

FOR CONTRACT NO.: 11-293104

INFORMATION HANDOUT

WATER QUALITY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
San Diego Region

BOARD ORDER NO. R9-2008-0002
NPDES PERMIT NO. CAG919002

MATERIALS INFORMATION

WATER SOURCE INFORMATION
RECOMMENDED CULVERT ALTERNATIVES
AERIALY DEPOSITED LEAD

ROUTE: 11-SD-78-15.5/R16.5



California Regional Water Quality Control Board San Diego Region



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June 12, 2009

CERTIFIED MAIL – RETURN RECEIPT REQUESTED
7006 0100 0002 8367 2873

Mr. Constantine Kontaxis, Branch Chief
NPDES/Storm Water Compliance
California Dept. of Transportation (CALTRANS)
District 11
4050 Taylor Street
San Diego, CA 92110

In reply refer to:
CRU:14-1886.02: WGhoram

Dear Mr. Kontaxis:

SUBJECT: ENROLLMENT UNDER ORDER NO. R9-2008-0002; NPDES NO. CAG919002; GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM GROUNDWATER EXTRACTION AND SIMILAR DISCHARGES TO SURFACE WATERS WITHIN THE SAN DIEGO REGION EXCEPT FOR SAN DIEGO BAY (WDR)

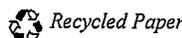
FACILITY: VARIOUS CALTRANS DISTRICT 11 CONSTRUCTION GROUNDWATER DEWATERING PROJECTS WITHIN THE SAN DIEGO REGION, TO SURFACE WATERS WITHIN THE SAN DIEGO REGION EXCEPT FOR SAN DIEGO BAY

This letter acknowledges receipt of your permit application (Form 200 and attachments) dated May 4, 2009 submitted pursuant to Order No. R9-2008-0002 (NPDES Permit No. CAG919002), and received on May 6, 2009.

Caltrans District 11 proposes multiple discharges of groundwater to surface waters throughout the San Diego Region as part of its ongoing construction project schedule (list attached). Some of these projects will include the need to pump (extract) groundwater and discharge the groundwater to surface waters where the extracted groundwater cannot be used for dust control or compaction due to excess volume or during the rainy season.

This letter specifies the general pre-discharge and discharge requirements for future proposed temporary discharges of extracted and/or treated groundwater of less than 100,000 gallons per day (GPD) to surface waters located within the San Diego Region. It is our understanding that the expected duration of groundwater discharges will vary from project to project.

California Environmental Protection Agency



Discharges of extracted groundwater of greater than 100,000 GPD are not covered under this enrollment, and for those larger flows, a separate individual application (NOI and Form 200) for enrollment shall be submitted for individual enrollment under Order NO. R9-2008-0002.

Discharges of groundwater to San Diego Bay are not covered under this enrollment. Discharges of groundwater to San Diego Bay are subject to regulation by Order No. R9-2007-0034 and would require a separate individual application (NOI and Form 200) for enrollment under Order No. R9-2007-0034.

This general notice of enrollment to discharge under the terms and conditions of Order No. R9-2008-0002, NPDES Permit No. CAG0919002, is based on the following information that has been submitted by Caltrans:

1. Application (Form 200 and attachments)
2. List of proposed projects, planned start dates and completion dates, through June 2012. (Attached)
3. Names of surface waters for projects anticipated to encounter groundwater. (List Attached)

PRE-DISCHARGE INFORMATION SUBMITTAL REQUIREMENTS

At least 30 days prior to the initiation of each discharge, submit the following in writing along with a completed and signed Notice of Intent (NOI):

1. Name and address of the construction project that may require groundwater extraction and discharge.
2. Map(s) depicting the location of the construction project and all of the groundwater extraction points.
3. Name of receiving water for the construction project.
4. Updated scheduled start date for the construction project.
5. Estimated duration of the construction project.
6. Estimated maximum groundwater discharge flow rate for the construction project.
7. Number of extraction/pumping points at the construction project.
8. Distance between each extraction/pumping point at the construction project.
9. A copy of a general agreement with local municipalities allowing discharge to their storm drain system.

PRE-DISCHARGE TESTING AND CERTIFICATION REQUIREMENTS

Pumped groundwater shall be placed in a tank and tested for certain constituents listed in Order No. R9-2008-0002 (General constituents, volatiles, metals and acute toxicity). 126 Priority Pollutants do not need to be tested. Chronic Toxicity is also exempt from testing if pumping occurs for less than 30 days.

Projects encountering groundwater may proceed as long as no discharge to surface waters occurs until after groundwater is tested and Caltrans certifies that the discharge meets all effluent limitations, and will not cause water quality objectives to be exceeded.

Your enrollment is based on your signed certification and the application for waste discharge requirements.

The maximum permitted volume of groundwater (in gallons per day) will be the volume that is specified in the Notice of Intent (NOI) that is submitted 30 days prior to the project start, unless the Executive Officer specifies otherwise, and shall not exceed 100,000 gallons per day.

The groundwater quality monitoring will vary from project to project but will be required to meet the Effluent Limitation/Discharge Specifications in Order No. R9-2008-0002 (*Discharge Specification B1., B2., B.3 or B.4*) depending on the type of surface water. It is our understanding that in cases where the extracted groundwater does not meet the effluent limitations, treatment system(s) will be installed in order to reduce the concentration of the constituents of concern and to meet the permit requirements. A detailed description of the treatment system and certification that the treated effluent will comply with the effluent limitations specified in Order No. R9-2008-0002, for each project proposing treatment, is required in accordance with Order No. R9-2008-0002.

DISCHARGE MONITORING REQUIREMENTS

You are required to monitor the discharge and submit monitoring reports as specified in Monitoring and Reporting Program R9-2008-0002, Sections E.4. Groundwater Discharge Monitoring for short term (duration of 6 months or less at a particular groundwater extraction site) discharges in Rural Areas, or, E.5. Groundwater Discharge Monitoring for short term (duration of 6 months or less at a particular groundwater extraction site) discharges in Urban Areas, whichever is applicable. The reporting frequency includes monthly, quarterly, and semi-annual monitoring reports. In addition, add monthly monitoring and reporting for any constituents present that are not listed in the Monitoring and Reporting Program.

Receiving water monitoring for turbidity and pH shall be conducted 100 feet upstream and 100 feet downstream of the discharge point on a daily basis and begin within 24 hours of commencement of discharge.

All reports must be signed and certified pursuant to Attachment D - *V. Standard Provisions – Reporting, B. Signatory and Certification Requirements* of Order No. R9-2008-0002.

All extracted groundwater that does not meet any one or more of the numerical limitations contained in *Discharge Specifications* of the Order will require additional treatment to remove contaminants prior to discharge to a surface water. Alternatively, effluent containing constituents in excess of the effluent limitations established in Order No. R9-2008-0002 may be discharged to the sanitary sewer system (with the local municipality's permission) or hauled away for proper disposal by a certified waste-hauler.

The California Water Code includes provisions for a variety of enforcement actions for violations of the terms and conditions of Order No. R9-2008-0002, the California Water Code, and the Clean Water Act. Violations of Order No. R9-2008-0002 may subject you to further enforcement including Cleanup and Abatement Orders, Cease and Desist Orders, Administrative Assessment of Liability, and/or termination of your enrollment under Order No. R9-2008-0002. Liability could be administratively imposed to a maximum of \$10,000 per violation plus \$10 per gallon of waste discharged. After an initial violation of the terms and conditions of the Order is discovered, prevention of further violations is necessary to prevent further enforcement actions.

Pursuant to the California Water Code (CWC) Sections 13385 (h) and (l), violations of effluent limitations, contained in NPDES permits are subject to Mandatory Minimum Penalties (MMP) of \$3,000 for each serious violation or for non-serious violations, the 4th and each subsequent violation in a six month period.

The applicable annual fee for Caltrans' enrollment shall be based on Category 2 NPDES General Permit Enrollees: \$ 4,210.80 per year (\$ 3,480. + \$ 730.80. surcharge).

When the groundwater extraction discharge at a specific project is terminated, you are required to submit a letter notifying this office of the completion of the project, and the termination date of the discharge.

Update anticipated projects annually when master enrollment agreement is updated, or by June 2012, whichever comes first.

Mr. Constantine Kontaxis
CALTRANS-District 11
Master Enrollment

-5-

June 12, 2009
WDID 9 000001886
Order No. R9-2008-0002

The heading portion of this letter includes a Regional Board code number noted after "In reply refer to." In order to assist us in the processing of your correspondence please include this code number in the heading or subject line portion of all correspondence and reports to the Regional Board pertaining to this matter.

If you have any questions regarding this letter or the discharge requirements, please contact Ms. Whitney Ghoram by e-mail at WGhoram@waterboards.ca.gov or by phone at (858) 467-2967.

Respectfully,



JOHN H. ROBERTUS
Executive Officer

Attachment: Caltrans List of Projects

CIWQS Place: 732548, Party: 452824, Regulatory Measure: 360164

Cc: Mr. Ken Greenberg, CWA, Compliance Office (WTR-7), USEPA, Region IX, 75 Hawthorne Street, San Francisco, CA 94105

Mr. Andrew Kleis, Acting Deputy Director, City of San Diego Storm Water Program, 1970 B Street, MS 27A, San Diego, CA 92102

Mr. Mark Hosford, Public Works Superintendent, City of San Diego, General Services Department, Street Division, Storm Drain Section, 2781 Caminito Chollas, San Diego, CA 92105

Grace Pina-Garrett, NPDES Stormwater Coordinator, CalTrans District 12, 3337 Michelson drive, Suite 380, Irvine, CA 92612-8894

County of San Diego, Storm Water Compliance and Enforcement, Department of Public Works, 5555 Overland Avenue, San Diego, CA 92123

Mr. Grant C. Sharp, County Storm Water Program Manager, Orange County Public Works, 2301 N. Glassell Street, Orange, CA 92865-2773

Mr. Roger L. Miller, Senior Environmental Compliance Inspector, County of Riverside, 4080 Lemon Street, 12th Floor, Riverside, CA 92501

File: 14-1886.01 & 02

JHR: mpm:bdk:wjg

S:\CoreRegulatory\Unit\Ghoram\EnrollmentLetter-CaltransMultipleConstructionDewateringSites-June 12-2009

California Environmental Protection Agency

 Recycled Paper

D11: Proposed projects for next three years

EA	Co.	Rte	Begin PM	End PM	Project Description	Water Bodies	Dredge and Fill	DSA	PS&E	Const Start	Const End
080944	SD	15	M 18.6	M 27.7	Managed Lanes Middle Unit 5	Lake Hodges	Y	32.1	10/26/2005	12/30/2005	12/3/2009
081640	SD	805	7.7	8.5	Construct 2 aux SB lanes	Sweetwater River			12/17/2008		5/4/2011
089751	SD	805	25.4	26.3	Widening Hwy	(Rose Canyon, Tecolote Creek)			6/6/2009	2/20/2010	6/4/2013
173700	SD	805	2.6	3.2	Revise interchange	Otay River	N		3/25/2010	11/10/2010	2/3/2013
231503	SD	76	17.4	19.8	Widen and realign highway	(San Luis Rey River)		25	8/12/2008	9/22/2008	3/7/2011
234204	SD	54/94	11.3	12.3	Widening Hwy (Stage 2 & 3)	(Sweetwater River)			11/11/2005	1/1/2006	11/2/2009
241611	SD	15	21.4	24.2	Construct fwy and interchange improvements					2/9/2009	2/9/2010
259800	SD	78	15.3	15.7	Widen Nordahl				5/5/2010	11/1/2010	12/27/2012
276204	SD	805	6.1	8	Install Ramp Meters/ HOV lanes				9/17/2007	7/10/2008	7/28/2011
279604	SD	5	36.3	36.7	Auxiliary lane	(San Dieguito River)		3.2	11/17/2006	12/27/2006	9/1/2009
286601	SD	8	1.2	0	Modify Intersection				2/23/2010	7/23/2010	12/24/2012
257110	SD	76	12.4	17.6	Const 4 Lane Fwy	(San Luis Rey River)			1/31/2011	6/15/2011	8/19/2013
80100	SD	76	7.3	13.1	Const 4 Lane Fwy	(San Luis Rey River)			5/1/2009	8/1/2009	12/31/2013
289301	SD	5	39.8	54.4	Install Ramp Meters and HOV				1/15/2009	4/15/2009	7/8/2011
297201	SD	54	12.2	14.2	Modify Interchange				3/25/2009		10/1/2011
07180k	SD	5	25.9	26.8	Const Auxiliary Lane						
26380k	SD	805	3.4	4	Revise Interchange				10/25/2011		1/12/2014
26390k	SD	805	10	10.6	Revise interchange				8/9/2009	11/28/2009	3/8/2011
27930k	SD	15	1.8	12.6	Add two HOV lanes				7/1/2011		

D11 Proposed projects for next three years

EA	Co.	Rte	Begin PM	End PM	Project Description	Water Bodies	Dredge and Fill	DSA	PS&E	Const Start	Const End
28980k	SD	805	5.5	9.5	Add Auxiliary Lanes, interchange						
29080k	SD	8	5.6	11.1	Add mainline capacity, improve ramps and add aux lane				1/10/2010		2/19/2013
29310k	SD	78	15.5	16.5	Extend WI-15 WB connector onramp				10/19/2009	1/24/2010	11/30/2010
29320k	SD	5	9.5	14.7	Interchange improvements						
29890k	SD	15	36.3	37.3	Widen ramps				12/1/2010		6/22/2010
2T0001	SD	52	17	17.7	Unit 5A of SR52	(Forrester Creek, San Diego River)	Y		9/10/2007	1/15/2009	12/30/2010
2T0101	SD	52	16.2	17.7	Unit 5B of SR52	(Forrester Creek, San Diego River)	Y		6/3/2008	5/12/2008	12/30/2010
10613	SD	52	23.7	26.2	Unit 4	(Forrester Creek, San Diego River)	Y	64	4/27/2007	2/11/2008	12/30/2010
2T0400	SD	805	26.7	28.6	Construct HOV and DAR	Carroll Canyon, Soledad Canyon		50	8/17/2009	1/29/2010	9/27/2012
2T0811	SD	15	26.1	30.2	I-15 Managed Lanes -North Segment, Unit 1	(Lake Hodges), Escondido Creek		83	2/15/2008	5/29/2008	10/17/2012
2T0821	SD	15	30	31.5	Managed Lanes -North Unit 2	Escondido Creek		74	9/1/2007	6/1/2008	1/13/2013
2T0911	SD	15	10.4	15	I-15 Managed Lanes -South Segment Unit 1	Rose Canyon, and Carroll Canyon Creek		70	10/4/2007	6/1/2008	12/31/2012
2T0921	SD	15	14.2	16.7	Managed Lanes -South-Unit 2	Penasquitos		66	1/4/2008	3/7/2008	9/26/2013
2T0931	SD	15	14.8	16.3	Managed Lanes -South Unit 3	(Penasquitos Creek)		62	7/24/2007	2/27/2008	1/17/2011
2T0971	SD	15	10.4	15	Managed Lanes-South Segment	Carroll Canyon			10/29/2010	2/25/2011	7/14/2015



VALLECITOS WATER DISTRICT

A PUBLIC AGENCY

201 Vallecitos de Oro • San Marcos, California • 92069-1453 Telephone (760)744-0460

April 15, 2010

Mr. Dimitar Peev
Department of Transportation
District 11 – Ms333
P.O. Box 85406
San Diego, CA 92186-5406

Subject: Rte 78, 11-SD-78, PM 15.5/R16.7 , 11-268-293101, Auxiliary lane

Dear Mr. Peev:

This letter will confirm water availability for the above-referenced project. The project is located within the Vallecitos Water District water service area. District water facilities are available in the vicinity for this project's use.

At this time, the District is able to provide potable water for this construction project through existing fire hydrants in the area. Exact fire hydrant locations have not been field verified for the issuance of this letter. At a later date, the District will provide a map indicating approximate locations of fire hydrants along the project work site.

Construction water connections are to use construction meters installed by the District on District fire hydrants. All connections are governed by District ordinances and regulations concerning connections, deposits and commodity charges. For more information, please contact Vallecitos Water District Engineering Department at (760-744-0460).

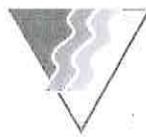
The District adopted Ordinance No. 162 on May 6, 2009, which identifies a Level 2 Drought Alert and requires 10% mandatory conservation. Ordinance No. 162 also identifies various water conservation measures including the curtailment of availability letters and limiting new service connections as it relates to current and future drought conditions.

The Vallecitos Water District relies one hundred percent on imported water supplies, water may not be available at the time the project is built. Commitments to provide service are made by the District Board of Directors and are subject to compliance with District fees, charges, rules and regulations.

Sincerely,

Eileen Koonce
Engineering Technician III

Cc: Cheryl Brandstrom, Development Services Supervisor
Elias Gallegos, City of San Marcos



VALLECITOS WATER DISTRICT

A PUBLIC AGENCY

201 Vallecitos de Oro • San Marcos, California • 92069-1453 Telephone (760)744-0460

CONSTRUCTION METER FEES AND CHARGES

1. Construction meter deposit: \$890.00. Includes \$90 fee for installation and removal of meter. Only \$800 is refundable (after final bill has been paid).
2. A \$45.00 charge will be assessed at the time of each relocation.
3. A \$79.11 ready-to-serve fee will be charged on each monthly statement. Effective July 1, 2010 the monthly fee will be \$92.03 per month; and effective July 1, 2011 the monthly fee will be \$103.60.
4. The current water charge per unit (748 gallons or 100 cu.ft.) is \$4.20 but is subject to change.
5. A late fee charge (10% of previous balance) will be assessed for delinquencies past thirty-five days.
6. A forty-eight hour notice fee will be charged for accounts forty days past due and the meter could be pulled after the forty-eight hours if the account is not paid to a current status. The forty-eight hour fee will be \$10.00 and the disconnect fee will be \$60.00

All of the above charges are subject to change. If you have any questions regarding your account, please direct them to our customer service department.

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Memorandum

To : DIMITAR PEEV (MS 333)
Project Engineer
Design

Date: May 4, 2010

File: 11-SD-78
PM 15.5/ R16.7
EA 11-293100

From : DEPARTMENT OF TRANSPORTATION - DISTRICT 11
MATERIALS ENGINEERING BRANCH

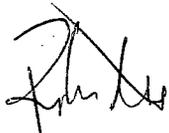
Subject: **CULVERT RECOMMENDATIONS**

In accordance with your request dated April 14, 2010, we have developed culvert recommendations for the subject project. The recommendations are based on a previous Geotechnical Design Report. The report shows the on-site subsurface soils to be potentially corrosive to metal.

Recommendations for New Culvert

1. Plastic Pipe meeting the minimum and maximum fill height requirements. Corrugated Polyvinyl Chloride, Ribbed Profile Wall Polyvinyl Chloride or Corrugated High Density Polyethylene (HDPE) Type-S and Type C.
2. Reinforced concrete pipe (RCP) incorporating Type IP (MS) modified or Type II modified cement as set forth in section 90-1.01 of the Standard Specifications. Concrete pipe shall be 6 sack (564 lbs) with a minimum 1" cover to steel and a maximum water/cement ratio of 0.35.
3. Corrugated steel pipe (CSP) with a minimum thickness of 0.109" (12 gage), bituminous coated and invert paved.

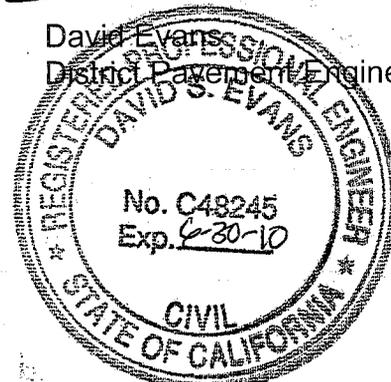
These recommendations assume non-abrasive conditions. If you have questions or comments, please telephone R. Avila 858-467-4069.



Ruben Avila
Assistant Pavement Engineer



David Evans
District Pavement Engineer



cc: APadilla, DME
P File

i

**SR-78 – NORDAHL TO I-15 SB CONNECTOR
AERIALY DEPOSITED LEAD STUDY REPORT
SR-78 POST MILE 015.5 – 016.3
ESCONDIDO, CALIFORNIA**

**CALTRANS CONTRACT NO. 11A1638
EA 11-293100**

June 22, 2010

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**Only the client or its designated representatives may use this document and
only for the specific project for which this report was prepared.**

Prepared for:

State of California
Department of Transportation – District 11
4050 Taylor Street, MS-242
San Diego, California 92110

**SR-78 – NORDAHL TO I-15 SB CONNECTOR
AERIALY DEPOSITED LEAD STUDY REPORT
SR-78 POST MILE O15.5 – O16.3
ESCONDIDO, CALIFORNIA
CALTRANS CONTRACT NO. 11A1638, EA 11-293100**

Kleinfelder Project No. 110946

Prepared by:

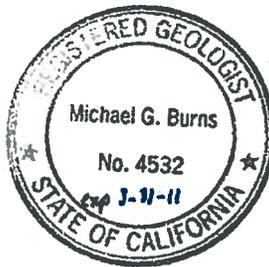


Jeremy Januszewicz, REA
Environmental Staff Professional

Reviewed by:



Michael G. Burns, CHG, REA
Senior Geologist



KLEINFELDER WEST, INC.
5015 Shoreham Place
San Diego, California, 92122
(858) 320-2000

June 22, 2010

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PLATES

Plate 1	Site Map
Plates 2-4	Sample Location Maps
Plate 5	ADL-Impacted Soils Management Flow Chart

TABLES

Table 1	Soil Analytical Results
Table 2	Summary of the 95 Percent Upper Confidence Limits

APPENDICES

Appendix A	Table A-1 (Sample Location Coordinates) and Boring Logs
Appendix B	Laboratory Analytical Reports and Chain-of-Custody Documentation
Appendix C	Statistical Data Evaluation

1 INTRODUCTION

1.1 PROJECT DESCRIPTION

This report has been prepared to summarize procedures and results of an aerially deposited lead (ADL) survey conducted along State Route 78 (SR-78) in Escondido, California for the State of California Department of Transportation (Caltrans). Caltrans is proposing to extend the existing westbound (WB) SR-78 and I-15 connector on the shoulder between the SR-78 Nordahl Interchange and the I-15 southbound (SB) connector. The major work would involve grading and/or excavation within the area described along the SR-78 WB. The project limits are in the City of Escondido, San Diego County, California (Plate 1). This report summarizes the soil sampling for ADL conducted in May 2010 in the unpaved shoulders and median areas along SR-78 from the Nordahl Interchange and the Interstate 15 (I-15) SB connector from post mile - O15.5 to O16.3 (Site, Plates 2 through 4).

1.2 PROJECT OBJECTIVES AND SCOPE OF WORK

Based on historical site use (freeway), there is the potential that ADL is present within soil adjacent to the existing traveled ways; therefore, Caltrans needs to evaluate the presence, concentration, and distribution of lead in soil in anticipation of future grading/construction activities. The data will be used to evaluate soil within the proposed construction area to assess the potential for reuse on-site. It will also be used to evaluate disposal options for potentially lead-impacted soil, and to evaluate health and safety issues for future on-site workers.

The objective of the ADL study was to provide data for evaluation to allow the optimal management of ADL-impacted soils associated with a Caltrans project based on project design information known at this time. Samples were collected to provide information about lead-containing soils along the freeway medians and unpaved shoulders (Caltrans right-of-way) within the project boundaries relative to the variance granted to Caltrans by the Department of Toxic Substance Control (DTSC) (DTSC, 2009).

This report describes the procedures, results, and recommendations from the ADL study performed within the project limits. The scope of work was provided to Kleinfelder by Caltrans in the Task Order description. Consistent with the Task Order, and as

described in the *Work Plan for the Aerially Deposited Lead Survey* (Kleinfelder, 2010a), Kleinfelder performed the tasks listed below:

- Provided project management and coordination.
- Prepared a site-specific work plan and prepared a site-specific health and safety plan (SHSP) (Kleinfelder, 2010b).
- Coordinated traffic control for median closure, as necessary.
- Advanced 30 borings using hand auger methods to a maximum depth of approximately 3 feet below ground surface (bgs) or until refusal. One soil sample was collected from each hand auger, based on a pre-selected, random depth generated for a work plan addendum submitted to Caltrans prior to the start of the project (Kleinfelder, 2010a).
- Obtained global positioning system (GPS) location readings at each boring location.
- Submitted 32 soil samples (including 2 field duplicate samples) to Calscience Environmental Laboratories, Inc. (Calscience) of Garden Grove, a state-certified laboratory, for analysis of total lead by United States Environmental Protection Agency (U.S. EPA) Method 6010B.
- Analyzed 30 soil samples for Soluble Threshold Limit Concentration (STLC), or leachable lead, using the California waste extraction test (WET) method using an acidic, buffered sodium citrate solution.
- Analyzed 2 soil samples for STLC by the modified WET method using deionized (DI) water as the extractant.
- Analyzed 8 soil samples for hydrogen ion index (pH) by U.S. EPA Method 9045C.
- Collected and analyzed 2 equipment blanks for total lead by U.S. EPA Method 6010B. Equipment blanks were collected each day of soil sampling.
- Prepared this report, including a summary of the assessment methods and field observations, data evaluation and discussion, findings, conclusions and recommendations.

1.3 REPORT ORGANIZATION

This report is organized into the following sections and appendices. Tables, plates, and appendices are located behind a tab at the end of the report.

- Section 1 describes the project site, discusses the project objectives and the purpose of the report, presents the scope of work, and discusses the organization of the report;
- Section 2 discusses pertinent site background information;
- Section 3 describes sampling activities;
- Section 4 describes field observations and the investigation results, including laboratory analytical data;
- Section 5 presents the statistical analysis of the data;
- Section 6 presents the conclusions and recommendations;
- Section 7 presents the limitations of the report;
- Section 8 lists references;
- Plates;
- Tables;
- Appendix A includes a table with the coordinates of the sample locations and the boring logs;
- Appendix B includes the analytical reports and copies of the chain-of-custody (COC) from the laboratory; and
- Appendix C presents the evaluation and results of the statistical analysis.

2 BACKGROUND

2.1 SITE IMPROVEMENTS

Improvements are planned for unpaved shoulders and median areas along SR-78 from the Nordahl Interchange and the Interstate 15 (I-15) southbound (SB) connector from post mile - O15.5 to O16.3. Major elements of the project include (but are not limited to):

- Reconstruction of existing interchanges
- Improvement of existing connectors
- Improvements of drainage structures

These improvements will result in soil being disturbed and, depending on analytical results and project requirements, potentially re-used on-site.

2.2 WASTE CLASSIFICATION, ADL VARIANCE, AND SOIL REUSE CRITERIA

Due to the historic use of lead in gasoline formulations, lead contamination is common in surface soils found along roadways. ADL-impacted soils are regulated at both the federal and state levels for the following reasons:

- They may be classified as hazardous waste.
- They are subject to state regulations when not classified as hazardous waste.
- They may represent an occupational safety and health risk.

According to Title 22, California Code of Regulations (CCR), solid wastes with total lead concentrations equal to or exceeding 1,000 mg/kg, the Total Threshold Limit Concentration (TTLC), are classified as California hazardous waste. Assembly Bill 2784 (AB 2784), effective January 1, 1999, amended California Health and Safety Code (HSC) Section 25157.8 (a) and Title 22 CCR by reducing the practical disposal limit for non-hazardous solid waste to 350 mg/kg total lead until the California Regional Water Quality Control Board (RWQCB) amends a disposal facility's waste discharge requirements.

Solid wastes with soluble lead concentrations (assessed using California WET procedures) equal to or exceeding 5.0 milligrams per liter (mg/L), the STLC, are

classified as California hazardous under California law. California hazardous materials must be transported under a hazardous waste manifest and disposed of at an appropriately permitted facility. Wastes with lead concentrations less than both the TTLC and the STLC are not a California hazardous waste, and may be disposed of at a Class II or III facility, provided that site-specific disposal facility requirements are satisfied. Furthermore, according to federal law, as stipulated in the Resource Conservation and Recovery Act (RCRA), wastes that exceed 5.0 mg/L soluble lead, extracted using the federal TCLP, are classified as RCRA hazardous waste. This material must be disposed of as RCRA hazardous waste if transported off-site.

In September 2000, the DTSC issued a 5-year variance to Caltrans specifying that ADL-impacted soil within a highway right-of-way could be used as fill material within the right-of-way during earth moving and road construction activities provided that the waste met specific criteria (DTSC, 2000). The DTSC modified the variance for the second time in September 2003; which replaced and superseded the first modification. The variance, originally scheduled to expire on September 22, 2005, was granted extensions by DTSC that allowed Caltrans to keep working under the variance and its modifications until June 30, 2009 (DTSC, 2008). This extension was granted by the DTSC with the expectation that a good faith effort is shown by Caltrans to proceed with the variance renewal. In July 2009, the DTSC issued the current 5-year variance (DTSC, 2009). The following are the current DTSC variance conditions:

- For Variance Condition 9.c, “lead-contaminated” soil containing 1.5 mg/L or less soluble lead (using a modified WET with DI water as the extractant rather than an acidic, buffered sodium citrate solution) and 1,411 mg/kg or less total lead may be reused in a Caltrans right-of-way provided this soil is placed a minimum of five (5) feet above the maximum water table elevation and is covered by 1 foot of clean soil.
- For Variance Condition 9.d, “lead-contaminated” soil containing less than 150 mg/L soluble lead (DI-WET) and 3,397 mg/kg or less total lead may be reused as fill soil in a Caltrans right-of-way provided that it is placed a minimum of 5 feet above the maximum water table elevation and is covered by a pavement structure which will be maintained by Caltrans.

- For Variance Condition 9.e, “lead-contaminated” soil with a pH less than 5.5, but greater than 5.0 can only be used as fill material under the paved portion of the roadway. “Lead-contaminated” soil with a pH at or less than 5.0 shall be managed as hazardous waste.

Other reuse conditions, soil handling procedures, and notifications are specified in the variance. Soil that exceeds 3,397 mg/kg total lead or 150 mg/L soluble lead (DI-WET) cannot be reused within a Caltrans right-of-way and must be properly disposed off-site. Solid wastes with lead concentrations less than both the TTLC and the STLC may be disposed of at a Class II or III facility provided that site-specific disposal facility requirements are satisfied. Similarly, solid waste that exceeds 5.0 mg/L soluble lead by TCLP is considered to be a federal or RCRA-hazardous waste and cannot be reused within a Caltrans right-of-way.

The information described above is summarized in a soils management flow chart to evaluate the applicability of the DTSC variance (Plate 5). The flow chart is an updated version of *Figure 1* from the *2007 Caltrans ADL Guidance Document* (Caltrans, 2007). Base on information on the flow chart, soils with a 95 percent UCL on the mean for total lead less than 1,000 mg/kg and with a 95 percent UCL for soluble lead by WET-DI less than 1.5 mg/L are considered non-hazardous and can be released to the contractor for use in accordance with project specifications.

3 SAMPLING ACTIVITIES

3.1 PRE-FIELD ACTIVITIES

An encroachment permit was prepared by a representative of Caltrans and submitted on April 21, 2010. The permit (11-10-NSV-0202) was approved May 11, 2010. Prior to the start of work, Caltrans was notified of the planned work on the unpaved shoulders and median along WB SR-78.

Kleinfelder prepared and submitted a work plan (Kleinfelder, 2010a) and a SHSP (Kleinfelder, 2010b). The health and safety plan was reviewed daily with field personnel for potential hazards, emergency contact information, and hospital routes.

Prior to ground-disturbance activities, Kleinfelder visited each sample point to mark excavation locations with 4-foot lathes and flagging material. Underground Service Alert (USA) was notified 48 hours in advance of subsurface sampling activities. The following ticket number was issued by USA:

- **A01260741** (WB SR-78 from I-15 SB off ramp continuing to approximately 100 feet east of Nordahl Road overpass, including Nordahl Road off ramp)

3.2 ADL SAMPLING LOCATIONS AND GPS SURVEY

Thirty (30) sampling locations were selected and spaced approximately 100 to 150 feet apart, along the unpaved shoulders (Plates 1 through 4). One, pre-selected sample was collected from each boring location at a depth of approximately 0 to 0.5 foot bgs, 0.5 to 1 foot bgs, 1 to 1.5 feet bgs, 1.5 to 2.0 feet bgs, 2.5 to 3 feet bgs, or until refusal (Table 1). Site conditions (i.e., refusal) dictated sample retrieval; therefore, the depth of the sample collected at each location was occasionally modified.

Locations were recorded during utility location using a Trimble global positioning system (GPS) unit, capable of providing accuracy to approximately 3 feet. The sample location names, along with their respective latitude and longitude coordinates (x and y coordinates) are included in Table A-1 (Appendix A).

3.3 HAND AUGER DRILLING AND SOIL SAMPLING METHODS

Hand auger borings were advanced on May 11 and May 12, 2010, at locations shown on Plates 2 through 4. Borings were advanced using a manually operated, pre-cleaned, stainless steel hand auger. Kleinfelder obtained the services of Co's Traffic Control to provide closure of the freeway shoulders. Work was performed in the unpaved shoulder areas from 9:00 AM to 3:00 PM, as stipulated in the encroachment permit.

Soil samples were collected from the hand auger and placed into laboratory-supplied, 8-ounce jars with Teflon lids. The sample jars were labeled with a sample identification number and Z (depth) value, along with the date and time of the sample location, and placed in a secured, chilled ice chest. Standard COC procedures were used during sampling and transportation to Calscience (by courier), the laboratory subcontracted by Kleinfelder.

3.4 EQUIPMENT BLANKS

An equipment blank, consisting of distilled water poured over the sampling equipment that had been decontaminated, was collected during each day of field sampling. The equipment blank was collected to document the condition of the sampling equipment following decontamination. The equipment blank samples were collected in a laboratory-supplied, nitric acid-preserved bottle. The sample bottles were labeled with a unique sample identifier, date, time, project number and samplers' initials. The samples were placed in the chilled cooler along with the soil samples and transported to Calscience (by courier) for analysis.

3.5 ANALYTICAL METHODS

A total of 32 soil samples (including 2 duplicate samples) were analyzed for total lead by U.S. EPA Method 6010B and California WET method (STLC). A modified California WET procedure, using DI water extraction, was performed on 2 soil samples (6.3 percent of total samples), which included the samples with total lead concentrations above 50 mg/kg. None of the soil samples were analyzed for Soluble lead by TCLP because the total lead concentrations were below 100 mg/kg. Consistent with the Work Plan (Kleinfelder, 2010a), a total of eight soil samples were randomly selected in the field and measured for pH using U.S. EPA Method 9045D.

3.6 DECONTAMINATION AND BORING ABANDONMENT

Sampling equipment (i.e., hand auger cutter head, soil sampler, etc.) was washed with a solution of Alconox® detergent and rinsed with tap water and DI water, in buckets, prior to each use. Generation of wash water was minimized. Wash water was contained in 5-gallon pails for disposal. At the end of each day, wash water was disposed at the surface in Caltrans right-of-way, in an area that did not cause runoff of fluid or sediment into receptors (i.e., storm drain, creek, or other surface water bodies), consistent with the work plan. Soil cuttings originating from each boring were placed back within the original borehole as described in the work plan.

4 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

This section includes a summary of the site conditions observed during the field work, a summary of the analytical results, and a discussion of the data quality assessment. The analytical results for the soil samples collected are presented in Table 1. Certified Level II laboratory reports are included as Appendix B.

4.1 SITE CONDITIONS

Daily field logs, prepared under the supervision of a California registered geologist, include a description of the soil conditions. Boring logs are presented in Appendix A. Fill and native material was encountered in the borings and was typically described as silty sand with gravel and cobble. In most cases, this material was present from 0 to 3 feet bgs. Refusal was encountered in a total of 3 boreholes, from approximately 0.5 to 2.5 feet throughout the Site. Refusal was due to the presence of large cobbles, gravel, and dense sands. Groundwater was not encountered in the borings, except at Boring 78WB-10 at approximately 2.5 bgs.

4.2 SOIL SAMPLE RESULTS

4.2.1 Total Lead

Total lead was detected in each of the 32 soil samples analyzed, and ranged in concentration from 1.19 to 80.3 mg/kg (Table 1 and Plates 2 through 4). Of those samples, two samples contained total lead concentrations that equaled or exceeded the 50 mg/kg screening criterion for analyzing the sample using the modified California DI-WET procedure. The maximum total lead concentration was 80.3 mg/kg, reported in the 0.5 to 1 foot bgs sample collected at Boring 78WB-11. As expected, near surface samples generally contained higher concentrations of total lead compared to the deeper samples.

4.2.2 California WET Soluble Lead

California WET soluble lead (citrate extraction) was not reported at concentrations above 5.0 mg/L (the STLC action level) the two samples analyzed. The maximum WET soluble lead concentration was 4.90 mg/L, reported in the 0.5 to 1 foot bgs sample

collected at Boring 78WB-11. This sample location also contained the highest total lead concentration and DI-WET soluble lead concentration.

4.2.3 DI-WET Soluble Lead

DI-WET soluble lead was reported in 1 of the 2 samples tested. None of the samples analyzed for DI-WET soluble lead had concentrations greater than 150 mg/L, the maximum threshold concentration for DTSC Variance Condition 2. The maximum DI-WET soluble lead was 3.45 mg/L, reported in the 0.5 to 1 foot bgs sample collected at Boring 78WB-11, which corresponded to a total lead concentration of 80.3 mg/kg and a standard-WET soluble lead concentration of 4.90 mg/L. This sample contained the highest total lead concentration and the highest WET soluble lead concentration.

4.2.4 TCLP Soluble Lead

The maximum concentrations for each of the samples analyzed were below the TTLC criteria of 100 mg/kg; therefore, TCLP soluble lead analysis was not performed.

4.2.5 Hydrogen Ion Concentration (pH)

Eight soil samples analyzed for pH ranged from 6.20 to 7.66 (Table 1 and Plates 2-4). None of the samples collected had values reported less than the criterion of 5.5 listed in the DTSC Variance (DTSC, 2009).

4.3 DATA QUALITY ASSESSMENT

The following section summarizes the quality assurance (QA) and quality control (QC) program and data quality assessment. The data quality assessment process consisted of a review, verification, validation, and evaluation of the analytical data generated during the SR-78 ADL project. The limited data quality assessment was performed using the U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (U.S. EPA, 2004a) as a reference.

A total of 34 samples, including field and equipment rinsate blank samples, were collected and submitted to Calscience for one or more of the following analyses:

- Total lead by U.S. EPA Method 6010B (TTLC)
- pH by U.S. EPA Method 9045D

- WET Method
- DI-WET Method
- Soluble lead by U.S. EPA Method 1311 (TCLP)

One hundred percent of the data generated for this project underwent a data quality review by a Kleinfelder project chemist, independent of project activities. A total of two Level II data deliverable reports (Work Orders) were evaluated during the data quality assessment, which consisted of evaluating the following parameters:

- Technical holding times and temperature
- COCs
- Sample results and analytical methods selected
- Field and laboratory blanks
- Laboratory control sample (LCS) spike results
- Matrix spike (MS) and matrix spike duplicate (MSD) results.

Field and laboratory personnel implemented QA/QC procedures consistent with the QA criteria specified in the *Work Plan for the Aerially-Deposited Lead Survey* (Kleinfelder, 2010a) during the soil sampling events. Field QC consisted of collecting daily equipment blanks. Lead was not reported above the laboratory reporting limit in these QC samples. Laboratory QC samples were also analyzed consistent with the analytical method requirements.

During the data quality assessment, four discrepancies were observed. Four pH samples in Work Order #10-05-1087 were analyzed outside the method-specific holding time. During the data quality review, all of the pH results for the work order were qualified as estimated (“J” qualified); however, these estimates are acceptable for project use based on USEPA data quality assessment guidance and industry standards.

Based on the data quality assessment findings, there are no data that have been rejected, but a total of four sample results were qualified as estimated (“J” qualified). Therefore, the project achieved a completeness goal of 100%. All SR-78 ADL data are acceptable for the intended use of the project.

5 STATISTICAL EVALUATION

The data were analyzed to identify the appropriate handling of soil affected by ADL under the terms of the variance granted by DTSC to Caltrans District 11 for highway construction projects. During the course of construction, this soil is likely to be excavated, stockpiled, and relocated using methods that tend to homogenize soil constituent concentrations.

Caltrans has prepared an ADL guidance document to support the implementation of the DTSC variance (Caltrans, 2007). Kleinfelder has modified this table based upon the current DTSC ADL variance (DTSC, 2009), which is included in this report as Plate 5. The guidance document provides a flow chart/decision diagram to address DTSC variance applicability based on the various analyses. The decision points for evaluation of the lead data were as follows: If the 95 percent upper confidence limit (UCL) on mean total lead is less than 1,000 mg/kg, and if the 95 percent UCL on mean soluble lead (DI-WET) is less than 1.5 mg/L, then the soil is considered non-hazardous and can be released to the contractor for reuse on site in accordance with project specifications.

Aggregated data, averaging lead concentrations over variable data sets within the project area to reflect the construction process, was used for the analysis. These data sets are summarized in Table 2 of the report, and statistical evaluations of the data are included in Appendix C. Results below laboratory detection limits for total lead and DI-WET soluble lead were handled in the statistical analysis by taking the value of the laboratory detection limit.

The U.S. EPA statistical analysis package, ProUCL (version 4.0, April 2007) was used to complete the statistical evaluation (U.S. EPA, 2004b). ProUCL allows the computation of a reliable, stable, and conservative 95 percent UCL of the mean concentration in an environmental data set and offers 15 different methods of computing a 95 percent UCL depending on the distribution of a given data set.

Table 2 provides a summary of the 95 percent UCLs calculated for total lead and soluble lead concentrations reported for soil samples from the subject Site. Based on a comparison of the 95 percent UCL value generated by ProUCL, the data set for total lead passes the first criterion established in the Caltrans ADL guidance: "Is the 95 percent UCL for total lead less than 1,000 mg/kg?"

A statistical analysis of soluble lead calculated using the results of the DI-WET procedure was also performed to address the second criterion from the Caltrans ADL flow chart/decision diagram (Appendix C, Table 2).

Under the DTSC variance and federal and state hazardous waste classifications, soil can be placed into specific ADL Soil Management Types. Based on the results of the analysis, the represented soil units for the project can be placed into one of three ADL Soil Management Types. Soil classified as "X" is not restricted for on site use but requires a lead compliance plan for worker safety. Surplus soil classified as "X" can be disposed of as non-hazardous waste at a Class III facility. Soil classified as "Y1" requires (at a minimum) one foot of clean soil cover if used on site in addition to health and safety requirements. Surplus soil classified as "Y1" is to be disposed of as California-hazardous (non RCRA) waste at a Class I facility. Soil classified as "Y2" requires (at a minimum) cover with pavement if used on site in addition to health and safety requirements. Surplus soil classified as "Y2" is to be disposed of as California-hazardous (non RCRA) waste at a Class I facility. The ADL Soil Management Types for each of the soil units for the project is shown in Table 3 below.

**Table 3
ADL Soil Management Types
SR-78 ADL Study
Caltrans EA-11-293100**

Highway Lanes	All Depths (0-3 feet)	Shallow (0-1 feet)	Intermediate (1-2 feet)	Deep (2-3 feet)
SR-78 WB	X	X	X	X

Notes:

1. "X" is not restricted for on site use but requires a lead compliance plan for worker safety. Surplus soil can be disposed of as non-hazardous waste at a Class III facility.
2. "Y1" requires (at a minimum) one foot of clean soil cover if used on site in addition to health and safety requirements. Surplus soil is to be disposed of as California-hazardous (non RCRA) waste at a Class I facility.
3. "Y2" requires (at a minimum) cover with pavement if used on site in addition to health and safety requirements. Surplus soil is to be disposed of as California-hazardous (non RCRA) waste at a Class I facility.

In conclusion, based on Caltrans ADL guidance criteria (Caltrans Variance), the soil addressed in this analysis is classified as non-hazardous, and can be released to the contractor for use on the project site in accordance with project specifications. The basis for this conclusion is as follows:

- For these soils, the 95 percent UCL for total lead is less than 1,000 mg/kg at all depths (20.7 mg/kg, Table 2).
- The 95 percent UCL for WET procedure is less than 5.0 mg/L at all depths (1.0 mg/L, Table 2).

Additionally, statistical analyses were performed for WET citrate soluble lead to address the criterion for off-site disposal. Based on the results of the analyses, the 95 percent UCL for the WET citrate procedure was calculated at 1.0 mg/L (all depths), which is lower than the 5.0 mg/L limit set forth for STLC.

Statistical analyses were not performed on the samples collected for soluble lead by TCLP because the TTLC concentrations for the samples collected were below the 100 mg/kg threshold for this analysis. Therefore, the soils are not excluded for reuse at the Site under the DTSC variance and the soil is considered non-hazardous.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 VARIANCE CONCLUSIONS

Based on statistical analysis of the analytical results of this ADL Survey, soil tested within the Caltrans right-of-way does not contain total lead or DI-WET soluble lead above concentrations that would apply to the DTSC Variance Condition 2 (Appendix C; Table 2). As such, soil within the site to a depth of 3 feet bgs may be released to the contractor as non-hazardous soil (STLC 95% UCL is below California hazardous levels) and reused on-site in accordance with project specifications.

Each of the eight samples submitted for pH analysis had reported pH values above the variance criterion of 5.5. Based on statistical analysis of the analytical results of this ADL Survey, soil tested within the Caltrans right-of-way does not contain pH values below that which would apply to the DTSC Variance conditions (Appendix C).

Should off-site disposal be required because of excess soil, the soil should be handled based on the criteria described in Section 6.2.

6.2 WASTE CHARACTERIZATION CONCLUSIONS

The analytical results of this ADL Survey indicate that soil samples collected at the 30 sample locations along the unpaved shoulders and medians does not contain total lead in excess of the California TTLC of 1,000 mg/kg (Table 1). The standard-WET soluble lead test results indicate that soil concentrations are not in excess of the California STLC of 5.0 mg/L in all of the samples analyzed for soluble lead by WET analysis (Table 1). Based on the results of soil sampling locations along the SR-78 unpaved shoulders, soils from this area are considered non-hazardous in comparison to California TTLC limits and STLC limits should off-site disposal be required.

6.3 RECOMMENDATIONS

Based on the results of the soil sampling activities conducted, current and future uses of the site, and anticipated general construction activities that may be associated with proposed construction along the unpaved shoulders and medians of the subject corridor, the general recommendations listed below are provided.

- If imported soil is brought on-site, soil should be tested to comply with Caltrans Standard Specifications.

7 LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

This report may be used only by the Client and the registered design professional in responsible charge and only for the purposes stated for this specific engagement within a reasonable time from its issuance, but in no event later than two (2) years from the date of the report.

The work performed was based on project information provided by Client. If the Client does not retain Kleinfelder to review any plans and specifications, including any revisions or modifications to the plans and specifications, Kleinfelder assumes no responsibility for the suitability of our recommendations. In addition, if there are any changes in the field to the plans and specifications, the Client must obtain written approval from Kleinfelder's engineer that such changes do not affect our recommendations. Failure to do so will vitiate Kleinfelder's recommendations.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more-detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will

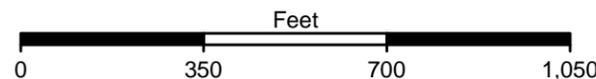
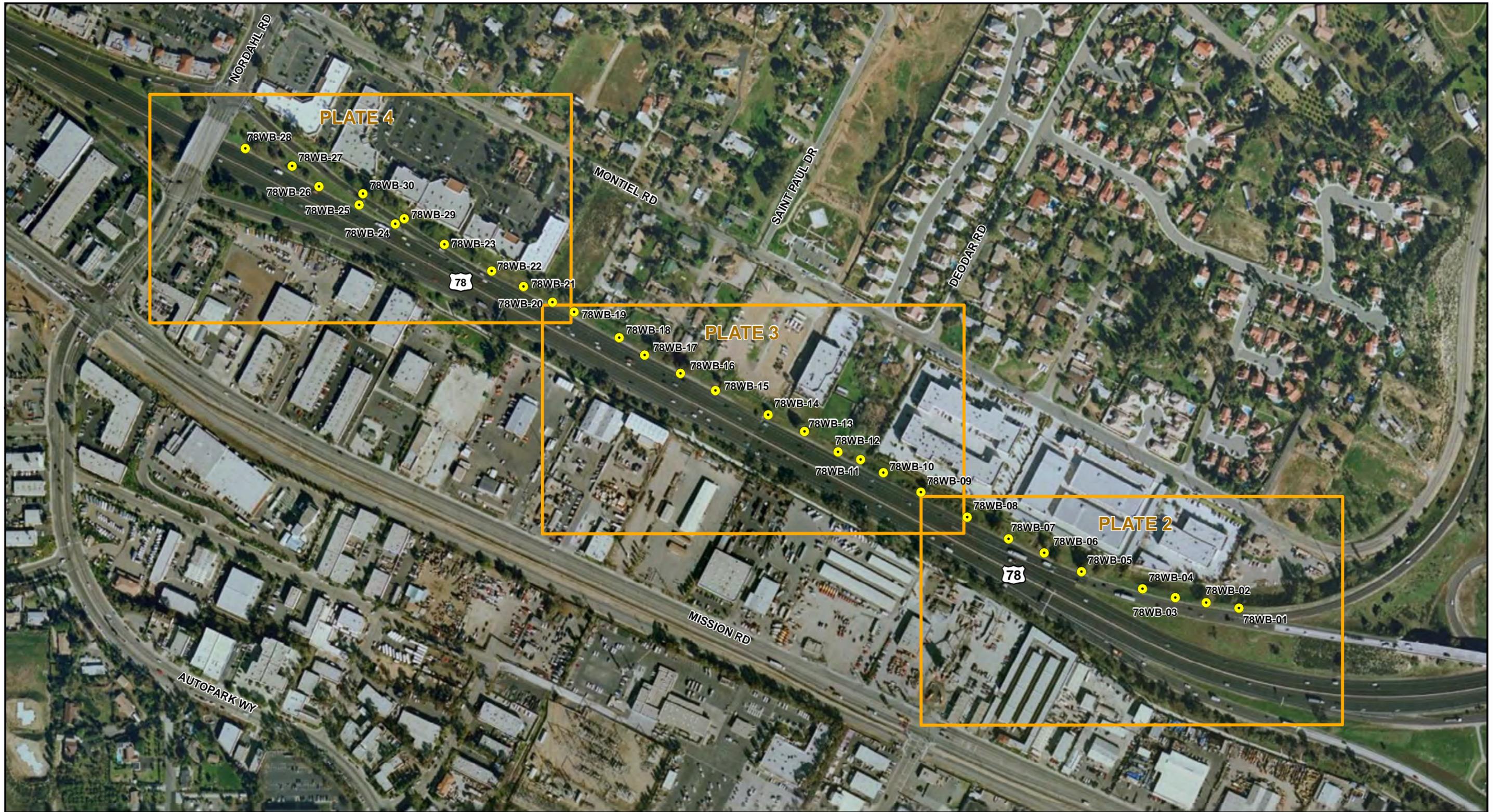
indicate that the Client has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order. The Client is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release, treatment or disposal of any hazardous materials observed at the project site, either before or during performance of Kleinfelder's services. The Client is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

8 REFERENCES

- California Department of Transportation (Caltrans), 2007. Caltrans Aerially Deposited Lead Guidance, June.
- Department of Toxic Substances Control (DTSC), 2000. Variance No. 00-H-VAR-06. Granted to State of California Department of Transportation, District 11. September 22.
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- DTSC. 2009. Lead Contaminated Soil Variance Modification, Variance Number V09HQSCD006, Caltrans District 11, July 1.
- Kleinfelder, Inc., 2010a. Work Plan for an Aerially Deposited Lead Survey, SR-78 Nordahl to I-15 SB Connector, SR-78 Post Mile 015.5 – 016.3, Escondido, California, Caltrans EA 11-293100. May 3.
- Kleinfelder, Inc., 2010b. Site Specific Health and Safety Plan, SR-78 Nordahl to I-15 SB Connector, SR-78 Post Mile 015.5 – 016.3, Escondido, California, Caltrans EA 11-293100. May 3.
- United States Environmental Protection Agency (U.S. EPA), 2004a. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. October.
- U.S. EPA, 2004b. ProUCL version 3.0. April.

PLATES



LEGEND

- APPROXIMATE SAMPLE LOCATION



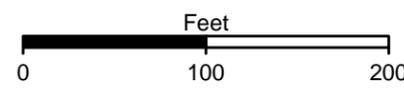
PROJECT NO: 16
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: MAY 2010



SITE MAP
 Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 Escondido, California

PLATE
 1

NOTE: All dimensions and locations are approximate
 Imagery: 13, ESRI; 2008



LEGEND

- 78WB-19
- APPROXIMATE SAMPLE LOCATION AND LOCATION ID



PROJECT NO: 16
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: JUNE 2010



Sample Location Map
 Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 Escondido, California

PLATE
 2

NOTES:
 MG/KG - MILLIGRAMS PER KILOGRAM
 MG/L - MILLIGRAMS PER LITER
 NA - NOT ANALYZED
 WET - WET EXTRACTION TEST USING CITRIC ACID
 WET DI - WET EXTRACTION TEST USING DEIONIZED WATER
 FD - FIELD DUPLICATE SAMPLE COLLECTED
 All dimensions and locations are approximate

Imagery: 13, ESRI; 2008

File: Projects\Caltrans\SR94_115\Plates



78WB-19 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	2	4.54	<0.100	NA	NA	6.49

78WB-18 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	1.5	4.65	<0.100	NA	NA	NA

78WB-16 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
FD	2.5	1.28	<0.100	NA	NA	NA
	2.5	1.19	<0.100	NA	NA	6.89

78WB-15 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	1	23.7	1.16	NA	NA	6.61

78WB-14 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	3	4.15	<0.100	NA	NA	NA

78WB-17 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	2.5	2.44	<0.100	NA	NA	NA

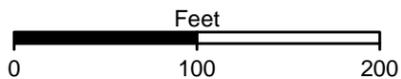
78WB-11 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	1	80.3	4.90	3.45	NA	6.40

78WB-13 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	0.5	34.9	1.65	NA	NA	NA

78WB-12 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	2	5.02	0.192	NA	NA	NA

78WB-10 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	2.5	17.4	0.721	NA	NA	NA

78WB-09 SAMPLE	BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (MG/L)	pH
	0.5	21.3	0.986	NA	NA	NA



LEGEND

- 78WB-19**
- APPROXIMATE SAMPLE LOCATION AND LOCATION ID



PROJECT NO: 16
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: JUNE 2010



Sample Location Map
 Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 Escondido, California

PLATE
 3

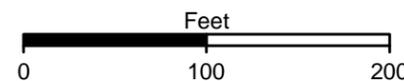
All dimensions and locations are approximate

Imagery: 13, ESRI; 2008

File: Projects\Caltrans\SR94_115\Plates



NOTES:
 MG/KG - MILLIGRAMS PER KILOGRAM
 MG/L - MILLIGRAMS PER LITER
 NA - NOT ANALYZED
 WET - WET EXTRACTION TEST USING CITRIC ACID
 WET DI - WET EXTRACTION TEST USING DEIONIZED WATER
 FD - FIELD DUPLICATE SAMPLE COLLECTED



LEGEND
 78WB-19
 ● APPROXIMATE SAMPLE LOCATION AND LOCATION ID



PROJECT NO: 16
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: JUNE 2010



Sample Location Map
 Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 Escondido, California

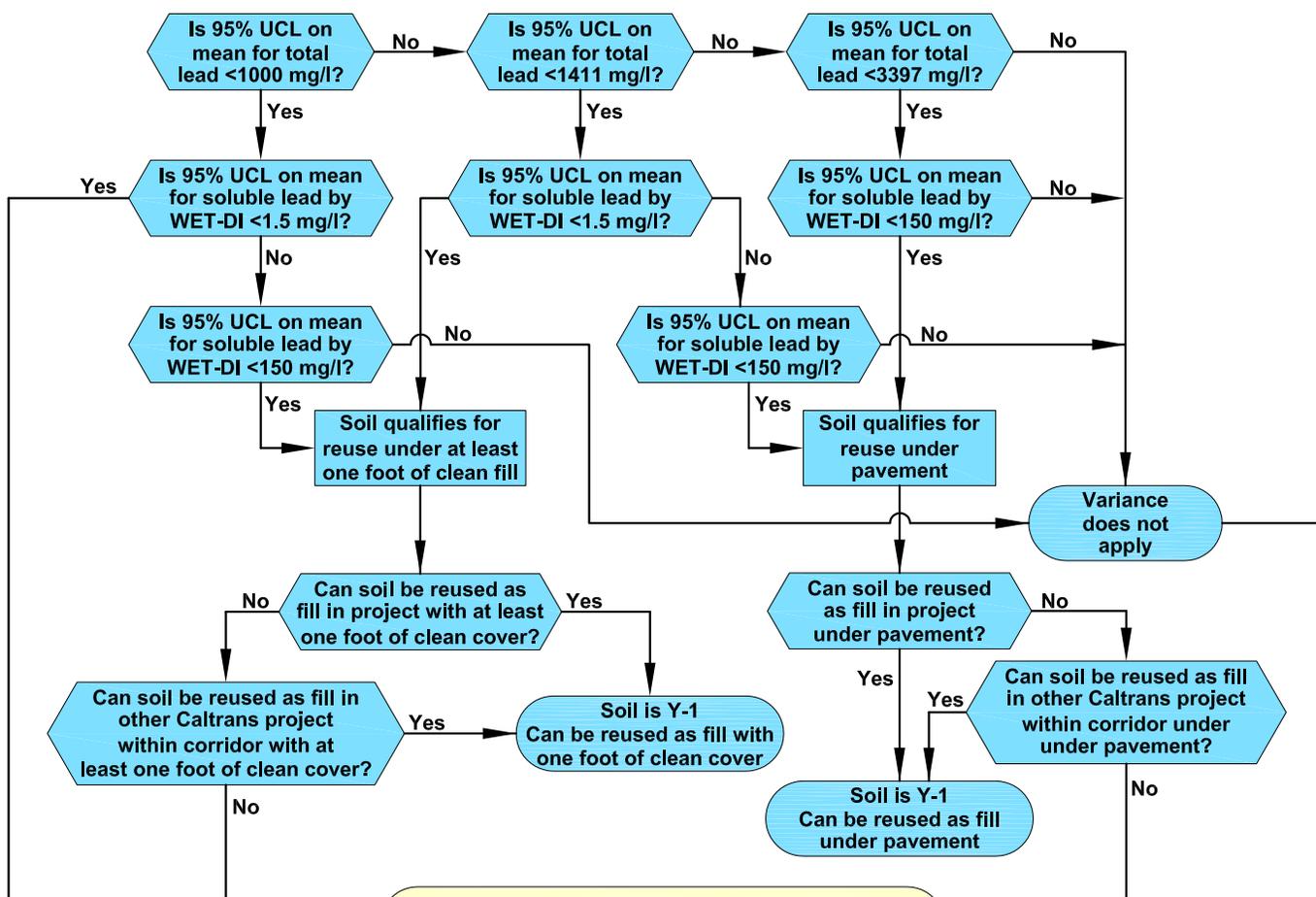
PLATE
 4

All dimensions and locations are approximate

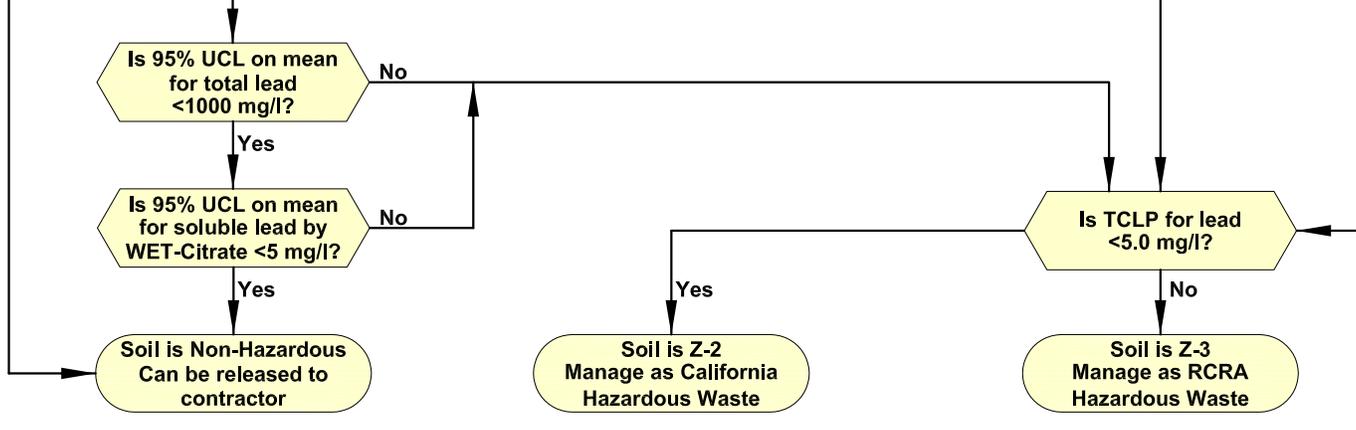
Imagery: 13, ESRI; 2008

File: Projects\Caltrans\SR94_115\Plates

DTSC Variance Applicability Determination



Waste Classification Determination



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SOURCE:
CALTRANS AERIALLY DEPOSITED LEAD GUIDANCE, JUNE 2007. UPDATE BASED ON VARIANCE NUMBER V09HQSCD006 (DTSC, JULY 2009)



PROJECT NO.	110946
DRAWN:	6/8/10
DRAWN BY:	JP
CHECKED BY:	JWJ
FILE NAME:	110946flow.dwg

**ADL-IMPACTED SOILS
 MANAGEMENT FLOW CHART**

SR-78 ADL SURVEY
 CALTRANS EA 11-293100
 ESCONDIDO, CALIFORNIA

PLATE
5

TABLES

**Table 1
Soil Analytical Results
SR-78 ADL Study
Caltrans EA-11-293100**

California Hazardous Waste Limit ¹				1,000	5.0	-	-	-
RCRA Hazardous Waste Limit ²				-	-	-	5.0	-
Caltrans Variance Limit ³				1,411	-	1.5	-	5.5
Unpaved				3,397	-	150	-	5.0 - 5.5
Paved								
Chemical Name				lead	lead	lead	lead	pH
Method				SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Prep				TTLC	WET	WET_DI	TCLP	---
Units				mg/kg	mg/l	mg/l	mg/l	pH units
Location	Sample Date	Sample Type	Depth (feet)					
78WB-01	5/11/10	N	0.5	6.11	0.110	-	-	6.50
78WB-02	5/11/10	N	3	3.25	< 0.100	-	-	-
78WB-03	5/11/10	N	0.5	12.5	0.502	-	-	-
78WB-04	5/11/10	N	1.5	3.76	< 0.100	-	-	-
78WB-05	5/11/10	N	1	3.63	< 0.100	-	-	-
78WB-06	5/11/10	N	2	21.4	1.30	-	-	-
78WB-07	5/11/10	N	2.5	6.08	0.110	-	-	7.66
78WB-08	5/11/10	N	1	30.2	1.27	-	-	-
78WB-09	5/11/10	N	0.5	21.3	0.986	-	-	-
78WB-10	5/11/10	N	2.5	17.4	0.721	-	-	-
78WB-11	5/11/10	N	1	80.3	4.90	3.45	-	6.40
78WB-12	5/11/10	N	2	5.02	0.192	-	-	-
78WB-13	5/11/10	N	0.5	34.9	1.65	-	-	-
78WB-14	5/11/10	N	3	4.15	< 0.100	-	-	-
78WB-15	5/11/10	N	1	23.7	1.16	-	-	6.61
78WB-16	5/12/10	N	2	1.19	< 0.100	-	-	6.89
	5/12/10	FD	2	1.28	< 0.100	-	-	-
78WB-17	5/12/10	N	2	2.44	< 0.100	-	-	-
78WB-18	5/12/10	N	1.5	4.65	< 0.100	-	-	-
78WB-19	5/12/10	N	2	4.54	< 0.100	-	-	6.49
78WB-20	5/12/10	N	1.5	8.85	0.316	-	-	-
	5/12/10	FD	1.5	32.8	1.35	-	-	-
78WB-21	5/12/10	N	2.5	2.46	< 0.100	-	-	-
78WB-22	5/12/10	N	1.5	8.74	0.125	-	-	-
78WB-23	5/12/10	N	2.5	3.82	< 0.100	-	-	6.38
78WB-24	5/12/10	N	2.5	1.35	< 0.100	-	-	-
78WB-25	5/12/10	N	2	56.4	3.12	< 0.100	-	-
78WB-26	5/12/10	N	1	30.5	1.14	-	-	-
78WB-27	5/12/10	N	2	21.5	1.28	-	-	-
78WB-28	5/12/10	N	1	6.87	0.378	-	-	-
78WB-29	5/12/10	N	1.5	10.9	0.348	-	-	-
78WB-30	5/12/10	N	2.5	3.58	< 0.100	-	-	6.20

- Notes:
- California hazardous waste limits from California Code of Regulations § 66261.21-24
 - RCRA hazardous waste limits from California Code of Regulations Title 22, § 66261.24
 - Caltrans specific requirement limits for re-use of ADL impacted soil within the Caltrans right-of-way from CalEPA Variance No. V09HQSCD006, dated July 1, 2009.

Bold and italicized text denotes a result above the hazardous waste limits

mg/kg = milligrams per kilogram
 mg/l = milligrams per liter
 IS = insufficient amount of sample material
 FD = field duplicate sample
 N = normal environmental sample
 NS = not sampled

TCLP = USEPA toxicity characteristic leaching procedure
 TTLC = total threshold limit concentration
 WET = California waste extraction test using citric acid
 WET DI = California waste extraction test using deionized water
 - = sample not analyzed

Table 2
Summary of the 95 Percent Upper Confidence Limits
SR-78 ADL Study
Caltrans EA-11-293100

Data Set	All Depths	0 to 1 feet bgs	0 to 2 feet bgs	1 to 2 feet bgs	2 to 3 feet bgs
Total Lead (mg/kg)	20.7	–	30.0	35.6	23.2
Leaching Lead (WET) (mg/L)	1.0	–	1.6	2.0	1.5
Leaching Lead (WET-DI) (mg/L)	–	–	–	–	–
Leaching Lead (TCLP) (mg/L)	–	–	–	–	–
pH	7.0	–	–	–	–

Notes:

- indicates 95 percent upper confidence limit was not calculated due to an insufficient number of samples

Acronyms/Abbreviations:

bgs – below ground surface

mg/kg – milligrams per kilogram

mg/L – milligrams per liter

TCLP – toxicity characteristic leaching procedure

WET – waste extraction test

WET-DI – waste extraction test using deionized water as the extractant

APPENDIX A

Table A-1 – Sample Location Coordinates Boring Logs

Table A-1
Sample Location Coordinates
SR-78 ADL Study
Caltrans EA-11-293100

SampleID	XCOORD	YCOORD
78WB-02	6298588.5	1991130.5
78WB-03	6298474.5	1991149
78WB-04	6298353.5	1991181.5
78WB-06	6297991.5	1991313.75
78WB-10	6297398.5	1991607.875
78WB-08	6297707.5	1991444.5
78WB-09	6297537	1991536
78WB-11	6297315	1991656.75
78WB-12	6297231.5	1991684.25
78WB-13	6297109	1991759.625
78WB-14	6296974.5	1991820.75
78WB-18	6296425.5	1992104.375
78WB-19	6296259.5	1992198.375
78WB-20	6296180	1992234.75
78WB-21	6296073.5	1992292.5
78WB-22	6295956.5	1992349.125
78WB-23	6295782	1992447.625
78WB-25	6295468	1992592.75
78WB-24	6295601	1992522.375
78WB-29	6295634	1992542.125
78WB-27	6295221.5	1992735.625
78WB-15	6296780	1991910
78WB-07	6297860	1991364.5
78WB-17	6296520	1992040
78WB-16	6296651.5	1991972.75
78WB-05	6298128.5	1991244.5
78WB-26	6295320	1992660
78WB-01	6298708.5	1991110.5
78WB-28	6295049	1992799.75
78WB-30	6295481.5	1992633.5

ATTACHED IMAGES: ATTACHED XREFS: CAD FILE: G:\2010\110946\ LAYOUT: Soil Classification Chart PLOTTED: 16 Jun 2010, 4:04pm, jpatay

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		CLEAN SANDS (LITTLE OR NO FINES)		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
		HIGHLY ORGANIC SOILS		PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

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NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

	PROJECT NO. 110946	SOIL CLASSIFICATION CHART AERIALY DEPOSITED LEAD SR-78/I-15, CALTRANS EA 11-293100 SAN DIEGO, CALIFORNIA	APPENDIX A1
	DRAWN: 6/16/10		
	DRAWN BY: JP		
	CHECKED BY: LS		
	FILE NAME: 110946KEY.dwg		

LOG SYMBOLS:

	BULK/BAG SAMPLE
	MODIFIED CALIFORNIA SAMPLER (2-1/2 inch outside diameter)
	CALIFORNIA SAMPLER (3 inch outside diameter)
	STANDARD PENETRATION SPLIT SPOON SAMPLER (2 inch outside diameter)
	NO SAMPLE RECOVERY
	SHELBY TUBE

	WATER LEVEL (level after completion)
	WATER LEVEL (level where first encountered)

ABBREVIATIONS:

SA	- (38%) SIEVE ANALYSIS (PERCENT PASSING #200 SIEVE)
WA	- (38%) - ONE POINT GRAIN SIZE ANALYSIS (PERCENT PASSING #200 SIEVE)
PI	- PLASTICITY INDEX
LL	- LIQUID LIMIT
DS	- DIRECT SHEAR TEST
'R'	- R-VALUE TEST
CORR	- CORROSIVITY TEST
EI	- UBC EXPANSION INDEX
LC	- LABORATORY COMPACTION TEST
M&D	- MOISTURE & DENSITY
PP	- POCKET PENETROMETER
NR	- NO SAMPLE RECOVERY
CONSOL	- CONSOLIDATION TEST

GENERAL NOTES:

1. Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual.
2. No warranty is provided as to the continuity of soil conditions between individual sample locations.
3. Logs represent general soil conditions observed at the point of exploration on the date indicated.
4. In general, Unified Soil Classification designations presented on the logs were evaluated by visual methods only. Therefore, actual designations (based on laboratory tests) may vary.

CONSISTENCY CRITERIA BASED ON FIELD TESTS

RELATIVE DENSITY	SPT* (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	0 - 15
Loose	4 - 10	15 - 35
Medium Dense	10 - 30	35 - 65
Dense	30 - 50	65 - 85
Very Dense	>50	85 - 100

CONSISTENCY	SPT (# blows/ft)	TORVANE	POCKET** PENETROMETER
		UNDRAINED SHEAR STRENGTH (tsf)	UNCONFINED COMPRESSIVE STRENGTH
Very Soft	<2	<0.13	<0.25
Soft	2 - 4	0.13 - 0.25	0.25 - 0.5
Medium Stiff	4 - 8	0.25 - 0.5	0.5 - 1.0
Stiff	8 - 15	0.5 - 1.0	1.0 - 2.0
Very Stiff	15 - 30	1.0 - 2.0	2.0 - 4.0
Hard	>30	>2.0	>4

* NUMBER OF BLOWS OF 140 POUNDS HAMMER FALLING 30 INCHES TO DRIVE A 2 INCH O.D. (1 3/8 INCH I.D.) SPLIT BARREL SAMPLER (ASTM-1586 STANDARD PENETRATION TEST)

** UNCONFINED COMPRESSIVE STRENGTH IN TONS/SQ. FT. READ FROM POCKET PENETROMETER

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

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 <p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	PROJECT NO. 110946	<p>KEY TO LOGS</p> <p>AERIALY DEPOSITED LEAD SURVEY SR-78/I-15, CALTRANS EA 11-293100 SAN DIEGO, CALIFORNIA</p>	<p>APPENDIX</p> <p>A2</p>
	DRAWN: 6/16/10		
	DRAWN BY: JP		
	CHECKED BY: LS		
FILE NAME: 110946KEY.dwg			

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK DRIVEN								
	1				1	 <p>Artificial Fill (Qaf): Silty SAND (SM) with Gravel. Brown, dry to damp, medium dense to dense.</p> <p>-Groundwater not encountered -Boring backfilled with soil -Total depth 0.5 foot bgs; refusal on granitic rock</p>				



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

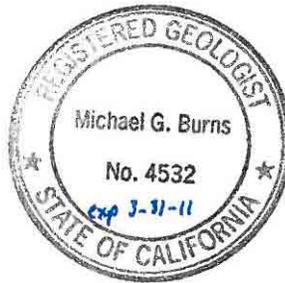
LOG OF BORING 78WB-01

APPENDIX
A3

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK	DRIVEN							
	1						Artificial Fill (Qaf): Silty SAND (SM) with Gravel. Brown, damp, medium dense to dense.			
	2									
	3				1		Moist.			
	4						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 3 foot bgs			
	5									
	6									



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

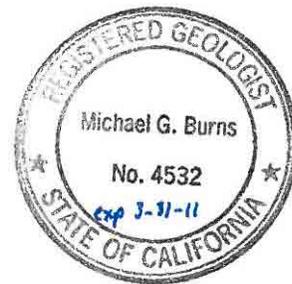
LOG OF BORING 78WB-02

APPENDIX
A4

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		SAMPLES BULK DRIVEN	BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	1				1		<p>Artificial Fill (Qaf):</p> <p>Silty SAND (SM) with Gravel and Cobbles. Brown, dry, medium dense to dense; cobbles up to 4 inches in diameter.</p> <p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 0.5 foot bgs</p>			



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

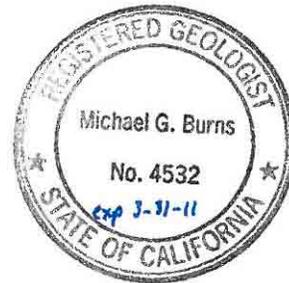
LOG OF BORING 78WB-03

APPENDIX
A5

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK	DRIVEN							
	1				1		<p><u>Artificial Fill (Qaf):</u> Silty SAND (SM) with nested Cobbles. Brown, damp, dense; cobbles up to 4 inches in diameter.</p>			
	4						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 3 foot bgs</p>			



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

LOG OF BORING 78WB-04

APPENDIX
A6

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN							
				1		<p>Artificial Fill (Qaf): Silty SAND (SM) with Gravel and Cobbles. Brown, dry, medium dense to dense; cobbles up to 4 inches in diameter.</p>			
						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 1 foot bgs</p>			



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

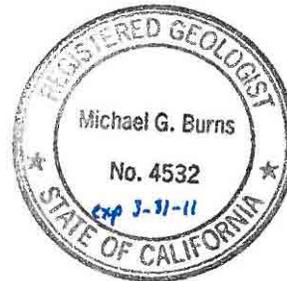
LOG OF BORING 78WB-05

APPENDIX
A7

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK	DRIVEN							
	1				1		<p>Artificial Fill (Qaf): Silty GRAVEL (GM) with Cobbles. Brown, dry, medium dense to dense; cobbles up to 4 inches in diameter. Refusal.</p>			
	2						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2 feet bgs; refusal on granitic rock/cobbles.</p>			
	3									
	4									
	5									
	6									



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

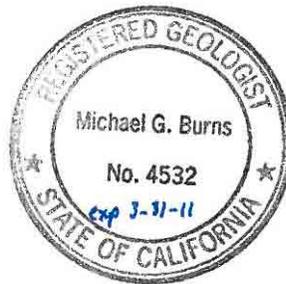
LOG OF BORING 78WB-06

APPENDIX
A8

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK DRIVEN								
	1				1		<p>Artificial Fill (Qaf): Silty GRAVEL (GM) with Cobbles. Brown, dry, medium dense to dense; cobbles up to 4 inches in diameter.</p> <p>Refusal.</p>			
	3						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2.5 feet bgs</p>			
	4									
	5									
	6									



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

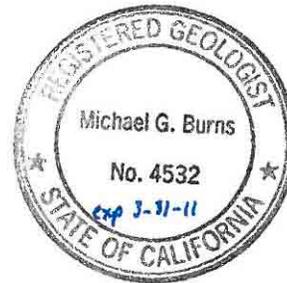
LOG OF BORING 78WB-07

APPENDIX
A9

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		SAMPLES	BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN								
	1				1		<p>Artificial Fill (Qaf): Silty GRAVEL (GM) with Cobbles. Brown, dry, medium dense to dense; cobbles up to 4 inches in diameter.</p> <p>Refusal.</p>			
	2						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 1 foot bgs</p>			
	3									
	4									
	5									
	6									



PROJECT NO. 110946

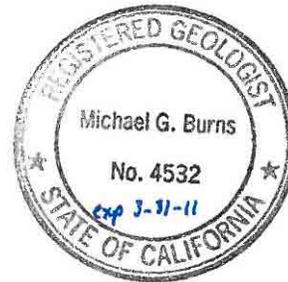
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-08

APPENDIX
A10

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN							
				1		<p>Artificial Fill (Qaf): Well Graded GRAVEL (GW). Brown, dry, medium dense to dense. Silty, sandy, at ~0.5 feet.</p> <p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 0.5 foot bgs</p>			



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

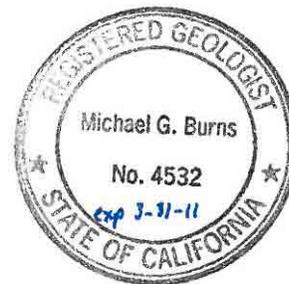
LOG OF BORING 78WB-09

APPENDIX
A11

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH: ~2.5 feet
 DATE OBSERVED: 5/11/10
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK DRIVEN								
1	1				1		<p>Artificial Fill (Qaf): Silty SAND (SM) with Gravel and Cobbles. Brown, dry, medium dense to dense; cobbles up to 4 inches in diameter.</p>			
3	3						<p>-Groundwater encountered at approximately 2.5 feet bgs -Boring backfilled with soil -Total depth approximately 2.5 feet bgs</p>			



PROJECT NO. 110946

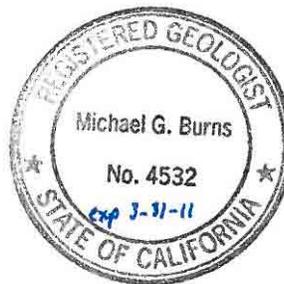
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-10

APPENDIX
A12

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN							
	1			1		Artificial Fill (Qaf): Silty SAND (SM) with Gravel. Brown, dry to damp, medium dense to dense.			
	2					-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 1 foot bgs			
	3								
	4								
	5								
	6								



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

LOG OF BORING 78WB-11

APPENDIX
A13

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		SAMPLES	BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN								
	1				1	 <p>Artificial Fill (Qaf): Silty SAND (SM) with Gravel. Brown, dry to damp, medium dense to dense.</p>				
	2									
	3						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2 feet bgs			
	4									
	5									
	6									



PROJECT NO. 110946

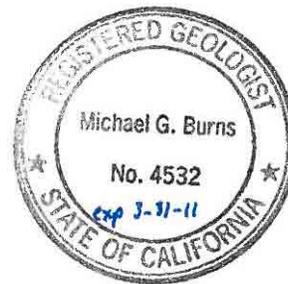
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-12

APPENDIX
A14

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK DRIVEN								
	1				1		Artificial Fill (Qaf): Silty GRAVEL (GM) with Cobbles. Brown, dry to damp, medium dense to dense; micaceous.			
	2									
	3						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 1 foot bgs			
	4									
	5									
	6									



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

LOG OF BORING 78WB-13

APPENDIX
A15

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		SAMPLES BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN							
	1			1		<p>Artificial Fill (Qaf): Silty and Sandy GRAVEL (GM) with Cobbles. Brown, dry to damp, medium dense to dense; micaceous.</p>			
	2								
	3								
	4					<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 3 feet bgs</p>			
	5								
	6								



PROJECT NO. 110946

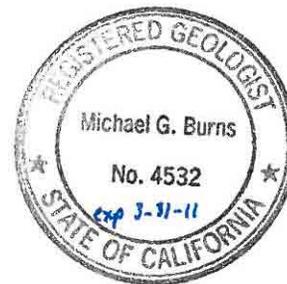
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-14

APPENDIX
A16

DATE DRILLED: 5/11/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN							
				1		<p>Artificial Fill (Qaf): Gravelly SAND (SM-GM) with Cobbles. Brown, dry to damp, medium dense to dense.</p>			
						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 1 foot bgs</p>			



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-15

APPENDIX
A17

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		SAMPLES	BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN								
	1				1		<p>Artificial Fill (Qaf): Sandy GRAVEL (GM). Reddish brown, damp, medium dense.</p>			
	3						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2.5 feet bgs</p>			



PROJECT NO. 110946

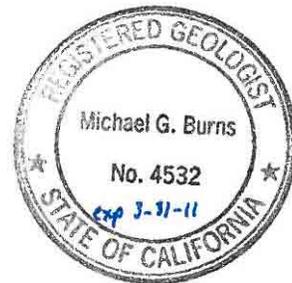
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-16

APPENDIX
A18

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		SAMPLES BULK DRIVEN	BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	1						Artificial Fill (Qaf): Silty and Sandy GRAVEL (GM-SM) with Cobbles. Brown, damp, medium dense; cobbles up to 6 inches in diameter.			
	2									
	3						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2.5 feet bgs			
	4									
	5									
	6									



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

LOG OF BORING 78WB-17

APPENDIX
A19

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN							
				1		<p>Residuum (Kgr): Clayey, Silty SAND (SC-SM). Reddish brown, moist, loose to medium dense.</p>			
						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2.5 feet bgs</p>			



PROJECT NO. 110946

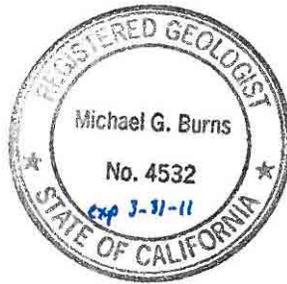
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-18

APPENDIX
A20

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN							
	1			1		<p>Artificial Fill (Qaf): Silty SAND (SM) with Gravel. Brown, damp, medium dense to dense; gravel up to 3 inches in diameter.</p>			
	2					<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2 feet bgs</p>			
	3								
	4								
	5								
	6								



PROJECT NO. 110946

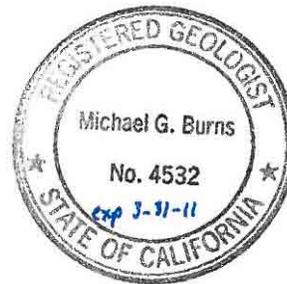
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-19

APPENDIX
A21

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK	DRIVEN							
	1				1		<p>Artificial Fill (Qaf): Silty SAND (SM) with Gravel. Brown, damp, medium dense to dense; gravel up to 3 inches in diameter.</p>			
	2						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 1.5 feet bgs</p>			
	3									
	4									
	5									
	6									



PROJECT NO. 110946

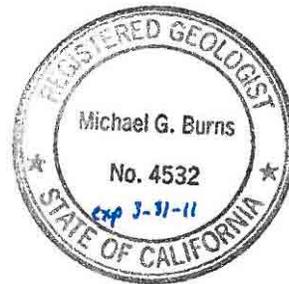
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-20

APPENDIX
A22

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK	DRIVEN							
1						Artificial Fill (Qaf): Silty SAND (SM). Reddish brown, damp, medium dense.			
2				1		Silty CLAY/Clayey SILT (ML-CL). Reddish brown, moist, firm to stiff.			
3						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2.5 feet bgs			
4									
5									
6									



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

LOG OF BORING 78WB-21

APPENDIX
A23

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK	DRIVEN							
	1				1		<u>Artificial Fill (Qaf):</u> Silty SAND (SM). Reddish brown, damp, medium dense.			
	2						<u>Granitic Rock (Kgr):</u> DECOMPOSED GRANITE: Recovered as reddish brown, moist, medium dense, Silty SAND with Gravel and Cobles (SM).			
	3						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2.5 feet bgs			
	4									
	5									
	6									



PROJECT NO. 110946

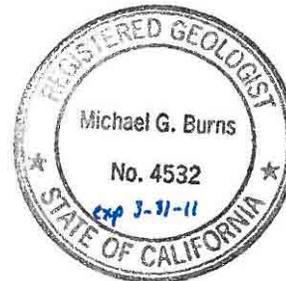
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-22

APPENDIX
A24

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		SAMPLES BULK DRIVEN	BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	1				1		Artificial Fill (Qaf): Clayey, Silty SAND (SM-SC). Reddish brown, moist, medium dense.			
	3						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2.5 feet bgs			



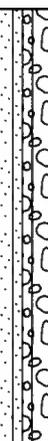
PROJECT NO. 110946

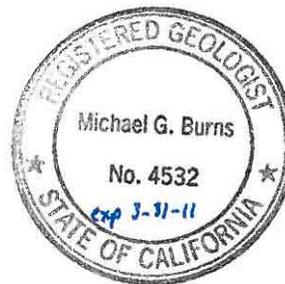
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-23

APPENDIX
A25

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK DRIVEN								
	1				1		Artificial Fill (Qaf): Silty SAND with Gravel (SM-GM). Reddish brown, damp, loose to medium dense; gravel fine-grained.			
	2									
	3						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2.5 feet bgs			
	4									
	5									
	6									



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

LOG OF BORING 78WB-24

APPENDIX
A26

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK DRIVEN								
	1				1		Artificial Fill (Qaf): Silty SAND with Gravel (SM-GM). Reddish brown, damp, loose to medium dense; gravel fine-grained.			
	2									
	3						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2 feet bgs			
	4									
	5									
	6									



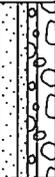
PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-25

APPENDIX
A27

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK DRIVEN	SAMPLES							
1				1		<p>Artificial Fill (Qaf): Silty SAND with Gravel (SM-GM). Reddish brown, damp, loose to medium dense; gravel fine-grained.</p>			
2						<p>-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 1 foot bgs</p>			
3									
4									
5									
6									



PROJECT NO. 110946

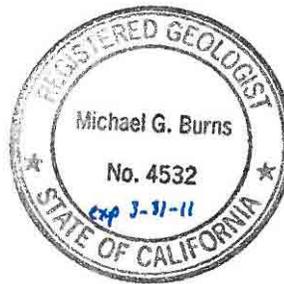
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-26

APPENDIX
A28

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK	DRIVEN							
	1				1		Artificial Fill (Qaf): Silty SAND with Gravel (SM-GM). Reddish brown, damp, loose to medium dense; gravel fine-grained.			
	2									
	3						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2 feet bgs			
	4									
	5									
	6									



PROJECT NO. 110946

Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-27

APPENDIX
A29

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)	SAMPLES		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
		BULK DRIVEN								
	1				1		Artificial Fill (Qaf): Silty SAND with Gravel (SM-GM). Reddish brown, damp, loose to medium dense; gravel fine-grained.			
	2						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 1 foot bgs			
	3									
	4									
	5									
	6									



PROJECT NO. 110946

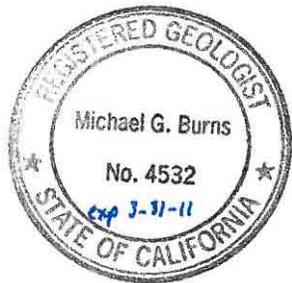
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-28

APPENDIX
A30

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		SAMPLES	BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK DRIVEN									
	1				1		Artificial Fill (Qaf): Silty SAND (SM-SC). Reddish brown, moist, medium dense; scattered organics.			
	2						-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 1.5 feet bgs			
	3									
	4									
	5									
	6									



PROJECT NO. 110946

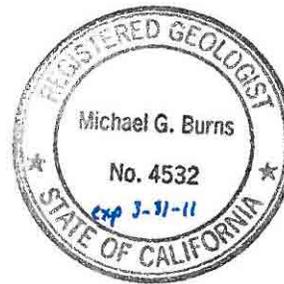
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California
 LOG OF BORING 78WB-29

APPENDIX
A31

DATE DRILLED: 5/12/10
 DRILLING COMPANY: NA
 DRILLING METHOD: Hand Auger - Grab Sample
 HOLE DIAMETER: 4"

WATER DEPTH:
 DATE OBSERVED:
 GROUND ELEVATION: NA
 LOGGED BY: MH/JJ
 REVIEWED BY: LS

ELEVATION (feet)	DEPTH (feet)		BLOW COUNTS (blows/foot)	SAMPLE NUMBER	GRAPHIC LOG	SOIL DESCRIPTION AND CLASSIFICATION	DRY UNIT WEIGHT (pcf)	MOISTURE CONTENT (%)	COMMENTS/ ADDITIONAL TESTS
	BULK DRIVEN	SAMPLES							
	1			1		<u>Artificial Fill (Qaf):</u> Silty SAND (SM-SC). Reddish brown, moist, medium dense; scattered organics.			
	3					-Groundwater not encountered -Boring backfilled with soil -Total depth approximately 2.5 feet bgs			



PROJECT NO. 110946

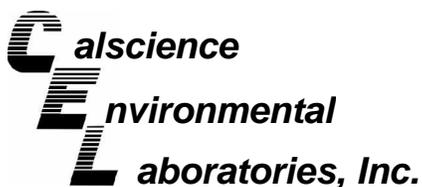
Aerially Deposited Lead Survey
 SR-78/I-15, Caltrans EA 11-293100
 San Diego, California

LOG OF BORING 78WB-30

APPENDIX
A32

APPENDIX B

Laboratory Analytical Reports and Chain-of-Custody Documentation



May 24, 2010

Chris Noland
Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Subject: **CalScience Work Order No.: 10-05-0947**
Client Reference: SR 78 ADL STUDY / 110946

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/12/2010 and analyzed in accordance with the attached chain-of-custody.

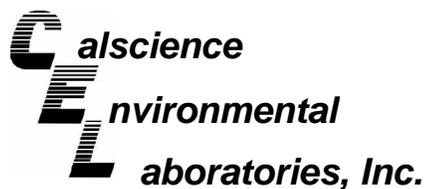
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard CalScience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Danielle Gonsman", with a long horizontal flourish extending to the right.

CalScience Environmental
Laboratories, Inc.
Danielle Gonsman
Project Manager



Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: EPA 3550B
Method: EPA 9045D

Project: SR 78 ADL STUDY / 110946

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-01-0.5	10-05-0947-1-B	05/11/10 09:30	Solid	PH 4	05/12/10	05/12/10 19:28	A0512PHD3

Parameter	Result	RL	DF	Qual	Units
pH	6.50	0.01	1		pH units

78WB-07-2.5	10-05-0947-7-A	05/11/10 11:39	Solid	PH 4	05/12/10	05/12/10 19:28	A0512PHD3
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Parameter	Result	RL	DF	Qual	Units
pH	7.66	0.01	1		pH units

78WB-11-1.0	10-05-0947-11-A	05/11/10 13:25	Solid	PH 4	05/12/10	05/12/10 19:28	A0512PHD3
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Parameter	Result	RL	DF	Qual	Units
pH	6.40	0.01	1		pH units

78WB-15-1.0	10-05-0947-15-A	05/11/10 14:30	Solid	PH 4	05/12/10	05/12/10 19:28	A0512PHD3
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Parameter	Result	RL	DF	Qual	Units
pH	6.61	0.01	1		pH units

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-01-0.5	10-05-0947-1-AB	05/11/10 09:30	Solid	ICP 5300	05/13/10	05/14/10 19:15	100513L04

Parameter	Result	RL	DF	Qual	Units
Lead	6.11	0.500	1		mg/kg

78WB-02-3.0	10-05-0947-2-A	05/11/10 09:40	Solid	ICP 5300	05/13/10	05/14/10 19:23	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	3.25	0.500	1		mg/kg

78WB-03-0.5	10-05-0947-3-AB	05/11/10 09:48	Solid	ICP 5300	05/13/10	05/14/10 19:24	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	12.5	0.500	1		mg/kg

78WB-04-1.5	10-05-0947-4-AB	05/11/10 10:11	Solid	ICP 5300	05/13/10	05/14/10 19:26	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	3.76	0.500	1		mg/kg

78WB-05-1.0	10-05-0947-5-A	05/11/10 10:25	Solid	ICP 5300	05/13/10	05/14/10 19:27	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	3.63	0.500	1		mg/kg

78WB-06-2.0	10-05-0947-6-A	05/11/10 11:00	Solid	ICP 5300	05/13/10	05/14/10 19:28	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	21.4	0.500	1		mg/kg

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-07-2.5	10-05-0947-7-A	05/11/10 11:39	Solid	ICP 5300	05/13/10	05/14/10 19:30	100513L04

Parameter	Result	RL	DF	Qual	Units
Lead	6.08	0.500	1		mg/kg

78WB-08-1.0	10-05-0947-8-A	05/11/10 11:54	Solid	ICP 5300	05/13/10	05/14/10 19:31	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	30.2	0.500	1		mg/kg

78WB-09-0.5	10-05-0947-9-A	05/11/10 13:06	Solid	ICP 5300	05/13/10	05/14/10 19:32	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	21.3	0.500	1		mg/kg

78WB-10-2.5	10-05-0947-10-AB	05/11/10 13:18	Solid	ICP 5300	05/13/10	05/14/10 19:36	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	17.4	0.500	1		mg/kg

78WB-11-1.0	10-05-0947-11-A	05/11/10 13:25	Solid	ICP 5300	05/13/10	05/14/10 19:38	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	80.3	0.500	1		mg/kg

78WB-12-2.0	10-05-0947-12-AB	05/11/10 13:50	Solid	ICP 5300	05/13/10	05/14/10 19:39	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	5.02	0.500	1		mg/kg

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-13-0.5	10-05-0947-13-A	05/11/10 13:58	Solid	ICP 5300	05/13/10	05/14/10 19:40	100513L04

Parameter	Result	RL	DF	Qual	Units
Lead	34.9	0.500	1		mg/kg

78WB-14-3.0	10-05-0947-14-A	05/11/10 14:20	Solid	ICP 5300	05/13/10	05/14/10 19:41	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	4.15	0.500	1		mg/kg

78WB-15-1.0	10-05-0947-15-A	05/11/10 14:30	Solid	ICP 5300	05/13/10	05/14/10 19:43	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	23.7	0.500	1		mg/kg

Method Blank	097-01-002-13,510	N/A	Solid	ICP 5300	05/13/10	05/13/10 21:38	100513L04
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Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.500	1		mg/kg

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RB-051110-1	10-05-0947-16-A	05/11/10 14:43	Aqueous	ICP 5300	05/12/10	05/13/10 21:24	100512LA6

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Lead	ND	0.0100	1		mg/L

Method Blank	097-01-003-10,562	N/A	Aqueous	ICP 5300	05/12/10	05/14/10 12:03	100512LA6
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Lead	ND	0.0100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: T22.11.5. All
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Page 1 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-01-0.5	10-05-0947-1-A	05/11/10 09:30	Solid	ICP 5300	05/13/10	05/18/10 15:07	100517LA1

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.110	0.100	1		mg/L

78WB-02-3.0	10-05-0947-2-A	05/11/10 09:40	Solid	ICP 5300	05/13/10	05/18/10 15:08	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

78WB-03-0.5	10-05-0947-3-A	05/11/10 09:48	Solid	ICP 5300	05/13/10	05/18/10 15:09	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.502	0.100	1		mg/L

78WB-04-1.5	10-05-0947-4-A	05/11/10 10:11	Solid	ICP 5300	05/13/10	05/18/10 15:10	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

78WB-05-1.0	10-05-0947-5-A	05/11/10 10:25	Solid	ICP 5300	05/13/10	05/18/10 15:11	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

78WB-06-2.0	10-05-0947-6-A	05/11/10 11:00	Solid	ICP 5300	05/13/10	05/18/10 15:12	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	1.30	0.100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: T22.11.5. All
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Page 2 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-07-2.5	10-05-0947-7-A	05/11/10 11:39	Solid	ICP 5300	05/13/10	05/18/10 15:13	100517LA1

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.110	0.100	1		mg/L

78WB-08-1.0	10-05-0947-8-A	05/11/10 11:54	Solid	ICP 5300	05/13/10	05/18/10 15:33	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	1.27	0.100	1		mg/L

78WB-09-0.5	10-05-0947-9-A	05/11/10 13:06	Solid	ICP 5300	05/13/10	05/18/10 15:34	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.986	0.100	1		mg/L

78WB-10-2.5	10-05-0947-10-A	05/11/10 13:18	Solid	ICP 5300	05/13/10	05/18/10 15:35	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.721	0.100	1		mg/L

78WB-11-1.0	10-05-0947-11-A	05/11/10 13:25	Solid	ICP 5300	05/13/10	05/18/10 15:36	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	4.90	0.100	1		mg/L

78WB-12-2.0	10-05-0947-12-A	05/11/10 13:50	Solid	ICP 5300	05/13/10	05/18/10 15:37	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.192	0.100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: T22.11.5. All
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Page 3 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-13-0.5	10-05-0947-13-A	05/11/10 13:58	Solid	ICP 5300	05/13/10	05/18/10 15:38	100517LA1

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	1.65	0.100	1		mg/L

78WB-14-3.0	10-05-0947-14-A	05/11/10 14:20	Solid	ICP 5300	05/13/10	05/18/10 15:39	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

78WB-15-1.0	10-05-0947-15-A	05/11/10 14:30	Solid	ICP 5300	05/13/10	05/18/10 15:40	100517LA1
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	1.16	0.100	1		mg/L

Method Blank	097-05-006-5,172	N/A	Solid	ICP 5300	05/13/10	05/17/10 13:21	100517LA1
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Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: T22.11.5.All DI
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Page 4 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-11-1.0	10-05-0947-11-A	05/11/10 13:25	Solid	ICP 5300	05/17/10	05/19/10 22:13	100519LA1D

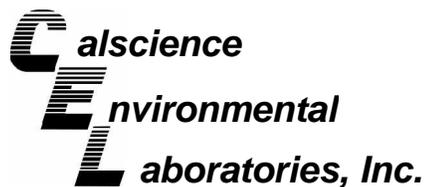
Comment(s): -The analysis was performed on an STLC extract of the sample.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Lead	3.45	0.100	1		mg/L

Method Blank	097-05-006-5,179	N/A	Solid	ICP 5300	05/17/10	05/19/10 17:22	100519LA1D
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Lead	ND	0.100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

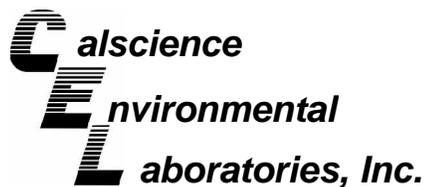
Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: EPA 3050B
Method: EPA 6010B

Project SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
78WB-01-0.5	Solid	ICP 5300	05/13/10	05/14/10	100513S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	118	99	75-125	14	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - PDS / PDSD



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

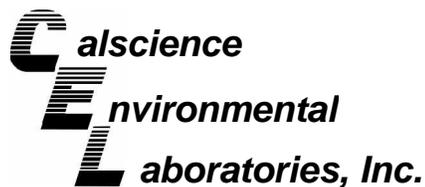
Date Received 05/12/10
Work Order No: 10-05-0947
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS / PDSD Batch Number
78WB-01-0.5	Solid	ICP 5300	05/13/10	05/14/10	100513S04

<u>Parameter</u>	<u>PDS %REC</u>	<u>PDSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Lead	102	98	75-125	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

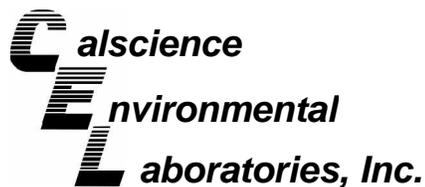
Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: EPA 3005A Filt.
Method: EPA 6010B

Project SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-05-0844-22	Aqueous	ICP 5300	05/12/10	05/17/10	100512SA6

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	104	103	84-120	1	0-7	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

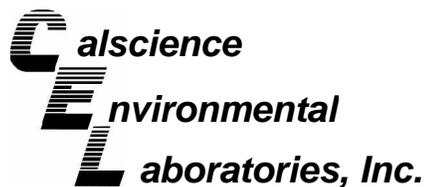
Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: T22.11.5. All
Method: EPA 6010B

Project SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-05-0986-1	Solid	ICP 5300	05/13/10	05/17/10	100517SA1

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	95	99	75-125	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

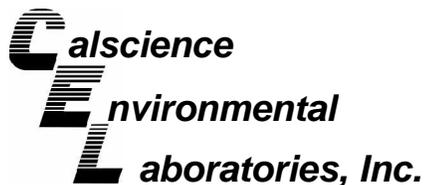
Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: T22.11.5. All
Method: EPA 6010B

Project SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-05-1234-1	Solid	ICP 5300	05/17/10	05/19/10	100519SA1

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	102	103	75-125	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

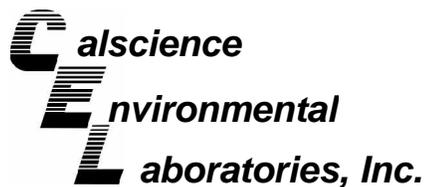
Date Received: 05/12/10
Work Order No: 10-05-0947
Preparation: EPA 3550B
Method: EPA 9045D

Project: SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
10-05-0846-1	Solid	PH 4	05/12/10	05/12/10	A0512PHD3

<u>Parameter</u>	<u>Sample Conc.</u>	<u>DUP Conc</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
pH	7.14	7.18	1	0-25	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

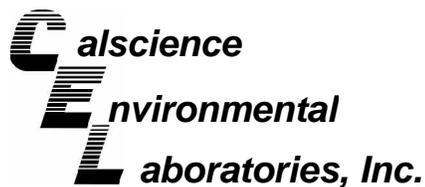
Date Received: N/A
Work Order No: 10-05-0947
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-13,510	Solid	ICP 5300	05/13/10	05/13/10	100513L04

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Lead	113	115	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

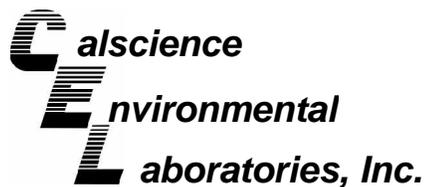
Date Received: N/A
Work Order No: 10-05-0947
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-003-10,562	Aqueous	ICP 5300	05/12/10	05/14/10	100512LA6

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Lead	103	104	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

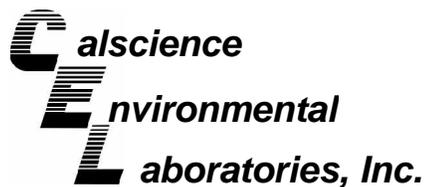
Date Received: N/A
Work Order No: 10-05-0947
Preparation: T22.11.5. All
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-05-006-5,172	Solid	ICP 5300	05/13/10	05/17/10	100517LA1

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Lead	107	108	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: N/A
Work Order No: 10-05-0947
Preparation: T22.11.5.All DI
Method: EPA 6010B

Project: SR 78 ADL STUDY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-05-006-5,179	Solid	ICP 5300	05/17/10	05/19/10	100519LA1D

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Lead	108	107	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Work Order Number: 10-05-0947

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
E	Concentration exceeds the calibration range.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis. Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.





Calscience Environmental Laboratories, Inc.

SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 5/11/10
Page 1 of 2

LABORATORY CLIENT: <u>Kleinfelder</u>		CLIENT PROJECT NAME / NUMBER: <u>UR 78 ADL Study / 11094 U</u>		P.O. NO.:	
ADDRESS: <u>5015 Shattam Pl. CA 92122</u>		PROJECT CONTACT: <u>Liz Simmons</u> <u>Jeremy Januszewicz</u>		LAB USE ONLY <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
CITY: <u>San Diego</u> STATE: <u>CA</u> ZIP: <u>92122</u>		SAMPLER(S): (PRINT) <u>M. Hearne</u> <u>J. Januszewicz</u>		COELT LOG CODE <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
TEL: <u>858.320.2000</u> E-MAIL: <u>JJanuszewicz@Kleinfelder.com</u>				COOLER RECEIPT TEMP: _____ °C	

TURNAROUND TIME:
 SAME DAY 24 HR 48 HR 72 HR STANDARD

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
 RWQCB REPORTING FORMS COELT EDF EQUIS EDD

SPECIAL INSTRUCTIONS:
 • Hold DI wet pending analysis + TCLP
 • run samples for DI wet if total lead \geq 50 mg/kg
 • run samples for TCLP if total lead \geq 100 mg/kg

REQUESTED ANALYSES																							
LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (l) or (C6-C36) or (C6-C44)	BTEX / MTBE (8260B) or ()	VOCs (8260B)	Oxygenates (8260B)	Encore Prep (5035)	SVOCs (8270C)	Pesticides (8081A)	PCBs (8082)	PNAs (8310) or (8270C)	T22 Metals (6010B/747X)	Cr(VI) (7196A or 7199 or 218.6)	VOCs (TO-14A) or (TO-15)	TPH (g) (TO-3)*	Wet Citrate (STLC)	DI Wet	TCLP	
	1	78WB-01-0.5	5.11.10	0930	DI	2	X	X															
	2	78WB-02-0.0		0940		1	X																
	3	78WB-03-0.5		0948		2	X																
	4	78WB-04-1.5		1011		2	X																
	5	78WB-05-1.0		1025		1	X																
	6	78WB-06-2.0		1100		1	X																
	7	78WB-07-2.5		1139		1	X	X															
	8	78WB-08-1.0		1154		1	X																
	9	78WB-09-0.5		1306		1	X																
	10	78WB-10-2.5		1318		2	X																

Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature/Affiliation) <u>Randy [Signature]</u> CEL	Date: <u>5/12/10</u>	Time: <u>1142</u>
Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature/Affiliation) <u>[Signature]</u> CEL	Date: <u>5/12/10</u>	Time: <u>17:50</u>
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

DISTRIBUTION: White with final report, Green and Yellow to Client.
 Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

05/01/07 Revision

Page 22 of 27
2016-868-1472 (update) 030



Calscience Environmental Laboratories, Inc.

SoCal Laboratory
 7440 Lincoln Way
 Garden Grove, CA 92841-1427
 (714) 895-6494

NorCal Service Center
 5063 Commercial Circle, Suite H
 Concord, CA 94520-8577
 (925) 689-9022

CHAIN OF CUSTODY RECORD

Date 5/11/10Page 1 of 2

LABORATORY CLIENT: <u>Kleinfelder</u>		CLIENT PROJECT NAME / NUMBER: <u>JR 78 ADL STUDY / 11094 U</u>	P.O. NO.: <u>7</u>
ADDRESS: <u>5015 Shoreham Pl. CA 92122</u>		PROJECT CONTACT: <u>Liz Simmons</u>	LAB USE ONLY: <u>05-0998</u>
CITY: <u>San Diego</u> STATE: <u>CA</u> ZIP: <u>92122</u>		SAMPLER(S) (PRINT): <u>M. Hearne</u>	COOLER RECEIPT: <u>(30)</u>
TEL: <u>858-320-2000</u>	E-MAIL: <u>J.Janusziewicz@Kleinfelder.com</u>	COELT LOG CODE: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TEMP: <u>0</u> °C

TURNAROUND TIME:
 SAME DAY 24 HR 48 HR 72 HR STANDARD

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
 RWQCB REPORTING FORMS COELT EDF EQUIS EDD

SPECIAL INSTRUCTIONS:
 • Hold DI wet pending analysis + TCLP
 • run samples for DI wet if total lead \geq 50 mg/kg
 • run samples for TCLP if total lead \geq 100 mg/kg

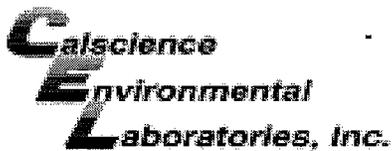
REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING		MATRIX	NO. OF CONT.	TPH (g) or (C6-C36) or (C6-C44)	BTEX / MTBE (8260B) or ()	VOCs (8260B)	Oxygenates (8260B)	Encore Prep (5035)	SVOCs (8270C)	Pesticides (8081A)	PCBs (6082)	PNAs (8310) or (8270C)	T22 Metals (6010B/747X)	Cr(VI) [7196A or 7199 or 218.6]	VOCs (TO-14A) or (TO-15)	TPH (g) (TO-31)	Wet Citrate (STLC)	DI Wet	TCLP
			DATE	TIME																		
	78WB-01-0.5		5-11-10	0930	DI	2	X	X												X	X	X
	78WB-02-3.0			0940		1	X													X	X	X
	78WB-03-0.5			0948		2	X													X	X	X
	78WB-04-1.5			1011		2	X													X	X	X
	78WB-05-1.0			1025		1	X													X	X	X
	78WB-06-2.0			1100		1	X													X	X	X
	78WB-07-2.5			1139		1	X	X												X	X	X
	78WB-08-1.0			1154		1	X													X	X	X
	78WB-09-0.5			1306		1	X													X	X	X
	78WB-10-2.5			1318		2	X													X	X	X

Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature/Affiliation) <u>Rudman CEL</u>	Date: <u>5/12/10</u>	Time: <u>1142</u>
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

DISTRIBUTION: White with final report, Green and Yellow to Client.
 Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

05/01/07 Revision



WORK ORDER #: 10-05-0947

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: KLEINFELDER

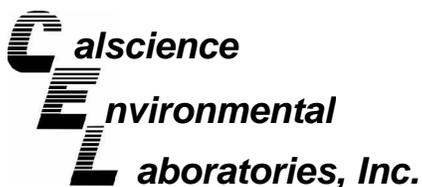
DATE: 05/12/10

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0°C - 6.0°C, not frozen)
Temperature 2.3 °C + 0.5 °C (CF) = 2.8 °C [X] Blank [] Sample
[] Sample(s) outside temperature criteria (PM/APM contacted by: _____).
[] Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.
[] Received at ambient temperature, placed on ice for transport by Courier.
Ambient Temperature: [] Air [] Filter [] Metals Only [] PCBs Only Initial: AM

CUSTODY SEALS INTACT:
[] Cooler [] _____ [] No (Not Intact) [X] Not Present [] N/A Initial: AM
[] Sample [] _____ [] No (Not Intact) [X] Not Present Initial: AM

SAMPLE CONDITION:
Chain-Of-Custody (COC) document(s) received with samples..... [X] Yes [] No [] N/A
COC document(s) received complete..... [X] Yes [] No [] N/A
[] Collection date/time, matrix, and/or # of containers logged in based on sample labels.
[] No analysis requested. [] Not relinquished. [] No date/time relinquished.
Sampler's name indicated on COC..... [X] Yes [] No [] N/A
Sample container label(s) consistent with COC..... [] Yes [X] No [] N/A
Sample container(s) intact and good condition..... [X] Yes [] No [] N/A
Proper containers and sufficient volume for analyses requested..... [X] Yes [] No [] N/A
Analyses received within holding time..... [X] Yes [] No [] N/A
pH / Residual Chlorine / Dissolved Sulfide received within 24 hours..... [] Yes [X] No [] N/A
Proper preservation noted on COC or sample container..... [X] Yes [X] No [] N/A
[] Unpreserved vials received for Volatiles analysis
Volatile analysis container(s) free of headspace..... [] Yes [] No [X] N/A
Tedlar bag(s) free of condensation..... [] Yes [] No [X] N/A

CONTAINER TYPE:
Solid: [] 4ozCGJ [X] 8ozCGJ [] 16ozCGJ [] Sleeve (____) [] EnCores® [] TerraCores® [] _____
Water: [] VOA [] VOA h [] VOA na2 [] 125AGB [] 125AGB h [] 125AGB p [] 1AGB [] 1AGB na2 [] 1AGBs
[] 500AGB [] 500AGJ [] 500AGJs [] 250AGB [] 250CGB [] 250CGBs [] 1PB [] 500PB [] 500PBna
[] 250PB [X] 250PBn [] 125PB [] 125PBz nna [] 100PJ [] 100PJ na2 [] _____ [] _____ [] _____
Air: [] Tedlar® [] Summa® Other: [] _____ Trip Blank Lot#: _____ Labeled/Checked by: AM
Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: JSC
Preservative: h: HCL n: HNO3 na2: Na2S2O3 na: NaOH p: H3PO4 s: H2SO4 z nna: ZnAc2+NaOH f: Field-filtered Scanned by: AM



May 24, 2010

Chris Noland
Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Subject: **CalScience Work Order No.: 10-05-1087**
Client Reference: SR 78 ADL SURVEY / 110946

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/13/2010 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard CalScience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read 'Danielle Gonsman', with a long horizontal flourish extending to the right.

CalScience Environmental
Laboratories, Inc.
Danielle Gonsman
Project Manager

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: EPA 3550B
Method: EPA 9045D

Project: SR 78 ADL SURVEY / 110946

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-16-2.5	10-05-1087-1-A	05/12/10 09:22	Solid	PH 4	05/13/10	05/13/10 19:34	A0513PHD5

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
pH	6.89	0.01	1		pH units

78WB-19-2.0	10-05-1087-5-A	05/12/10 10:11	Solid	PH 4	05/13/10	05/13/10 19:34	A0513PHD5
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
pH	6.49	0.01	1		pH units

78WB-23-2.5	10-05-1087-9-A	05/12/10 11:03	Solid	PH 4	05/13/10	05/13/10 19:34	A0513PHD5
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
pH	6.38	0.01	1		pH units

78WB-30-2.5	10-05-1087-13-A	05/12/10 11:27	Solid	PH 4	05/13/10	05/13/10 19:34	A0513PHD5
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
pH	6.20	0.01	1		pH units

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-16-2.5	10-05-1087-1-A	05/12/10 09:22	Solid	ICP 5300	05/14/10	05/14/10 23:48	100514L03

Parameter	Result	RL	DF	Qual	Units
Lead	1.19	0.500	1		mg/kg

78WB-16-100	10-05-1087-2-A	05/12/10 09:23	Solid	ICP 5300	05/14/10	05/14/10 23:49	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	1.28	0.500	1		mg/kg

78WB-17-2.0	10-05-1087-3-A	05/12/10 09:48	Solid	ICP 5300	05/14/10	05/14/10 23:39	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	2.44	0.500	1		mg/kg

78WB-18-1.5	10-05-1087-4-A	05/12/10 10:00	Solid	ICP 5300	05/14/10	05/14/10 23:50	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	4.65	0.500	1		mg/kg

78WB-19-2.0	10-05-1087-5-A	05/12/10 10:11	Solid	ICP 5300	05/14/10	05/14/10 23:52	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	4.54	0.500	1		mg/kg

78WB-20-1.5	10-05-1087-6-A	05/12/10 10:25	Solid	ICP 5300	05/14/10	05/14/10 23:53	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	8.85	0.500	1		mg/kg

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-21-2.5	10-05-1087-7-A	05/12/10 10:36	Solid	ICP 5300	05/14/10	05/14/10 23:55	100514L03

Parameter	Result	RL	DF	Qual	Units
Lead	2.46	0.500	1		mg/kg

78WB-22-1.5	10-05-1087-8-A	05/12/10 10:54	Solid	ICP 5300	05/14/10	05/14/10 23:56	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	8.74	0.500	1		mg/kg

78WB-23-2.5	10-05-1087-9-A	05/12/10 11:03	Solid	ICP 5300	05/14/10	05/15/10 00:00	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	3.82	0.500	1		mg/kg

78WB-24-2.5	10-05-1087-10-A	05/12/10 12:45	Solid	ICP 5300	05/14/10	05/15/10 00:01	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	1.35	0.500	1		mg/kg

78WB-20-100	10-05-1087-11-A	05/12/10 10:26	Solid	ICP 5300	05/14/10	05/15/10 00:03	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	32.8	0.500	1		mg/kg

78WB-29-1.5	10-05-1087-12-A	05/12/10 11:15	Solid	ICP 5300	05/14/10	05/15/10 00:04	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	10.9	0.500	1		mg/kg

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-30-2.5	10-05-1087-13-A	05/12/10 11:27	Solid	ICP 5300	05/14/10	05/15/10 00:06	100514L03

Parameter	Result	RL	DF	Qual	Units
Lead	3.58	0.500	1		mg/kg

78WB-25-2.0	10-05-1087-14-A	05/12/10 12:54	Solid	ICP 5300	05/14/10	05/15/10 00:07	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	56.4	0.500	1		mg/kg

78WB-26-1.0	10-05-1087-15-A	05/12/10 13:03	Solid	ICP 5300	05/14/10	05/15/10 00:08	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	30.5	0.500	1		mg/kg

78WB-27-2.0	10-05-1087-16-A	05/12/10 13:12	Solid	ICP 5300	05/14/10	05/15/10 00:09	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	21.5	0.500	1		mg/kg

78WB-28-1.0	10-05-1087-17-A	05/12/10 13:19	Solid	ICP 5300	05/14/10	05/15/10 00:10	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	6.87	0.500	1		mg/kg

Method Blank	097-01-002-13,518	N/A	Solid	ICP 5300	05/14/10	05/14/10 23:35	100514L03
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Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.500	1		mg/kg

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RB-051210-1	10-05-1087-18-A	05/12/10 13:30	Aqueous	ICP 5300	05/14/10	05/14/10 20:52	100514LA3

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Lead	ND	0.0100	1		mg/L

Method Blank	097-01-003-10,570	N/A	Aqueous	ICP 5300	05/14/10	05/14/10 19:57	100514LA3
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Lead	ND	0.0100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: T22.11.5. All
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Page 1 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-16-2.5	10-05-1087-1-A	05/12/10 09:22	Solid	ICP 5300	05/14/10	05/18/10 13:44	100517LA6A

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-16-100	10-05-1087-2-A	05/12/10 09:23	Solid	ICP 5300	05/14/10	05/18/10 14:05	100517LA6A

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-17-2.0	10-05-1087-3-A	05/12/10 09:48	Solid	ICP 5300	05/14/10	05/18/10 14:06	100517LA6A

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-18-1.5	10-05-1087-4-A	05/12/10 10:00	Solid	ICP 5300	05/14/10	05/18/10 14:07	100517LA6A

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-19-2.0	10-05-1087-5-A	05/12/10 10:11	Solid	ICP 5300	05/14/10	05/18/10 14:08	100517LA6A

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-20-1.5	10-05-1087-6-A	05/12/10 10:25	Solid	ICP 5300	05/14/10	05/18/10 14:09	100517LA6A

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.316	0.100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: T22.11.5. All
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-21-2.5	10-05-1087-7-A	05/12/10 10:36	Solid	ICP 5300	05/14/10	05/18/10 14:10	100517LA6A

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

78WB-22-1.5	10-05-1087-8-A	05/12/10 10:54	Solid	ICP 5300	05/14/10	05/18/10 14:11	100517LA6A
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.125	0.100	1		mg/L

78WB-23-2.5	10-05-1087-9-A	05/12/10 11:03	Solid	ICP 5300	05/14/10	05/18/10 14:12	100517LA6A
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

78WB-24-2.5	10-05-1087-10-A	05/12/10 12:45	Solid	ICP 5300	05/14/10	05/18/10 14:13	100517LA6A
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

78WB-20-100	10-05-1087-11-A	05/12/10 10:26	Solid	ICP 5300	05/14/10	05/18/10 14:14	100517LA6A
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	1.35	0.100	1		mg/L

78WB-29-1.5	10-05-1087-12-A	05/12/10 11:15	Solid	ICP 5300	05/14/10	05/18/10 14:17	100517LA6A
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.348	0.100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: T22.11.5. All
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Page 3 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-30-2.5	10-05-1087-13-A	05/12/10 11:27	Solid	ICP 5300	05/14/10	05/18/10 14:18	100517LA6A

Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

78WB-25-2.0	10-05-1087-14-A	05/12/10 12:54	Solid	ICP 5300	05/14/10	05/18/10 14:19	100517LA6A
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	3.12	0.100	1		mg/L

78WB-26-1.0	10-05-1087-15-A	05/12/10 13:03	Solid	ICP 5300	05/14/10	05/18/10 14:20	100517LA6A
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	1.14	0.100	1		mg/L

78WB-27-2.0	10-05-1087-16-A	05/12/10 13:12	Solid	ICP 5300	05/14/10	05/18/10 14:21	100517LA6A
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	1.28	0.100	1		mg/L

78WB-28-1.0	10-05-1087-17-A	05/12/10 13:19	Solid	ICP 5300	05/14/10	05/18/10 14:22	100517LA6A
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Comment(s): -The analysis was performed on an STLC extract of the sample.

Parameter	Result	RL	DF	Qual	Units
Lead	0.378	0.100	1		mg/L

Method Blank	097-05-006-5,176	N/A	Solid	ICP 5300	05/14/10	05/18/10 13:38	100517LA6A
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Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: T22.11.5.All DI
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Page 4 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
78WB-25-2.0	10-05-1087-14-A	05/12/10 12:54	Solid	ICP 5300	05/19/10	05/21/10 14:58	100521LA1

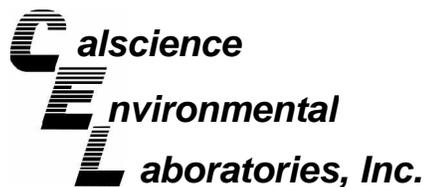
Comment(s): -The analysis was performed on an STLC extract of the sample.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Lead	ND	0.100	1		mg/L

Method Blank	097-05-006-5,182	N/A	Solid	ICP 5300	05/19/10	05/21/10 14:55	100521LA1
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Lead	ND	0.100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

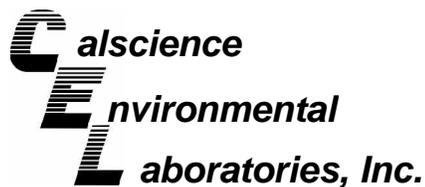
Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: EPA 3050B
Method: EPA 6010B

Project SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
78WB-17-2.0	Solid	ICP 5300	05/14/10	05/14/10	100514S03

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	106	109	75-125	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - PDS / PDSD



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

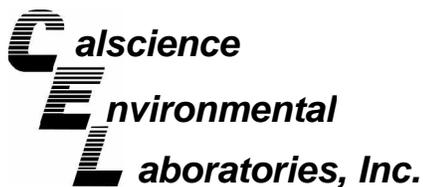
Date Received 05/13/10
Work Order No: 10-05-1087
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS / PDSD Batch Number
78WB-17-2.0	Solid	ICP 5300	05/14/10	05/14/10	100514S03

<u>Parameter</u>	<u>PDS %REC</u>	<u>PDSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Lead	98	100	75-125	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

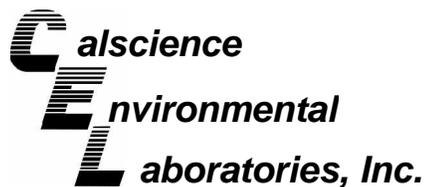
Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: EPA 3010A Total
Method: EPA 6010B

Project SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-05-1079-7	Aqueous	ICP 5300	05/14/10	05/14/10	100514SA3

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	101	99	84-120	2	0-7	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

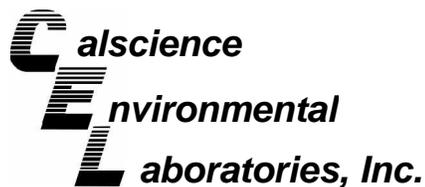
Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: T22.11.5. All
Method: EPA 6010B

Project SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
78WB-16-2.5	Solid	ICP 5300	05/14/10	05/18/10	100517SA6

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	110	117	75-125	6	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

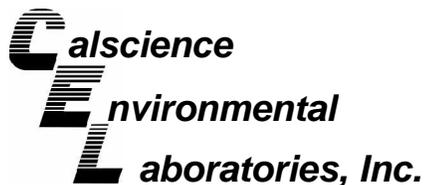
Date Received: 05/13/10
Work Order No: 10-05-1087
Preparation: T22.11.5.All DI
Method: EPA 6010B

Project SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
78WB-25-2.0	Solid	ICP 5300	05/19/10	05/21/10	100521SA1

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	102	102	75-125	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Duplicate



Kleinfelder, Inc.
 5015 Shoreham Place
 San Diego, CA 92122-5993

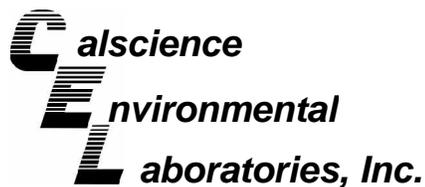
Date Received: 05/13/10
 Work Order No: 10-05-1087
 Preparation: EPA 3550B
 Method: EPA 9045D

Project: SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
10-05-1100-2	Solid	PH 4	05/13/10	05/13/10	A0513PHD5

<u>Parameter</u>	<u>Sample Conc.</u>	<u>DUP Conc</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
pH	7.92	7.96	1	0-25	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

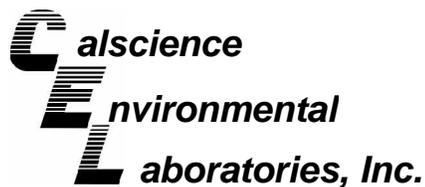
Date Received: N/A
Work Order No: 10-05-1087
Preparation: EPA 3050B
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-13,518	Solid	ICP 5300	05/14/10	05/14/10	100514L03

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Lead	114	113	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

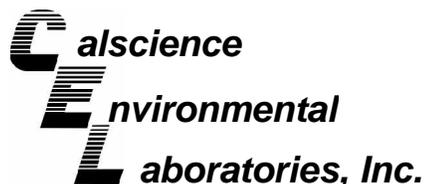
Date Received: N/A
Work Order No: 10-05-1087
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-003-10,570	Aqueous	ICP 5300	05/14/10	05/14/10	100514LA3

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Lead	115	112	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Kleinfelder, Inc.
5015 Shoreham Place
San Diego, CA 92122-5993

Date Received: N/A
Work Order No: 10-05-1087
Preparation: T22.11.5. All
Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-05-006-5,176	Solid	ICP 5300	05/14/10	05/18/10	100517LA6A

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Lead	114	116	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Kleinfelder, Inc.
 5015 Shoreham Place
 San Diego, CA 92122-5993

Date Received: N/A
 Work Order No: 10-05-1087
 Preparation: T22.11.5.All DI
 Method: EPA 6010B

Project: SR 78 ADL SURVEY / 110946

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-05-006-5,182	Solid	ICP 5300	05/21/10	100521-la-1	100521LA1

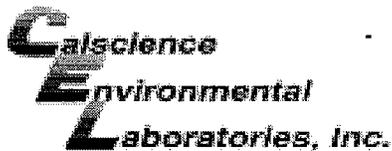
<u>Parameter</u>	<u>Conc Added</u>	<u>Conc Recovered</u>	<u>LCS %Rec</u>	<u>%Rec CL</u>	<u>Qualifiers</u>
Lead	5.00	5.04	101	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Work Order Number: 10-05-1087

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
E	Concentration exceeds the calibration range.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis. Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.





WORK ORDER #: 10-05-1087

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: KLEINFELDER

DATE: 05/13/10

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0°C – 6.0°C, not frozen)

Temperature 2.3 °C + 0.5°C (CF) = 2.8 °C Blank Sample

Sample(s) outside temperature criteria (PM/APM contacted by: _____).

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: Air Filter Metals Only PCBs Only Initial: AM

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Initial: AM

Sample _____ No (Not Intact) Not Present Initial: SC

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/> WSC 573-10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH/ Residual Chlorine / Dissolved Sulfide received within 24 hours.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> WSC 573-10
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (____) EnCores® TerraCores® _____

Water: VOA VOAh VOAna₂ 125AGB 125AGBh 125AGBp 1AGB 1AGBna₂ 1AGBs

500AGB 500AGJ 500AGJs 250AGB 250CGB 250CGBs 1PB 500PB 500PBna

250PB 250PBn 125PB 125PBz_{na} 100PJ 100PJna₂ _____ _____ _____

Air: Tedlar® Summa® **Other:** _____ **Trip Blank Lot#:** _____ **Labeled/Checked by:** SC

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** WSC

Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ z_{na}: ZnAc₂+NaOH f: Field-filtered **Scanned by:** WSC

APPENDIX C

Statistical Data Evaluation

1. STATISTICAL ANALYSIS

The data sets for total concentrations of lead (TOTAL), soluble concentrations of lead from the Waste Extraction Test (WET), soluble concentrations of lead from the WET test modified with deionized water as the extract (WET DI), and soil pH levels were statistically analyzed for classification in an appropriate Aerially Deposited Lead (ADL) Soil Management Type for possible on-site reuse under the California Department of Toxic Substance Control (DTSC) variance, or the appropriate waste classification for off-site disposal of surplus soil that cannot be used on site.

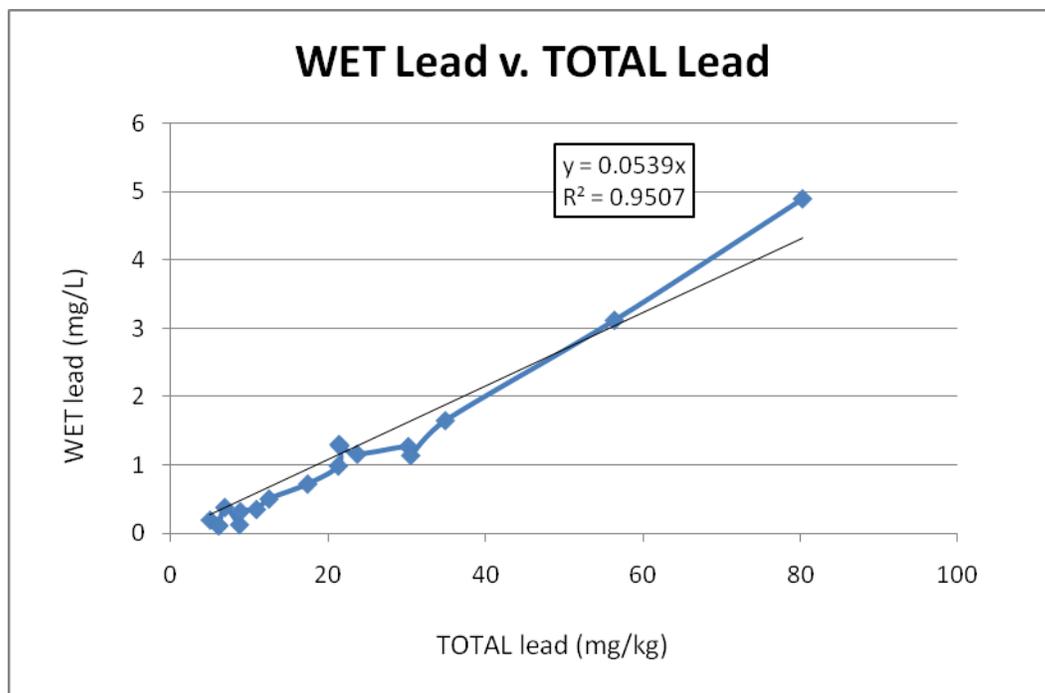
The TOTAL lead concentrations were compared with the Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg), that identifies soil as California-hazardous waste, WET lead concentrations were compared with the Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter that also identifies soil as California-hazardous waste, and the WET DI lead concentrations were compared with the DTSC variance criteria of 1.5 mg/l. The DTSC variance allows higher TOTAL lead and WET DI concentrations; however, the initial comparison is made at the prescribed values of 1,000 and 1.5, respectively. The soil pH levels were compared with the variance criteria of 5.5.

The complete data set was analyzed as one population. Observation and statistical results are presented in the table below.

Observations for All Depths							
Variable	Num Obs	# NDs	% of NDs	Threshold	#>Threshold	% > Threshold	
TOTAL	30	0	0%	1000	0	0%	
WET	30	12	40%	5	0	0%	
WET DI	2	1	50%	1.5	1	50%	
PH	8	N/A	N/A	5.5	0	0%	
Summary Statistics and Upper Confidence Limits for All Depths [ADL Soil Management Type = X]							
Variable	Minimum	Maximum	Mean	Median	SD	90% UCL	95% UCL
TOTAL	1.19	80.3	14.72	6.49	17.76	19.2	20.7
WET	0.1	4.9	0.694	0.159	1.049	0.9	1.0
WET DI	0.1	3.45	1.775	1.775	2.369	N/A	N/A
PH	6.2	7.66	6.641	6.495	0.457	6.9	7.0

The TOTAL and pH data sets fit a log normal distribution and the WET data set was non-parametric (did not fit a known distribution). The WET DI data set only had two values (of which one is non detect) and did not lend itself to meaningful statistical analysis. The maximum, mean, and 90 percent UCL values indicate an ADL Soil Management Type of "X," which allows on-site use without the need for cover, provided proper notification and Lead Compliance Plans were prepared and implemented. The 95 percent UCL indicates that surplus soil can be disposed of as non-hazardous waste at a permitted Class III landfill facility.

The WET lead concentrations were plotted against the TOTAL lead on an X-Y scatter plot to evaluate if there was a positive correlation. The graphed results below indicate a positive correlation ($R^2 > 0.9$) when the WET DI non-detect values were removed. The intercept was forced through the origin. The slope equation is presented on the graph.



The data sets were segregated according to sample depth representative for that soil horizon: shallow (0-1 feet), intermediate (1-2 feet), deep (2-3) feet. The shallow and intermediate depths were combined (0-2) to evaluate if there would be any difference in the ADL Soil Management Type or waste classification (if removed for off-site disposal).

Observations for Shallow Depth (0-1 feet)							
Variable	Num Obs	# NDs	% of NDs	Threshold	#>Threshold	% > Threshold	
TOTAL	4	0	0%	1000	0	0%	
WET	4	0	0%	5	0	0%	
WET DI	0	N/A	N/A	1.5	N/A	N/A	
Summary Statistics and Upper Confidence Limits for Shallow Depth (0-1 feet) [ADL Soil Management Type = X]							
Variable	Minimum	Maximum	Mean	Median	SD	90% UCL	95% UCL
TOTAL	6.11	34.9	18.7	16.9	12.47	N/A	N/A
WET	0.11	1.65	0.812	0.744	0.664	N/A	N/A
WET DI	0	N/A	N/A	1.5	N/A	N/A	N/A

The 90 and 95 percent upper confidence limits of the mean could not be calculated for the shallow data set because of insufficient number of sample results. However, based on maximum observed values the shallow soil is classified as ADL Soil Management Type X for on-site reuse and non-hazardous soil for off-site disposal.

Observations for Intermediate Soils (1-2 feet)							
Variable	Num Obs	# NDs	% of NDs	Threshold	#>Threshold	% > Threshold	
TOTAL	11	0	0%	1000	0	0%	
WET	11	3	27%	5	0	0%	
WET DI	1	0	0%	1.5	1	100%	
Summary Statistics and Upper Confidence Limits for Intermediate Soils (1-2 feet) [ADL Soil Management Type = X]							
Variable	Minimum	Maximum	Mean	Median	SD	90% UCL	95% UCL
TOTAL	3.63	80.3	19.28	8.85	22.65	31.0	35.6
WET	0.1	4.9	0.903	0.348	1.404	1.7	2.0
WET DI	3.45	3.45	3.45	3.45	N/A	N/A	N/A

Soils in the intermediate horizon can be classified as ADL Type "X" for on-site reuse and non-hazardous for off-site disposal.

Observations for Shallow and Intermediate Depth (0-2 feet)							
Variable	Num Obs	# NDs	% of NDs	Threshold	#>Threshold	% > Threshold	
TOTAL	15	0	0%	1000	0	0%	
WET	15	3	20%	5	0	0%	
WET DI	1	0	0%	1.5	1	100%	
Summary Statistics and UCLs for Shallow and Intermediate Depth (0-2 feet) [ADL Soil Management Type = X]							
Variable	Minimum	Maximum	Mean	Median	SD	90% UCL	95% UCL
TOTAL	3.63	80.3	19.13	10.9	20	27.1	30.0
WET	0.1	4.9	0.879	0.378	1.226	1.4	1.6
WET DI	3.45	3.45	3.45	3.45	N/A	N/A	N/A

Soil in the Shallow and Intermediate horizons, when considered together, can still be classified as ADL Type "X" for on-site reuse and non-hazardous for off-site disposal.

Observations for Deep Soils (2-3 feet)							
Variable	Num Obs	# NDs	% of NDs	Threshold	#>Threshold	% > Threshold	
TOTAL	15	0	0%	1000	0	0%	
WET	15	9	60%	5	0	0%	
WET DI	1	1	100%	1.5	0	0%	
Summary Statistics and UCLs for Deep Soils (2-3 feet) [ADL Soil Management Type = X]							
Variable	Minimum	Maximum	Mean	Median	SD	90% UCL	95% UCL
TOTAL	1.19	56.4	10.31	4.15	14.55	18.3	23.2
WET	0.1	3.12	0.508	0.1	0.839	0.8	1.5
WET DI	0.1	0.1	0.1	0.1	N/A	N/A	N/A

Soil in the Deep horizon can be classified as ADL Type "X" for on-site reuse and non-hazardous for off-site disposal.