

(1)

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
~~0 1 Week (Standard)~~
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	PH 9045	Misc.	COMMENTS
				Analysis Required							
B1-0.5'	080806-111	8/5/08	7:24	SOIL	1	40Z JAR	ice	X	X		*see email for further analysis instructions
B1-1.0'	-112		7:26					X			
B1-2.5'	-113		7:29					X			
B1-5.0'	-114		7:35					X			
B2-0.5'	-115		7:48					X			
B2-1.0'	-116		7:50					X	X		
B2-2.5'	-117		7:55					X			
B2-5.0'	-118		7:57					X			
B3-0.5'	-119		8:03					X			
B3-1.0'	-120		8:05					X	X		
B3-2.5'	-121		8:11					X			
B3-5.0'	-122		8:12					X			
B4-0.5'	-123		8:21					X			
B4-1.0	-124		8:24					X			
B4-2.5	-125		8:29					X	X		

Company Name: Leighton and Associates Inc.
Address: 41715 Enterprise Circle N Suite 103
City/State/Zip: Temecula CA 92590

Project Contact: Kristin Stout
Tel: 951.252.8927
Fax: 951.296.0534

Sampler's Signature:
Project Name/ID: 11106105

Relinquished by:	Received by:	Date & Time: 8/6/08 10:00
Relinquished by:	Received by:	Date & Time:
Relinquished by:	Received by:	Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

Date: 8/5/08

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE • YELLOW TO CLIENT

(2)

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 ~~72 Hours~~
0 1 Week (Standard) (circled)
Other:

Misc.

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	PH 9045								COMMENTS
B4-5.0	080806-126	8/15/08	8:32	Soil	1	[illegible]	Ice	X									
B5-0.5	-127	↓	8:49	↓	↓		↓	X	X								
B5-1.0	-128	↓	8:52	↓	↓		↓	X									
B5-2.5	-129	↓	8:55	↓	↓		↓	X	X								
B5-5.0	-130	↓	9:00	↓	↓	↓	↓	X									
B6-0.5	-131	↓	9:07	↓	↓	↓	↓	X									
B6-1.0	-132	↓	9:10	↓	↓	↓	↓	X									
B6-2.5	-133	↓	9:15	↓	↓	↓	↓	X									
B6-5.0	-134	↓	9:21	↓	↓	↓	↓	X	X								
B7-0.5	-135	↓	9:31	↓	↓	↓	↓	X									
B7-1.0	-136	↓	9:33	↓	↓	↓	↓	X									
B7-2.5	-137	↓	9:36	↓	↓	↓	↓	X									
B7-5.0	-138	↓	9:39	↓	↓	↓	↓	X									
B8-0.5	-139	↓	9:47	↓	↓	↓	↓	X	X								
B8-1.0	-140	↓	9:54	↓	↓	↓	↓	X									

Analysis Required

Company Name: Leighton [illegible] Inc. and Associates
Address: 41715 Enterprise Circle N A103
City/State/Zip: Temecula CA 92590

Project Contact: Kristin Stout
Tel: 951-252 8927
Fax: 951 296 0534

Sampler's Signature: [signature]
Project Name/ID: 611061 115

Relinquished by: [signature]	Received by: [signature]	Date & Time: 8/6/08 1020
Relinquished by:	Received by:	Date & Time:
Relinquished by:	Received by:	Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 8/5/08

WHITE WITH SAMPLE • YELLOW TO CLIENT

(3)

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 ~~72 Hours~~
0 1 Week (Standard) (circled)
~~Other:~~

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	pH								Misc. / COMMENTS
B8-2.5	080806-141	8/15/08	9:58	Soil	1	4°C	Ice	X									
B8-5.0	-142	↓	10:01	↓	↓	↓	↓	X									
B9-0.5	-143	↓	10:06	↓	↓	↓	↓	X									
B9-1.0	-144	↓	10:09	↓	↓	↓	↓	X	X								
B9-2.5	-145	↓	10:13	↓	↓	↓	↓	X									
B9-5.0	-146	↓	10:17	↓	↓	↓	↓	X									
B10-0.5'	-147	↓	10:23	↓	↓	↓	↓	X									
B10-1.0'	-148	↓	10:27	↓	↓	↓	↓	X	X								
B10-2.5'	-149	↓	10:34	↓	↓	↓	↓	X									
B10-5.0'	-150	↓	10:37	↓	↓	↓	↓	X									
B11-0.5'	-151	↓	10:45	↓	↓	↓	↓	X	X								
B11-1.0'	-152	↓	10:49	↓	↓	↓	↓	X									
B11-2.5'	-153	↓	10:52	↓	↓	↓	↓	X									
B11-5.0'	-154	↓	10:55	↓	↓	↓	↓	X	X								
B12-0.5'	-155	↓	11:09	↓	↓	↓	↓	X									

Analysis Required

Company Name: Leighton ~~[illegible]~~ And Associates Inc

Address: 41715 Enterprise Circle N #103

City/State/Zip: ~~Temecula CA~~ 92592

Project Contact: Kristin Stout

Tel: 951 252 8727

Fax: 951 296 0534

Sampler's Signature: [signature]

Project Name/ID: 11106115

Relinquished by: [signature]	Received by: [signature]	Date & Time: 8/6/08 1020
Relinquished by:	Received by:	Date & Time:
Relinquished by:	Received by:	Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 8/15/08

WHITE WITH SAMPLE • YELLOW TO CLIENT

4

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
0 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	pH 9045	Misc.	COMMENTS
B12 - 1.0'	080806-156	8/5/08	11:13	Soil	1	4°C	Ice	X	X		
B12 - 2.5'	-157		11:20					X			
B12 - 4.0'	-158		11:27					X			
B13 - 0.5'	-159		11:36			80Z		X	X		
B13 - 1.0'	-160		11:37					X			
B13 - 2.5'	-161		11:41					X			
B13 - 5.0'	-162		11:44					X	X		
B14 - 0.5	-163		11:51					X			
B14 - 1.0	-164		11:54					X			
B14 - 2.5	-165		11:58					X			
B14 - 5.0	-166		12:02					X	X		
B15 - 0.5'	-167		12:11					X			
B15 - 1.0	-168		12:15					X			
B15 - 2.5	-169		12:18					X			
B15 - 4.0	-170		12:21					X	X		

Analysis Required

Company Name: Leighton and Associates Inc.
Address: 41715 Enterprise Circle N. Suite 105
City/State/Zip: Temecula CA 92590

Project Contact: Kristin Stout
Tel: 951 252 8927
Fax: 951 296 0534

Sampler's Signature:
Project Name/ID: 111061115

Relinquished by:	Received by:	Date & Time: 8/6/08 1020
Relinquished by:	Received by:	Date & Time:
Relinquished by:	Received by:	Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 8/5/08

WHITE WITH SAMPLE • YELLOW TO CLIENT

(5)

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 ~~72 Hours~~
0 1 Week (Standard) (circled)
Other:

Misc.

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead 6010B	pH 9045								COMMENTS
B16- 0.5'	080806-171	8/5/08	12:28	Soil	1	4oz	Ice	X	X								
B16- 1.0'	-172		12:30					X									
B16- 2.5'	-173		12:33					X									
B16- 5.0'	-174		12:44					X									
B17 -0.5'	-175		12:53			8oz		X									
B17 - 1.0'	-176		1:01			8oz		X									
B17 - 2.5'	-177		1:07			4oz		X	X								
B17 - 5.0'	-178		1:13					X									
B18 - 0.5'	-179		1:24			8oz		X									
B18 - 1.0'	-180		1:31			4oz		X	X								
B18 - 2.5'	-181		1:36					X									
B18 - 5.0'	-182		1:44					X									
B19 - 0.5'	-183		1:47					X									
B19 - 1.0'	-184		1:50					X	X								
B19 - 2.5'	-185		1:54					X									

Analysis Required

Company Name: Leighton and Associates Inc
Address: 41715 Enterprise Circle N #103
City/State/Zip: Temecula CA 92590

Project Contact: Kristin Stout
Tel: 951 252 8927
Fax: 951 296 0534

Sampler's Signature: [signature]
Project Name/ID: 11106 1115

Relinquished by: [signature]	Received by: Jessica [signature]	Date & Time: 8/6/08 1500
Relinquished by:	Received by:	Date & Time:
Relinquished by:	Received by:	Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client X Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 8/5/08

WHITE WITH SAMPLE • YELLOW TO CLIENT

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 ~~72 Hours~~
0 1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	TTLC Lead Cobalt B	PH 9045	Misc.	COMMENTS
				Analysis Required							
B19 - ~~8~~ 4.0'	080806-186	8-5-08	1:59	Soil	1	~~Ice~~	Ice	X	X		
B20 - 0.5'	-187		2:06					X			
B20 - 1.0'	-188		2:08					X	X		
B20 - 2.5'	-189		2:15					X			
B20 - 5.0'	-190		2:19					X			
B21 - 0.5'	-191		2:25					X	X		
B21 - 1.0	-192		2:27					X			
B21 - 2.5	-193		2:29					X	X		
B21 - 5.0	-194		2:32					X			
								~~X~~			
		✓		↓	↓		↓				

Company Name: Leighton Associates, Inc.
Address: 41715 Enterprise Circle N
City/State/Zip: Temecula, CA. 92590

Project Contact: Kristin Stout
Tel: 951 - 252 - 5927
Fax: 951 - 296 - 0534

Sampler's Signature:
Project Name/ID: 111061 115

Relinquished by:	Received by:	Date & Time: 8/6/08 1020
Relinquished by:	Received by:	Date & Time:
Relinquished by:	Received by:	Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client ~~O~~ Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date: 8/5/08

WHITE WITH SAMPLE • YELLOW TO CLIENT

Appendix D

CALIFORNIA DEPARTMENT OF
TRANSPORTATION

Last Updated, Wednesday, June 18, 2008 9:36 AM

AERIALLY DEPOSITED LEAD

ADL Variance

Aerially Deposited Lead (ADL) refers to lead deposited along highwey shoulders from past leaded fuel vehicle emissions. Even though leaded fuel has been prohibited in California since the 1980's, ADL can still be found along highways that were in use prior to that time. In California, soil within Caltrans right of way that contains hazardous waste concentrations of ADL can be reused under the authority of variances issued by the Department of Toxic Substances Control (DTSC) to Districts 4, 6, 7, 8, 10, 11, and 12. Currently Districts 1, 2, 3, 5, and 9 do not have variances and must dispose of this material in a Class 1 landfill if it is excavated for a project.

The existing Aerially Deposited Lead (ADL) variances for Caltrans Districts 4, 6, 7, 8, 10, 11, and 12 issued by DTSC in 2000, have been extended through June 30, 2008. Negotiations with DTSC for new variances, which will include all Caltrans Districts, are underway. The variances allow stockpiling, transporting, and reuse of soils with concentrations of lead below maximum allowable levels on Caltrans right of way when specific conditions are met.

Variance Documents

Below are all of the current Variance documents issued by DTSC listed from most recent to oldest. For many documents an example letter addressed to one district is posted.

- 2008 DTSC Lead Contaminated Soil Variance Modification Extension Letter 4 (401KB)
- 2007 DTSC Lead Contaminated Soil Variance Modification Extension Letter 3 (540KB)
- 2006 DTSC Lead Contaminated Soil Variance Modification Extension Letter 2 (71KB)
- 2005 DTSC Lead Contaminated Soil Variance Modification Extension Letter 1 (75KB)
- Variance Modification 3 Local Use (97.4KB)
- 2003 Variance Modification 2 (92.2KB)
- 2002 Variance Modification 1 (Superseded by Modification 2) (83.3KB)
- District 4 Variance (418KB)
- District 6 Variance (414KB)
- District 7 Variance (416KB)
- District 8 Variance (412KB)
- District 10 Variance (414KB)
- District 11 Variance (416KB)
- District 12 Variance (417KB)

Variance Background Information

- Invoking the Variance (21KB) Directions to properly use the Variance
- Lead Variance Powerpoint (4/2007) (2.11MB)
- ADL Soil Management Table (4/2007) (29.5KB)

ADL Specifications

Please visit the Hazardous Waste Special Provisions web page to find links to ADL standard special provisions (SSPs).

For more information please e-mail HQ_HazWaste@dot.ca.gov

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California Environmental Protection Agency
Department of Toxic Substances Control

VARIANCE

Applicant Names:

Mr. Stan Lisiewicz, District Director
State of California
Department of Transportation, District 8
(Caltrans)
464 West 4th Street
San Bernardino, California 92402

Variance No. 00-H-VAR-04

Effective Date: September 22, 2000

Expiration Date: September 22, 2005

Modification History:

Pursuant to Section 25143 of the California Health and Safety Code, the Department of Toxic Substances Control hereby issues the attached Variance consisting of 8 pages to Department of Transportation District 08.

Frederick S. Moss
Chief, Permitting Division
Department of Toxic Substances
Control

Date: 9/22/00

VARIANCE

1. INTRODUCTION.

1.1 Pursuant to Section 25143, Chapter 6.5, Division 20 of the Health and Safety Code (HSC), the California Department of Toxic Substances Control (DTSC) grants a variance to the applicant below for waste considered hazardous solely because of its contaminant concentrations and as further specified herein.

1.2 DTSC hereby grants a variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

Mr. Stan Lisiewicz, District Director
State of California
Department of Transportation, District 8 (Caltrans)
464 West 4th Street
San Bernardino, California 92402

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: September 22, 2000 EXPIRATION DATE: September 22, 2005.

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under HSC, Section 25100, et seq. and Title 22 of the California Code of Regulations (CCR) Division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For the purposes of this variance, waste that meets the criteria in paragraphs a) and b) of section 9 below, shall be referred to as "lead-contaminated soil(s)".

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in HSC 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

to historic emissions from automobile exhausts. In situ testing has shown the uppermost two feet of soil have been found to contain concentrations of lead in excess of regulatory thresholds. However, DTSC has prepared a risk assessment that shows that soil contaminated with low concentrations of lead can be managed in a way that presents no significant risk to human health and the environment.

b) The lead-contaminated soil will be placed only in Caltrans rights of way. Based on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt cover and will always be five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers. This includes 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 is a non-RCRA hazardous waste, and that the hazardous 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 SUBJECT TO VARIANCE.

DTSC, subject to all terms and conditions herein, waives the hazardous waste management requirements of Title 22, CCR, sections 66264.250 through 66264.259, 22 CCR 66268.1 through 66268.9, 22 CCR 66262.10, 22 CCR 66262.12, 22 CCR 66262.20, 22 CCR 66262.30 through 66262.34, 22 CCR 66262.40 through 66262.42, 22 CCR 66263.10 through 66263.18 and 22 CCR 66263.20 through 66263.23 for the generation, transportation, manifesting, storage and land disposal of hazardous waste. These management requirements are waived only provided all other requirements of this variance are complied with at Caltrans construction projects in the Caltrans District specified in section 2 above.

9. SPECIFICATIONS OF THE CONDITIONS, LIMITATIONS, OR OTHER REQUIREMENTS. The owner/operator shall be subject to the following conditions:

a) Caltrans shall manage all soil contaminated with lead at concentrations such that it is considered a hazardous waste pursuant to HSC 25117 and 22 CCR, Div 4.5, Chapter 11, unless the contaminant concentrations and management practices meet the following conditions:

1. Soil containing 500 ug/l extractible lead or less (based on a modified waste extraction test using deionized water as the extractant) and 350 ppm 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 water table elevation and covered with at least one (1) foot of nonhazardous soil. The limit on total lead within shall be the following: Total parts per million (ppm) lead shall be at or below the statutory limits in effect when the soil is used as fill or the risk based limit of 1496 mg/kg, whichever is less. On the effective date of this variance, HSC section 25157.8 limits total lead concentrations to 350 ppm. That section may be amended and/or expire in the

future. Additionally, other parts of relevant statutes may be added or amended in the future to include lead limits applicable to this variance.

2. Soil containing more than 500 ug/l and less than 50 mg/l extractible lead (based on a modified waste extraction test using deionized water as the extractant) and 350 or less ppm total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans. Caltrans shall comply with the lead limits discussed in paragraph a) 1 above.

3. Contaminated soil with a pH < 5.0 shall only be used as fill material only under the paved portion of the roadway.

b) Caltrans will implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous substances. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on Construction Standards in Title 22, CCR section 1532.1.

c) All lead-contaminated soil that cannot be buried and covered within the same Caltrans corridor from where it originated shall be managed as a hazardous waste.

d) Lead-contaminated soil will not be moved outside the designated corridor boundaries (see paragraph q) below).

e) Lead-contaminated soil shall not be buried in areas where it will be in contact with groundwater or surface water.

f) Lead-contaminated soil shall be buried and covered only in locations that are protected from erosion resulting from storm water run-on and run-off.

g) 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.

h) The presence of lead-contaminated soil will 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 until its rights-of-way or property ownership are relinquished.

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

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

k) 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 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.

l) Caltrans shall ensure that all stockpiling of lead contaminated soil remains within the specified corridor. Stockpiling of lead-contaminated soil outside the area of contamination is in direct violation of land disposal restrictions and is prohibited.

m) Caltrans shall conduct confirmatory sampling, if appropriate, of any stockpile area 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. Caltrans shall ensure that test results are kept with Caltrans project records located at the District office or a subsequent permanent location and are available to DTSC upon request.

n) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) which will not be affected by surface water run-on or run-off.

o) Caltrans shall not stockpile soil in an environmentally sensitive area.

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

q) Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project so long as the lead-contaminated soil remains within the same designated Caltrans corridor. Caltrans shall record this movement of lead- contaminated soil by using a bill of lading. The bill of lading must contain: 1) US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; and 5) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. Lead-contaminated soil must be kept covered during transportation.

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

1. a 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 (please include area code) of project resident engineer and project manager;

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

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

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

10. If a Caltrans project within the corridor is added, changed or deleted, Caltrans must update the information provided to DTSC five (5) days before construction begins; and

11. The type of environmental document for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager within five (5) days of signing.

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

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

u) 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 and contain the corridor location and project. Caltrans shall also disclose to the new owner the location of areas where lead contaminated soil has been buried. Future property owners will be subject to the same requirements as Caltrans retains the right to modify or revoke this variance pursuant to HSC 25143 upon a change of ownership or at any other time.

v) 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.

w) Caltrans implementation of this variance shall comply with all applicable state policies 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 or a California Regional Water Quality Control Board.

x) This variance is applicable only to soil considered hazardous because of aerially-deposited lead contamination. The variance is not applicable to any other hazardous waste.

y) 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.

1) 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.

2) Sampling and analysis is required to show the lead contaminated soil meets the variance criteria specified in a). All sampling and analysis must be done according to U.S. EPA subsection SW-846.

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

Frederick S. Moss, Chief
Permitting Division
Department of Toxic Substances Control
400 P Street, 4th Floor
P.O. Box 806
Sacramento, CA 95812-0806

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

10.1 The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Division 20, Chapter 6.5, HSC, 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.

10.2 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 at any time pursuant to Health and Safety Code section 25143.

12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on September 22, 2000.

Approved:

9/22/00
Date

Frederick S. Moss, Chief
Permitting Division
Hazardous Waste Management Program
Department of Toxic Substances Control

APPENDIX F

COMMUNITY UPDATE

The mission of DTSC is to protect California's people and environment from harmful effects of toxic substances by restoring contaminated resources, enforcing hazardous waste laws, reducing hazardous waste generation, and encouraging the manufacture of chemically safer products.

STATEWIDE AGREEMENT FOR CALTRANS FOR REUSE OF AERIALLY DEPOSITED LEAD-CONTAMINATED SOILS

You are invited to review and comment on a draft agreement between the Department of Toxic Substances Control (DTSC) and the California Department of Transportation (Caltrans) for Caltrans to reuse soil containing elevated concentrations of aerially deposited lead during highway improvement projects. The agreement applies to various freeway/highway construction projects in all Caltrans Districts statewide. Previously, Caltrans used a variance issued by DTSC to reuse ADL-contaminated soil.

SITE BACKGROUND

Until the mid-1980's gasoline and other fuels contained lead as an additive. As each motor vehicle traveled the highways, tiny particles of lead were emitted in the exhaust and settled on the soils next to the freeways and roads. Most of the time, lead tends not to move very far or very fast in the environment. Over the years, lead built up alongside the freeways and roads. Caltrans highway-widening projects disturb the soils, some of which contains lead. DTSC regulations specify at what levels lead in soil is considered to be a risk. In areas where road construction will occur, Caltrans has found levels of lead that are higher than DTSC's specifications. The lead is found within 30 feet of the edge of the pavement and within the top six inches of the soil. In some cases, the lead is as deep as two to three feet below the surface.

Public Comment Period

March 24, 2016 - May 10, 2016

DTSC will accept public comments on the Statewide Agreement for Caltrans during the public comment period beginning **March 24, 2016 through May 10, 2016**. All comments must be received by **May 10, 2016**. Send all comments to:

Perry Myers, Project Manager
8800 Cal Center Drive
Sacramento, California 95826
(916) 255-3708
Perry.Myers@dtsc.ca.gov

Public meeting and hearing held:

Tuesday, May 3, 2016
6:00 P.M. - 8:00 P.M.
North Highlands-Antelope Library
4235 Antelope Road
Antelope, California 95843
and
Thursday, May 5, 2016
6:00 P.M. - 8:00 P.M.
Lynwood Library
11320 Bullis Road
Lynwood, California 90262

HEALTH RISK ASSESSMENT

Lead is toxic and it is present everywhere in the environment, most often at very low levels. If lead gets into the body above certain levels, it can cause damage to the nervous system or blood cells. Children are at the highest risk because their bodies are still developing. In children, even relatively low blood lead levels can cause learning disabilities. However, lead must enter the bloodstream to be harmful.

People can absorb lead into their blood in several ways. Adults, and especially children, could swallow lead that is attached to small dirt particles that gets into their mouths or on their hands. People can also swallow lead if it has gotten into drinking water. There are other routes of exposure, but DTSC does not believe that those routes apply in this case.

VARIANCE HISTORY

In April 1996, Caltrans asked DTSC to grant a variance from the hazardous waste rules to allow road construction projects to reuse soils containing lead from motor vehicle exhaust on the project site. Although the level of lead found in some areas is higher than that which is considered to be hazardous waste, Caltrans proposed to reuse the soil along the freeways and roads under construction without posing a threat to human health or the environment.

Caltrans identified several potential uses for the soil containing lead. These included:

- raising ground level for building park-and-ride lots and placing under new roads;
- building embankments at freeway overcrossings and interchanges;
- creating small hills along parts of freeways and roads;
- using as backfill for structures, to replace soils which construction crews remove to construct sound walls;
- re-filling trenches and holes created by removing obstacles, such as trees and barriers that are no longer needed; and
- as roadbase fill, to level out the ground.

In addition, Caltrans has incorporated sections in its contracts with construction contractors that would require contractors to handle the lead-contaminated soil in certain ways. For example, soil found to contain lead would be kept separate from non-hazardous soil and the contractor would have to take dust control and security measures to keep people from coming into contact with it until it is reused. The lead would stay in place (beneath the road, highway, freeways, or a thick layer of clean soil, etc.) for the life of the highway. Even though current freeways and roads are designed to last 30 to 50 years, Caltrans notes that additional upgrades and widening are much more likely than abandoning old freeways. Therefore, the lead remains secure, and human health and the environment are protected.

In reviewing the variance request, DTSC studied how people might be exposed to the lead left in the soil and how best to protect their health. DTSC concluded that Caltrans could reuse soil containing lead as long as the concentration is below a certain level and people are kept from coming into contact with the lead-containing soil.

DTSC approved Caltrans request for a variance and it has been updated and renewed periodically from 1996 to the present. The current variance has been in effect since 2009. In June 2015, DTSC made the decision to transition from a variance to a new Agreement between DTSC and Caltrans to better manage soil with lead from vehicle exhaust that is disturbed during highway improvement projects in the State rights-of-way.

THE NEW AGREEMENT

The new Agreement DTSC is proposing to approve is similar to the variance with additional special provisions. This section outlines key conditions of the Agreement:

- The Agreement would only apply to soils containing lead from motor vehicle exhaust;
- Caltrans must sample and test soils for lead content;

- When implementing the Agreement, Caltrans must obtain the approval of other state, regional, and local regulatory authorities;
- Caltrans must take certain steps when lead is at or above specified levels;
- Caltrans will properly dispose of lead-containing soil for which it has no use;
- Caltrans will be restricted to placing the soils only in areas that are at least five feet above the maximum water table elevation;
- Caltrans must take precautions with lead-contaminated soil that it digs and must keep it covered with thick plastic until it is reused;
- Caltrans may reuse the soil within the designated freeway corridor from which it came; and
- Caltrans will keep records and provide detailed reports to DTSC when it handles the soil containing lead. Caltrans will make copies of those records available to the public at applicable Caltrans District offices and at the appropriate information repositories.

The proposed Agreement contains several other detailed technical requirements as well. The table below shows the actions that Caltrans may take depending on the lead concentration of the soil.

Minimum Cover Requirements for ADL-contaminated Soil
Based on Extractable and Total Lead Concentrations

Extractable Lead Concentration		Total Lead Concentration	Minimum Cover Requirement
Less than 5 mg/l CA-WET	and	Less than 320 mg/kg	No cover requirement
Greater than 5 mg/l CA-WET and equal to or below 1.5 mg/l DI-WET	or	Greater than 320 mg/kg but equal to or below 1600 mg/kg	One foot of clean soil
Greater than 1.5 mg/l DI-WET but equal to or below 150 mg/l DI-WET	or	Greater than 1600 mg/kg but equal to or below 3200 mg/kg	Pavement structure
Greater than 150 mg/l DI-WET	or	Greater than 3200 mg/kg	Subject to full regulation as hazardous waste

* This is the minimum requirement. Such soil may alternatively be covered by a pavement structure.

To put the numbers shown in the table in context, soil containing lead with levels below 80 parts per million (ppm) is considered appropriate for use without restrictions at any property. Soil containing lead with levels below 320 ppm but above 80 ppm is considered appropriate for use at commercial properties but not residential properties.

Finally, as Caltrans plans and designs its highway projects, each project must comply with Federal as well as State environmental quality laws.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

DTSC has chosen to evaluate the decision to enter into an agreement with Caltrans for the management of lead containing soils through the California Environmental Quality Act (CEQA) to determine if it could have significant adverse impacts. DTSC completed an Initial Study and determined that the proposed project would not have a significant adverse impact. This finding is described in the Negative Declaration.

The environmental assessment included areas that could potentially be affected (soil, air, surface and ground water, transportation, public health and safety, etc.). DTSC analyzed the potential for residents, school children, etc., to be exposed to the lead-contaminated soil. The finding that the project would not have an adverse impact on the environment was based on:

- the low level of toxicity of the lead at the concentrations in the contaminated soil
- the lead-contaminated soil would be properly managed, tracked, and monitored and would not move.

NEXT STEPS

DTSC will review and consider comments received during the public comment period before making a final decision to approve, modify or deny the new Agreement. If comments are received from the community on the Statewide Agreement for Caltrans, DTSC will prepare a "Response to Comments" at the completion of the public comment period. Anyone who submits comments will receive a copy of the "Response to Comments". Additionally, a copy of the "Response to Comments" would be placed in the information repositories.

INFORMATION REPOSITORIES

The Statewide Agreement for Caltrans, and project-related documents can be viewed at:

Central Library	**Southern - Caltrans**	**Central Valley - Caltrans**	**DTSC-Sacramento**
828 I Street	120 South Spring Street	1352 West Olive Avenue	8800 Cal Center Drive
Sacramento, California 95814	Los Angeles, California 90012	Fresno, California 93728	Sacramento, California 95826
(916) 264-2700	(213) 897-0693	(559) 488-4082	(916) 255-3758
Call for hours	Call for hours	Call for hours	Call for appointment

DTSC CONTACT INFORMATION

The following individuals can be contacted with any questions or concerns you may have regarding the project.

Perry Myers	Tammy Pickens	Russ Edmondson
Project Manager	Public Participation Specialist	Public Information Officer
(916) 255-3708	(916) 255-3594 or (866) 495-5651	(916) 323-3372
Perry.Myers@dtsc.ca.gov	Tammy.Pickens@dtsc.ca.gov	Russ.Edmondson@dtsc.ca.gov