FOR CONTRACT NO.: 11-089754

INFORMATION HANDOUT

Foundation Recommendations
La Jolla Village Drive O.C. (Bridge No. 57-761)

Foundation Reviews - La Jolla Village Drive O.C. (Bridge No. 57-761)

Water Source Information

Soil Sampling for Aerially Deposited Lead - I-805 Northern, Aerially Deposited Lead Study Report, I-805 Between State Route 52 Interchange and the I-5/I-805 Merge, San Diego, California

United States Fish and Wildlife Service - Biological Opinion dated , August 1, 1997

Materials Information Brochure, December 30, 2003, Revised May 3, 2004

Groundwater Discharges of less than 100,000 gallons per day - Department Enrollment Letter under Regional Water Quality Control Board Permit "Order No. R9 - 2008 - 0002, NPDES No. CAG919002", dated June 12, 2009

Optional Disposal Site

ROUTE: 11-SD-805 KP40.6/42.4

INFORMATION HANDOUT
11-089754
11-SD-805 KP 40.6/42.4

1. Foundation Recommendations – La Jolla Village Drive O.C. (Bridge No. 57-761)
2. Foundation Reviews – La Jolla Village Drive O.C. (Bridge No. 57-761)
3. Water source information
4. Soil Sampling for Aerially Deposited Lead – I-805 Northern, Aerially Deposited Lead Study Report, I-805 Between State Route 52 Interchange and the I-5/I-805 Merge, San Diego, California
5. United States Fish and Wildlife Service – Biological Opinion dated, August 1, 1997.
6. Materials Information Brochure, December 30, 2003, Revised May 3, 2004
7. Groundwater Discharges of less than 100,000 gallons per day – Department Enrollment Letter under Regional Water Quality Control Board Permit "Order No. R9 - 2008 – 0002, NPDES No. CAG919002", dated June 12, 2009
8. Optional Disposal Site

FOUNDATION REPORT
LA JOLLA VILLAGE DRIVE/INTERSTATE 805 INTERCHANGE PROJECT
CALTRANS DISTRICT 11
COUNTY OF SAN DIEGO
BRIDGE NO. 57-761
SAN DIEGO, CALIFORNIA

PREPARED FOR:
Boyle Engineering Corporation
7807 Convoy Court, Suite 200
San Diego, California 92111

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
5710 Ruffin Road
San Diego, California 92123

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December 30, 2003
(Revised June 3, 2005)
Project No. 104765001

December 30, 2003
(Revised June 3, 2005)
Project No. 104765001

Mr. Greg Campbell
Boyle Engineering Company
7807 Convoy Court, Suite 200
San Diego, California 92111

Subject: Foundation Report
La Jolla Village Drive/Interstate 805 Interchange Project
Caltrans District 11
County of San Diego
Bridge No. 57-761
San Diego, California

Dear Mr. Campbell:

In accordance with the request and authorization of Boyle Engineering Company, we have completed a Foundation Report for the improvements to the La Jolla Village Drive/Interstate 805 Interchange Project. This report presents the findings of our subsurface evaluation, which was performed to provide criteria for the design and construction of the proposed improvements. Our conclusions and recommendations are presented herein. Caltrans correspondence regarding review of the Preliminary Foundation Report dated February 20, 2003 and revised reports dated May 13, July 7, and November 19, 2004 is included as Appendix B.

We appreciate the opportunity to be of service on this project. If you have questions regarding this report, please contact the undersigned.

Respectfully submitted,
NINYO & MOORE

Erik Olsen, G.E.
Chief Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
ERIK OLSEN
No. 2218
Exp. 3/31/06
GEOTECHNICAL
STATE OF CALIFORNIA

Randal L. Irwin, C.E.G.
Chief Engineering Geologist

REGISTERED GEOLOGIST
Randal L. Irwin
No.1521
Certified
Engineering
Geologist
Exp. 9/30/05
STATE OF CALIFORNIA

RTW/EO/RI/erc/gg

Distribution: (7) Addressee

TABLE OF CONTENTS

Page

1. INTRODUCTION 1
2. SCOPE OF SERVICES 1
3. SITE DESCRIPTION AND PROPOSED CONSTRUCTION 4
4. FIELD EXPLORATION 4
5. LABORATORY TESTING 4
6. GEOLOGY AND SUBSURFACE CONDITIONS 5
   - 6.1. Site Geology 5
     - 6.1.1. Fill 5
     - 6.1.2. Scripps Formation 5
     - 6.1.3. Bedrock 6
   - 6.2. Groundwater 6
7. FAULTING AND SEISMICITY 6
   - 7.1. Strong Ground Motion 9
   - 7.2. Ground Surface Rupture 11
   - 7.3. Liquefaction and Seismically Induced Settlement 11
   - 7.4. Landslides 11
   - 7.5. Settlement 11
8. CONCLUSIONS 12
9. RECOMMENDATIONS 12
   - 9.1. Approach Embankments 12
   - 9.2. Foundations 13
     - 9.2.1. Spread Footings 13
     - 9.2.2. Deep Foundations 15
       - 9.2.2.1. Axial Capacity 15
       - 9.2.2.2. Lateral Capacity 16
     - 9.2.3. Overcrossing Wingwall Foundations 17
   - 9.3. Abutments 19
   - 9.4. Corrosion Analysis 21
10. CONSTRUCTION CONSIDERATIONS 22
    - 10.1. Footing Excavation 22
    - 10.2. CIDH Piles 23
    - 10.3. Fill Placement and Compaction 24
    - 10.4. Settlement 25
11. CONSTRUCTION OBSERVATION 25
12. LIMITATIONS 25

13. SELECTED REFERENCES 27

Tables

Table 1 – Laboratory Testing.....5
Table 2 – Seismic Parameters for Maximum Credible Earthquakes 7
Table 3 – Material Properties.....13
Table 4 – Spread Footing Data Table.....14
Table 5 – Axial Pile Capacity.....16
Table 6 – Lateral Pile Capacity – Abutment 3 Free Head Condition.....16
Table 7 – Lateral Pile Capacity – Abutment 3 Fixed Head Condition.....17
Table 8 – Lateral Load Reduction Factors 17

Illustrations

Figure 1 – Site Location Map 3
Figure 2 – Fault Location Map 8
Figure 3 – ARS Curve.....10
Figure 4 – Diaphragm Abutment Pressure Diagram 20

Sheet 1 – Log of Test Boring Sheet

Appendices

Appendix A – Laboratory Testing
Appendix B – Caltrans Foundation Review and Response

1. INTRODUCTION

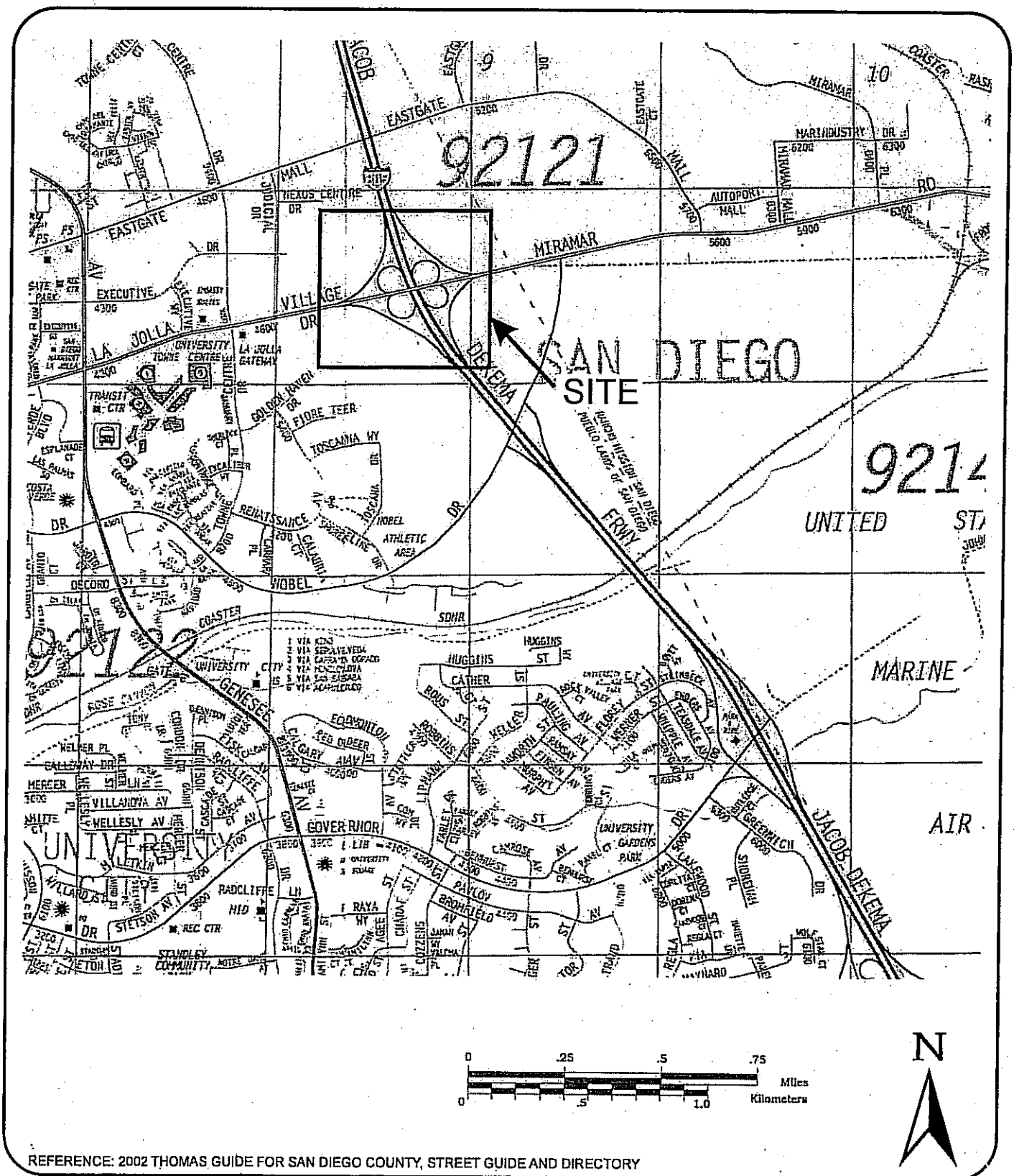
In accordance with your request and our proposal, we have performed a geotechnical evaluation for the La Jolla Village Drive/Interstate 805 Interchange Project in San Diego, California (Figure 1). This project consists of the widening of the existing La Jolla Village Drive/Miramar Road Bridge (Overcrossing) over Interstate 805. This report presents our findings, conclusions, and geotechnical recommendations regarding the design and construction of the overcrossing improvements.

2. SCOPE OF SERVICES

Our scope of services included the following:

- Review of readily available published and in-house geotechnical literature, including topographic maps, geologic maps, fault maps, and stereoscopic aerial photographs.
- Field reconnaissance to observe site conditions and to locate and mark proposed exploratory excavations.
- Coordinating and mobilizing for the subsurface exploration, including securing traffic control. Mark-out of existing underground utilities was conducted through Underground Service Alert and Caltrans personnel, and a Caltrans encroachment permit was obtained for work within the Caltrans right-of-way.
- Performance of a subsurface evaluation consisting of the excavation, logging, and sampling of three small-diameter exploratory borings at the project site. The borings were advanced with a truck mounted hollow stem auger drill rig to depths of up to approximately 22.3 m below the existing grade.
- Laboratory testing of selected samples including in-situ moisture content and dry density, gradation, Atterberg limits, direct shear, consolidation, and corrosivity.
- Data compilation and engineering analyses of the information obtained from the background review, subsurface evaluation, and laboratory testing. Our engineering analyses included the analysis of seismic design criteria, potential for liquefaction and lateral spread, design earth pressures, corrosion potential, and design criteria for overcrossing foundations.
- Preparation of this report to present our conclusions and geotechnical recommendations for the proposed project.

Our scope of services did not include an evaluation of environmental considerations at the site. If an environmental evaluation is required, a detailed scope of proposed environmental services and an estimated fee for such services will be provided upon request.



REFERENCE: 2002 THOMAS GUIDE FOR SAN DIEGO COUNTY, STREET GUIDE AND DIRECTORY

104765001 F sim Fig 1

Ninyo & Moore

SITE LOCATION MAP

LA JOLLA VILLAGE DRIVE/I 805
INTERCHANGE PROJECT
SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
104765001	12/03	1

3. SITE DESCRIPTION AND PROPOSED CONSTRUCTION

The planned improvements will include the widening of the La Jolla Village Drive Overcrossing over Interstate 805, in San Diego, California.

Ground elevations at the overcrossing site vary from approximately 100 m above Mean Sea Level (MSL) near the existing median bent, to 108 m MSL near the west abutment (Abutment 1), and 109 m, near the east abutment (Abutment 3). Slopes descend from each of the abutments down to I-805.

4. FIELD EXPLORATION

Our subsurface exploration was conducted on December 17 through December 19, 2002, and consisted of the excavation, sampling, and logging of three small-diameter exploratory borings. A truck mounted drill rig with a 200-mm diameter continuous flight hollow stem auger was used to excavate the exploratory borings to depths of approximately 22.3 m below the existing ground surface. The purpose of the borings was to observe and sample the underlying earth materials, and to evaluate the foundation characteristics of the underlying soils. The approximate locations of the borings are indicated on the Log of Test Boring Sheet (Sheet 1). The borings were logged by a representative of our firm. Relatively undisturbed and bulk samples were obtained from the borings at selected intervals and transported to our laboratory for testing.

5. LABORATORY TESTING

Laboratory testing of representative soil samples included in-situ moisture content and dry density, direct shear, gradation, Atterberg limits, consolidation, and corrosivity tests. The results of the moisture content and dry density tests are recorded on the Log of Test Boring Sheet. The other laboratory test results, including plots of the direct shear data, are presented in Appendix A. A summary of laboratory testing performed, including test type, designation, and number of tests performed, is presented in Table 1.

Table 1 – Laboratory Testing

Number of Tests Performed	Type of Test	Test Designation
19	Moisture and Density	ASTM D 2937-00
1	Sieve Analysis	CT 202 & 203
1	Atterberg Limits	CT 204
2	Consolidation	CT 219
3	Direct Shear	CT 222
1	Corrosivity	CT 417, 422 and 643

6. GEOLOGY AND SUBSURFACE CONDITIONS

The following sections describe geologic, soil, and groundwater conditions at the site. Faulting, seismicity, and liquefaction potential are also addressed.

6.1. Site Geology

Our geologic reconnaissance, subsurface evaluation, and review of published geologic maps and stereoscopic aerial photographs indicate that on-site fill materials generally overlie sedimentary rock of the Eocene-age Scripps Formation. The earth materials encountered in the project area are described in the following sections.

6.1.1. Fill

Fill materials were encountered in borings 02-1 and 02-3 to approximate depths of 6 m and 9 m, respectively. As encountered, the fill generally consisted of medium dense, silty and clayey fine sand, sandy silt, and hard, silty clay.

6.1.2. Scripps Formation

Materials of the Eocene-age Scripps Formation were encountered at the ground surface in boring 02-2 and beneath fill materials in the other exploratory borings. As encountered the material generally consisted of brown, light reddish brown, yellowish brown, and gray, weakly to strongly cemented, silty fine-grained sandstone and siltstone with

locally interbedded gravel and cobbles, and weakly to moderately cemented, gravelly conglomerate.

6.1.3. Bedrock

Earth materials classified as bedrock with a shear wave velocity of 760 m/s or more are anticipated at a depth in excess of 75 m.

6.2. Groundwater

Groundwater was not encountered in our exploratory borings. Based on knowledge of the area, we anticipate the regional groundwater table at a depth of 30 m or more. Groundwater levels can fluctuate due to seasonal variations, irrigation, groundwater withdrawal of injection, and other factors. Groundwater is not anticipated to have an effect on foundation design or construction; however, some minor seepage may be encountered during construction as a result of surface irrigation or localized seepage (e.g., along fractures).

7. FAULTING AND SEISMICITY

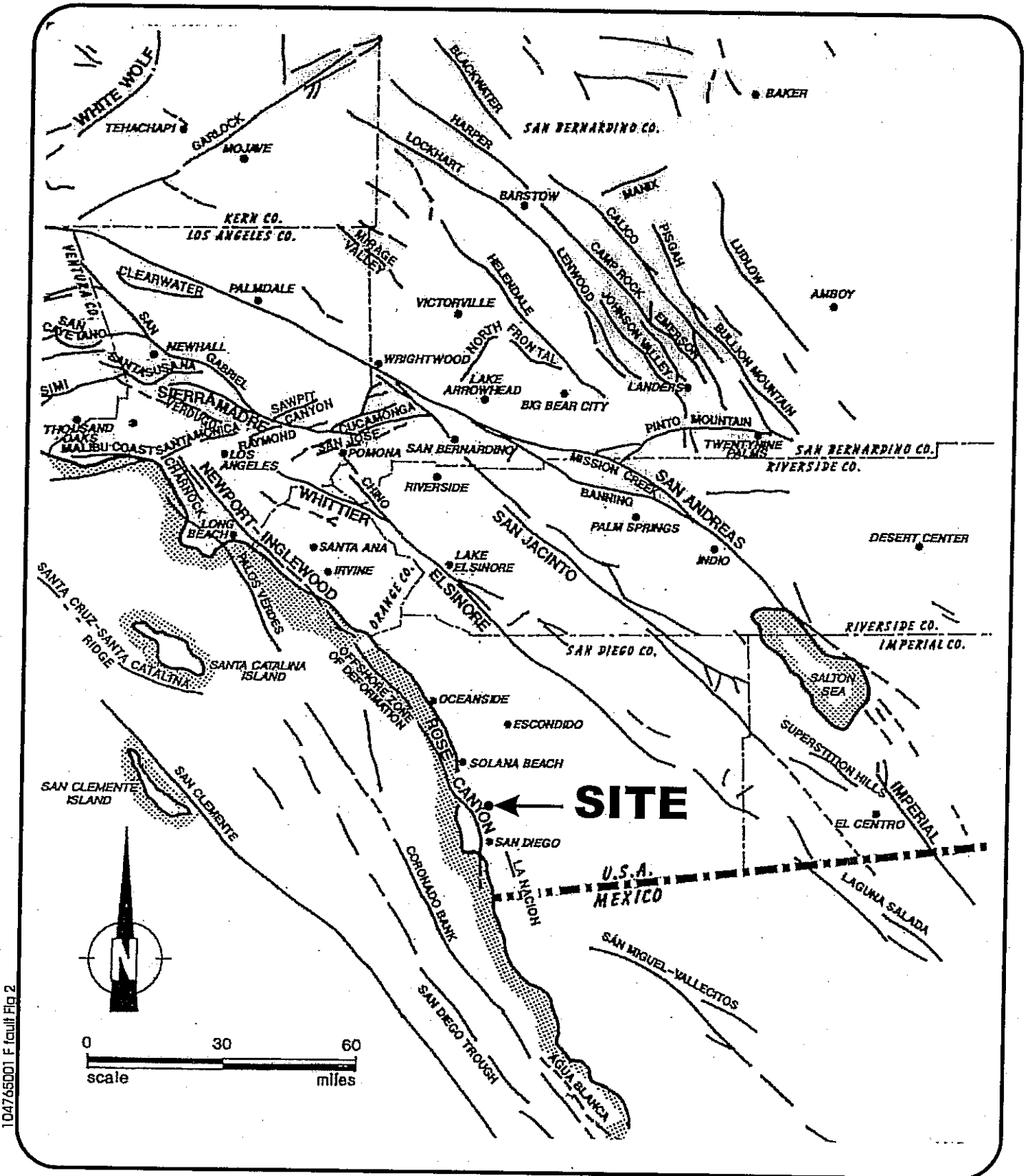
The subject site is considered to be in a seismically active area, as is much of southern California (Figure 2). Based on our review of stereoscopic aerial photographs and pertinent geologic literature, and our limited geologic field reconnaissance, no active faults are known to cross the project site. Table 2 presents a listing of the known active and potentially active fault zones within approximately 100 km of the site. Portions of the active Rose Canyon fault, located approximately 5.3 km west of the site, are zoned as Earthquake Fault (Alquist-Priolo) Special Studies Zones based on criteria of the California Division of Mines and Geology (CDMG). The Rose Canyon fault is part of the Newport Inglewood-Rose Canyon fault system. Several other regional faults have been classified as active in southern California and northern Baja California. Therefore, the potential for strong ground motion at the study site is considered significant.

Table 2 – Seismic Parameters for Maximum Credible Earthquakes

Fault	Fault to Site Distance (km)	Maximum Credible Earthquake Magnitude[1]	Estimated Peak Horizontal Acceleration[2] (g)
Newport-Inglewood-Rose Canyon	5.3	7.0	0.48
Point Loma[3]	7	6.5	0.36
Palos Verdes Hills-Coronado Bank	27	7.8	0.30
San Diego Trough	43	7.5	0.16
Whittier-Elsinore	57	7.5	0.12
San Miguel-Vallecitos	66	7.0	0.06
Earthquake Valley	67	6.5	0.05
San Clemente	82	7.3	0.07
San Jacinto	91	7.5	0.06

NOTES:
[1]Anderson et al., 1989; and Mualchin, 1996
[2]Mualchin and Jones, 1992.
[3]The Point Loma fault is considered potentially active based on criteria of the CDMG

Table 2 presents predicted horizontal ground accelerations that might be generated during Maximum Credible Earthquakes that may occur on regional active and potentially active faults. In general, seismic hazards might include strong ground motion, liquefaction, ground surface rupture, and seismically induced settlement. Each of these potential hazards is discussed in the following sections.



104765001 F fault Fig 2

Ninyo & Moore

FAULT LOCATION MAP

LA JOLLA VILLAGE DRIVE/I 805
INTERCHANGE PROJECT
SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
104765001	12/03	2

7.1. Strong Ground Motion

In our opinion, the most significant seismic event with respect to the proposed improvements would be an earthquake associated with the active Newport-Inglewood-Rose Canyon fault located approximately 5.3 km west of the site. An earthquake of magnitude 7.0 on the Rose Canyon fault could generate a peak horizontal bedrock acceleration of 0.48g. The Caltrans California Seismic Hazard Map (Mualchin, 1996) indicates that the general site area has the potential for a 0.5g peak acceleration. Therefore, based on the proximity to active and potentially active faults capable of producing large earthquakes, the subject site has a high potential for experiencing strong ground motion. The overcrossing structure is considered to be Ordinary and Standard, and may be analyzed using the acceleration response spectra (ARS) for greater than 75 m of Type C soil.

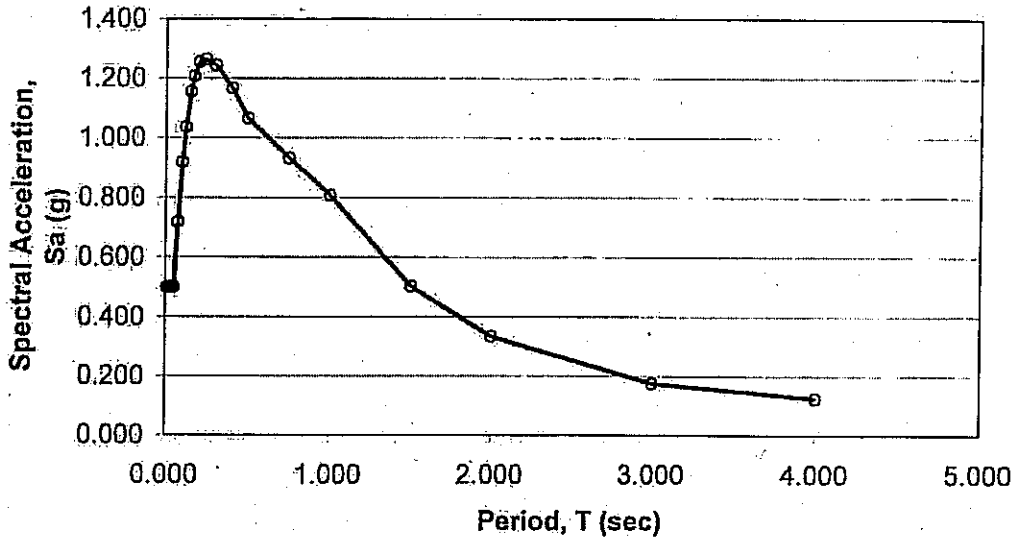
The distance of the proposed structures from the controlling fault is less than 15 km, and therefore, the following adjustments should be made to account for the near fault effect:

- Spectral acceleration should be increased by 20% for periods equal to and greater than 1.0 second;
- No changes are required to spectral acceleration for periods less than 0.5 second;
- A linear interpolation for spectral acceleration between periods of 0.5 and 1.0 second.

The geotechnical literature and our experience with the formational materials in the general site area indicate shear wave velocities of less than 760 m/s should be expected within these units to a depth of 75 m or deeper. Caltrans seismic design criteria recommends further modifications to the ARS curves for deep soil sites. However, since the La Jolla Village Drive Overcrossing has a fundamental period of vibration of less than 1.5 seconds, further adjustments should not be made.

The ARS curve for analysis of the overcrossing structure is shown on Figure 3. The curve has been adjusted for near fault effects as discussed above.

(Soil Type Sc)



Computed ARS Curve (Soil Type S_c)		
Period (s)	0.5g	After Near Source Adjustment
0.010	0.500	0.500
0.020	0.500	0.500
0.030	0.500	0.500
0.050	0.500	0.500
0.075	0.719	0.719
0.10	0.919	0.919
0.12	1.037	1.037
0.15	1.155	1.155
0.17	1.207	1.207
0.20	1.256	1.256
0.24	1.264	1.264
0.30	1.244	1.244
0.40	1.168	1.168
0.50	1.067	1.067
0.75	0.847	0.932
1.0	0.674	0.808
1.5	0.419	0.503
2.0	0.278	0.334
3.0	0.147	0.177
4.0	0.104	0.125

104765001 ars curve Fig 3

Ninyo & Moore

ARS CURVE

LA JOLLA VILLAGE DRIVE/I 805
INTERCHANGE PROJECT
SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
104765001	12/03	3

7.2. Ground Surface Rupture

Ground surface rupture due to active faulting is considered unlikely at the project site due to the absence of known active faults along the alignment. The potential for lurching or cracking of the surface as a result of nearby or distant seismic events is also considered unlikely.

7.3. Liquefaction and Seismically Induced Settlement

Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loose granular soils (with silt contents of less than approximately 35 percent and clay contents less than approximately 20 percent) which are saturated by a relatively shallow groundwater table are most susceptible to liquefaction. Due to the general lack of a shallow groundwater table, the relatively dense nature of sandy fill soils, and the presence of cemented formational materials, in our opinion, the potential for liquefaction within the areas proposed for improvement is very low. Therefore, dynamic settlement due to liquefaction was not evaluated and is not considered to be a constraint to development.

7.4. Landslides

No areas of landsliding were observed during our field evaluation and no landslides were observed during our review of the literature or aerial photographs. The potential for landsliding is not considered a constraint to the proposed development.

7.5. Settlement

Settlement in a soil mass may occur due to the increase in the effective stress from applied loads. Analysis indicates that settlement of 13 mm or less should be anticipated. The use of settlement monuments is not anticipated.

8. CONCLUSIONS

Based on the results of our geotechnical evaluation, it is our opinion that the proposed La Jolla Village Drive/Interstate 805 Interchange Project is feasible from a geotechnical standpoint provided that the recommendations presented in this report are incorporated into its design and construction.

The following should be considered for the design and construction of the project:

- The existing overcrossing structure abutments and bent are supported by shallow foundations. Abutment 3 is founded in fill, while the bent and Abutment 1 are founded in formational material. Considering the configuration of the existing foundation system and to reduce the potential of differential movement of dissimilar foundation types, it is recommended to design and construct shallow foundations bearing on formational material for Abutment 1 and the bent and a deep foundation extending into formational material for Abutment 3 for the proposed overcrossing widening.
- Based on the results of minimum resistivity testing performed on selected samples from the site, and in accordance with Caltrans guidelines, the project site is not considered to be corrosive.

9. RECOMMENDATIONS

Based on the results of our subsurface evaluation and our understanding of the proposed construction, the following geotechnical recommendations are presented for the design and construction of the proposed improvements.

9.1. Approach Embankments

Based on our understanding of the site, approach embankments are not anticipated for this project. Based on the anticipated footing elevations, fill placement at the abutments is anticipated to be generally limited to backfilling the abutments after their construction. Accordingly, Type N (9D) structure approach slabs should be provided. Structure approach slabs should be designed and constructed in accordance with the recommendations of Section 5-3 of the Memo to Designers (Caltrans, 2001a) and Section 610.3 of the Highway Design Manual (Caltrans, 1995).

9.2. Foundations

We evaluated several foundation systems for support of the overcrossing widening, including spread foundations, driven steel H-piles and prestressed concrete piles, and cast-in-drilled-hole (CIDH) piles. Based on the configuration of the existing foundation system at the site, our subsurface evaluation and laboratory testing, construction and site access considerations, as well as discussions with Boyle Engineering Company, we recommend the overcrossing widening Abutment 1 and center bent be supported on spread footings, with Abutment 3 supported on CIDH piles. We recommend Abutment 1 and the center bent be founded in competent undisturbed formational material and the Abutment 3 be founded on CIDH piles embedded in competent undisturbed formational material. The foundations should be designed in accordance with structural considerations, Caltrans specifications, and the recommendations provided below. The footing dimensions should be evaluated by the structural engineer.

Strength parameters for analysis of foundations were obtained from laboratory test results and our professional experience. The material properties of the embankment fill and formational materials used in the analysis are presented in Table 3.

Table 3 – Material Properties

Material Type	Total Unit Weight (kN/m^3)	Cohesion (kPa)	Angle of Internal Friction (degrees)
Embankment Fill	18.0	5	34
Formational Material	18.5	8	34

9.2.1. Spread Footings

The Overcrossing Widening Abutment 1 and bent may be founded in competent undisturbed formational material. Estimates of the bearing capacities for the abutment and center bent foundations were made using the Terzaghi methods of analyses presented in Bowles (1988) as well as United States Navy Design Manual 7.2 (1982), to evaluate the

effect of the abutment slope on bearing capacity. Allowable and ultimate gross bearing capacities for abutment and center bent footings founded in competent formational material are presented in Table 4. Based on the project foundation plan, the design footing pressures for Abutment 1 and the bent are equal to the allowable capacity values indicated in Table 4. These values assume footings bearing on competent material with concrete placed neat against the material, in accordance with Caltrans (1996d). Based on the as-built drawings for the bridge, the depth of formational material may increase towards the south at Abutment 1. If fill is encountered during construction below the proposed bottom of footing elevation, we recommend the footing excavation be extended into formational material and then backfilled to bottom of footing elevation with lean concrete. The gross allowable bearing capacity for service loading conditions may be derived by dividing the ultimate bearing capacity by a factor of safety of 3 or 1.5, for service loading or seismic loading conditions, respectively. Based on our analyses, settlement of the footings should generally not exceed 13 mm under the design loads.

Table 4 – Spread Footing Data Table

Support Location	Minimum Footing Width (m)	Bottom of Footing Elevation (m, MSL)	Recommended Bearing Limits	
			WSD[1]	LFD[2]
			Allowable Bearing Capacity q_{all}	Nominal Bearing Resistance (q_n)
Abutment 1	1.53	103.0	335 kPa	N/A
Bent 2	6.10	97.5	N/A	2870 kPa

Notes: 1) Working Stress Design, (WSD), the Maximum Contact Pressure, (q_{max}), is not to exceed the recommended Gross Allowable Bearing Capacity, (q_{all}).

2) Load Factor Design, (LFD), The Maximum Contact Pressure (q_{max}) divided by the Strength Reduction Factor (ϕ) is not to exceed the Nominal Bearing Resistance (q_n).

Footings placed in granular formational material may be designed using a coefficient of friction of 0.40 (total frictional resistance equals coefficient of friction times the vertical dead load). An ultimate passive resistance value of 60 kPa per m of depth (with a maximum value of 180 kPa) may be used. A factor of safety of 1.5 should be used when evaluating lateral re-

sistance. Sliding resistance shall be calculated using either 50 percent of base resistance plus 50 percent of passive resistance behind the footing, or 100 percent of base resistance only or 100 percent of passive resistance only. The passive resistance may be increased by one-third when considering loads of short duration such as wind or seismic forces.

9.2.2. Deep Foundations

Based on our review of the proposed project plans and conversations with project civil engineers, we understand that, due to concerns regarding possible differential settlement between the widened portion and existing portion of Abutment 3, the widened portion should be supported on CIDH pile embedded in formational material. This was considered preferable to constructing the widened abutment to bear on fill and monitoring settlement prior to connection to the existing abutment with a closure pour. 400-mm, 600-mm, and 750-mm diameter CIDH pile were considered, and 750-mm diameter pile was selected.

9.2.2.1. Axial Capacity

The axial pile capacities for the proposed CIDH piles were analyzed using the methods of Reese for axial capacity and tension (side friction). Table 5 presents the results of our analysis for 750-mm CIDH pile. Piles were assumed to extend 10.6 m into competent formational material for a design ultimate load of 2000 kN. The ultimate axial pile capacities presented are based on side friction only. Allowable axial capacity is equal to the ultimate capacity divided by a factor of safety of 2.0. The actual depth of embedment should be evaluated based on the design loads required by the structural engineer. In addition, a minimum pile spacing of three pile diameters on center should be maintained.

Table 5 – Axial Pile Capacity

Pile Diameter	Embedment into Formation (m)	Specified Pile Tip Elevation[1] (m)	Design (Service) Load (kN)	Nominal Resistance[2]	
				Compression (kN)	Tension (kN)
750-mm	10.6	89.25	1000	2000	800

Notes:
[1]Pile tip elevations are based on a pile cutoff elevation of 104.85 m MSL.
[2]Ultimate compression capacity based on side friction only. Tension is equal to 40% of side friction.

9.2.2.2. Lateral Capacity

Lateral pile capacities were analyzed using the LPILE Plus computer program (ENSOFT, 1997). Lateral capacities for the CIDH piles supporting Abutment 3, assuming lateral deflections of 6 mm and 13 mm at the top of the pile for both free-head and fixed-head conditions are summarized in Tables 6 and 7, respectively. Maximum moments generated by the indicated deflections are based on geotechnical considerations only. We recommend that the maximum moment capacities of the piles be evaluated by the structural engineer. Lateral capacities for pile lengths and embedment conditions that are different from those assumed in our analyses may be different than those indicated.

Table 6 – Lateral Pile Capacity – Abutment 3
Free Head Condition

CIDH Pile Diameter (mm)	750	
CIDH Pile Length (m)	14.6	
Proposed Pile Tip Elevation (m)	90.25	
Allowable Deflection (mm)	6	13
Lateral Capacity (kN)	197	385
Max. Positive Moment (m-kN)	265	566
Max. Negative Moment (m-kN)	11.2	24.0
Depth to Max. Positive Moment (m)	2.3	2.3
Depth to Max. Negative Moment (m)	7.9	8.0
Depth to 1st Point of Zero Deflection (m)	4.2	4.2

Table 7 – Lateral Pile Capacity – Abutment 3
Fixed Head Condition

CIDH Pile Diameter (mm)	750	
CIDH Pile Length (m)	14.6	
Proposed Pile Tip Elevation (m)	90.25	
Allowable Deflection (mm)	6	13
Lateral Capacity (kN)	517	1000
Max. Positive Moment (m-kN)	236	511
Max. Negative Moment (m-kN)	829	1720
Depth to Max. Positive Moment (m)	3.7	3.7
Depth to Max. Negative Moment (m)	0	0
Depth to 1st Point of Zero Deflection (m)	5.3	5.3

For lateral loading, piles in a group may be considered to act individually when the center-to-center spacing is greater than 3B (where B is the diameter of the pile) in the direction normal to loading, and greater than 5B in the direction parallel to loading. Table 8 presents the lateral load reduction factors to be applied for various pile spacing for in-line loading.

Table 8 – Lateral Load Reduction Factors

Center-to-Center Pile Spacing for In-Line Loading	Ratio of Lateral Resistance of Pile in Group to Single Pile
6B	1.0
5B	0.9
4B	0.8
3B	0.7

9.2.3. Overcrossing Wingwall Foundations

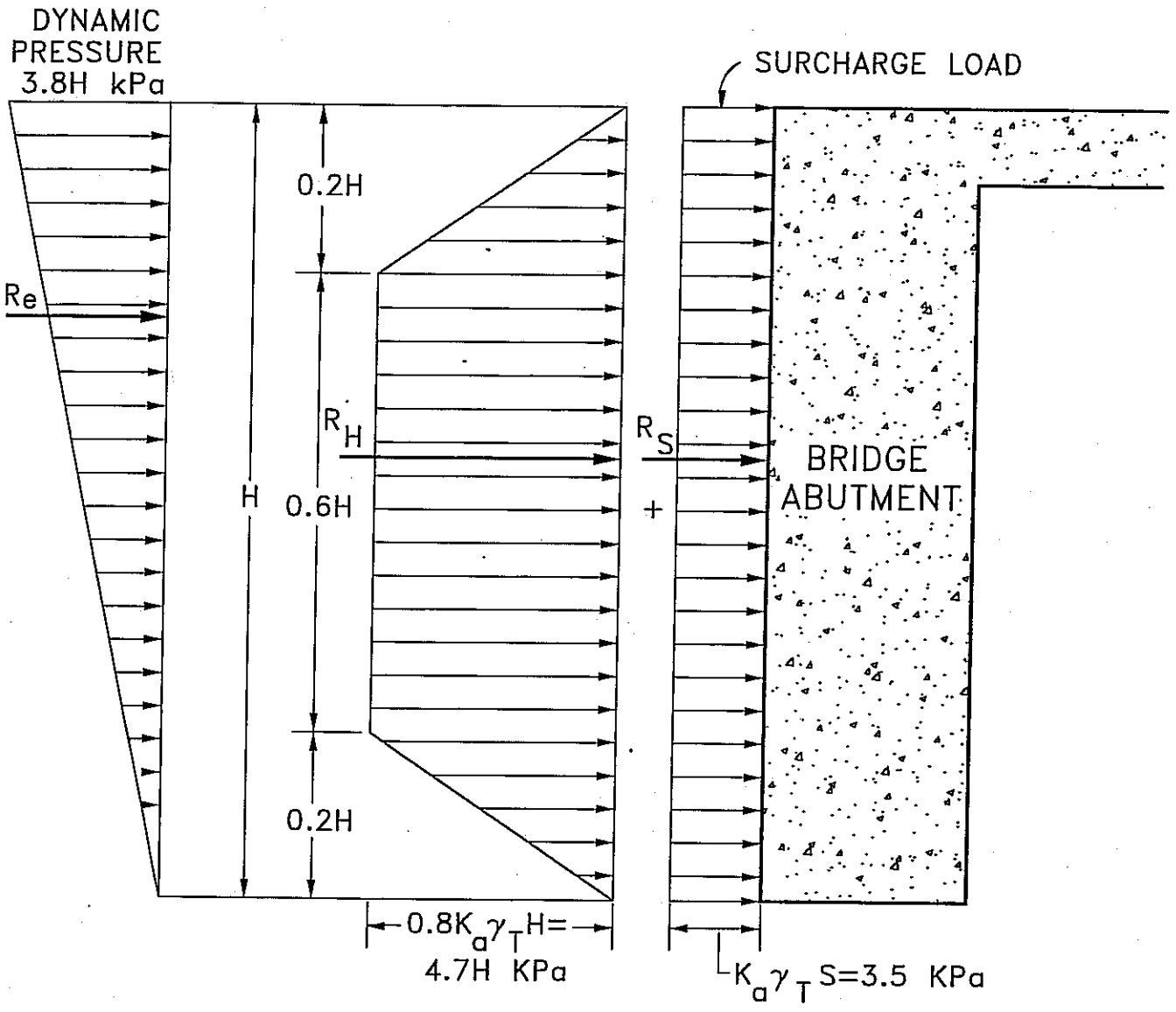
Overcrossing wingwalls are anticipated to be of the cantilever type supported off the abutment foundations. However, if desired, the wingwalls may be supported on spread footings founded in fill soil or in formational material. The footing dimensions should be evaluated by the structural engineer.

Continuous or spread footings with a width of 0.6 m or more, founded in compacted fill soil or formational material may be designed assuming ultimate bearing capacities of 375 kPa and 665 kPa, respectively. The gross allowable bearing capacity for service loading conditions may be derived by dividing the ultimate bearing capacity by a factor of safety of 3 or 1.5, for service loading or seismic loading conditions, respectively. Accordingly, footings in fill may be designed assuming gross allowable bearing capacities of 125 kPa and 250 kPa, and footings in formational material may be designed assuming gross allowable bearing capacities of 220 kPa and 440 kPa, for service loading or seismic loading conditions, respectively. Based on our analyses, settlement of the footings should not exceed 13 mm under the design loads. Most of this settlement should occur during construction.

Wingwall foundations placed in competent embankment fill or formational material may be designed using a coefficient of friction of 0.4 (total frictional resistance equals coefficient of friction times the dead load). An ultimate passive resistance value of 50 kPa per m of depth (with a maximum value of 150 kPa) may be used. A factor of safety of 1.5 should be used when evaluating lateral resistance. Sliding resistance shall be calculated using either 50 percent of base resistance plus 50 percent of passive resistance behind the footing, or 100 percent of base resistance only or 100 percent of passive resistance only. The passive resistance may be increased by one-third when considering loads of short duration such as wind or seismic forces. Standard retaining walls with broken-slope and level backfill may be designed for static conditions using an equivalent fluid weight of 5.7 kN/m^3 for calculating the lateral earth pressure for level backfill and 8.6 kN/m^3 for calculating the lateral earth pressure for backfill surfaces inclined at 1:2 (vertical:horizontal) or flatter. These values assume a backcut of 1:1 behind the wall and that the wall backfill conforms to the specifications for structure fill as presented in Section 19 of the Standard Specifications (Caltrans, 1999a). Overcrossing wingwalls should include free-draining backfill materials and perforated drains as designed by the project civil engineer.

9.3. Abutments

Diaphragm abutments may be designed in accordance with the pressure diagrams shown on Figure 4. This diagram includes both static and dynamic loading conditions. The dynamic force increment was evaluated based on a Mononobe-Okabe seismic coefficient analysis (Seed and Whitman, 1970). Considering the horizontal displacement potential of free-standing abutments, and in accordance with American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications (1996) the seismic coefficient used in conjunction with the Mononobe-Okabe seismic coefficient analysis has been evaluated as 50 percent of the peak acceleration. For structural analyses, an effective soil stress of 370 kPa may be used at the abutments.



RESULTANTS

$R_e = 1.9H^2$ kN/m

$R_H = 3.75H^2$ kN/m

$R_S = 3.5H$ kN/m

ASSUMED CONDITIONS

1. Abutment movement restrained
2. $K_a = 0.31$
3. No groundwater
4. H=Abutment height
5. S=Surcharge 600 mm
6. $\gamma_T = 18.9$ kN/m³

104765001 F press Fig 3

Ninyo & Moore

DIAPHRAGM ABUTMENT PRESSURE DIAGRAM

LA JOLLA VILLAGE DRIVE/I 805
INTERCHANGE PROJECT
SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
104765001	12/03	4

Figure 4 is based on backfill meeting the specifications for structure backfill presented in Section 19 of the Standard Specifications, and on free-draining conditions. Measures should be taken to reduce moisture build-up behind abutment walls. Abutment walls should include free-draining backfill materials and perforated drains as designed by the project civil engineer, and should be constructed in accordance with Bridge Detail 3-5 on Plan B0-3 of the Standard Plans (Caltrans, 2000).

9.4. Corrosion Analysis

The corrosion potential of the on-site materials at the overcrossing widening site was evaluated for its effect on steel and concrete structural members. The corrosion potential was evaluated using the results of laboratory tests on samples obtained during the subsurface evaluation.

Laboratory testing was performed on representative soil samples to evaluate pH, minimum electrical resistivity, and chloride and soluble sulfate content. The pH and minimum electrical resistivity tests were performed in accordance with California Test (CT) 643, and sulfate and chloride tests were performed in accordance with CT 417 and 422, respectively.

Test results indicate that the pH of the soils was 7.5. Minimum electrical resistivity tests indicate values of 7,500 ohm-cm. Testing indicates chloride content of 360 parts per million (ppm) and soluble sulfate content of 0.03 percent. In accordance with Caltrans criteria, a corrosive area is an area where the soil contains more than 500 ppm chlorides, more than 0.2 percent sulfates or has a minimum resistivity less than 1,000 ohm-cm. Therefore, based on our laboratory testing and Caltrans criteria, the project area does not warrant a corrosive classification.

Concrete in contact with soil or water that contains high concentrations of soluble sulfates can be subject to chemical deterioration. Laboratory testing indicated a sulfate content of the sample tested of 0.030 percent, which is considered negligible for sulfate attack. Although

the results of the sulfate tests were not significantly high, due to the variability in the on-site soils and the potential for import soils, we recommend that Type V modified cement be used for concrete structures in contact with soil and that the water to cement ratio not exceed 0.45.

We recommend that 75 mm or more concrete cover be maintained over the reinforcing steel of footings and other buried concrete. Alternatively, a 50 mm thick or thicker concrete cover could be maintained over the reinforcing steel, provided a concrete mix with 450 kg or more of cement per cubic meter be used for the structures.

10. CONSTRUCTION CONSIDERATIONS

The following sections describe the anticipated geotechnical considerations for construction of the overcrossing.

10.1. Footing Excavation

The depth of temporary excavations for spread footings for the overcrossing widening is expected to be up to approximately 3 m below grade. Accordingly, the use of temporary shoring is anticipated. Temporary excavations should be constructed in accordance with Occupational Safety and Health Administration (OSHA) requirements.

We recommend that excavations be designed and constructed in accordance with OSHA regulations. These regulations provide trench sloping and shoring design parameters for excavations up to 6 m deep based on a description of the soil types encountered. For planning purposes, we recommend that the following OSHA soil classifications be used for temporary excavations and other purposes:

Fill Materials	*Type C*
Scripps Formation	*Type B*

Upon making the excavations, the soil/rock classifications and excavation performance should be evaluated in the field by the geotechnical consultant in accordance with OSHA regulations. Recommendations for temporary shoring can be provided, if requested.

In general, temporary slopes above the water table and excavated in fill materials should be inclined no steeper than 1:1.5 and in Scripps Formation should be inclined no steeper than 1:1. Temporary excavations that encounter seepage may need shoring or may be stabilized by placing sandbags or gravel along the base of the seepage zone. Excavations encountering seepage should be evaluated on a case-by-case basis.

Excavation slope surfaces should be kept moist to retard raveling and sloughing. Water should not be allowed to flow over the top of excavations in an uncontrolled manner. Stockpiled material and/or equipment should be kept back from the top of excavations a distance equivalent to the height of the excavation. Workmen should be protected from falling rocks, sloughing and raveling of the cut in accordance with OSHA regulations. We recommend that excavation slopes be observed by the geotechnical consultant during excavations so that appropriate additional recommendations necessitated by actual field conditions may be provided. Temporary excavations are time sensitive and local failures are possible. Groundwater, if encountered, should be dewatered by sumping and pumping, as necessary. Possible difficulty in excavation due to utilities or adjacent structures should be evaluated.

If foundation materials are disturbed during excavation, the loosened material should be removed and recompacted to 95 percent or more of maximum density, as evaluated by CT 216. Alternatively, the loose material may be replaced with structure backfill compacted to 95 percent relative compaction.

10.2. CIDH Piles

The CIDH pile excavations should be observed by the geotechnical consultant during excavation to evaluate if they have been extended to the recommended depth or deeper. The

excavations should be cleaned of loose soil and gravel. It is the Contractor's responsibility to take the necessary provisions to provide for the integrity of the excavation and to see that the excavations are cleaned and straight and that sloughed loose soil is removed from the bottom of the excavation prior to the placement of concrete. CIDH pile construction criteria are described in Section 49-4.03 of Caltrans Standard Specifications. CIDH piles should be checked for alignment and plumbness during installation. CIDH piles should not deviate from plumb more than 40 mm per 3 m of length. The center-to-center spacing of piles should be no less than three times the nominal diameter of the pile.

Groundwater was not encountered during our subsurface exploration. As a result, dewatering is not expected. However, if during the time of construction groundwater is encountered, it is possible that water will accumulate in portions of the drilled holes for the CIDH piles and/or tiebacks, and some sloughing of the sides of the holes will occur. We recommend that the concrete be placed in a relatively dry excavation, unless special measures, such as placement of concrete by tremie method, are implemented to see that the aggregate and cement do not segregate during concrete placement.

10.3. Fill Placement and Compaction

Fill encountered in foundation excavations, for Abutment 1 or the center bent if any, should be excavated to competent formational material and replaced with lean concrete up to the bottom of footing elevation. Backfill behind structures should be placed and compacted in accordance with Section 19 of the Caltrans Standard Specifications. Fill should be compacted to 95 or more percent of the maximum density, as evaluated by CT 216. Fill should be tested for specified compaction by the geotechnical consultant and/or Caltrans.

10.4. Settlement

We estimate that the proposed structures, designed and constructed as recommended herein, should undergo total settlements of less than about 13 mm. Differential settlements are typically limited to less than one-half the total amount.

11. CONSTRUCTION OBSERVATION

The recommendations in this report are based on preliminary structural design information for the proposed construction and subsurface information disclosed by our geotechnical evaluation. The assumed subsurface conditions should be checked in the field by the Caltrans geotechnical engineer during construction. All footing locations are to be inspected and approved when the excavations are completed to final grade and prior to placement of steel or concrete within the excavation. If actual conditions differ considerably from the information provided in this report, the geotechnical consultant should be contacted.

12. LIMITATIONS

The field evaluation, laboratory testing, and geotechnical analyses presented in this geotechnical report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty, expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be encountered during construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request. Please also note that our evaluation was limited to assessment of the geotechnical aspects of the project, and did not include evaluation of structural issues, environmental concerns, or the presence of hazardous materials.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report is intended for design purposes only and may not provide sufficient data to prepare an accurate bid by some contractors. It is suggested that the bidders and their geotechnical consultant perform an independent evaluation of the subsurface conditions in the project areas. The independent evaluations may include, but not be limited to, review of other geotechnical reports prepared for the adjacent areas, site reconnaissance, and additional exploration and laboratory testing.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

13. SELECTED REFERENCES

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AERIAL PHOTOGRAPHS				
Source	**Scale**	**Date**	**Flight**	**Numbers**
USDA	1:20 000	3-31-53	AXN-4M	85 and 86

APPENDIX A

LABORATORY TESTING

Classification

Soils were visually and texturally classified in accordance with the Unified Soil Classification System. Soil classifications are indicated on the logs of the exploratory excavations in Appendix A.

In-Place Moisture and Density Tests

The moisture content and dry density of relatively undisturbed samples obtained from the exploratory excavations were evaluated in general accordance with California Test (CT) 226 and ASTM D 2937-00. The test results are presented on the Logs of Test Boring Sheet.

Gradation Analysis

Gradation analysis tests were performed on a selected representative soil sample in general accordance with CT 202 and 203. The grain-size distribution curve is shown on Figure A-1. These test results were utilized in evaluating the soil classifications in accordance with the Unified Soil Classification System.

Atterberg Limits

Tests were performed on a selected representative fine-grained soil sample to evaluate the liquid limit, plastic limit, and plasticity index in general accordance with CT 204. These test results were utilized to evaluate the soil classification in accordance with the Unified Soil Classification System. The test results and classifications are shown on Figure A-2.

Consolidation Tests

Consolidation tests were performed on selected relatively undisturbed soil samples in general accordance with CT 219. The samples were inundated during testing to represent adverse field conditions. The percent consolidation for each load cycle was recorded as a ratio of the amount of vertical compression to the original height of the sample. The results of the tests are summarized on Figures A-3 through A-4.

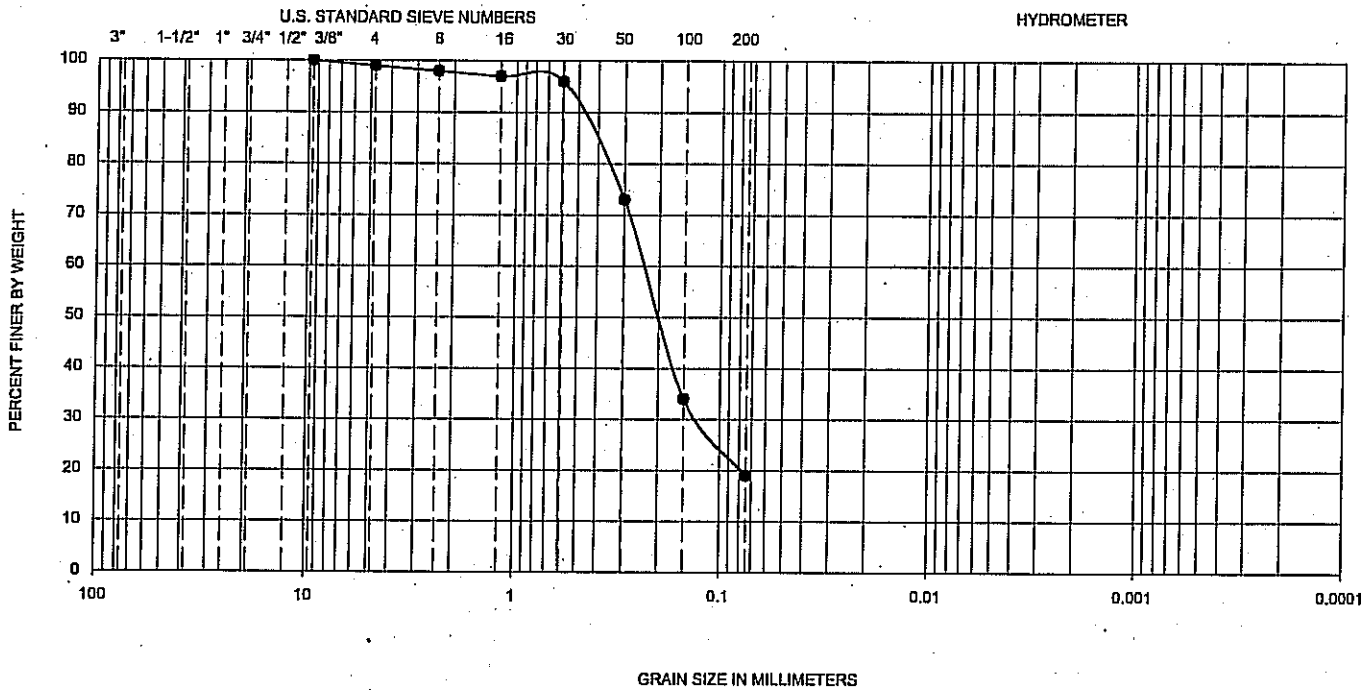
Direct Shear Tests

Direct shear tests were performed on undisturbed samples in general accordance with CT-222 to evaluate the shear strength characteristics of selected materials. The samples were inundated during shearing to represent adverse field conditions. Results are shown on Figures A-5 through A-7.

Soil Corrosivity Tests

Soil pH, and resistivity tests were performed on representative soil samples in general accordance with CT 643. The chloride content of selected samples was evaluated in general accordance with CT 422. The sulfate content of selected samples was evaluated in general accordance with CT 417. The test results are presented on Figure A-8.

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (m)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	B-1	1.5-2.0	--	--	--	--	--	--	--	--	19	SM

PERFORMED IN GENERAL ACCORDANCE WITH CT 202 & 203

Ninyo & Moore

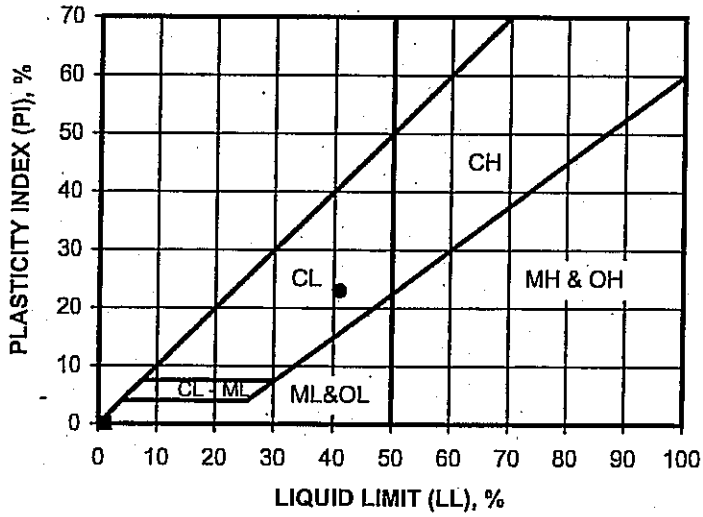
GRADATION TEST RESULTS

La Jolla Village Drive/I-805 Interchange Project
San Diego, California

PROJECT NO.	DATE	FIGURE
104765001	12/03	A-1

SYMBOL	LOCATION	DEPTH (m)	LL (%)	PL (%)	PI (%)	U.S.C.S. CLASSIFICATION (Minus No. 40 Sieve Fraction)	U.S.C.S. (Entire Sample)
●	B-3	6.1-6.6	41	18	23	CL	CL

NP - Indicates non-plastic



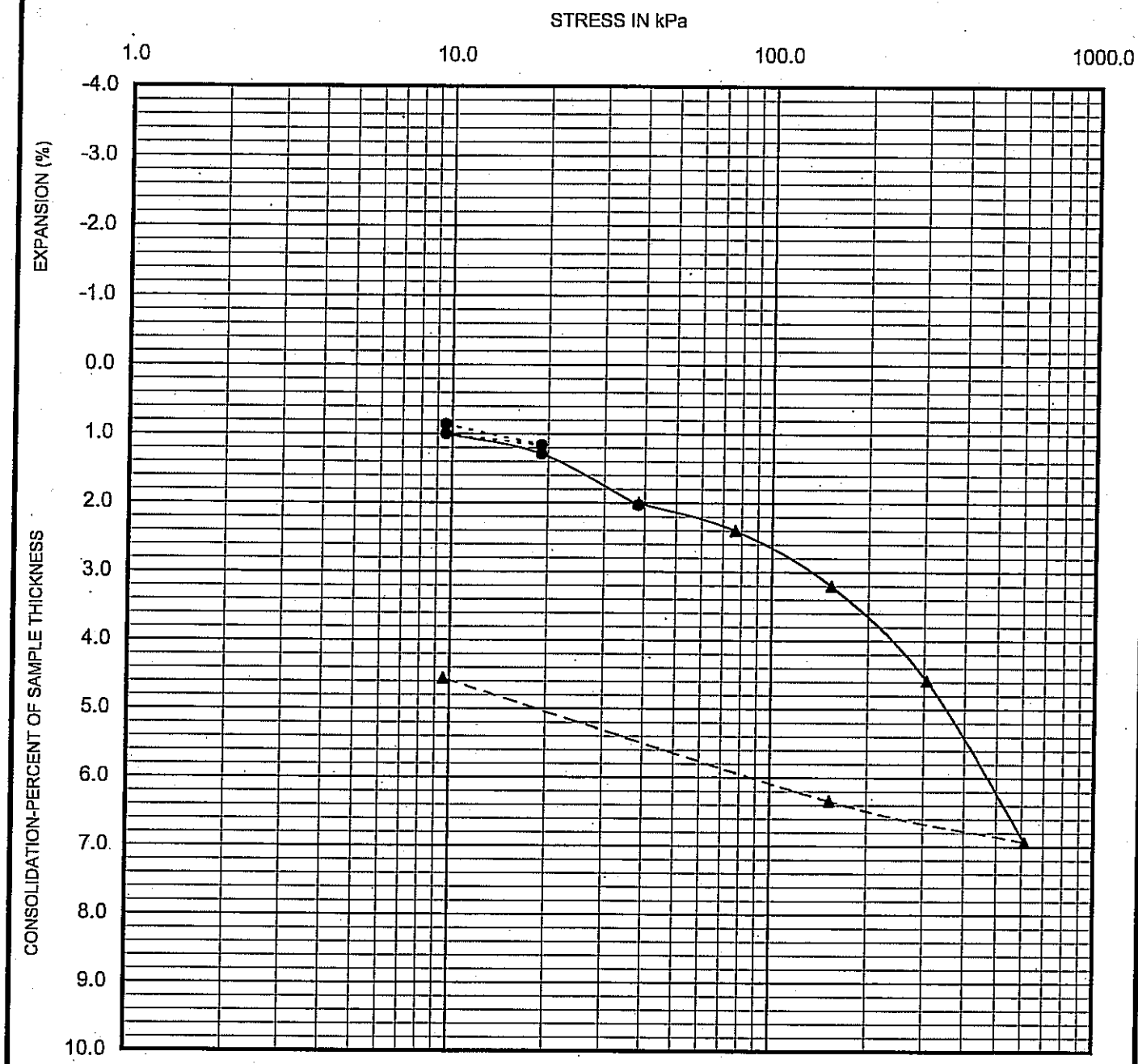
PERFORMED IN GENERAL ACCORDANCE WITH CT 204

Ninyo & Moore

ATTERBERG LIMITS TEST RESULTS

La Jolla Village Drive/I-805 Interchange Project
San Diego, California

PROJECT NO.	DATE	FIGURE
104765001	12/03	A-2

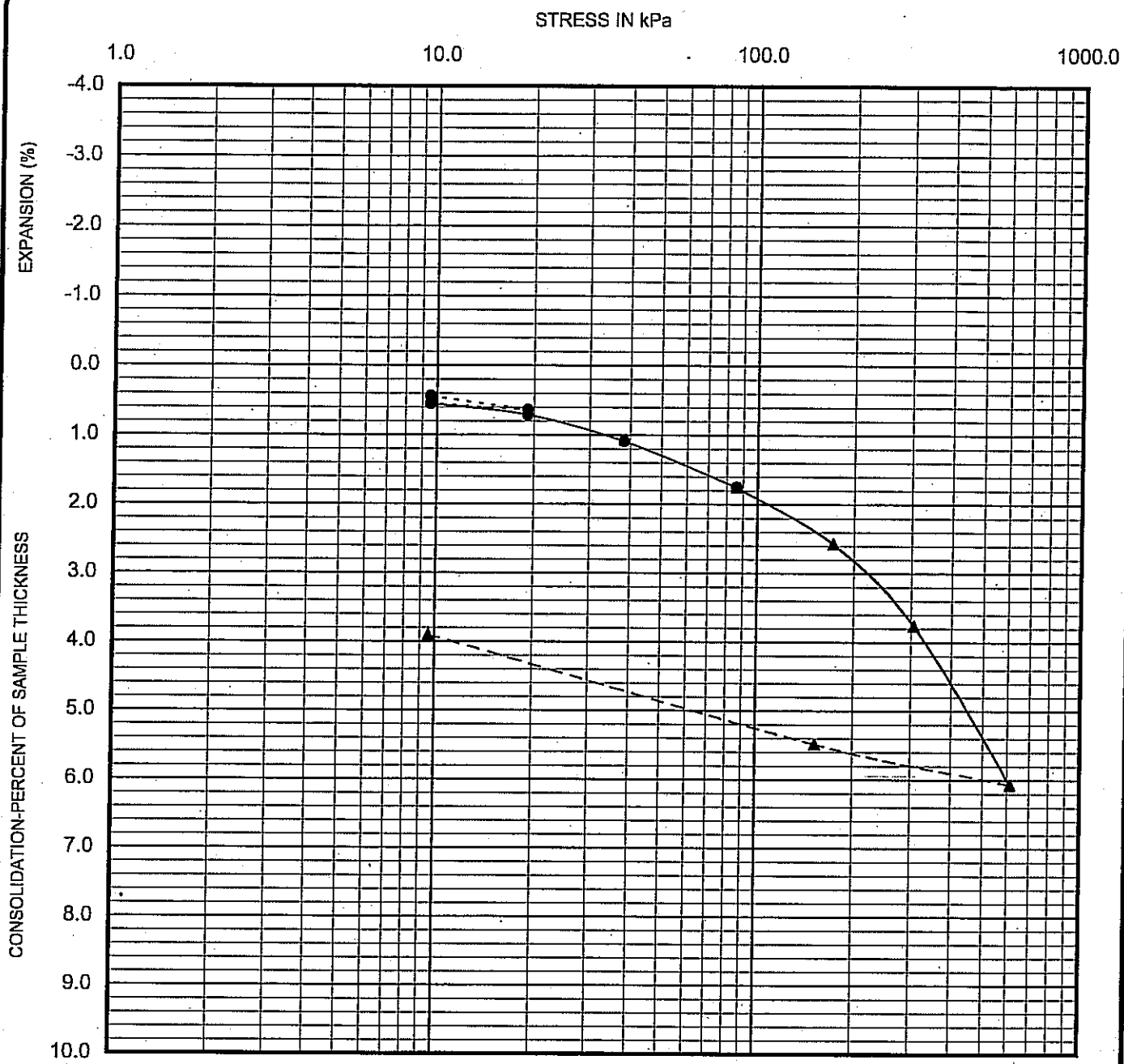


Ninyo & Moore

CONSOLIDATION TEST RESULTS

La Jolla Village Drive/I-805 Interchange Project
San Diego, California

PROJECT NO.	DATE	FIGURE
104765001	12/03	A-3

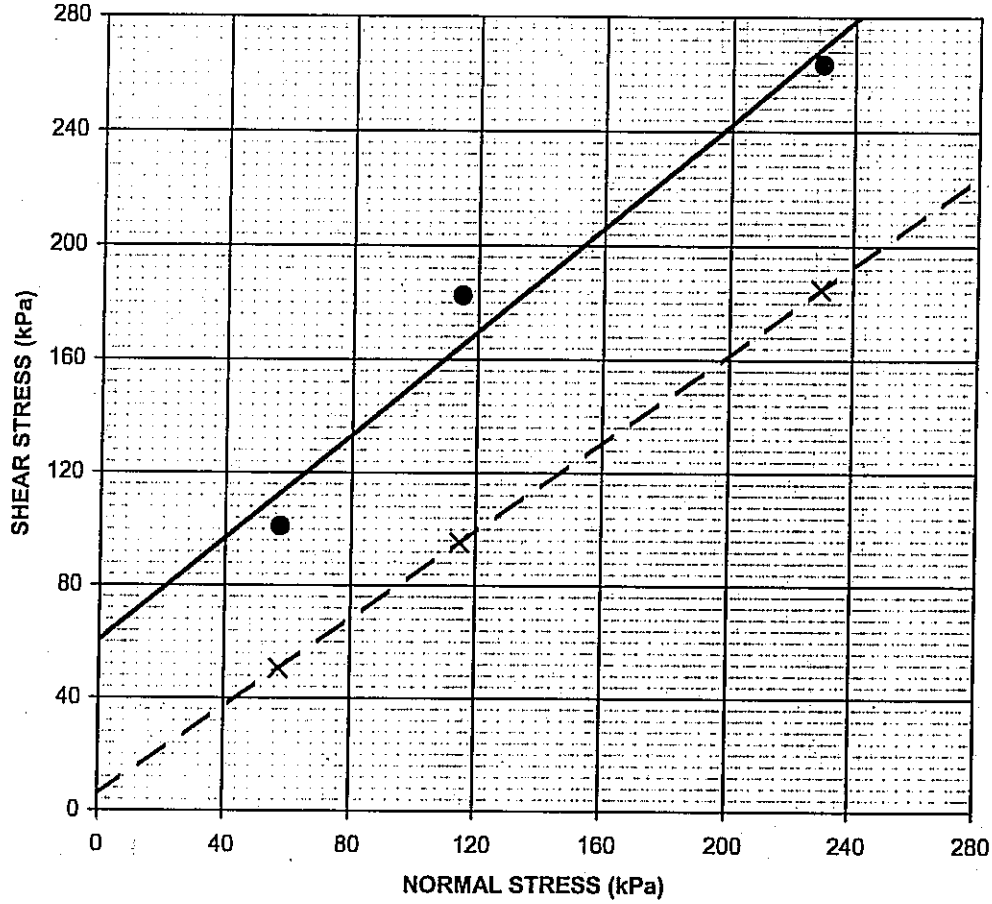


Ninyo & Moore

CONSOLIDATION TEST RESULTS

La Jolla Village Drive/I-805 Interchange Project
San Diego, California

PROJECT NO.	DATE	FIGURE
104765001	12/03	A-4



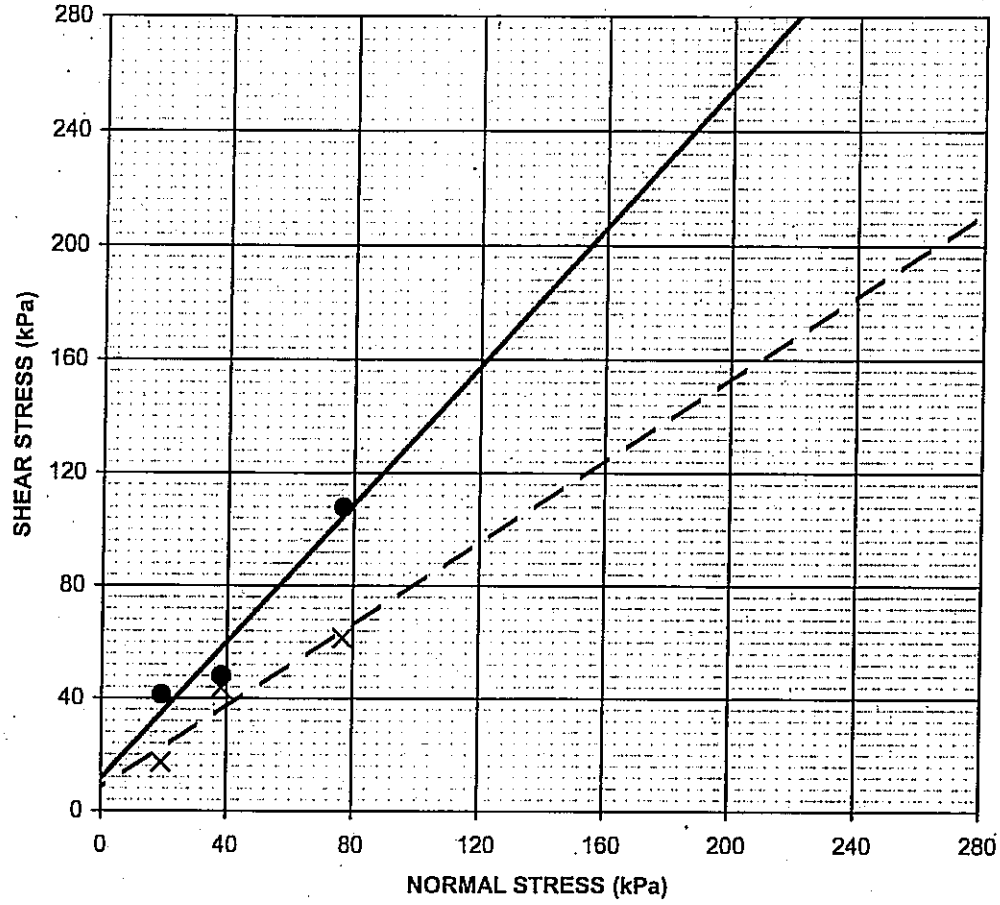
Description	Symbol	Boring Number	Depth (m)	Shear Strength	Cohesion (kPa)	Friction Angle (deg)	Soil Type
Silty SANDSTONE	—●—	B-1	6.1-6.5	Peak	60.6	42	Formation
Silty SANDSTONE	- - X - -	B-1	6.1-6.5	Ultimate	5.7	38	Formation

Ninyo & Moore

DIRECT SHEAR TEST RESULTS

La Jolla Village Drive/I-805 Interchange Project
San Diego, California

PROJECT NO.	DATE	FIGURE
104765001	12/03	A-5



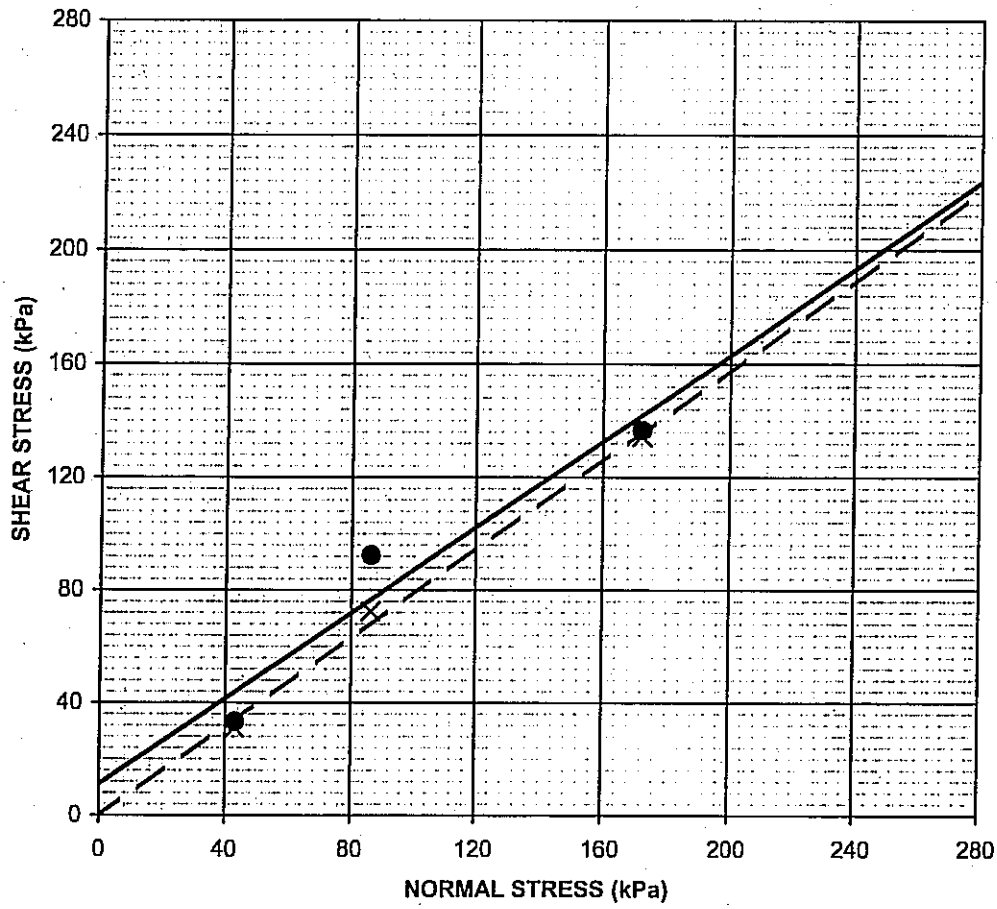
Description	Symbol	Boring Number	Depth (m)	Shear Strength	Cohesion (kPa)	Friction Angle (deg)	Soil Type
Sandy SILTSTONE	—●—	B-2	1.5-1.8	Peak	11.5	51	Formation
Sandy SILTSTONE	- - X - -	B-2	1.5-1.8	Ultimate	8.3	36	Formation

Ninyo & Moore

DIRECT SHEAR TEST RESULTS

La Jolla Village Drive/ I-805 Interchange Project
San Diego, California

PROJECT NO.	DATE	FIGURE
104765001	12/03	A-6



Description	Symbol	Boring Number	Depth (m)	Shear Strength	Cohesion (kPa)	Friction Angle (deg)	Soil Type
Clayey SAND	—●—	B-3	4.6-5.0	Peak	11.2	37	SC
Clayey SAND	- - X - -	B-3	4.6-5.0	Ultimate	0	38	SC

Ninyo & Moore

DIRECT SHEAR TEST RESULTS

La Jolla Village Drive/ I-805 Interchange Project
San Diego, California

PROJECT NO.	DATE	FIGURE
104765001	12/03	A-7

CORROSIVITY TEST RESULTS

SAMPLE LOCATION	SAMPLE DEPTH (m)	pH *	RESISTIVITY * (ohm-cm)	WATER-SOLUBLE SULFATE CONTENT IN SOIL ** (%)	CHLORIDE CONTENT *** (ppm)
B-3	7.6-8.1	7.5	7,500	0.03	360

* PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643
** PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417
*** PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

Ninyo & Moore

CORROSIVITY TEST RESULTS

La Jolla Village Drive/ I-805 Interchange Project
San Diego, California

PROJECT NO.	DATE	FIGURE
104765001	12/03	A-8

APPENDIX B

CALTRANS FOUNDATION REVIEW AND RESPONSE

June 3, 2005
Project No. 104765001

Mr. Greg Campbell
Boyle Engineering Company
7807 Convoy Court, Suite 200
San Diego, California 92111

Subject: Response to Review Comments
Foundation Report
La Jolla Village Drive/Interstate 805 Interchange
San Diego, California

Dear Mr. Campbell:

In accordance with your request, we have prepared this response to an additional review comment regarding our referenced foundation report for the La Jolla Village Drive/Interstate 805 Interchange to be constructed in San Diego, California. One review comment pertinent to the foundation report was presented in a review by the Division of Engineering Services - Geotechnical Services dated April 21. Reviews by the Office of Specially Funded Projects dated May 11 and the Division of Structures dated May 17 had no additional comments. The correction suggested has been incorporated in our revised report. The following presents our specific response to the review comment.

4/21/05 Comment: Table 4 (Spread Footing Data Table) was revised. In accordance with the Bridge Memo to Designers 4-1, the previously shown allowable bearing capacity for Bent 2 was replaced with "N/A".

We appreciate the opportunity to provide professional services on this project. If you have any questions regarding this letter, please contact our office.

Respectfully submitted,
NINYO & MOORE

Erik Olsen, G.E.
Chief Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
ERIK OLSEN
No. 2218
Exp. 3/31/06
GEOTECHNICAL
STATE OF CALIFORNIA

Randal L. Irwin, C.E.G.
Chief Engineering Geologist

REGISTERED GEOLOGIST
Randal L. Irwin
No. 1521
Certified Engineering Geologist
Exp. 9/30/05
STATE OF CALIFORNIA

EO/eo

Distribution: (2) Addressee

Attachments: Selected References

SELECTED REFERENCES:

"Foundation Report, La Jolla Village Drive/Interstate 805 Interchange, San Diego, California," Prepared by Ninyo & Moore, dated: December 30, 2003, revised February 11, 2005.

"Review of Foundation Report/Contract Plans, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Division of Engineering Services – Geotechnical Services, dated: April 21, 2005.

"Review of Plans, Special Provisions and Estimates, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Structure Specification Branch – Structure Office Engineer, dated: May 11, 2005.

"Third PS&E Plan Comments, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Division of Structures - Office of Special Funded Projects, 1801 30th Street - MS-2-7/G, dated: May 17, 2005.

GEOTECHNICAL CONSULTANT SUBMITTAL REVIEW

DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES

[X] MR. EARL SEABERG, CHIEF, OSFP
[ ] MR. VONG TOAN, CHIEF, OSCM
Attention: Ms. Lily Sun

DATE: 4/21/2005

FILE: 11 (District) SD (County) 805 (Route) 41.7 (KP)

SUB CONSULTANT: Ninyo & Moore Report Date: Rev 2/11/05
PRIME CONSULTANT: Boyle Engr. Corp. Contract No.:
GENERAL PLAN DATED: Rev. 4/4/05 FDN PLAN DATED: Rev. 4/4/05

La Jolla Village Dr. OC (Structure Name)
089751 (EA Number) 57-0761 (Bridge Number)

Submittal (*Check One*): [ ] 1st [ ] 2nd [ ] 3rd [ ] 4th [X] Other:

Review of Foundation Report/Contract Plans

The subject report (revision dated 4/4/05) and contract plans (revision dated 2/11/05) were reviewed. The comment from the previous reviews regarding the formatting of the "Spread Footing Data Table" (per the previously attached "Bridge Memos to Designers 4-1"), was not fully addressed. The comment referred to both the report & the foundation plan. The report was partially revised, while the foundation plan was not. Please ask the consultant to review and follow the format of the referenced "Memo", and call this office if they require further clarifications.

An example of the format from "Bridge Memo to Designers" is again shown on next page for your convenience. Please refer to the original source.

If you have any questions, please Farzad Qmehr at (916) 227-5399 (CALNET 498-5399), or Mark DeSalvatore (Supervisor) at (916) 227-5391 (CALNET 498-5391), at the Office of Geotechnical Design-South II, Branch B.

RECEIVED
2005
OFFICE OF STRUCTURE
EXTERNAL LIAISON & SUPPORT

REGISTERED PROFESSIONAL ENGINEER
FARZAD QMEHR
No. C 42392
Exp. 3-31-06
CIVIL
STATE OF CALIFORNIA

[X] Special Funded Project (OSFP) [ ] Local Assistance Project (OSFP) [ ] OSCM Project

Approval: _____
OSFP/OSCM

OGDS-2B
Office of Geotechnical Design – South 2

cc: OGDx, Lab File Room (Sacramento) DES Specifications and Estimates (JStayton-4 copies) Structure Construction R.E. Pending File

Revised 05/04

FORMAT FOR THE FINAL FOUNDATION REPORT :

Spread Footing Data Table

Support Location	Minimum Footing Width	Bottom of Footing Elevation	Recommended Bearing Limits	
			WSD[1]	LFD[2]
			Allowable Bearing Capacity q_{all}	Nominal Bearing Resistance (q_n)
Abut 1			XX kPa	N/A
Bent 2			N/A	XX kPa
Pier 3			N/A	XX kPa
Abut 4			XX kPa	N/A

Notes: 1) Working Stress Design, (WSD), the Maximum Contact Pressure, (q_{max}), is not to exceed the recommended Gross Allowable Bearing Capacity, (q_{all}).

2) Load Factor Design, (LFD), The Maximum Contact Pressure (q_{max}) divided by the Strength Reduction Factor (ϕ) is not to exceed the Nominal Bearing Resistance (q_n).

Format for the Contract Plans:

Spread Footing Data Table

Support Location	Allowable Bearing Capacity, q_{all}	Nominal Bearing Resistance, q_n
Abut 1	XX kPa	N/A
Bent 2	N/A	XX kPa
Pier 3	N/A	XX kPa
Abut 4	XX kPa	N/A

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: Lily Sun
Liaison Engineer
Office of Specially Funded Projects

Date: May 11, 2005

File: 11-SD-805
La Jolla Village Dr. OC
EA 11-089751

From: RUTH FERNANDES LV for
Chief
Structure Specifications Branch
Structure Office Engineer

Subject: Review of Plans, Special Provisions, and Estimates

A third review has been done on the above referenced project. Structure Office Engineer - Specification Branch has no further comments on the plans, special provisions, and estimates. If you have any questions or comments, please contact Lien Vu at (916) 227-0440.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

TRANSMITTAL MEMORANDUM

DS-EF 0001 (REV. 11/91)

DIVISION OF STRUCTURES
Office of Special Funded Projects
1801 30th Street – MS2-7/G
Sacramento, CA 95816

TO:	DATE:
Mr. Ed Hajj **Design Manager**	**May 17, 2005**
ADDRESS: **District 11 – Division of Design** **2829 Juan Street** **San Diego, CA 92110**	PROJECT DESCRIPTION: **11-SD-805**
PHONE NO. **619-220-5433**	EA: **11-089751**
SUBJECT: **3rd PS&E Plan Comments**	FROM: **Lily Sun**

BY:

☐ FC MAIL	☐ HAND DELIVERED	☐ ROUTE SLIP
☐ UPS	☐ MESSENGER	☐ UNDER SEPARATE COVER
☒ OVERNIGHT MAIL	☐ PP	

FOR:

☐ APPROVAL	☐ INFORMATION ONLY	☐ REVIEWED-NO ADDITIONAL COMMENTS
☒ YOUR USE	☐ APPROVED AS SUBMITTED	☐ REVIEWED-SEE ADDITIONAL COMMENTS
☐ AS REQUESTED	☐ APPROVED AS NOTED	☐ RETURN ___ CORRECTED PLANS
☐ REVIEW AND COMMENT	☐ RETURN WHEN DONE	☐ SIGN AND RETURN ___ COPIES

ENCLOSURES:

Our office has completed the plan review of third PS&E submittal for the **La Jolla Village Drive OC (Widen/Retrofit), Bridge No. 57-0761.** I have forwarded the redlined comments directly to James Rucker, T.Y. Lin International for his immediate use.

The Office of Foundation has completed the review of the Final Foundation Report and has provided written comments. The Office of Specification and Estimates has completed the review and provided no further comments.

Please have the consultant address all comments and resubmit the project for approval.

I have listed the items and number of copies that will be necessary to include with the second PS&E submittal.

Structure Plans	6
Structure Plans (Electronic File)	1
Cost Estimate	2
Final Foundation Report	2

If you have any questions call me at (916) 227-8915.

Cc: James L. Rucker – T. Y. Lin International San Diego, w/attachments	By: Lily Sun
File: w/o attachments	

February 11, 2005
Project No. 104765001

Mr. Greg Campbell
Boyle Engineering Company
7807 Convoy Court, Suite 200
San Diego, California 92111

Subject: Response to Review Comments
Foundation Report
La Jolla Village Drive/Interstate 805 Interchange
San Diego, California

Dear Mr. Campbell:

In accordance with your request, we have prepared this response to review comments regarding our referenced foundation report for the La Jolla Village Drive/Interstate 805 Interchange to be constructed in San Diego, California. In this addendum we have included the comment numbers of items cited by the referenced Caltrans review letters which were to be addressed by Ninyo & Moore. Except where noted, corrections suggested in the comments have been incorporated in our revised report. The following presents our specific responses to the review comments.

3/25/04 Comment 1: Reference to United States Navy Design Manual 7.2 (1982), to evaluate the effect of the abutment slope on bearing capacity was added.

3/25/04 Comment 2: The following was added to Section 9.2.1: "*Based on the as-built drawings for the bridge, the depth of formational material may increase towards the south at Abutment 1. If fill is encountered during construction below the proposed bottom of footing elevation, we recommend the footing excavation be extended into formational material and then backfilled to bottom of footing elevation with lean concrete.*"

3/25/04 Comment 3: Abutment 1 and Bent 2 will be founded on spread footings bearing on formational material, and Abutment 3 will be founded on CIDH pile

founded in the formational material. Based on our experience with the local formational material, settlement under the applied loads is anticipated to be less than 13 mm.

3/25/04 Comment 4: The corrosivity testing was performed on a sample that, in our judgment, represented more potentially corrosive characteristics at the site (clayey material with organic odor).

3/25/04 Comment 5: The datum is shown on the LOTB sheet as "1983 CCS83 Zone 6."

3/25/04 Comment 6: The Abutment/Bent numbering convention was applied in the revised report.

3/25/04 Comment 7: The sheet has been attached.

3/25/04 Comment 8: The typo has been corrected.

3/25/04 LOTB Comments: The comments have been incorporated in the revised LOTB sheet.

6/15/04 Comment 1: The expiration date has been updated.

6/15/04 Comment 2: Hammer energy information has been added to the LOTB sheet.

6/15/04 Comment 3: The pile tip has been lowered 1 m (to elev. 89.25 m) to address this concern.

6/15/04 Comment 4: The benchmark and datum have been added to the LOTB sheet.

6/15/04 Comment 5: The format changes have been made.

8/12/04 Comment 1: The ARS curve was added as Figure 3 of our report.

8/12/04 Comment 2: The reference to possible Caltrans recommendations was deleted.

8/18/04 Comment 1: The format changes from the 6/15/04 review have been made.

8/18/04 Comment 2: The format changes from the 3/25/04 review have been made.

12/30/04 Comments: The CADD comments have been made.

1/4/05 Comment 1: The Footing Data Table has been reformatted as requested.

1/4/05 Comment 2: The requested changes have been made to the LOTB sheet.

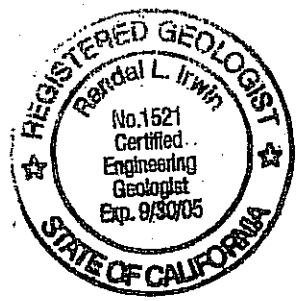
1/18/05 Comment 1: The requested change has been made to the ARS curve.

We appreciate the opportunity to provide professional services on this project. If you have any questions regarding this letter, please contact our office.

Respectfully submitted,
NINYO & MOORE

Erik Olsen, G.E.
Chief Geotechnical Engineer

Randal L. Irwin, C.E.G.
Chief Engineering Geologist



EO/eo

Distribution: (2) Addressee

Attachments: Selected References

SELECTED REFERENCES:

"Foundation Report, La Jolla Village Drive/Interstate 805 Interchange, San Diego, California," Prepared by Ninyo & Moore, dated: December 30, 2003, revised November 19, 2004.

"Review of Preliminary Foundation Report, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Office of Geotechnical Design – South II, Design Branch B, MS-5, dated: March 25, 2004.

"Review of Foundation Report/Contract Plans, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Division of Engineering Services – Geotechnical Services, dated: June 15, 2004.

"Review of Consultant Foundation Report, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Office of Geotechnical Design – South II, MS-5, dated: August 12, 2004.

"Review of Consultant Foundation Report, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Office of Geotechnical Design – South II, MS-5, dated: January 18, 2005.

"Review of Foundation Report/Contract Plans, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Division of Engineering Services – Geotechnical Services, dated: August 18, 2004.

"Review of Foundation Report/Contract Plans, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Division of Engineering Services – Geotechnical Services, dated: January 4, 2005.

"Second PS&E Plan Comments, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Division of Structures - Office of Special Funded Projects, 1801 30th Street - MS-2-7/G, dated: January 12, 2005.

"Second PS&E Review – Drafting Comment Check List, File 11-SD-805-KP 41.7, EA 11-089751, La Jolla Village Drive Overcrossing, Bridge No. 57-0761," Prepared by Caltrans Division of Structures - Office of Special Funded Projects, 1801 30th Street - MS-2-7/G, dated: December 30, 2004.

United States Navy, 1982, Design Manual 7.2 (NAVFAC DM-7.2) Foundations and Earth Structures, dated May.

Erik Olsen

From: Greg Campbell [GCampbell@BoyleEngineering.com]
Sent: Wednesday, July 16, 2003 12:43 PM
To: Erik Olsen
Cc: Anita Santa Elena
Subject: FW: La Jolla Village Drive/I-805

Okay, its official, Caltrans has no comments. Please proceed in finalizing the report.

Thanks

SD-S04-700-5.6

Gregory E. Campbell
Senior Civil Engineer
Boyle Engineering Corporation
7807 Convoy Court, Suite 200
San Diego, CA 92111
(858) 268-8080

-----Original Message-----
From: Martin_Villanueva@dot.ca.gov [mailto:Martin_Villanueva@dot.ca.gov]
Sent: Wednesday, July 16, 2003 11:46 AM
To: Jeff_J_Tesar@dot.ca.gov
Cc: Greg Campbell; Ryan Chance
Subject: Re: La Jolla Village Drive/I-805

Thanks Jeff.

Jeff J Tesar
07/16/2003 10:05 AM

To: Martin Villanueva/D11/Caltrans/CAGov@DOT
cc:
Subject: La Jolla Village Drive/I-805

Martin,
I have reviewed subject Preliminary Foundation Report prepared for the Boyle Engineering Co. by the Ninyo and Moore Geotechnical and Environmental Sciences Consultants on February 20, 2003, and I have no comments.
- Jeff Tesar

State of California

Memorandum

Business, Transportation and Housing Agency

To: LILY SUN, Liaison Engineer
Office of Special Funded Projects
Structures Design

From: DEPARTMENT OF TRANSPORTATION
Division of Engineering Services
Geotechnical Services
Office of Geotechnical Design – South II
Design Branch B, MS#5

Date: Mar. 25, 04
File: 11-SD-805-KP 41.7
11-089751
La Jolla Village Dr. OC
Br. #57-0761

RECEIVED
APR 0 1 2004
OFFICE OF STRUCTURE
EXTERNAL LIAISON & SUPPORT

Subject: Review of Preliminary Foundation Report

Below are the preliminary foundation report review comments for consideration by the consultant/designers.

1. Per Section 9.2.1 (Spread Footings), the analysis was performed using Terzaghi method per "Bowles 1988". This reference is for flat surfaces, while Abutments 1 & 3 (A1 & A3) are on slopes. Please address.

2. Section 9.2 (Foundations) recommends A1 to be on formational material, however the as-built boring logs indicate that the proposed extension of the footing will be on alluvium/soil. Therefore using an allowable bearing pressure of 335 kPa per Table 4 seems excessive. Please address.

3. Section 7.5 (Settlement) states that the settlement should be less than 13 mm at both A1 & A3 supports. Please show how that conclusion was derived and verify. Our estimates indicate larger settlements (i.e.- large differential settlements between the existing A3 and its extension over a short distance).

4. Corrosion tests were performed on samples taken from soil layers lower than where the footing will rest. Test samples should be taken from the soil layer (fill) that will be in contact with the footing.

5. What datum is being referenced? Is it the same datum as the as-builts? If not, please express the difference.

6. Please use the standard Abutment/Bent numbering convention instead of east/west terminology to avoid confusion in the Report.

7. Please attach the as-builts' "Log of Test Boring" (LOTB) sheet.

8. Last column in Table 4: Uses the symbol of Q_u for the allowable bearing capacity in error.

The following additional comments refer to the LOTB sheet:

1. The text is difficult to read. For a properly formatted sheet, please refer to the Office of Special Funded Project's Information and Procedures Guide, section 2-2 and Plans Preparation Manual 2001, pages 2-1, 2-211 & 2-227.

2. Please provide the bridge number, structure name & initial drafting date.

3. The following refer to the Plan view of the LOTB:

   - Please show the location, description and elevation of the benchmark used for determining the top of boring elevations in the top left side of the plan.
   - Please reference the datum (NGVD, District, etc.) used to determine the benchmark elevation.
   - Please label the structure control (M) line.
   - Please show the line bearing & intersection stationing of the M/805 lines.
   - Please show the name and direction of nearest cities.

4. The following refer to the Profile view of the LOTB:

   - Please use the M line stationing, instead of Route 805's. Use of 805's stationing resulted in showing the boring in a reverse order (increasing from right to left) from the Plan View.
   - When groundwater is not encountered at the site, a note stating "Groundwater was not encountered" should be shown on the Profile View.
   - A description of all samplers used in the field investigation including the inside and outside diameters of the sampler should be shown.
   - For driven samples, please show Hammer type/weight and lift and drop height/method.
   - Some consistencies (descriptions) for soil appear incorrect. For example at Abutment 1, soil description (around elevation 102 m) is referred to as "hard, silty CLAY" with a SPT of about 28. However the table at the upper right side of the sheet refers to a cohesive soil with a SPT value of 28 as "Very Stiff" (second row from the bottom).

If you have any questions, please call me at (916) 227-5399 (CALNET 498-5399), or my supervisor, Mark DeSalvatore at (916) 227-5391 (CALNET 498-5391), at the Office of Geotechnical Design-South II, Branch B.

Farzad Q'Mehr, RCE 42392
Transportation Engineer
Office of Geotech. Design - South II
Design Branch B

cc: Project File - North
Project File – South
Mark DeSalvatore
Abbas Abghari

State of California

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: LILY SUN, Liaison Engineer
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN SERVICES – MS 9
Office of Special Funded Projects

Date: January 18, 2005

File: 11-SD-805-KP 41.7
EA 11-089751
La Jolla Village Dr. OC
Bridge No. 57-0761

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES - MS 5
OFFICE OF GEOTECHNICAL DESIGN – *SOUTH 2*

Subject: Review of Consultant Foundation Report

Attached is a report documenting our comments on seismic issues for the Foundation Report by Ninyo & Moore revised November 19, 2004.

If there are any questions or comments, please contact Sung Kwon Moon at (916) 227-7025 or Calnet 8-498-7025 or Angel Perez-Cobo at (916) 227-7167 or Calnet 8-498-7167.

SUNG KWON MOON
Transportation Engineer – Civil

ANGEL PEREZ-COBO, Branch Chief
Geotechnical Design Branch A

Attachment

c: F. Qmehr – OGDS2
Project File

La Jolla Village Dr. OC (Widen/Retrofit)

San Diego County, California

11-SD-805-KP 41.7 EA 11-089751 Bridge No. 57-0761

COMMENT RESOLUTION FORM

REVIEWER: Sung Moon/Angel Perez-Cobo
DATE: 1/18/05 Page 1 of 1
RESPONDER: _____
DATE: _____

DOCUMENT NAME AND DATE Foundation Report by Ninyo & Moore 11/19/2004

COMMENT NUMBER	PAGE NO.	CRITERIA / REPORT /DRAWING NO./ SPECIFICATION	COMMENT (Do not address more than one discipline per sheet)	RESPONSE	ACTION CODE
1	11	7.1	To eliminate confusion for the structure designer, please provide only a recommended Acceleration Response Spectrum (ARS) curve. Since a fundamental period of structure is much less than 1.5 seconds (confirmed by Lily Sun - Caltrans Liaison engineer), deep soil sites modification is not required.		
2	Sheet 2	Foundation plan	For consistency, please use 'PBA' instead of 'PRA'		

ACTION CODES:
A – Designer agrees and will comply/take action.
B – Designer will investigate and comment.
C – Disagree for reasons noted, discussion may be required.

NOTES: ( ) Indicates paraphrasing of original comment.
.... Indicates unreadable comment

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

TRANSMITTAL MEMORANDUM

DS-EF 0001 (REV. 11/91)

DIVISION OF STRUCTURES

Office of Special Funded Projects
1801 30th Street – MS2-7/G
Sacramento, CA 95816

TO:	DATE:
Mr. Ed Hajj **Design Manager**	**January 12, 2005**
ADDRESS: **District 11 – Division of Design** **2829 Juan Street** **San Diego, CA 92110**	PROJECT DESCRIPTION: **11-SD-805**
PHONE NO. **619-220-5433**	EA: **11-089751**
SUBJECT: **2nd PS&E Plan Comments**	FROM: **Lily Sun** Lily Sun

BY:

☐ FC MAIL	☐ HAND DELIVERED	☐ ROUTE SLIP
☐ UPS	☐ MESSENGER	☐ UNDER SEPARATE COVER
☒ OVERNIGHT MAIL	☐ PP	

FOR:

☐ APPROVAL	☐ INFORMATION ONLY	☐ REVIEWED-NO ADDITIONAL COMMENTS
☒ YOUR USE	☐ APPROVED AS SUBMITTED	☐ REVIEWED-SEE ADDITIONAL COMMENTS
☐ AS REQUESTED	☐ APPROVED AS NOTED	☐ RETURN ___ CORRECTED PLANS
☐ REVIEW AND COMMENT	☐ RETURN WHEN DONE	☐ SIGN AND RETURN ____ COPIES

ENCLOSURES:

Our office has completed the plan review of second PS&E submittal for the **La Jolla Village Drive OC (Widen/Retrofit), Bridge No. 57-0761.** I have forwarded the redlined comments directly to James Rucker, T.Y. Lin International for his immediate use.

The Office of Foundation has completed the review of the Final Foundation Report and has provided written comments. The Office of Specification and Estimates has completed the review of the first PS&E submittal and provided written comments.

Please have the consultant address all comments and resubmit the project for approval.

I have listed the items and number of copies that will be necessary to include with the second PS&E submittal.

Structure Plans	10
Structure Plans (Electronic File)	1
Design Calculations	1
Check Calculations	1
Structure Special Provisions	3
Special Provisions (Electronic File)	1
Memo to Specification Engineer/Estimator	2
Cost Estimate	2
Quantity Calculations & Summary Sheets (Estimator/Checker)	2
Working Day Schedule	2
Final Foundation Report	5
Road Plans & Road Special Provisions (paper)	1
Consultant Quality Control Statement	

TO:	DATE:
Mr. Ed Hajj **Design Manager**	**January 12, 2005**

If you have any questions call me at (916) 227-8915.

Cc: James L. Rucker – T. Y. Lin International San Diego, w/attachments	By: Lily Sun
File: w/o attachments	

Office Of Special Funded Projects
Drafting Comment Check List

Bridge Name:	La Jolla Village Drive OC (Widen/Retrofit)
District/EA#	11-089751 Bridge # 57-761 2nd PSE Review 12/30/04

Items X = Indicates What Needs To Be Corrected

[X] Wrong Color Table (Get From CADD Resources Web Site)
See sheet 19.

[X] Check Leveling Convention (Use Leveling Convention From *)
See sheet 19.

[ ] Wrong File Naming Convention (Use Naming Convention From *) All Sheets
No Capital Letters, Special Characters, In File Naming.

[X] Check For Wrong Fonts Sheet 19 (Must be Font 2 And Font 43) New Font (ctfont1 or ctfont) avaliable at
http://www.dot.ca.gov/hq/esc/Engineering_Technology/DevelopmentBranch/cellibs/webpage.php

[X] Wrong Working Units For Border (Must Be 1000/10000 Per CADD Users Manual) Must stay standard size.
Must follow Structures standards for base working units. Leave at 1000/10000 at Submittal. Sheet 19.

[ ] Check For Correct Border (Down Load Borders From CADD Resources Web Site) Leave as standard
Must use most current borders all sheets,

[ ] Wrong North Arrow (Must Use Structures North Arrow Located In Caltrans Cell Library)

[ ] We Are Using Iplot Shape. Place Rectangular Shape (Block Command) On Exterior Lines Of Border
Similar To Fencing Drawing. Use Level 10, Color 10, Weight 0, And Style 0 For Shape.

[ ] Do Not Use Custom Lines Or Custom Symbols (Will Not Plot On OE's Plotter)

[ ] Levels 2-9, Were Used (Only use on General Plan, Foundation Plan at discretion of engineer)
these levels plot and copy very light.

[ ] See Office Of Special Funded Projects Electronic Plan Submittal Information: For Proper Layout of CD, and CD cover. http://www.dot.ca.gov/hq/esc/osfp/EPS/eps.htm

Comments:

Sheet 19 not following leveling, base working units, and text standards. As-built LOTB sheets too small follow attached tif spec. sheet.

See attached original sheets plotted out in Iplot.
http://www.dot.ca.gov/hq/esc/structures_cadd/CADD_Resources/ stbrm001.dgn. Contains all borders and Structures Standards.

Please call if any questions 916 227 9804 Victor

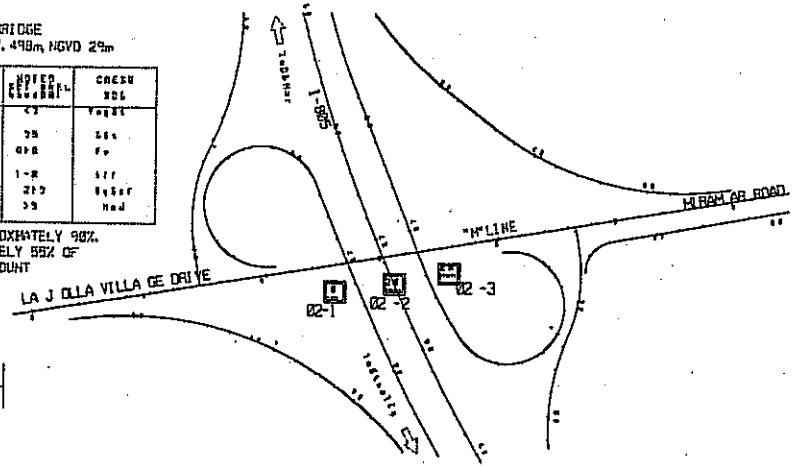
General Notes:
No Reference Files Attached Or Extraneous Details Outside Of The Border At Final Submittal
All drawings must follow Bridge Design Details Manual Standards.
Must Not Have Any Rotated Views At Final Submittal
Do Not Use Levels 9, 11, 61, 62, & 63
No All Capital Letters File Name
No Tags
Send in Iparm files made at 34 x 22 at Expedite Submittal for all State Advertise projects.
New Font (ctfont1 or ctfont, also has been called font3) avaliable at
http://www.dot.ca.gov/hq/esc/Engineering_Technology/DevelopmentBranch/cellibs/webpage.php

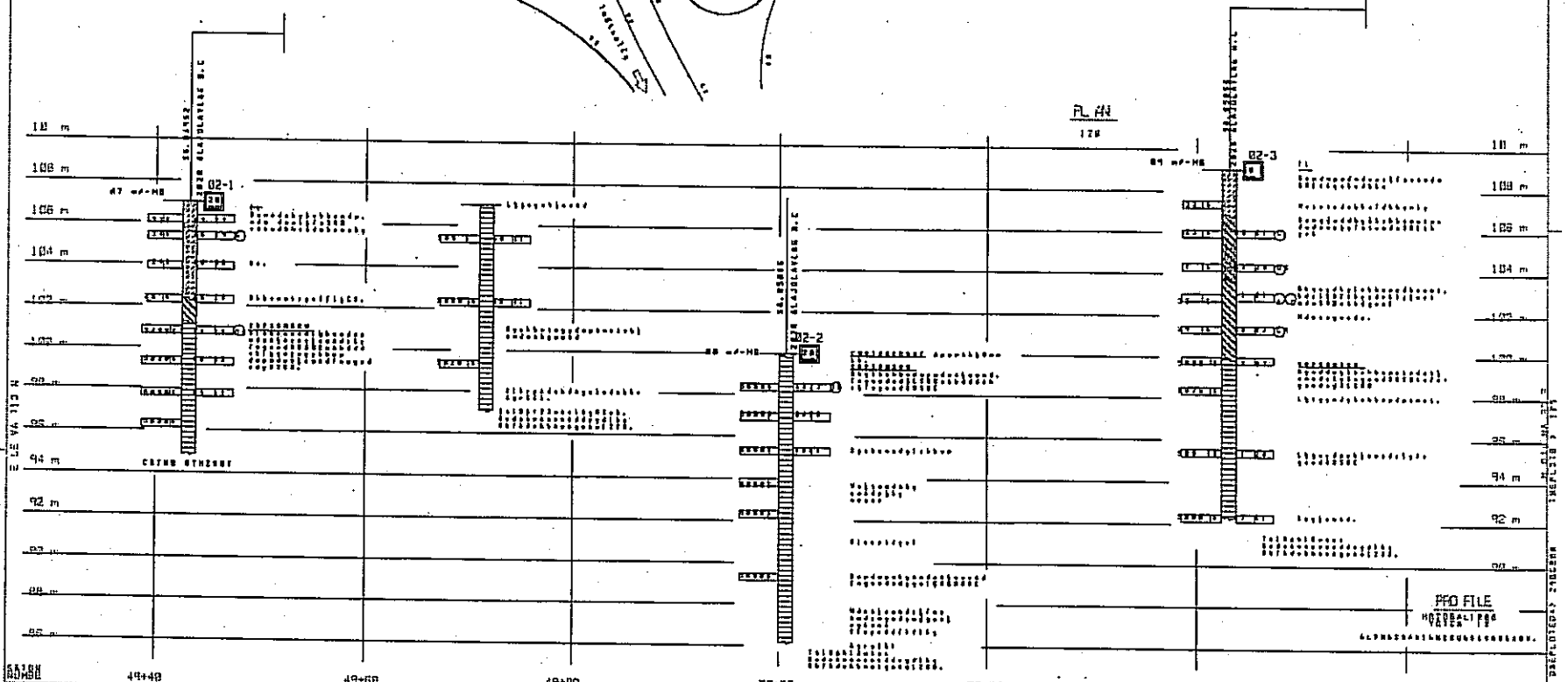
Drawings Must Be Submitted As A 2D Dgn File Only
* = The stbrm001_dgn.exe File Located In The CADD Resources Web Site

X = Indicates What Needs To Be Corrected

DATUM:
1983 CCS83 ZONE 6
BENCHMARK :
NVP ON NORTHER LY CURB OF MIRAMAR BRIDGE
320m W ESTERLY OF EASTGATE M ALL 17.490m NGVD 29m

NOTES: 1 AUTOTRIP HAMMER EFFICIENCY APPROXIMATELY 90%.
2. SPT BLOW COUNT IS APPROXIMATELY 55% OF MODIFIED SPLIT BARREL BLOW COUNT





PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LA JOLLA VILLAGE DRIVE OC (WIDEN/RETROFIT)
LOG OF TEST BORINGS 1 OF 2

DU 11223
EA 11-089725 1

GEOTECHNICAL CONSULTANT SUBMITTAL REVIEW

DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES

[X] MR. EARL SEABERG, CHIEF, OSFP
[ ] MR. VONG TOAN, CHIEF, OSCM
Attention: Ms. Lily Sun

DATE: 1/4/2005

FILE: 11 (District) SD (County) 805 (Route) 41.7 (KP)

SUB CONSULTANT: Ninyo & Moore Report Date: Rev 11/19/04
PRIME CONSULTANT: Boyle Engr. Corp. Contract No.:
GENERAL PLAN DATED: 12/02/04 FDN PLAN DATED: 12/02/04

La Jolla Village Dr. OC (Structure Name)
089751 (EA Number) 57-0761 (Bridge Number)

Submittal (*Check One*): [ ] 1st [ ] 2nd [ ] 3rd [x] 4th [ ] Other:

Review of Foundation Report/Contract Plans

The subject report (revision dated 11/19/04) was reviewed. The following items did not seem to be fully addressed from the previous reviews:

1. Review dated 6/15/04: Comment number 5 (Format per "Bridge Memos to Designers 4-1") - Please also address the "spread footing" portion of the comment (can also refer to comment 1A in the 8/18/04 dated comments). This comment refers to the "Foundation Plan" sheet and also to Table 4 of the "Foundation Report" (i.e. – missing "Minimum Footing Width" column, use of Q_u for nominal capacity instead of q_n, etc.). An example of the format from "Bridge Memo to Designers" is shown on next page for your convenience. Please refer to the original source.

2. Review dated 3/25/04: LOTB (Log of Test Boring) comment 3d: Show control line intersection stationing and bearing (per Guidelines for Foundation Investigation and Reports – June 2002 version 1.2, Section 4.1.4.k)

If you have any questions, please Farzad Qmehr at (916) 227-5399 (CALNET 498-5399), or Mark DeSalvatore (Supervisor) at (916) 227-5391 (CALNET 498-5391), at the Office of Geotechnical Design-South II, Branch B.

RECEIVED
JAN 10 2005
OFFICE OF STRUCTURE
EXTERNAL LIAISON & SUPPORT

REGISTERED PROFESSIONAL ENGINEER
FARZAD QMEHR
No. C 42392
Exp. 3-31-06
CIVIL
STATE OF CALIFORNIA

[X] Special Funded Project (OSFP) [ ] Local Assistance Project (OSFP) [ ] OSCM Project
Approval:

OSFP/OSCM

OGDSIIB
Office of Geotechnical Design – West

cc: OGDx, Lab File Room (Sacramento) DES Specifications and Estimates (JStayton-4 copies) Structure Construction R.E. Pending File
Revised 05/04

FORMAT FOR THE FINAL FOUNDATION REPORT :

Spread Footing Data Table

Support Location	Minimum Footing Width	Bottom of Footing Elevation	Recommended Bearing Limits	
			WSD[1]	LFD[2]
			Allowable Bearing Capacity q_{all}	Nominal Bearing Resistance (q_n)
Abut 1			XX kPa	N/A
Bent 2			N/A	XX kPa
Pier 3			N/A	XX kPa
Abut 4			XX kPa	N/A

Notes: 1) Working Stress Design, (WSD), the Maximum Contact Pressure, (q_{max}), is not to exceed the recommended Gross Allowable Bearing Capacity, (q_{all}).

2) Load Factor Design, (LFD), The Maximum Contact Pressure (q_{max}) divided by the Strength Reduction Factor (ϕ) is not to exceed the Nominal Bearing Resistance (q_n).

Format for the Contract Plans:

Spread Footing Data Table

Support Location	Allowable Bearing Capacity, q_{all}	Nominal Bearing Resistance, q_n
Abut 1	XX kPa	N/A
Bent 2	N/A	XX kPa
Pier 3	N/A	XX kPa
Abut 4	XX kPa	N/A

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: Lily Sun
Liaison Engineer

Date: January 4, 2005

File: 11-SD-805
La Jolla Village Drive
EA 11-089751

From: RUTH FERNANDES
Chief
Structure Specifications Branch
Structure Office Engineer

Subject: Review of Plans, Special Provisions, and Estimates

A second review has been done on the approved referenced project. Please have the Consultant respond to the comments in writing. If you have any questions or comments, please contact Lien Vu at (916) 227- 0440.

PLANS

Sheet 1

1. Utilities: No. (3) (4) (5) - How are these conduits being paid? Are they part of the Road Plans?

2. Typical Section: Under Notes: (6) "Relocate existing structure mounted sign;" Is this part of the Road plans or Bridge plans? Need to specify which one. If this is part of the Bridge plans, where is the SSP and is there a Bridge item for it?

Sheet 12

1. Notes (1): Add the word "(Mod)" after Type 26.

Sheet 15

1. Median Detail: The "Stamped architectural treatment" –Are the details shown on the "Road Plans"? How is this item of work being addressed in the SSP and paid for?

SPECIAL PROVISIONS

S5-280

Project Information. Paragraph 2A. Add the text "*Log of Test Borings – La Jolla Village Drive OC (Bridge No. 57-761).*"
Paragraph 3A. Insert "*Foundation Recommendations – La Jolla Village Drive OC (Bridge No. 57-761).*"
Paragraph 3B. Insert "*Foundation Reviews – La Jolla Village Drive OC*

(Bridge No. 57-761)."

15-800 ***Bridge Removal***: Pg. 163 – Insert the following text after the word "railings" in paragraph 2.

of the following structure:

La Jolla Village Drive OC
Bridge No. 57-761

15-805 ***Bridge Removal***: Pg.164 – Paragraph 1, delete *"for each bridge listed above,"* Paragraph 2G, delete *"or railroad property."*

51-300 ***Concrete Structures***: Pg. 205 – Paragraph 6, need to keep the text *"and abutment backwall joint protection"*. The abutment 1 & 3 Layout sheets are shown the Standard Plans - Bridge Details B0-1/1-4.

83-460 ***Concrete Barrier***: Pg. 251 – Delete entire paragraph 10.

COST ESTIMATE

1. What individual unit prices were used for each removal item to arrive at your Bridge Removal (portion) Lump Sum item price?

2. The overall item price for refinish bridge deck is very low. Should this item be included into another item of work?

THE CITY OF SAN DIEGO

July 23, 2007

Mr Ed Hajj
Caltrans District 11
4050 Taylor Street
San Diego, CA 92110

Subject: La Jolla Village Dr./I-805 Interchange Project

Sufficient quantity of potable water is available within the project limits for reconstruction of the La Jolla Village Dr./I-805 Interchange Project.

The Contractor shall be responsible, per the Fire Hydrant Meter Program attachment, to obtain and rent a water meter(s) for a fee from the Meter Shop Supervisor at Chollas Operations, 2797 Caminito Chollas. A meter shall be installed whenever water is required by the Contractor. The Contractor shall pay the regular monthly fee for water and, in addition, a fee for quantity of water used.

Any usage of unpurchased water by the Contractor during construction process is subject to a fine of $500 or six (6) months imprisonment, or both, under State Penal Code Section 499. In addition, the Contractor is subject to a civil liability to the City for such misappropriation.

If you have any questions regarding this, please contact me at (619) 533-3669.

Sincerely,

Mark Koll
Project Manager

cc: Mike Bruning, Project Engineer, Boyle Engineering

Transportation Engineering Division
Engineering and Capital Projects • 1010 Second Avenue, Suite 1200 • San Diego, CA 92101-4905
Tel (619) 533-3173

I-805 NORTHERN
AERIALLY DEPOSITED LEAD STUDY REPORT
I-805 BETWEEN STATE ROUTE 52 INTERCHANGE AND THE I-5/I-805 MERGE
SAN DIEGO, CALIFORNIA

CALTRANS CONTRACT NO. 11A1638
EA 11-081630

January 29, 2009

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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

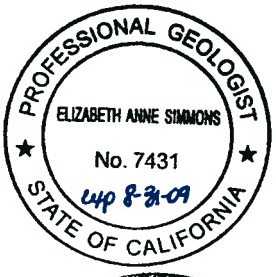
I-805 NORTHERN
AERIALLY DEPOSITED LEAD STUDY REPORT
I-805 BETWEEN STATE ROUTE 52 INTERCHANGE
AND THE I-5/I-805 MERGE
SAN DIEGO, CALIFORNIA
CALTRANS CONTRACT NO. 11A1638, EA 11-081630

Kleinfelder Project No. 99546

Prepared by:

Valerie Harris, PE (C53288)
Senior Engineer

Reviewed by:



Lizanne Simmons, PG
Task Order Leader

Mark Peabody, PE (C46787)
Project Manager

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

January 29, 2009

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TABLE OF CONTENTS

Section			Page
1.0	**INTRODUCTION**		**1**
	1.1	PROJECT DESCRIPTION	1
	1.2	PROJECT OBJECTIVES AND SCOPE OF WORK	1
	1.3	REPORT ORGANIZATION	3
2.0	**BACKGROUND**		**4**
	2.1	SITE IMPROVEMENTS	4
	2.2	PREVIOUS SITE INVESTIGATIONS	4
	2.3	WASTE CLASSIFICATION, ADL VARIANCE, AND SOIL REUSE CRITERIA	5
3.0	**SAMPLING ACTIVITIES**		**8**
	3.1	PRE-FIELD ACTIVITIES	8
	3.2	SAMPLING LOCATIONS	8
	3.3	HAND AUGER DRILLING AND SOIL SAMPLING METHODS	9
	3.4	EQUIPMENT BLANKS	9
	3.5	ANALYTICAL METHODS	9
	3.6	DECONTAMINATION AND BORING ABANDONMENT	10
4.0	**FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS**		**11**
	4.1	SITE CONDITIONS	11
	4.2	SOIL SAMPLE RESULTS	11
		4.2.1 Total Lead	11
		4.2.2 Hydrogen Ion Concentration	11
		4.2.3 California WET Soluble Lead	11
		4.2.4 DI-WET Soluble Lead	12
		4.2.5 TCLP Soluble Lead	12
	4.3	DATA QUALITY ASSESSMENT	12
5.0	**STATISTICAL EVALUATION**		**15**
6.0	**CONCLUSIONS AND RECOMMENDATIONS**		**17**
	6.1	VARIANCE CONCLUSIONS	17
	6.2	WASTE CHARACTERIZATION CONCLUSIONS	17
	6.3	RECOMMENDATIONS	18
7.0	**LIMITATIONS**		**19**
8.0	**REFERENCES**		**21**

TABLES

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

APPENDICES

Appendix A Aerially Deposited Lead Sample Location Maps
Appendix B Sample Location Coordinates and Boring Logs
Appendix C Laboratory Analytical Reports and Chain-of-Custody Documentation
Appendix D Statistical Data Evaluation

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

This report has been prepared to summarize procedures and results of an aerially deposited lead (ADL) survey conducted along Interstate 805 (I-805) in San Diego, California for the State of California Department of Transportation (Caltrans). This report summarizes the soil sampling for ADL conducted in December 2008 in the median of I-805 from State Route 52 (SR-52) to 0.3-mile south of Mira Mesa Boulevard (site, Plate 1 in Appendix A) in San Diego, California. An ADL survey had been previously completed for the center median and select portions of the shoulder of I-805 just north of the site from 0.3-mile south of Mira Mesa Boulevard to the I-805 and I-5 interchange (Ninyo & Moore, 2008).

1.2 PROJECT OBJECTIVES AND SCOPE OF WORK

Caltrans proposes to widen the median of I-805 between SR-52 and the I-805/I-5 interchange for a high occupancy vehicle (HOV) lane and to add several direct access ramps (DAR) at Nobel, a one-half DAR at Carroll Canyon Road and a direct connector from SR-52 to I-805. The expansion of the interstate and DAR construction will be completed within the Caltrans right-of-way. 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 determine the potential for reuse on-site. It will also be used to evaluate disposal options for potentially lead-contaminated 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 median (Caltrans right-of-way) within the project boundaries relative to the variance granted to Caltrans by the Department of Toxic Substance Control (DTSC) (DTSC, 2000, 2008).

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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 Addendum for the Aerially Deposited Lead Survey* (Kleinfelder, 2008), Kleinfelder performed the tasks listed below:

- Provided project management and coordination.
- Prepared an addendum to the site-specific work plan and prepared a site-specific health and safety plan (SHSP).
- Coordinated traffic control for median closure, as necessary.
- Advanced 30 borings using hand auger methods to a depth of 3 feet below ground surface (bgs) or until refusal. Three soil samples were collected from each hand auger boring that was advanced to 3 feet bgs. Shallower borings had fewer samples collected.
- Obtained global positioning system (GPS) location readings at each boring location.
- Submitted 83 soil samples to California Environmental Sciences, 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 53 soil samples for leachable lead by the California waste extraction test (WET) method.
- Analyzed 22 soil samples for leachable lead by the modified WET method using deionized water as the extractant.
- Analyzed 15 soil samples for leachable lead by the Toxicity Characteristic Leaching Procedure (TCLP).
- Analyzed 22 soil samples for pH by U.S. EPA Method 9045C.
- Collected and analyzed three equipment blanks for total lead by U.S. EPA Method 6010B. An equipment blank was collected each day of soil sampling.

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- 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 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.
- Appendix A contains the plates.
- Appendix B includes a table with the coordinates of the sample locations and the boring logs.
- Appendix C includes the analytical reports from the laboratory.
- Appendix D presents the evaluation and results of the statistical analysis.

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2.0 BACKGROUND

2.1 SITE IMPROVEMENTS

Improvements are planned for shoulder or median areas along the I-805 between SR-52 and the I-805/I-5 merge. Major elements of the project include (but are not limited to):

- Direct access ramps.
- Lane widening.
- Ramp realignment.
- Bridge widening
- HOV lanes; and
- HOV direct connector ramps.

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

2.2 PREVIOUS SITE INVESTIGATIONS

The following studies for ADL have been conducted along this portion of I-805:

- Aerially Deposited Lead Survey Report, Interstate 805 Widening and Direct Access Ramp, San Diego, California. Ninyo & Moore. March 14, 2008.
- Soil Sampling for Aerially-Deposited Lead, I-805 and Proposed Nobel Drive Interchange, San Diego, California. Ninyo & Moore. September 2, 1999.
- Site Investigation Report, Route 805 Approximately 0.2 Km North of the Governor Drive Undercrossing, San Diego, California. Geocon Environmental Consultants. March 1999.

Total lead was reported in soil samples collected as part of these three projects at concentrations ranging from 5.47 milligrams per kilogram (mg/kg) (Ninyo & Moore, 1999) to 443 mg/kg (Geocon, 1999). In general, the highest lead concentrations were reported in the shallowest soil samples. The concentration of 443 mg/kg was reported

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in a surface soil sample collected in 1999 from the northbound shoulder just north of the Governor Drive undercrossing.

2.3 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 Soluble Threshold Limit Concentration (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.

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In September 2000, the DTSC issued a 5-year variance (District 11 [00-H-VAR-06]) 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 allows 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. The following are the current DTSC variance conditions:

- For Variance Condition 9.a.1, "lead-contaminated" soil containing 0.5 mg/L or less soluble lead (using a modified WET with deionized [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 5 feet above the maximum water table elevation and is covered by 1 foot of clean soil. The pH of the reused soil also must be above 5.0, otherwise the soil must be placed as specified in Variance Condition 9.a.2.
- For Variance Condition 9.a.2, "lead-contaminated" soil containing less than 50 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.

Other reuse conditions, soil handling procedures, and notifications are specified in the variance. Soil that exceeds 3,397 mg/kg total lead or 50 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.

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This information described above is summarized in Figure 1 of the Caltrans ADL Guidance (Caltrans, 2007) that presents a soils management flow chart to determine the applicability of the DTSC variance. According to this 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 0.5 mg/L are considered non-hazardous and can be released to the contractor for use in accordance with project specifications.

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3.0 SAMPLING ACTIVITIES

3.1 PRE-FIELD ACTIVITIES

An encroachment permit was prepared by a representative of Caltrans and submitted on September 19, 2008. The permit (11-08-NSV-0507) was approved November 11, 2008. The state inspector was notified of the planned work in the median of I-805 on November 21 and again on December 10, 2008, the day before shoulder closure was conducted.

Kleinfelder prepared and submitted a work plan addendum (Kleinfelder, 2008a) and a SHSP (Kleinfelder, 2008b). 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 in white paint. Underground Service Alert (USA) was notified 48 hours in advance of subsurface sampling activities. The following ticket numbers were issued by USA:

- A83400243 (SR-52 to ~900 feet north of Governor Drive)
- A83400247 (~900 feet north of Governor Drive to Nobel Drive)
- A83400252 (Nobel Drive to Eastgate Mall)
- A83400256 (Eastgate Mall to AT&SF undercrossing ~2476 feet)

3.2 SAMPLING LOCATIONS

Thirty sampling locations were selected and spaced approximately evenly along the unpaved median. When possible, the borings were located between the center guardrails. Up to three soil samples were collected from each boring location at depths of approximately 0 to 0.5 foot bgs, 1 to 1.5 feet bgs, and 2.5 to 3 feet bgs, or until refusal. Site conditions (i.e., refusal) dictated sample retrieval; therefore, the number and depth of samples collected at each location was occasionally modified.

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3.3 HAND AUGER DRILLING AND SOIL SAMPLING METHODS

Hand auger borings were advanced from December 10 to December 12, 2008 at locations shown on Plates 2 through 4 in Appendix A. Borings were advanced using a manually operated, pre-cleaned, stainless steel hand auger. Kleinfelder obtained the services of CO's Traffic Control to provide traffic control for closure of the freeway median. Work was performed in the unpaved median areas from 9:00 AM to 2:00 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 sample identification information and placed in a secured, chilled ice chest. Standard chain-of-custody procedures were used during sampling and transportation to Calscience, the laboratory subcontracted by Kleinfelder.

The sample locations were recorded during utility location using a hand-held Trimble GPS unit and coordinates are provided in Table B-1 (Appendix B). The hand held GPS unit was unable to provide coordinates at boring locations HA-24 and HA-25. The approximate locations of these borings are shown on the plates in Appendix A.

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. They were labeled with a 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 for analysis.

3.5 ANALYTICAL METHODS

All 83 soil samples were analyzed for total lead by U.S. EPA Method 6010B and 22 samples were measured for pH using U.S. EPA Method 9045D. A subset of 53 samples (63.9 percent), including the 17 samples with total lead concentrations above 50 mg/kg, were also analyzed by the California WET method. A modified California WET procedure, using DI water extraction, was also performed on 22 soil

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samples (26.5 percent of total samples); this subset of samples included the 9 samples with soluble lead results above 5 mg/L using the California WET method. Soluble lead was analyzed by TCLP for 15 samples (18.1 percent of total samples), which included the 10 samples with total lead concentrations above 100 mg/kg and other randomly selected samples.

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 double rinsed with tap 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) in accordance with the work plan. Soil cuttings originating from each boring were placed back within the original borehole as described in the work plan.

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4.0 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

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

4.1 SITE CONDITIONS

Daily field logs, prepared by the field geologist, included a description of the soil conditions. Boring logs are presented in Appendix B. Fill was encountered in the borings and was described as silty sand with gravel. In most cases, this material was present from 0 to 3 feet bgs. Groundwater was not encountered in the borings to a maximum depth of 3 feet bgs.

4.2 SOIL SAMPLE RESULTS

4.2.1 Total Lead

Total lead was detected in all of the 83 soil samples, and ranged in concentration from 2.33 to 942 mg/kg (Table 1). 17 samples contained total lead concentrations that equaled or exceeded the 50 mg/kg screening criterion of leachability, ranging from 53.6 to 942 mg/kg. As expected, near surface samples generally contained higher concentrations of total lead compared to the deeper samples.

4.2.2 Hydrogen Ion Concentration

The hydrogen ion concentration (pH) of the 22 soil samples ranged from 5.15 to 9.25. All values are greater than the criterion of 5.0 listed in the DTSC variance (DTSC, 2000). Because none of the samples had a pH below 5, the soil is not limited to reuse in areas covered by pavement based on reported pH values.

4.2.3 California WET Soluble Lead

California WET soluble lead (citrate extraction) was reported at concentrations above 5.0 mg/L (the STLC action level) in 9 of the 53 soil analyzed. The maximum WET soluble lead concentration was 44.4 mg/L, reported in the surface sample collected at HA-28. This sample also had the highest concentration of total lead at 942 mg/kg.

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4.2.4 DI-WET Soluble Lead

DI-WET soluble lead was reported in 10 of the 21 samples tested. None of the samples analyzed for DI-WET soluble lead had concentrations greater than 50 mg/L, the maximum threshold concentration for DTSC Variance Condition 2. The maximum DI-WET soluble lead was 1.06 mg/L, which corresponded to a total lead concentration of 349 mg/kg and a standard-WET soluble lead concentration of 10.3 mg/L (sample HA1401-0.5). This was not the sample with the highest total lead concentration or the sample with the highest soluble lead concentration using WET.

4.2.5 TCLP Soluble Lead

TCLP soluble lead was analyzed on approximately 18 percent of the total lead samples. TCLP analysis is performed to evaluate if soils do not qualify for reuse due to designation as a RCRA hazardous waste. TCLP soluble lead concentrations ranged from below laboratory reporting limits to 5.51 mg/L. Of the 15 samples analyzed by TCLP, only sample HA2801-0.5 was reported at a concentration above the RCRA hazardous waste limit of 5.0 mg/L. This sample had the highest total lead concentration; the two deeper samples collected at this location (from 1 to 1.5 feet bgs and 2.5 to 3.0 feet bgs) had total lead concentrations of 26.4 mg/kg and 18.5 mg/kg, respectively. Based on the results of sampling, composite material generated during grading and excavation would be expected to have TCLP concentrations below the RCRA hazardous waste limit as indicated by the statistical analysis presented in Section 5.

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 I-805 Northern ADL project. The 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.

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A total of 86 samples, including primary and equipment blank samples, were collected and submitted to Calscience for one or more of the following analyses:

- Total lead by U.S. EPA Method 6010B.
- pH by EPA Method 9045D.
- Soluble lead by U.S. EPA Method 1311.
- Soluble lead by California WET Method.
- Soluble lead by California DI-WET Method.

One hundred percent of the data generated for this project underwent a data assessment review by a Kleinfelder project chemist, independent of project activities. A total of 3 Level II sample delivery groups (SDGs) were evaluated during the data quality assessment, which consisted of evaluating the following parameters:

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

Field and laboratory personnel implemented QA/QC procedures consistent with the quality assurance criteria specified in the *Work Plan Addendum for the Aerially Deposited Lead Survey* (Kleinfelder, 2008) 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.

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During the data quality assessment, the following discrepancy was observed:

- One MS sample for soluble lead analysis reported a low spike recovery which was outside the laboratory control limits; however, the associated LCS recovery was within the laboratory control limits. Therefore, no qualifications were applied to the associated data due to MS/MSD recovery issues.

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5.0 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). 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 for soluble lead (DI-WET) is less than 0.5 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 depth to reflect the construction process, was used for the analysis. Results below laboratory detection limits for total lead and DI-WET soluble lead were handled in the statistical analysis by taking half 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?”

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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 (Table 2).

In conclusion, based on Caltrans ADL guidance criteria, 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 (85.7 mg/kg, Table 2).
- The 95 percent UCL for DI-WET procedure is less than 0.5 mg/L (0.3 mg/L, Table 2).

Additionally, statistical analyses were also 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 3.3 mg/L, which is less than the 5 mg/L limit set forth for STLC. At the time of report preparation, project specific details, such as the depth of disturbance, net import and export volumes, etc., are not known. Once these details are available, additional evaluation is recommended, as the statistical results may not be representative of the soil actually disturbed. For example, the 95 percent UCL for the soil shallower than 1 foot bgs is 12.3 mg/L, which is greater than the 5 mg/L limit set forth for STLC. Therefore, if excess soils from only the upper foot of the site require off-site disposal, they may be classified as California hazardous waste when they are profiled for disposal.

Statistical analyses were performed on the 15 sample results for soluble lead by TCLP. The 95 percent UCL for the TCLP procedure was 1.5 mg/L which is below the Federal waste limit of 5.0 mg/L. Composite material generated during grading and excavation would be expected to have TCLP concentrations below the RCRA hazardous waste limit. Therefore the soils are not excluded for reuse at the site under the DTSC variance.

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6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 VARIANCE CONCLUSIONS

Although certain individual samples have lead concentrations above the maximum soluble lead concentrations allowed by the DTSC Variance, 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 concentrations that would apply to the DTSC Variance conditions (Appendix D). As such, soil within the site to a depth of 3 feet bgs may be released to the contractor as non-hazardous soil and reused on-site in accordance with project specifications. All 22 soil samples had reported pH values above the variance criterion of 5 which indicates that there are no restrictions on the use of the contaminated soil solely on the basis of the pH.

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 the soil samples collected at the 30 sample locations along the median do not contain total lead in excess of the California TTLC of 1,000 mg/kg. The standard-WET soluble lead test results indicate that soil concentrations are in excess of the California STLC of 5 mg/L in 9 of the 53 samples analyzed for soluble lead by WET at various locations along the site. Statistical analyses performed on all samples yielded results that indicated soil should not be treated as a California hazardous waste should off-site disposal be required. Based on the results of soil sampling locations along the I-805 median, soils from this area are considered non-hazardous in comparison to both California TTLC and STLC limits. However, soil designated for export from specific locations in the project site may have representative concentrations that differ from those calculated with the entire data set. For example, if only the surface soil (less than 1 foot bgs) is removed for off-site disposal, it may be classified as California hazardous waste as the 95 percent UCL for soluble lead by WET for this depth interval is greater than the limit of 5 mg/L.

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Only one of the TCLP soluble lead concentrations was greater than 5.0 mg/L. Therefore, it is likely that a composite sample of soil excavated from the site would be classified for disposal as non-hazardous waste pursuant to federal limits. Additionally, the 95 percent UCL for soil samples analyzed for TCLP soluble lead was 1.5 mg/L which is less than the 5.0 mg/L criterion for RCRA hazardous waste.

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 median of the subject corridor, the general recommendations listed below are provided.

- Due to the presence of lead-impacted soil, construction activities should be performed in accordance with a site-specific health and safety plan and a soil management plan.
- If excavations are planned deeper than 3 feet bgs, additional sampling and laboratory analytical testing should be conducted to characterize the area of excavation.
- Soil subject to export should be characterized to determine the appropriate waste classification in accordance with the requirements of the permitted disposal facility.
- If imported soil is brought on-site, soil should be tested to comply with Caltrans Standard Specifications.

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7.0 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

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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.

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TABLES

Table 1
Soil Analytical Results

Sample Location	Sample ID	Depth (feet bgs)	Sample Date	Total Lead (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
HA-1	HA0101-0.5	0.5	12/10/08	151	12.0	< 0.100 [a]	0.268	8.79
HA-1	HA0102-1.5	1.5	12/10/08	95.5	5.38	<0.100	0.195	- [b]
HA-2	HA0201-0.5	0.5	12/12/08	107	2.41	0.136	< 0.100	-
HA-2	HA0202-1.5	1.5	12/12/08	4.32	-	-	-	7.04
HA-2	HA0203-3.0	3	12/12/08	42.3	2.42	0.435	-	-
HA-3	HA0301-0.5	0.5	12/10/08	159	11.4	0.115	0.789	-
HA-3	HA0302-1.5	1.5	12/10/08	65.5	3.34	-	-	-
HA-3	HA0303-3.0	3	12/10/08	4.97	-	-	-	-
HA-4	HA0401-0.5	0.5	12/10/08	9.39	-	-	-	-
HA-4	HA0402-1.5	1.5	12/10/08	4.79	-	-	-	-
HA-4	HA0403-3.0	3	12/10/08	11.3	0.936	-	-	8.20
HA-5	HA0501-0.5	0.5	12/10/08	4.67	-	-	-	8.65
HA-5	HA0502-1.5	1.5	12/10/08	5.08	-	-	-	-
HA-5	HA0503-3.0	3	12/10/08	3.72	< 0.100	-	-	-
HA-6	HA0601-0.5	0.5	12/12/08	17.9	0.290	-	-	7.95
HA-6	HA0602-1.5	1.5	12/12/08	7.09	< 0.100	-	-	-
HA-6	HA0603-3.0	3	12/12/08	21.9	0.178	-	-	-
HA-7	HA0701-0.5	0.5	12/10/08	7.30	-	-	-	-
HA-7	HA0702-1.5	1.5	12/10/08	9.22	-	-	-	-
HA-7	HA0703-3.0	3	12/10/08	17.3	0.322	-	-	8.79
HA-8	HA0801-0.5	0.5	12/10/08	36.4	0.892	-	-	-
HA-8	HA0802-1.5	1.5	12/10/08	32.4	1.77	-	-	-
HA-8	HA0803-3.0	3	12/10/08	23.1	4.45	-	-	-
HA-9	HA0901-0.5	0.5	12/10/08	86.9	1.07	-	< 0.100	-
HA-9	HA0902-1.5	1.5	12/10/08	11.7	0.893	-	-	6.17
HA-9	HA0903-3.0	3	12/10/08	2.33	-	-	-	-
HA-10	HA1001-0.5	0.5	12/12/08	13.1	0.259	-	-	-
HA-10	HA1002-1.5	1.5	12/12/08	17.3	-	-	-	-
HA-10	HA1003-3.0	3	12/12/08	13.9	0.213	< 0.100	-	8.54
HA-11	HA1101-0.5	0.5	12/10/08	19.6	0.329	-	-	-
HA-11	HA1102-1.5	1.5	12/10/08	12.7	-	-	-	-
HA-12	HA1201-0.5	0.5	12/12/08	300	6.58	0.709	2.77	8.13
HA-13	HA1301-0.5	0.5	12/11/08	63.7	2.74	0.207	0.112	-
HA-13	HA1302-1.5	1.5	12/11/08	13.5	-	-	-	6.27

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Table 1
Soil Analytical Results

Sample Location	Sample ID	Depth (feet bgs)	Sample Date	Total Lead (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
HA-13	HA1303-3.0	3	12/11/08	8.72	< 0.100	-	-	-
HA-14	HA1401-0.5	0.5	12/12/08	349	10.3	1.08	1.59	-
HA-15	HA1501-0.5	0.5	12/11/08	9.15	0.122	-	-	-
HA-15	HA1502-1.5	1.5	12/11/08	9.24	-	-	-	5.15
HA-15	HA1503-3.0	3	12/11/08	4.82	< 0.100	-	-	-
HA-16	HA1601-0.5	0.5	12/12/08	372	4.52	0.347	0.719	-
HA-16	HA1602-1.5	1.5	12/12/08	6.60	< 0.100	-	-	-
HA-16	HA1603-3.0	3	12/12/08	10.2	-	-	-	5.15
HA-17	HA1701-0.5	0.5	12/11/08	6.80	-	-	-	-
HA-17	HA1702-1.5	1.5	12/11/08	3.29	-	-	-	-
HA-17	HA1703-3.0	3	12/11/08	6.81	< 0.100	-	-	-
HA-18	HA1801-0.5	0.5	12/12/08	27.6	0.643	0.173	-	-
HA-18	HA1802-1.5	1.5	12/12/08	11.9	-	-	-	-
HA-18	HA1803-3.0	3	12/12/08	7.41	< 0.100	-	-	7.15
HA-19	HA1901-0.5	0.5	12/11/08	26.0	1.37	-	-	-
HA-19	HA1902-1.5	1.5	12/11/08	13.8	-	-	-	-
HA-20	HA2001-0.5	0.5	12/12/08	19.5	1.42	-	-	-
HA-20	HA2002-1.5	1.5	12/12/08	17.1	0.202	-	-	8.10
HA-20	HA2003-3.0	3	12/12/08	9.50	-	-	-	-
HA-21	HA2101-0.5	0.5	12/11/08	29.5	0.989	< 0.100	-	-
HA-21	HA2102-1.5	1.5	12/11/08	14.2	0.162	-	-	-
HA-21	HA2103-3.0	3	12/11/08	7.11	-	-	-	8.44
HA-22	HA2201-0.5	0.5	12/11/08	15.9	0.305	-	-	-
HA-22	HA2202-1.5	1.5	12/11/08	5.15	-	-	-	-
HA-22	HA2203-3.0	3	12/11/08	4.83	< 0.100	-	-	-
HA-23	HA2301-0.5	0.5	12/11/08	277	8.44	< 0.100	0.262	9.25
HA-23	HA2302-1.5	1.5	12/11/08	8.28	-	-	-	-
HA-23	HA2303-3.0	3	12/11/08	11.9	-	-	-	-
HA-24	HA2401-0.5	0.5	12/11/08	69.5	3.75	< 0.100	< 0.100	-
HA-24	HA2402-1.5	1.5	12/11/08	28.4	0.670	-	-	-
HA-24	HA2403-3.0	3	12/11/08	20.3	0.385	-	-	-
HA-25	HA2501-0.5	0.5	12/11/08	26.3	0.802	< 0.100	-	-
HA-25	HA2502-1.5	1.5	12/11/08	15.7	-	-	-	8.05
HA-25	HA2503-3.0	3	12/11/08	12.5	-	-	-	-

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Table 1
Soil Analytical Results

Sample Location	Sample ID	Depth (feet bgs)	Sample Date	Total Lead (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
HA-26	HA2601-0.5	0.5	12/12/08	40.2	1.44	0.190	-	-
HA-26	HA2602-1.5	1.5	12/12/08	16.7	-	-	-	-
HA-26	HA2603-3.0	3	12/12/08	53.6	0.300	< 0.100	-	8.53
HA-27	HA2701-0.5	0.5	12/11/08	57.2	1.15	< 0.100	< 0.100	7.52
HA-27	HA2702-1.5	1.5	12/11/08	22.2	0.295	-	-	-
HA-27	HA2703-3.0	3	12/11/08	16.6	-	-	-	-
HA-28	HA2801-0.5	0.5	12/12/08	942	44.4	0.315	5.51	8.77
HA-28	HA2802-1.5	1.5	12/12/08	26.4	0.423	< 0.100	-	-
HA-28	HA2803-3.0	3	12/12/08	18.5	-	-	-	-
HA-29	HA2901-0.5	0.5	12/11/08	15.6	0.339	-	-	-
HA-29	HA2902-1.5	1.5	12/11/08	10.4	0.228	-	-	-
HA-29	HA2903-3.0	3	12/11/08	11.0	-	-	-	8.84
HA-30	HA3001-0.5	0.5	12/12/08	666	25.1	< 0.100	< 0.100	-
HA-30	HA3002-1.5	1.5	12/12/08	179	7.04	< 0.100	< 0.100	8.64
HA-30	HA3003-3.0	3	12/12/08	16.6	-	-	-	-

Notes:

a <0.100 indicates not detected at or above the laboratory reporting limit of 0.100 mg/L
b dash indicates the sample was not analyzed

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 method
WET DI waste extraction test method with deionized water extractant

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Table 2
Summary of the 95 Percent Upper Confidence Limits

Data Set	Lead (all depths)	Lead (< 1 foot bgs)	Lead (0 to 2 feet bgs)	Lead (1 to 2 feet bgs)	Lead (> 2 feet bgs)
Total Lead (mg/kg)	85.7	300.8	115.1	32.7	18.5
Leaching Lead (WET) (mg/L)	3.3	12.3	4.4	1.5	0.9
Leaching Lead (WET-DI) (mg/L)	0.3	–	0.3	–	–
Leaching Lead (TCLP) (mg/L)	1.5	–	1.5	–	–

Notes:
- indicates 95 percent upper confidence limit was not calculated

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

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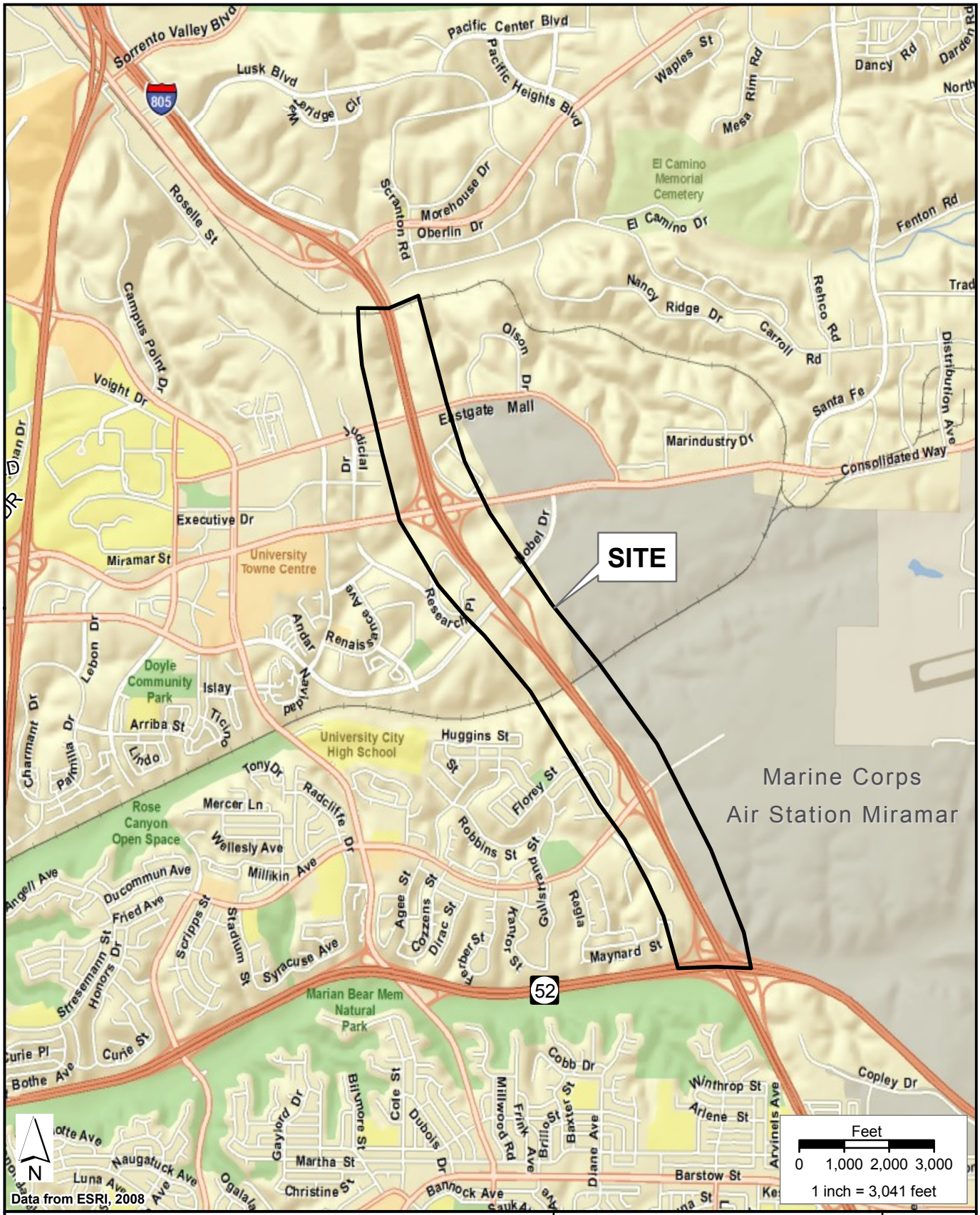
APPENDIX A

Plates 1 through 4
Site Map and Aerially Deposited Lead Sample Location Maps



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DATE: JANUARY 2009
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NOTE: ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE

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SITE LOCATION MAP

INTERSTATE 805 NORTHERN AERIALLY DEPOSITED LEAD STUDY

PLATE
1

LEGEND

HA-20 ⊙ APPROXIMATE BORING LOCATION AND STATION ID

NOTES:
MG/KG - MILLIGRAMS PER KILOGRAM
MG/L - MILLIGRAMS PER LITER
NA - NOT ANALYZED
TCLP - TOXICITY CHARACTERISTIC LEACHING PROCEDURE
WET - WASTE EXTRACTION TEST WITH CITRIC ACID
WET DI - WASTE EXTRACTION TEST WITH DEIONIZED WATER

Feet
0 200 400 600
1 inch = 375 feet

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SAMPLE LOCATION MAP

INTERSTATE 805 NORTHERN AERIALLY DEPOSITED LEAD STUDY

PLATE 2

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	19.5	1.42	NA	NA	NA
1.5	17.1	0.202	NA	NA	8.1
3	9.5	NA	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	26	1.37	NA	NA	NA
1.5	13.8	NA	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	27.6	0.643	0.173	NA	NA
1.5	11.9	NA	NA	NA	NA
3	7.41	< 0.100	NA	NA	7.15

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	6.8	NA	NA	NA	NA
1.5	3.29	NA	NA	NA	NA
3	6.81	< 0.100	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	372	4.52	0.347	0.719	NA
1.5	6.6	< 0.100	NA	NA	NA
3	10.2	NA	NA	NA	5.15

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	9.15	0.122	NA	NA	NA
1.5	9.24	NA	NA	NA	5.15
3	4.82	< 0.100	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	349	10.3	1.08	1.59	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	63.7	2.74	0.207	0.112	NA
1.5	13.5	NA	NA	NA	6.27
3	8.72	< 0.100	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	300	6.58	0.709	2.77	8.13

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	19.6	0.329	NA	NA	NA
1.5	12.7	NA	NA	NA	NA

LEGEND

HA-20 ⊙ APPROXIMATE BORING LOCATION AND STATION ID

NOTES:
MG/KG - MILLIGRAMS PER KILOGRAM
MG/L - MILLIGRAMS PER LITER
NA - NOT ANALYZED
TCLP - TOXICITY CHARACTERISTIC LEACHING PROCEDURE
WET - WASTE EXTRACTION TEST WITH CITRIC ACID
WET DI - WASTE EXTRACTION TEST WITH DEIONIZED WATER

Feet
0 200 400 600
1 inch = 375 feet

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NOTE: ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE

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SAMPLE LOCATION MAP

INTERSTATE 805 NORTHERN AERIALLY DEPOSITED LEAD STUDY

PLATE 3

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	666	25.1	< 0.100	< 0.100	NA
1.5	179	7.04	< 0.100	< 0.100	8.64
3	16.6	NA	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	15.6	0.339	NA	NA	NA
1.5	10.4	0.228	NA	NA	NA
3	11	NA	NA	NA	8.84

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	942	44.4	0.315	5.51	8.77
1.5	26.4	0.423	< 0.100	NA	NA
3	18.5	NA	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	57.2	1.15	< 0.100	< 0.100	7.52
1.5	22.2	0.295	NA	NA	NA
3	16.6	NA	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	40.2	1.44	0.19	NA	NA
1.5	16.7	NA	NA	NA	NA
3	53.6	0.3	< 0.100	NA	8.53

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	26.3	0.802	< 0.100	NA	NA
1.5	15.7	NA	NA	NA	8.05
3	12.5	NA	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	69.5	3.75	< 0.100	< 0.100	NA
1.5	28.4	0.67	NA	NA	NA
3	20.3	0.385	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	277	8.44	< 0.100	0.262	9.25
1.5	8.28	NA	NA	NA	NA
3	11.9	NA	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	15.9	0.305	NA	NA	NA
1.5	5.15	NA	NA	NA	NA
3	4.83	< 0.100	NA	NA	NA

BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	29.5	0.989	< 0.100	NA	NA
1.5	14.2	0.162	NA	NA	NA
3	7.11	NA	NA	NA	8.44

LEGEND

HA-20 ⊙ APPROXIMATE BORING LOCATION AND STATION ID

NOTES:
MG/KG - MILLIGRAMS PER KILOGRAM
MG/L - MILLIGRAMS PER LITER
NA - NOT ANALYZED
TCLP - TOXICITY CHARACTERISTIC LEACHING PROCEDURE
WET - WASTE EXTRACTION TEST WITH CITRIC ACID
WET DI - WASTE EXTRACTION TEST WITH DEIONIZED WATER

Feet
0 200 400 600
1 inch = 375 feet

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FILE NUMBER: 99546SML2
DRAWN BY: EILEEN GOFF
DATE: JANUARY 2009
CHECKED BY: VH
NOTE: ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE

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SAMPLE LOCATION MAP

INTERSTATE 805 NORTHERN AERIALLY DEPOSITED LEAD STUDY

PLATE 4

APPENDIX B

Table B-1 – Sample Location Coordinates
Boring Logs

Table B-1
Sample Location Coordinates

Boring ID	Easting	Northing
HA-1	6276398.46	1889931.06
HA-2	6276224.89	1890235.98
HA-3	6275952.10	1890814.10
HA-4	6275744.25	1891193.57
HA-5	6275429.23	1891844.74
HA-6	6275177.19	1892313.77
HA-7	6274975.45	1892738.66
HA-8	6274617.83	1893431.52
HA-9	6274436.52	1893818.75
HA-10	6274108.39	1894303.86
HA-11	6273787.49	1894745.34
HA-12	6273438.04	1895162.34
HA-13	6272938.28	1895828.12
HA-14	6272620.86	1896199.59
HA-15	6272295.34	1896640.01
HA-16	6271970.92	1897028.34
HA-17	6271621.80	1897489.68
HA-18	6271316.88	1897856.61
HA-19	6271045.40	1898229.05
HA-20	6270687.41	1898673.99
HA-21	6270403.00	1899179.54
HA-22	6270169.92	1899661.06
HA-23	6270010.04	1900188.52
HA-24[a]	6269830.87	1900610.85
HA-25[a]	6269709.92	1901202.14
HA-26	6269610.35	1901706.83
HA-27	6269507.39	1902187.67
HA-28	6269377.54	1902653.24
HA-29	6269247.11	1903248.53
HA-30	6269086.76	1903750.48

Notes:

a easting and northing for these locations are approximate. No satellite coverage was available.

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PROJECT NO.: 99546	LOG OF BORING HA-01	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 1.5 ft

DATE				GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
STARTED: 12/10/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3			
COMPLETED: 12/10/2008	SURFACE CONDITIONS: Bare Soil			na / *na*	
BACKFILLED: 12/10/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons		▽ na / *na*	
				▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA0101-0.5				Artificial fill, silty sand with abundant cobbles - some greater than 10 inches diameter, moist, no odor. May be native Stadium Conglomerate.
			HA0102-1.5				
							Boring backfilled with cuttings.

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THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED.

FIGURE
1

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-02	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE					GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
	STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3		na / *na*	
	COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil			▽ na / *na*	
	BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons		▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA0201-0.5				Artificial fill, silty sand with abundant gravel and some cobble, moist, loose, no odor. May be native Stadium Conglomerate.
			HA0202-1.5				
			HA0203-3.0				
							Boring backfilled with cuttings.

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FIGURE
2

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-03	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/10/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/10/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/10/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA0301-0.5				Artificial fill, silty sand with abundant gravel and some cobble, moist, loose, no odor. May be native Stadium Conglomerate.
			HA0302-1.5				
			HA0303-3.0				
							Boring backfilled with cuttings.

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FIGURE
3

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-04	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/10/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/10/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/10/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE Blow Counts (Blows/6")	SAMPLE Type	SAMPLE ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA0401-0.5				Artificial fill, silty sand with abundant gravel and some cobble, moist, loose, no odor. May be native Stadium Conglomerate.
			HA0402-1.5				
			HA0403-3.0				
							Boring backfilled with cuttings.

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FIGURE
4

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-05	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE					
STARTED: 12/10/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/10/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/10/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA0501-0.5				Artificial fill, silty sand with abundant gravel and some cobble, moist, loose, no odor. May be native Stadium Conglomerate.
			HA0502-1.5				
			HA0503-3.0				
							Boring backfilled with cuttings.

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FIGURE
5

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-06	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA0601-0.5				Artificial fill, silty sand with abundant gravel and some cobble, moist, loose, no odor. May be native Stadium Conglomerate.
			HA0602-1.5				
			HA0603-3.0				
							Boring backfilled with cuttings.

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FIGURE
6

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-07	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/10/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/10/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/10/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA0701-0.5				Artificial fill, silty sand with abundant gravel and some cobble, moist, loose, no odor. May be native Stadium Conglomerate.
			HA0702-1.5				
			HA0703-3.0				
							Boring backfilled with cuttings.

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FIGURE
7

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-08	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/10/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/10/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/10/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA0801-0.5				Artificial fill, silty sand with abundant gravel and some cobble, moist, loose, no odor. May be native Stadium Conglomerate.
			HA0802-1.5				
			HA0803-3.0				
							Boring backfilled with cuttings.

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FIGURE
8

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-09	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE					
STARTED: 12/10/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/10/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/10/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA0901-0.5				Artificial fill, silty sand with abundant gravel and some cobble, moist, loose, no odor. May be native Stadium Conglomerate.
			HA0902-1.5				
			HA0903-3.0				
							Boring backfilled with cuttings.

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FIGURE
9

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-10	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE					GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3				
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil				na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons			▽ na / *na*	
					▼ na / *na*	

Depth (ft)	SAMPLE Blow Counts (Blows/6")	SAMPLE Type	SAMPLE ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1001-0.5				Artificial fill, silty sand with abundant gravel and some cobble, light brown, moist, loose, no odor. May be native Stadium Conglomerate.
			HA1002-1.5				
			HA1003-3.0				Fat Clay (CH), gray to black, high plasticity, wet, slight organic odor.
							Boring backfilled with cuttings.

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FIGURE
10

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-11	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 1.8 ft

DATE					
STARTED: 12/10/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/10/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/10/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1101-0.5				Artificial fill, silty sand with abundant gravel and some cobble, brown, moist, loose, no odor. May be native Stadium Conglomerate.
			HA1102-1.5				
							Boring backfilled with cuttings.

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FIGURE
11

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-12	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 0.5 ft

DATE					
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE Blow Counts (Blows/6")	SAMPLE Type	SAMPLE ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1201-0.5				Artificial fill, silty sand with abundant gravel and some cobble, brown, moist, loose, no odor. May be native Stadium Conglomerate.
							Boring backfilled with cuttings.

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FIGURE
12

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-13	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1301-0.5				Artificial fill, silty sand with abundant gravel and some cobble, brown, moist, loose, no odor. May be native Stadium Conglomerate.
			HA13002-1.5				
							Sand (SP), reddish brown, moist, dense, iron oxide staining, appears to be native Lindavista Formation.
							Boring backfilled with cuttings.

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FIGURE
13

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-14	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 0.5 ft

DATE					
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE Blow Counts (Blows/6")	SAMPLE Type	SAMPLE ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1401-0.5				Artificial fill, silty sand with abundant gravel and some cobble, brown, moist, loose, no odor. May be native Stadium Conglomerate.
							Boring backfilled with cuttings.

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FIGURE
14

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-15	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1501-0.5				Artificial fill, silty sand with abundant gravel and some cobble, brown, moist, loose, no odor. May be native Stadium Conglomerate.
			HA1502-1.5				
			HA1503-3.0				Sand (SP), reddish brown, moist, dense, iron oxide staining, appears to be native Lindavista Formation.
							Boring backfilled with cuttings.

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FIGURE
15

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-16	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE					
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE Blow Counts (Blows/6")	SAMPLE Type	SAMPLE ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1601-0.5				Artificial fill, silty sand with abundant gravel and some cobble, brown, moist, loose, no odor. May be native Stadium Conglomerate.
			HA1602-1.5				
			HA1603-3.0				Sand (SP), reddish brown, moist, dense, iron oxide staining, appears to be native Lindavista Formation.
							Boring backfilled with cuttings.

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FIGURE
16

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-17	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1701-0.5				Artificial fill, silty sand with abundant gravel and some cobble, brown, moist, loose, no odor. May be native Stadium Conglomerate.
			HA1702-1.5				
			HA1703-3.0				Sand (SP), reddish brown, moist, dense, iron oxide staining, appears to be native Lindavista Formation.
							Boring backfilled with cuttings.

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FIGURE
17

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-18	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3			
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil			na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons		▽ na / *na*	
				▼ na / *na*	

Depth (ft)	SAMPLE Blow Counts (Blows/6")	SAMPLE Type	SAMPLE ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1801-0.5				Artificial fill, silty sand with abundant gravel and some cobble, brown, moist, loose, no odor. May be native Stadium Conglomerate.
			HA1802-1.5				
			HA1803-3.0				Sand (SP), reddish brown, moist, dense, iron oxide staining, appears to be native Lindavista Formation.
							Boring backfilled with cuttings.

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FIGURE
18

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-19	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 1.5 ft

DATE				GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3			
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil			na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons		▽ na / *na*	
				▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA1901-0.5				Artificial fill, silty sand with abundant gravel and cobble up to 5 inches diameter, moist, loose, no odor. May be native Stadium Conglomerate.
			HA1902-1.5				
							Boring backfilled with cuttings.

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FIGURE
19

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-20	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2001-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2002-1.5				
			HA2003-3.0				
							Boring backfilled with cuttings.

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FIGURE
20

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-21	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2101-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2102-1.5				
			HA2103-3.0				
							Boring backfilled with cuttings.

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FIGURE
21

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-22	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2201-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2202-1.5				
			HA2203-3.0				
							Boring backfilled with cuttings.

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FIGURE
22

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-23	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2301-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2302-1.5				
			HA2303-3.0				
							Boring backfilled with cuttings.

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FIGURE
23

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-24	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE					
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE Blow Counts (Blows/6")	SAMPLE Type	SAMPLE ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2401-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2402-1.5				
			HA2403-3.0				
							Boring backfilled with cuttings.

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FIGURE
24

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-25	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2501-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2502-1.5				
			HA2503-3.0				
							Boring backfilled with cuttings.

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FIGURE
25

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-26	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE					
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2601-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2602-1.5				
			HA2603-3.0				
							Boring backfilled with cuttings.

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FIGURE
26

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-27	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE Blow Counts (Blows/6")	SAMPLE Type	SAMPLE ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2701-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2702-1.5				
			HA2703-3.0				
							Boring backfilled with cuttings.

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FIGURE
27

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-28	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE					
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2801-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2802-1.5				
			HA2803-3.0				
							Boring backfilled with cuttings.

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FIGURE
28

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-29	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/11/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/11/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/11/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA2901-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA2902-1.5				
			HA2903-3.0				
							Boring backfilled with cuttings.

KLEINFELDER
Bright People. Right Solutions.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED.

FIGURE
29

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

PROJECT NO.: 99546	LOG OF BORING HA-30	SHEET 1 of 1
DRILLING METHOD: Hand Auger	PROJECT NAME: Caltrans 805 Northern ADL Study	LOCATION: Interstate 805 Center Median
DRILLING EQUIPMENT: Hand Auger	SAMPLING METHOD: Grab	SURFACE ELEVATION:
		TOTAL DEPTH OF BOREHOLE: 3.0 ft

DATE				
STARTED: 12/12/2008	DRILLING COMPANY: Kleinfelder	BOREHOLE DIAMETER: 3	GROUNDWATER DEPTH/*ELEV.* (ft)	MEASUREMENT DATE and TIME
COMPLETED: 12/12/2008	SURFACE CONDITIONS: Bare Soil		na / *na*	
BACKFILLED: 12/12/2008	LOGGED BY: C. Noland	REVIEWED BY: L. Simmons	▽ na / *na*	
			▼ na / *na*	

Depth (ft)	SAMPLE: Blow Counts (Blows/6")	SAMPLE: Type	SAMPLE: ID	TPHg, TPHd (mg/kg)	PID/OVA (ppm)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			HA3001-0.5				Artificial Fill, silty sand with some gravel, moist, loose, no odor.
			HA3002-1.5				
			HA3003-3.0				
							Boring backfilled with cuttings.

KLEINFELDER
Bright People. Right Solutions.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED.

FIGURE
30

NO WELL 99546CALTRANS805NORTHERN.GPJ 1/14/09

APPENDIX C

Laboratory Analytical Reports and Chain-of-Custody Documentation

Calscience Environmental Laboratories, Inc.

January 02, 2009

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

Subject: **Calscience Work Order No.: 08-12-1238**
Client Reference: Caltrans 805 Northern ADL Study

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 12/11/2008 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,

Ranjit K. J. Clarke

Calscience Environmental
Laboratories, Inc.
Ranjit Clarke
Project Manager

Calscience Environmental Laboratories, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

Work Order Case Narrative

Project Name: **Caltrans 805 Northern ADL Study**
Calscience Work Order Number: **08-12-1238**

1. EPA 6010B – STLC & STLC-DI and TCLP

An e-mail request was received from Kleinfelder on 12/19/08 and 12/23/08 to perform additional analyses on selected samples via EPA 6010B (STLC and STLC-DI) and TCLP for Lead.

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0101-0.5	**08-12-1238-1-A**	**12/10/08 09:25**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:14**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	151	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0102-1.5	**08-12-1238-2-A**	**12/10/08 09:53**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:16**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	95.5	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0301-0.5	**08-12-1238-3-A**	**12/10/08 10:06**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:17**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	159	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0302-1.5	**08-12-1238-4-A**	**12/10/08 10:22**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:19**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	65.5	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0303-3.0	**08-12-1238-5-A**	**12/10/08 10:35**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:25**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	4.97	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0401-0.5	**08-12-1238-6-A**	**12/10/08 10:49**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:27**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	9.39	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Kleinfelder, Inc.	Date Received:	12/11/08
5015 Shoreham Place	Work Order No:	08-12-1238
San Diego, CA 92122-5993	Preparation:	EPA 3050B
	Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0402-1.5	**08-12-1238-7-A**	**12/10/08 10:53**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:29**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	4.79	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0403-3.0	**08-12-1238-8-A**	**12/10/08 10:57**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:31**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	11.3	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0501-0.5	**08-12-1238-9-A**	**12/10/08 11:09**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:33**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	4.67	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0502-1.5	**08-12-1238-10-A**	**12/10/08 11:14**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:35**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	5.08	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0503-3.0	**08-12-1238-11-A**	**12/10/08 11:25**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:37**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	3.72	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0701-0.5	**08-12-1238-12-A**	**12/10/08 11:40**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:39**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	7.30	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0702-1.5	**08-12-1238-13-A**	**12/10/08 11:42**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:41**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	9.22	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0703-3.0	**08-12-1238-14-A**	**12/10/08 11:48**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:43**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	17.3	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0801-0.5	**08-12-1238-15-A**	**12/10/08 12:10**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:49**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	36.4	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0802-1.5	**08-12-1238-16-A**	**12/10/08 12:16**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:51**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	32.4	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0803-3.0	**08-12-1238-17-A**	**12/10/08 12:33**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:53**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	23.1	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0901-0.5	**08-12-1238-18-A**	**12/10/08 12:44**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:55**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	86.9	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0902-1.5	**08-12-1238-19-A**	**12/10/08 12:51**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:57**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	11.7	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0903-3.0	**08-12-1238-20-A**	**12/10/08 13:02**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 19:59**	**081212L04**

Parameter	Result	RL	DF	Qual	Units
Lead	2.33	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1101-0.5	**08-12-1238-21-A**	**12/10/08 13:16**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 20:01**	**081212L01**

Parameter	Result	RL	DF	Qual	Units
Lead	19.6	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1102-1.5	**08-12-1238-22-A**	**12/10/08 13:24**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 20:03**	**081212L01**

Parameter	Result	RL	DF	Qual	Units
Lead	12.7	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-11,821**	**N/A**	**Solid**	**ICP 5300**	**12/12/08**	**12/12/08 19:40**	**081212L01**

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-11,828**	**N/A**	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08 17:20**	**081212L04**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCEB01	**08-12-1238-23-A**	**12/10/08 13:49**	**Aqueous**	**ICP 5300**	**12/12/08**	**12/13/08 18:32**	**081212LA1**

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

Method Blank	**097-01-003-8,912**	**N/A**	**Aqueous**	**ICP 5300**	**12/12/08**	**12/12/08 16:06**	**081212LA1**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 1311
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0101-0.5	**08-12-1238-1-A**	**12/10/08 09:25**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 20:52**	**081222L05**

Parameter	Result	RL	DF	Qual	Units
Lead	0.268	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0102-1.5	**08-12-1238-2-A**	**12/10/08 09:53**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 20:54**	**081222L05**

Parameter	Result	RL	DF	Qual	Units
Lead	0.195	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0301-0.5	**08-12-1238-3-A**	**12/10/08 10:06**	**Solid**	**ICP 5300**	**12/23/08**	**12/24/08 12:20**	**081224LA1**

Parameter	Result	RL	DF	Qual	Units
Lead	0.789	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0901-0.5	**08-12-1238-18-A**	**12/10/08 12:44**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 20:57**	**081222L05**

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
Method Blank	**097-05-001-3,826**	**N/A**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 20:16**	**081222L05**

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
Method Blank	**097-05-001-3,829**	**N/A**	**Solid**	**ICP 5300**	**12/23/08**	**12/24/08 12:04**	**081224LA1**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0101-0.5	**08-12-1238-1-A**	**12/10/08 09:25**	**Solid**	**ICP 5300**	**12/20/08**	**12/23/08 14:34**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	12.0	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0102-1.5	**08-12-1238-2-A**	**12/10/08 09:53**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:42**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	5.38	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0301-0.5	**08-12-1238-3-A**	**12/10/08 10:06**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:44**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	11.4	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0302-1.5	**08-12-1238-4-A**	**12/10/08 10:22**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:45**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	3.34	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0403-3.0	**08-12-1238-8-A**	**12/10/08 10:57**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:47**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	0.936	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0503-3.0	**08-12-1238-11-A**	**12/10/08 11:25**	**Solid**	**ICP 5300**	**12/24/08**	**12/30/08 13:32**	**081230LA2**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0703-3.0	**08-12-1238-14-A**	**12/10/08 11:48**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:49**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	0.322	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0801-0.5	**08-12-1238-15-A**	**12/10/08 12:10**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:51**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	0.892	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0802-1.5	**08-12-1238-16-A**	**12/10/08 12:16**	**Solid**	**ICP 5300**	**12/24/08**	**12/30/08 13:35**	**081230LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	1.77	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0803-3.0	**08-12-1238-17-A**	**12/10/08 12:33**	**Solid**	**ICP 5300**	**12/24/08**	**12/30/08 13:47**	**081230LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	4.45	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0901-0.5	**08-12-1238-18-A**	**12/10/08 12:44**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:56**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	1.07	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0902-1.5	**08-12-1238-19-A**	**12/10/08 12:51**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:58**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	0.893	0.100	1		mg/L

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1101-0.5	**08-12-1238-21-A**	**12/10/08 13:16**	**Solid**	**ICP 5300**	**12/24/08**	**12/30/08 13:50**	**081230LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.329	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-05-006-4,390**	**N/A**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 20:59**	**081222L03**

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
Method Blank	**097-05-006-4,403**	**N/A**	**Solid**	**ICP 5300**	**12/24/08**	**12/30/08 13:02**	**081230LA2**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: T22.11.5.AII DI
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0101-0.5	**08-12-1238-1-A**	**12/10/08 09:25**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:23**	**081222L03**

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
HA0301-0.5	**08-12-1238-3-A**	**12/10/08 10:06**	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08 21:28**	**081222L03**

Parameter	Result	RL	DF	Qual	Units
Lead	0.115	0.100	1		mg/L

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/11/08
Work Order No: 08-12-1238

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA0101-0.5	**08-12-1238-1**	**12/10/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.79	0.01	1		pH units	12/11/08	12/11/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA0403-3.0	**08-12-1238-8**	**12/10/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.20	0.01	1		pH units	12/11/08	12/11/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA0501-0.5	**08-12-1238-9**	**12/10/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.65	0.01	1		pH units	12/11/08	12/11/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA0703-3.0	**08-12-1238-14**	**12/10/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.79	0.01	1		pH units	12/11/08	12/11/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA0902-1.5	**08-12-1238-19**	**12/10/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	6.17	0.01	1		pH units	12/11/08	12/11/08	EPA 9045D

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 3050B
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-0944-1	**Solid**	**ICP 5300**	**12/12/08**	**12/12/08**	**081212S01**

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

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 3050B
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA0402-1.5	**Solid**	**ICP 5300**	**12/12/08**	**12/13/08**	**081212S04**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	99	98	75-125	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 1311
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-2067-1	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08**	**081222S05**

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

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 1311
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-1934-2	**Solid**	**ICP 5300**	**12/23/08**	**12/24/08**	**081224SA1**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	100	97	75-125	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: EPA 3010A Total
Method: EPA 200.7

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-1271-2	**Aqueous**	**ICP 5300**	**12/12/08**	**12/12/08**	**081212SA1**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	108	108	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - PDS / PDSD

Kleinfelder, Inc.		Date Received	12/11/08
5015 Shoreham Place		Work Order No:	08-12-1238
San Diego, CA 92122-5993		Preparation:	EPA 3010A Total
		Method:	EPA 200.7

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
08-12-1271-2	**Aqueous**	**ICP 5300**	**12/12/08**	**12/12/08**	**081212SA1**

Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	101	98	75-125	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: T22.11.5. AII
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA0101-0.5	**Solid**	**ICP 5300**	**12/20/08**	**12/23/08**	**081222S03**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	94	92	75-125	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/11/08
Work Order No: 08-12-1238
Preparation: T22.11.5. AII
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-2482-1	**Aqueous**	**ICP 5300**	**12/30/08**	**12/30/08**	**081230SA2**

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

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1238
San Diego, CA 92122-5993			

Project: Caltrans 805 Northern ADL Study

Matrix: Solid

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
pH	EPA 9045D	HA0703-3.0	12/11/08	8.79	8.80	0	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kleinfelder, Inc.	Date Received:	N/A
5015 Shoreham Place	Work Order No:	08-12-1238
San Diego, CA 92122-5993	Preparation:	EPA 3050B
	Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-11,821	**Solid**	**ICP 5300**	**12/12/08**	**12/12/08**	**081212L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	107	105	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Kleinfelder, Inc.	Date Received:	N/A
5015 Shoreham Place	Work Order No:	08-12-1238
San Diego, CA 92122-5993	Preparation:	EPA 3050B
	Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-002-11,828	**Solid**	**ICP 5300**	**12/13/08**	**081212-I-04**	**081212L04**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	25.0	27.9	112	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Kleinfelder, Inc.	Date Received:	N/A
5015 Shoreham Place	Work Order No:	08-12-1238
San Diego, CA 92122-5993	Preparation:	EPA 1311
	Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-05-001-3,826	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08**	**081222L05**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	103	104	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

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

Date Received: N/A
Work Order No: 08-12-1238
Preparation: EPA 1311
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-05-001-3,829	**Solid**	**ICP 5300**	**12/24/08**	**081224-la-1**	**081224LA1**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	5.00	5.34	107	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1238
San Diego, CA 92122-5993		Preparation:	EPA 3010A Total
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-003-8,912	**Aqueous**	**ICP 5300**	**12/12/08**	**12/12/08**	**081212LA1**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	105	106	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Kleinfelder, Inc.	Date Received:	N/A
5015 Shoreham Place	Work Order No:	08-12-1238
San Diego, CA 92122-5993	Preparation:	T22.11.5. AII
	Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-05-006-4,390	**Solid**	**ICP 5300**	**12/20/08**	**12/22/08**	**081222L03**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	104	102	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1238
San Diego, CA 92122-5993		Preparation:	T22.11.5. AII
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-05-006-4,403	**Solid**	**ICP 5300**	**12/30/08**	**081230-la-2**	**081230LA2**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	5.00	5.54	111	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 08-12-1238

Qualifier	Definition
*	See applicable analysis comment.
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 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 with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
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.
N	Nontarget Analyte.
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.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Calscience Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Date 12-10-08

Page 1 of 3

☒ 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

LABORATORY CLIENT: Kleinfelder, Inc.

ADDRESS: 5015 Shoreham Place

CITY: San Diego STATE: CA ZIP: 92122-5926

TEL: 858-320-2000 E-MAIL: jharris@kleinfelder.com

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5 days

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐ _____

SPECIAL INSTRUCTIONS:
Hold samples for further analysis. send preliminary results.
* lead WET citrate if total Pb > 50 mg/kg
lead WET DI if total Pb > 400 mg/kg
lead TCLP if total Pb > 100 mg/kg

CLIENT PROJECT NAME / NUMBER: Caltrans 805 Northern ADL Study

P.O. NO.: 99546

PROJECT CONTACT: Valerie Harris

LAB USE ONLY: 12-1123

SAMPLER(S): (PRINT) Chris Noland, Dan Eldredge

COELT LOG CODE: ☐☐☐☐

COOLER RECEIPT TEMP= _____ °C

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH ( )	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]+	Total Lead (6010)*	pH
1	99546 HA0101-0.5		12/10/08	0925	SOIL	1																X	X
2	99546 HA0102-1.5			0953																		X	
3	99546 HA0301-0.5			1006																		X	
4	99546 HA0302-1.5			1022																		X	
5	99546 HA0303-3.0			1035																		X	
6	99546 HA0401-0.5			1049																		X	
7	99546 HA0402-1.5			1053																		X	
8	99546 HA0403-3.0			1057																		X	X
9	99546 HA0501-0.5			1109																		X	X
10	99546 HA0502-1.5		↓	1114	↓	↓																X	

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12-10-08	Time: 1530
Relinquished by: (Signature)	Received by: (Signature/Affiliation) CEL	Date: 12-11-8	Time: 1245
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12/11/08	Time: 1650

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

Calscience Environmental Laboratories, Inc.

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Garden Grove, CA 92841-1427
(714) 895-5494

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

Date 12-10-08

Page 2 of 3

LABORATORY CLIENT: Kleinfelder, Inc.

ADDRESS: 5015 Shoreham Place

CITY: San Diego STATE: CA ZIP: 92122-5926

TEL: 858-320-2000 E-MAIL: vharris@kleinfelder.com

CLIENT PROJECT NAME / NUMBER: Caltrans 805 Northern ADL Study

P.O. NO.: 99546

PROJECT CONTACT: Valerie Harris

LAB USE ONLY: 1 2 1 2 3 8

SAMPLER(S): (PRINT) Chris Noland, Dan Eldredge

COELT LOG CODE

COOLER RECEIPT TEMP= °C

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5 days

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

SPECIAL INSTRUCTIONS:
Hold samples for further analysis. Send preliminary results.

* lead WET citrate if total Pb > 50 mg/kg
lead WET DI if total Pb > 400 mg/kg
lead TCLP if total Pb > 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 (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH ( )	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]+	Total Lead (6010) *	pH	
11	99546 HA0503-3.0		12-10-08	1125	Soil	1																X		
12	99546 HA0701-0.5			1140																		X		
13	99546 HA0702-1.5			1142																		X		
14	99546 HA0703-3.0			1148																		X	X	
15	99546 HA0801-0.5			1210																		X		
16	99546 HA0802-1.5			1216																		X		
17	99546 HA0803-3.0			1233																		X		
18	99546 HA0901-0.5			1244																		X		
19	99546 HA0902-1.5			1251																		X	X	
20	99546 HA0903-3.0			1302																		X		

CAN 12-10-08

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12-10-08	Time: 1530
Relinquished by: (Signature)	Received by: (Signature/Affiliation) CEL	Date: 12/11/8	Time: 1245
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12/11/08	Time: 1650

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

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

Date 12-10-08

Page 3 of 3

LABORATORY CLIENT: Kleinfelder, Inc.

ADDRESS: 5015 Shoreham Place

CITY: San Diego STATE: CA ZIP: 92122-5926

TEL: 858-320-2000 E-MAIL: vharris@kleinfelder.com

CLIENT PROJECT NAME / NUMBER: Caltrans 805 Northern ADL Study

P.O. NO.: 99546

PROJECT CONTACT: Valerie Harris

LAB USE ONLY: 12-1238

SAMPLER(S): (PRINT) Chris Noland, Dan Eldredge

COELT LOG CODE:

COOLER RECEIPT TEMP= °C

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5 days

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

SPECIAL INSTRUCTIONS:
Hold samples for further analysis. Send preliminary results.

* lead WET citrate if total Pb > 50mg/kg
lead WET DI if total Pb > 400 mg/kg
lead TCLP if total Pb > 100mg/kg
** HNO_3 in 99546QCEB01 as a preservative

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH ( )	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]+	Total Lead (6010)*	pH**
21	99546HA1101-6.5 (CAN 12-10-08)		12-10-08	1316	SOIL	1																X	
22	99546HA1102-1.5			1324		1																X	
23	99546QCEB01			1349	WATER	1																X	

CAN 12-10-08

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12-10-08	Time: 1530
Relinquished by: (Signature)	Received by: (Signature/Affiliation) CEL	Date: 12/11/08	Time: 1245
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12/11/08	Time: 1650

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

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 18-12-1238

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Kleinfelder

DATE: 12/11/18

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

Temperature 2.6 °C - 0.2 °C (CF) = 2.4 °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:**

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A **Initial:**

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present **Initial:** PS

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Correct containers and volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Proper preservation noted on sample label(s)	☑	☐	☐
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☑8ozCGJ ☐16ozCGJ ☐Sleeve ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBpo_4 ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☐500AGBs ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna ☐250PB ☑250PBn ☐125PB ☐125PBznna ☐100PBsterile ☐100PBna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® ☐_____

Container: C:Clear A:Amber P:Poly/Plastic G:Glass J:Jar B:Bottle

Preservative: h:HCL n:HNO_3 na_2:$Na_2S_2O_3$ na:NaOH po_4:H_3PO_4 s:H_2SO_4 znna:$ZnAc_2$+NaOH

Checked/Labeled by: PS

Reviewed by: RM

Scanned by: PS

Ranjit Clarke

From: Valerie Harris [VHarris@kleinfelder.com]
Sent: Friday, December 19, 2008 9:20 AM
To: Ranjit Clarke
Cc: Chris Noland
Subject: Re: Caltrans 805 Northern ADL Study / CEL 08-12-1238(Preliminary)

Hi Ranjit

Please conduct soluble lead analyses on the following samples:

HA0101-0.5 - WET-citrate, DI-WET, TCLP
HA0102-1.5 - WET-citrate, TCLP
HA0301-0.5 - WET-citrate, DI-WET, TCLP
HA0302-1.5 - WET-citrate
HA0403-3.0 - WET-citrate
HA0703-3.0 - WET-citrate
HA0801-0.5 - WET-citrate
HA0901-0.5 - WET-citrate, TCLP
HA0902-1.5 - WET-citrate

Please call if you have questions. 858 320-2201
Thanks,
Valerie Harris

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Johnny Dao

From: Valerie Harris [VHarris@kleinfelder.com]
Sent: Tuesday, December 23, 2008 3:09 PM
To: Johnny Dao
Cc: Ranjit Clarke; Chris Noland
Subject: Re: Caltrans 805 Northern ADL Study / CEL 08-12-1569(Preliminary)

Hi Johnny

Thank you for the preliminary results. Please add the following analyses to samples listed below.

Client Sample Number: HA2002-1.5 soluble lead using WET-citrate
Client Sample Number: HA1801-0.5 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA1803-3.0 soluble lead using WET-citrate
Client Sample Number: HA1601-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA1602-1.5 soluble lead using WET-citrate
Client Sample Number: HA1401-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA1201-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA3001-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA3002-1.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA2801-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA2802-1.5 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA2601-0.5 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA2603-3.0 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA2001-0.5 soluble lead using WET-citrate
Client Sample Number: HA1001-0.5 soluble lead using WET-citrate
Client Sample Number: HA1003-3.0 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA0601-0.5 soluble lead using WET-citrate
Client Sample Number: HA6002-1.5 soluble lead using WET-citrate
Client Sample Number: HA6003-3.0 soluble lead using WET-citrate
Client Sample Number: HA0201-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA0203-3.0 soluble lead using WET-citrate and DI-WET

Also, for the samples from Work Order No: 08-12-1238, please add the following analyses
Client Sample Number: HA0503-3.0 soluble lead using WET-citrate
Client Sample Number: HA0802-1.5 soluble lead using WET-citrate
Client Sample Number: HA0803-3.0 soluble lead using WET-citrate
Client Sample Number: HA1101-0.5 soluble lead using WET-citrate

And for the following samples from Work Order No. 08-12-1414, please add the following analyses:
Client Sample Number: HA1501-0.5 soluble lead using WET-citrate
Client Sample Number: HA2102-1.5 soluble lead using WET-citrate
Client Sample Number: HA2303-3.0 soluble lead using WET-citrate
Client Sample Number: HA2403-3.0 soluble lead using WET-citrate
Client Sample Number: HA2901-0.5 soluble lead using WET-citrate

I will be on vacation until January 6, 2009. Please send preliminary results to me and also copy Chris

Calscience Environmental Laboratories, Inc.

January 06, 2009

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

Subject: **Calscience Work Order No.: 08-12-1414**
Client Reference: Caltrans 805 Northern ADL Study

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 12/12/2008 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,

Ranjit K. J. Clarke

Calscience Environmental
Laboratories, Inc.
Ranjit Clarke
Project Manager

Calscience Environmental Laboratories, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

Work Order Case Narrative

Project Name: **Caltrans 805 Northern ADL Study**
Calscience Work Order Number: **08-12-1414**

1. EPA 6010B – STLC, STLC-DI and TCLP:

   a. An e-mail request was received from Kleinfelder on 12/22/08 and 12/23/08 to perform additional analyses on selected samples via EPA 6010B (STLC, STLC-DI and TCLP) for Lead.

   b. Sample “HA2203-3.0” was analyzed for STLC (Pb) instead of sample “HA2303-3.0” as requested on the e-mail. This change was confirmed to be acceptable by the e-mail received on 01/06/09.

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1301-0.5	**08-12-1414-1-A**	**12/11/08 09:08**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 18:57**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	63.7	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1302-1.5	**08-12-1414-2-A**	**12/11/08 09:14**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 18:58**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	13.5	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1303-3.0	**08-12-1414-3-A**	**12/11/08 09:20**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:03**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	8.72	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1501-0.5	**08-12-1414-4-A**	**12/11/08 09:29**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:05**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	9.15	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1502-1.5	**08-12-1414-5-A**	**12/11/08 09:32**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:07**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	9.24	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1503-3.0	**08-12-1414-6-A**	**12/11/08 09:40**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:09**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	4.82	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1701-0.5	**08-12-1414-7-A**	**12/11/08 09:50**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:11**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	6.80	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1702-1.5	**08-12-1414-8-A**	**12/11/08 09:52**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:13**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	3.29	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1703-3.0	**08-12-1414-9-A**	**12/11/08 09:57**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:15**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	6.81	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1901-0.5	**08-12-1414-10-A**	**12/11/08 10:09**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:17**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	26.0	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1902-1.5	**08-12-1414-11-A**	**12/11/08 10:11**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:18**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	13.8	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2101-0.5	**08-12-1414-12-A**	**12/11/08 10:58**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:20**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	29.5	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2102-1.5	**08-12-1414-13-A**	**12/11/08 11:02**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:26**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	14.2	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2103-3.0	**08-12-1414-14-A**	**12/11/08 11:06**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:27**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	7.11	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2201-0.5	**08-12-1414-15-A**	**12/11/08 11:14**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:29**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	15.9	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2202-1.5	**08-12-1414-16-A**	**12/11/08 11:17**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:31**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	5.15	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2203-3.0	**08-12-1414-17-A**	**12/11/08 11:26**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:33**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	4.83	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2301-0.5	**08-12-1414-18-A**	**12/11/08 11:35**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:35**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	277	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2302-1.5	**08-12-1414-19-A**	**12/11/08 11:37**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:36**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	8.28	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2303-3.0	**08-12-1414-20-A**	**12/11/08 11:53**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:38**	**081215L04**

Parameter	Result	RL	DF	Qual	Units
Lead	11.9	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2401-0.5	**08-12-1414-21-A**	**12/11/08 12:01**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:40**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	69.5	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2402-1.5	**08-12-1414-22-A**	**12/11/08 12:03**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 19:42**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	28.4	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2403-3.0	**08-12-1414-23-A**	**12/11/08 12:16**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:00**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	20.3	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2501-0.5	**08-12-1414-24-A**	**12/11/08 12:29**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:02**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	26.3	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2502-1.5	**08-12-1414-25-A**	**12/11/08 12:31**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:03**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	15.7	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2503-3.0	**08-12-1414-26-A**	**12/11/08 12:47**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:05**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	12.5	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2701-0.5	**08-12-1414-27-A**	**12/11/08 13:00**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:06**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	57.2	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2702-1.5	**08-12-1414-28-A**	**12/11/08 13:02**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:08**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	22.2	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2703-3.0	**08-12-1414-29-A**	**12/11/08 13:05**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:10**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	16.6	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2901-0.5	**08-12-1414-30-A**	**12/11/08 13:15**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:11**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	15.6	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2902-1.5	**08-12-1414-31-A**	**12/11/08 13:17**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:16**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	10.4	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2903-3.0	**08-12-1414-32-A**	**12/11/08 13:25**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 20:18**	**081215L05**

Parameter	Result	RL	DF	Qual	Units
Lead	11.0	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-11,848**	**N/A**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 18:42**	**081215L04**

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-11,849**	**N/A**	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08 18:44**	**081215L05**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCEB02	**08-12-1414-33-A**	**12/11/08 13:50**	**Aqueous**	**ICP 5300**	**12/15/08**	**12/16/08 22:49**	**081215LA5**

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

Method Blank	**097-01-003-8,916**	**N/A**	**Aqueous**	**ICP 5300**	**12/15/08**	**12/15/08 20:23**	**081215LA5**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Kleinfelder, Inc.		Date Received:	12/12/08
5015 Shoreham Place		Work Order No:	08-12-1414
San Diego, CA 92122-5993		Preparation:	EPA 1311
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1301-0.5	**08-12-1414-1-A**	**12/11/08 09:08**	**Solid**	**ICP 5300**	**12/22/08**	**12/23/08 21:14**	**081223LA1**

Parameter	Result	RL	DF	Qual	Units
Lead	0.112	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2301-0.5	**08-12-1414-18-A**	**12/11/08 11:35**	**Solid**	**ICP 5300**	**12/22/08**	**12/23/08 21:16**	**081223LA1**

Parameter	Result	RL	DF	Qual	Units
Lead	0.262	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2401-0.5	**08-12-1414-21-A**	**12/11/08 12:01**	**Solid**	**ICP 5300**	**12/22/08**	**12/23/08 21:18**	**081223LA1**

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
HA2701-0.5	**08-12-1414-27-A**	**12/11/08 13:00**	**Solid**	**ICP 5300**	**12/22/08**	**12/23/08 21:20**	**081223LA1**

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
Method Blank	**097-05-001-3,828**	**N/A**	**Solid**	**ICP 5300**	**12/22/08**	**12/24/08 00:46**	**081223LA1**

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

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

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Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1301-0.5	**08-12-1414-1-A**	**12/11/08 09:08**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:37**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	2.74	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1303-3.0	**08-12-1414-3-A**	**12/11/08 09:20**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:38**	**081224BA2**

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
HA1501-0.5	**08-12-1414-4-A**	**12/11/08 09:29**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 20:51**	**081229LA1A**

Parameter	Result	RL	DF	Qual	Units
Lead	0.122	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1503-3.0	**08-12-1414-6-A**	**12/11/08 09:40**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:40**	**081224BA2**

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
HA1703-3.0	**08-12-1414-9-A**	**12/11/08 09:57**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:45**	**081224BA2**

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
HA1901-0.5	**08-12-1414-10-A**	**12/11/08 10:09**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:47**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	1.37	0.100	1		mg/L

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

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Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2101-0.5	**08-12-1414-12-A**	**12/11/08 10:58**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:48**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.989	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2102-1.5	**08-12-1414-13-A**	**12/11/08 11:02**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 20:53**	**081229LA1A**

Parameter	Result	RL	DF	Qual	Units
Lead	0.162	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2201-0.5	**08-12-1414-15-A**	**12/11/08 11:14**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:50**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.305	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2203-3.0	**08-12-1414-17-A**	**12/11/08 11:26**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 20:55**	**081229LA1A**

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
HA2301-0.5	**08-12-1414-18-A**	**12/11/08 11:35**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:52**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	8.44	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2401-0.5	**08-12-1414-21-A**	**12/11/08 12:01**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:53**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	3.75	0.100	1		mg/L

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

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Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2402-1.5	**08-12-1414-22-A**	**12/11/08 12:03**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:55**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.670	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2403-3.0	**08-12-1414-23-A**	**12/11/08 12:16**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 20:56**	**081229LA1A**

Parameter	Result	RL	DF	Qual	Units
Lead	0.385	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2501-0.5	**08-12-1414-24-A**	**12/11/08 12:29**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:57**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.802	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2701-0.5	**08-12-1414-27-A**	**12/11/08 13:00**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:58**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	1.15	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2702-1.5	**08-12-1414-28-A**	**12/11/08 13:02**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 14:00**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.295	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2901-0.5	**08-12-1414-30-A**	**12/11/08 13:15**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 20:58**	**081229LA1A**

Parameter	Result	RL	DF	Qual	Units
Lead	0.339	0.100	1		mg/L

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

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Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2902-1.5	**08-12-1414-31-A**	**12/11/08 13:17**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 14:05**	**081224BA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.228	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-05-006-4,395**	**N/A**	**Solid**	**ICP 5300**	**12/22/08**	**12/24/08 16:30**	**081224BA2**

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
Method Blank	**097-05-006-4,399**	**N/A**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 18:20**	**081229LA1A**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: T22.11.5.AII DI
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1301-0.5	**08-12-1414-1-A**	**12/11/08 09:08**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:05**	**081224LA3**

Parameter	Result	RL	DF	Qual	Units
Lead	0.207	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2101-0.5	**08-12-1414-12-A**	**12/11/08 10:58**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:07**	**081224LA3**

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
HA2301-0.5	**08-12-1414-18-A**	**12/11/08 11:35**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:09**	**081224LA3**

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
HA2401-0.5	**08-12-1414-21-A**	**12/11/08 12:01**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:00**	**081224LA3**

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
HA2501-0.5	**08-12-1414-24-A**	**12/11/08 12:29**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:10**	**081224LA3**

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
HA2701-0.5	**08-12-1414-27-A**	**12/11/08 13:00**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 13:12**	**081224LA3**

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

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

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Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: T22.11.5.AII DI
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-05-006-4,400**	**N/A**	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08 12:57**	**081224LA3**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/12/08
Work Order No: 08-12-1414

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA1302-1.5	**08-12-1414-2**	**12/11/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	6.27	0.01	1		pH units	12/12/08	12/12/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA1502-1.5	**08-12-1414-5**	**12/11/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	5.15	0.01	1		pH units	12/12/08	12/12/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA2103-3.0	**08-12-1414-14**	**12/11/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.44	0.01	1		pH units	12/12/08	12/12/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA2301-0.5	**08-12-1414-18**	**12/11/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	9.25	0.01	1		pH units	12/12/08	12/12/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA2502-1.5	**08-12-1414-25**	**12/11/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.05	0.01	1		pH units	12/12/08	12/12/08	EPA 9045D

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

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Kleinfelder, Inc.	Date Received:	12/12/08
5015 Shoreham Place	Work Order No:	08-12-1414
San Diego, CA 92122-5993		

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA2701-0.5	**08-12-1414-27**	**12/11/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	7.52	0.01	1		pH units	12/12/08	12/12/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA2903-3.0	**08-12-1414-32**	**12/11/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.84	0.01	1		pH units	12/12/08	12/12/08	EPA 9045D

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3050B
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA1502-1.5	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08**	**081215S04**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	105	92	75-125	10	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3050B
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA2502-1.5	**Solid**	**ICP 5300**	**12/15/08**	**12/16/08**	**081215S05**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	96	89	75-125	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 1311
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-2189-1	**Solid**	**ICP 5300**	**12/22/08**	**12/24/08**	**081223SA1**

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: EPA 3010A Total
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-1454-3	**Aqueous**	**ICP 5300**	**12/15/08**	**12/16/08**	**081215SA5**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	110	107	84-120	3	0-7	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: T22.11.5. AII
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-2133-1	**Solid**	**ICP 5300**	**12/22/08**	**12/24/08**	**081224SA2**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	88	91	75-125	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: T22.11.5.AII DI
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA2401-0.5	**Solid**	**ICP 5300**	**12/22/08**	**12/29/08**	**081224SA3**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	99	101	75-125	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/12/08
Work Order No: 08-12-1414
Preparation: T22.11.5. AII
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-2381-1	**Solid**	**ICP 5300**	**12/24/08**	**12/29/08**	**081229SA1**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	72	87	75-125	6	0-20	3

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1414
San Diego, CA 92122-5993			

Project: Caltrans 805 Northern ADL Study

Matrix: Solid

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
pH	EPA 9045D	HA1302-1.5	12/12/08	6.27	6.29	0	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1414
San Diego, CA 92122-5993		Preparation:	EPA 3050B
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-002-11,848	**Solid**	**ICP 5300**	**12/16/08**	**081215-I-04**	**081215L04**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	25.0	25.4	102	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1414
San Diego, CA 92122-5993		Preparation:	EPA 3050B
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-002-11,849	**Solid**	**ICP 5300**	**12/16/08**	**081215-I-05**	**081215L05**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	25.0	25.6	102	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1414
San Diego, CA 92122-5993		Preparation:	EPA 1311
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-05-001-3,828	**Solid**	**ICP 5300**	**12/24/08**	**081223-la-01**	**081223LA1**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	5.00	5.40	108	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 08-12-1414
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-003-8,916	**Aqueous**	**ICP 5300**	**12/15/08**	**12/15/08**	**081215LA5**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	103	102	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1414
San Diego, CA 92122-5993		Preparation:	T22.11.5. AII
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-05-006-4,395	**Solid**	**ICP 5300**	**12/24/08**	**081224-la-2**	**081224BA2**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	5.00	5.39	108	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1414
San Diego, CA 92122-5993		Preparation:	T22.11.5.AII DI
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-05-006-4,400	**Solid**	**ICP 5300**	**12/29/08**	**081224-la-3**	**081224LA3**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	5.00	5.40	108	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Kleinfelder, Inc.	Date Received:	N/A
5015 Shoreham Place	Work Order No:	08-12-1414
San Diego, CA 92122-5993	Preparation:	T22.11.5. AII
	Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-05-006-4,399	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08**	**081229LA1A**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	113	112	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 08-12-1414

Qualifier	Definition
*	See applicable analysis comment.
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 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 with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
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.
N	Nontarget Analyte.
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.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

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☐ NorCal Service Center
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Concord, CA 94520-8577
(925) 689-9022

Date 12-11-08

Page 4 of 4

LABORATORY CLIENT: Kleinfelder, Inc.

ADDRESS: 5015 Shoreham Place

CITY: San Diego STATE: CA ZIP: 92122-5926

TEL: 858-320-2000 E-MAIL: vharris@Kleinfelder.com

CLIENT PROJECT NAME / NUMBER: Caltrans 805 Northern ADL Study

P.O. NO.: 99546

PROJECT CONTACT: Valerie Harris

LAB USE ONLY: 12-1414

SAMPLER(S): (PRINT) Chris Noland Dan Eldredge

COELT LOG CODE: ☐☐☐☐

COOLER RECEIPT TEMP= °C

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5days

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

SPECIAL INSTRUCTIONS:
Hold Samples for further analysis
Send preliminary results **
* lead WET citrate if total Pb > 50 mg/kg
lead WET DI if total Pb > 400 mg/kg
lead TCLP if total Pb > 100 mg/kg
QCEB02 contains HNO_3 as preservative

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH (___)	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]+___	total lead (6010B)*	pH
31	HA2902-1.5		12-11-08	1317	SOIL	1																X	
32	HA2903-3.0			1325	SOIL	1																X	X
33	QCEB02			1350	WATER	1																X	

CAN 12-11-08

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
		12-11-08	1500
Relinquished by: (Signature)	Received by: (Signature/Affiliation) CEL	Date: 12/12/8	Time: 1438
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12/12/08	Time: 1740

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Calscience Environmental Laboratories, Inc.

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Date 12-11-08

Page 2 of 4

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(714) 895-5494

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

LABORATORY CLIENT: Kleinfelder, Inc.

ADDRESS: 5015 Shoreham Place

CITY: San Diego STATE: CA ZIP: 92122-5926

TEL: 858-320-2000 E-MAIL: vharris@kleinfelder.com

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5days

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐ _____

SPECIAL INSTRUCTIONS:
Hold samples for further analysis
Send preliminary results
* lead WET citrate if total Pb > 50mg/kg
lead WET DI if total Pb > 400 mg/kg
lead TCLP if total Pb > 100 mg/kg

CLIENT PROJECT NAME / NUMBER: Caltrans 805 Northern ADL Study

P.O. NO.: 99546

PROJECT CONTACT: Valerie Harris

LAB USE ONLY: 12-1-14-1-4

SAMPLER(S): (PRINT) Chas Noland, Dan Eldredge

COELT LOG CODE: ☐☐☐☐

COOLER RECEIPT TEMP= _____ °C

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH ( )	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]+	Total lead (6010) *	pH
11	HA1902-1.5		12-11-08	1011	SOIL	1																X	
12	HA2101-0.5			1058																		X	
13	HA2102-1.5			1102																		X	
14	HA2103-3.0			1106																		X	X
15	HA2201-0.5			1114																		X	
16	HA2202-1.5			1117																		X	
17	HA2203-3.0			1126																		X	
18	HA2301-0.5			1135																		X	X
19	HA2302-1.5			1137																		X	
20	HA2303-3.0			1153																		X	

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12-11-08	Time: 1500
Relinquished by: (Signature)	Received by: (Signature/Affiliation) CEL	Date: 12/12/8	Time: 1435
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12/12/08	Time: 1740

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(925) 689-9022

Date 12-11-08

Page 1 of 4

LABORATORY CLIENT: Kleinfelder, Inc.

ADDRESS: 5015 Shoreham Place

CITY: San Diego STATE: CA ZIP: 92122-5926

TEL: 858-320-2000 E-MAIL: vharris@kleinfelder.com

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5 days

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐ _____

SPECIAL INSTRUCTIONS:
Hold samples for further analysis
Send preliminary results
* lead WET citrate if total Pb > 50mg/kg
lead WET DI if total Pb > 400 mg/kg
lead TCLP if total Pb > 100 mg/kg

CLIENT PROJECT NAME / NUMBER: Caltrans 805 Northern ADL Study

P.O. NO.: 99546

PROJECT CONTACT: Valerie Harris

LAB USE ONLY: 12-1414

SAMPLER(S): (PRINT) Chris Noland, Dan Eldridge

COELT LOG CODE: ☐☐☐☐

COOLER RECEIPT TEMP= _____ °C

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH (___)	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]+ ___	Total Lead (6010)*	pH
1	HA1301-0.5		12-11-08	0908	Soil	1																X	
2	HA1302-1.5			0914																		X	X
3	HA1303-3.0			0920																		X	
4	HA1501-0.5			0929																		X	
5	HA1502-1.5			0932																		X	X
6	HA1503-3.0			0940																		X	
7	HA1701-0.5			0950																		X	
8	HA1702-1.5			0952																		X	
9	HA1703-3.0			0957																		X	
10	HA1901-0.5			1009																		X	

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
		12-11-08	1500
	CEL	12/12/8	1435
		12/12/08	1740

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(925) 689-9022

Date 12-11-08

Page 3 of 4

LABORATORY CLIENT: Kleinfelder, Inc.

ADDRESS: 5015 Shoreham Place

CITY: San Diego STATE: CA ZIP: 92122-5926

TEL: 858-320-2000 E-MAIL: vharris@kleinfelder.com

CLIENT PROJECT NAME / NUMBER: Caltrans SDS Northern ADL Study

PROJECT CONTACT: Valerie Harris

P.O. NO.: 99546

LAB USE ONLY: 1 2 - 1 4 1 4

SAMPLER(S): (PRINT) Chris Noland, Dan Eldredge

COELT LOG CODE

COOLER RECEIPT TEMP= °C

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5 days

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐ _____

SPECIAL INSTRUCTIONS:
Hold samples for further analysis
Send preliminary results
* lead WET citrate if total Pb > 50 mg/Kg
lead WET DI if total Pb > 400 mg/Kg
lead TCLP if total Pb > 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 (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH (_____)	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]+_____	total lead (6010)*	pH
21	HA2401-0.5		12-11-08	1201	SOIL	1																X	
22	HA2402-1.5			1203																		X	
23	HA2403-3.0			1216																		X	
24	HA2501-0.5			1229																		X	
25	HA2502-1.5			1231																		X	X
26	HA2503-3.0			1247																		X	
27	HA2701-0.5			1300																		X	X
28	HA2702-1.5			1302																		X	
29	HA2703-3.0			1305																		X	
30	HA2901-0.5			1315																		X	

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12-11-08	Time: 1500
Relinquished by: (Signature)	Received by: (Signature/Affiliation) COEL	Date: 12/12/8	Time: 1435
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12/12/08	Time: 1740

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Orange Graphic 714-898-9702

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 08-12-1414

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Kleinfelder

DATE: 12/12/08

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

Temperature 2.6 °C - 0.2 °C (CF) = 2.4 °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:

CUSTODY SEALS INTACT:

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

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: PS

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Correct containers and volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Proper preservation noted on sample label(s)	☑	☐	☐
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☑8ozCGJ ☐16ozCGJ ☐Sleeve ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBpo_4 ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☐500AGBs ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna ☐250PB ☑250PBn ☐125PB ☐125PBznna ☐100PBsterile ☐100PBna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® ☐_____

Container: C:Clear A:Amber P:Poly/Plastic G:Glass J:Jar B:Bottle

Preservative: h:HCL n:HNO_3 na_2:$Na_2S_2O_3$ na:NaOH po_4:H_3PO_4 s:H_2SO_4 znna:$ZnAc_2$+NaOH

Checked/Labeled by: YL

Reviewed by: WSC

Scanned by: YL

Ranjit Clarke

From: Valerie Harris [VHarris@kleinfelder.com]
Sent: Monday, December 22, 2008 9:45 AM
To: Johnny Dao
Cc: Ranjit Clarke
Subject: Re: Caltrans 805 Northern ADL Study / CEL 08-12-1414(Preliminary)

Hi Johnny

Thank you for the preliminary results for Work Order No. 08-12-1414. I would like the additional following analyses run on the soil samples:

1 Client Sample Number : HA1301-0.5 - soluble lead by WET-citrate, TCLP, and DI-WET
3 Client Sample Number : HA1303-3.0 - soluble lead by WET-citrate
6 Client Sample Number : HA1503-3.0 - soluble lead by WET-citrate
9 Client Sample Number : HA1703-3.0 - soluble lead by WET-citrate
10 Client Sample Number : HA1901-0.5 - soluble lead by WET-citrate
12 Client Sample Number : HA2101-0.5 - soluble lead by WET-citrate, and DI-WET
15 Client Sample Number : HA2201-0.5 - soluble lead by WET-citrate
18 Client Sample Number : HA2301-0.5 - soluble lead by WET-citrate, TCLP, and DI-WET
21 Client Sample Number : HA2401-0.5 - soluble lead by WET-citrate, TCLP, and DI-WET
22 Client Sample Number : HA2402-1.5 - soluble lead by WET-citrate
24 Client Sample Number : HA2501-0.5 - soluble lead by WET-citrate, and DI-WET
27 Client Sample Number : HA2701-0.5 - soluble lead by WET-citrate, TCLP, and DI-WET
28 Client Sample Number : HA2702-1.5 - soluble lead by WET-citrate
31 Client Sample Number : HA2902-1.5 - soluble lead by WET-citrate

Please let me know if you have questions.
Thanks,
Valerie Harris
858 320-2201

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Johnny Dao

From: Valerie Harris [VHarris@kleinfelder.com]
Sent: Tuesday, December 23, 2008 3:09 PM
To: Johnny Dao
Cc: Ranjit Clarke; Chris Noland
Subject: Re: Caltrans 805 Northern ADL Study / CEL 08-12-1569(Preliminary)

Hi Johnny

Thank you for the preliminary results. Please add the following analyses to samples listed below.

Client Sample Number: HA2002-1.5 soluble lead using WET-citrate
Client Sample Number: HA1801-0.5 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA1803-3.0 soluble lead using WET-citrate
Client Sample Number: HA1601-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA1602-1.5 soluble lead using WET-citrate
Client Sample Number: HA1401-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA1201-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA3001-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA3002-1.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA2801-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA2802-1.5 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA2601-0.5 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA2603-3.0 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA2001-0.5 soluble lead using WET-citrate
Client Sample Number: HA1001-0.5 soluble lead using WET-citrate
Client Sample Number: HA1003-3.0 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA0601-0.5 soluble lead using WET-citrate
Client Sample Number: HA6002-1.5 soluble lead using WET-citrate
Client Sample Number: HA6003-3.0 soluble lead using WET-citrate
Client Sample Number: HA0201-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA0203-3.0 soluble lead using WET-citrate and DI-WET

Also, for the samples from Work Order No: 08-12-1238, please add the following analyses
Client Sample Number: HA0503-3.0 soluble lead using WET-citrate
Client Sample Number: HA0802-1.5 soluble lead using WET-citrate
Client Sample Number: HA0803-3.0 soluble lead using WET-citrate
Client Sample Number: HA1101-0.5 soluble lead using WET-citrate

And for the following samples from Work Order No. 08-12-1414, please add the following analyses:
Client Sample Number: HA1501-0.5 soluble lead using WET-citrate
Client Sample Number: HA2102-1.5 soluble lead using WET-citrate
Client Sample Number: HA2303-3.0 soluble lead using WET-citrate
Client Sample Number: HA2403-3.0 soluble lead using WET-citrate
Client Sample Number: HA2901-0.5 soluble lead using WET-citrate

I will be on vacation until January 6, 2009. Please send preliminary results to me and also copy Chris

Ranjit Clarke

From: Valerie Harris [VHarris@kleinfelder.com]
Sent: Tuesday, January 06, 2009 7:35 AM
To: Ranjit Clarke
Cc: Stacie Wissler
Subject: Re: Caltrans 805 Northern ADL Study (12/11/08)

Ranjit

The STLC on HA2203-3.0 is OK. Please send the final report.

Thank you,
Valerie

>>> "Ranjit Clarke" <RClarke@calscience.com> 01/05/09 12:55 PM >>>
Valerie,

Upon final review of the data for WO# 08-12-1414, I notice that our lab inadvertently performed STLC analysis on sample "HA2203-3.0" instead of sample "HA2303-3.0" as requested on your e-mail dated 12/23/08. Or course there will be no charge for that extra analysis and I have instructed the lab to expedite sample "HA2303-3.0".

The earliest the final report will be ready is Thusday (01/08/09). If you want me to send a prelim of what I have now (which is everything else), let me know. Alternatively, if you decide that the STLC on sample "HA2203-3.0" instead of "HA2303-3.0" is o.k. and you want us to finalize this report let me know that as well and I could get it to you this afternoon.

Thanks,

> Ranjit K. K. Clarke
> Project Manager
> Calscience Environmental
> Laboratories, Inc.
> 7440 Lincoln Way
> Garden Grove, CA 92841-1427
> Tel.: 714-895-5494 Ext. 222
> Fax : 714-894-7501
> rclarke@calscience.com
>
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>

Calscience Environmental Laboratories, Inc.

January 05, 2009

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

Subject: **Calscience Work Order No.: 08-12-1569**
Client Reference: Caltrans 805 Northern ADL Study

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 12/15/2008 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,

Ranjit K. J. Clarke

Calscience Environmental
Laboratories, Inc.
Ranjit Clarke
Project Manager

Calscience Environmental Laboratories, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

Work Order Case Narrative

Project Name: **Caltrans 805 Northern ADL Study**
Calscience Work Order Number: **08-12-1569**

1. EPA 6010B – STLC & STLC-DI and TCLP

An e-mail request was received from Kleinfelder on 12/23/08 to perform additional analyses on selected samples via EPA 6010B (STLC, STLC-DI and TCLP) for Lead.

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2002-1.5	**08-12-1569-1-A**	**12/12/08 10:22**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 22:51**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	17.1	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2003-3.0	**08-12-1569-2-A**	**12/12/08 10:30**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 22:53**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	9.50	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1801-0.5	**08-12-1569-3-A**	**12/12/08 10:35**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 22:55**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	27.6	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1802-1.5	**08-12-1569-4-A**	**12/12/08 10:45**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 22:58**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	11.9	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1803-3.0	**08-12-1569-5-A**	**12/12/08 10:47**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:00**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	7.41	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1601-0.5	**08-12-1569-6-A**	**12/12/08 11:06**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:02**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	372	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1602-1.5	**08-12-1569-7-A**	**12/12/08 11:09**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:05**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	6.60	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1603-3.0	**08-12-1569-8-A**	**12/12/08 11:20**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:07**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	10.2	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1401-0.5	**08-12-1569-9-A**	**12/12/08 11:40**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:09**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	349	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1201-0.5	**08-12-1569-10-A**	**12/12/08 11:56**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:11**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	300	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA3001-0.5	**08-12-1569-11-A**	**12/12/08 09:01**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:18**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	666	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA3002-1.5	**08-12-1569-12-A**	**12/12/08 09:11**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:20**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	179	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA3003-3.0	**08-12-1569-13-A**	**12/12/08 09:15**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:26**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	16.6	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2801-0.5	**08-12-1569-14-A**	**12/12/08 09:34**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:27**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	942	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2802-1.5	**08-12-1569-15-A**	**12/12/08 09:37**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:29**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	26.4	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2803-3.0	**08-12-1569-16-A**	**12/12/08 09:52**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:31**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	18.5	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2601-0.5	**08-12-1569-17-A**	**12/12/08 10:03**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:32**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	40.2	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2602-1.5	**08-12-1569-18-A**	**12/12/08 10:06**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:34**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	16.7	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2603-3.0	**08-12-1569-19-A**	**12/12/08 10:12**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:35**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	53.6	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2001-0.5	**08-12-1569-20-A**	**12/12/08 10:18**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:37**	**081216L03**

Parameter	Result	RL	DF	Qual	Units
Lead	19.5	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1001-0.5	**08-12-1569-21-A**	**12/12/08 12:09**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:39**	**081216L04**

Parameter	Result	RL	DF	Qual	Units
Lead	13.1	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1002-1.5	**08-12-1569-22-A**	**12/12/08 12:11**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:40**	**081216L04**

Parameter	Result	RL	DF	Qual	Units
Lead	17.3	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1003-3.0	**08-12-1569-23-A**	**12/12/08 12:13**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:45**	**081216L04**

Parameter	Result	RL	DF	Qual	Units
Lead	13.9	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0601-0.5	**08-12-1569-24-A**	**12/12/08 12:52**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:47**	**081216L04**

Parameter	Result	RL	DF	Qual	Units
Lead	17.9	0.500	1		mg/kg

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0602-1.5	**08-12-1569-25-A**	**12/12/08 12:57**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:49**	**081216L04**

Parameter	Result	RL	DF	Qual	Units
Lead	7.09	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0603-3.0	**08-12-1569-26-A**	**12/12/08 12:59**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:51**	**081216L04**

Parameter	Result	RL	DF	Qual	Units
Lead	21.9	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0201-0.5	**08-12-1569-27-A**	**12/12/08 13:08**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:52**	**081216L04**

Parameter	Result	RL	DF	Qual	Units
Lead	107	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0202-1.5	**08-12-1569-28-A**	**12/12/08 13:15**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:54**	**081216L04**

Parameter	Result	RL	DF	Qual	Units
Lead	4.32	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0203-3.0	**08-12-1569-29-A**	**12/12/08 13:36**	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08 23:56**	**081216L04**

Parameter	Result	RL	DF	Qual	Units
Lead	42.3	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-11,851**	**N/A**	**Solid**	**ICP 5300**	**12/16/08**	**12/18/08 20:09**	**081216L03**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Kleinfelder, Inc.	Date Received:	12/15/08
5015 Shoreham Place	Work Order No:	08-12-1569
San Diego, CA 92122-5993	Preparation:	EPA 3050B
	Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-11,852**	**N/A**	**Solid**	**ICP 5300**	**12/16/08**	**12/18/08 20:03**	**081216L04**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 1311
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1601-0.5	**08-12-1569-6-A**	**12/12/08 11:06**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 13:25**	**081224LA1**

Parameter	Result	RL	DF	Qual	Units
Lead	0.719	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1401-0.5	**08-12-1569-9-A**	**12/12/08 11:40**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 13:27**	**081224LA1**

Parameter	Result	RL	DF	Qual	Units
Lead	1.59	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1201-0.5	**08-12-1569-10-A**	**12/12/08 11:56**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 13:28**	**081224LA1**

Parameter	Result	RL	DF	Qual	Units
Lead	2.77	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA3001-0.5	**08-12-1569-11-A**	**12/12/08 09:01**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 13:30**	**081224LA1**

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
HA3002-1.5	**08-12-1569-12-A**	**12/12/08 09:11**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 13:32**	**081224LA1**

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
HA2801-0.5	**08-12-1569-14-A**	**12/12/08 09:34**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 13:33**	**081224LA1**

Parameter	Result	RL	DF	Qual	Units
Lead	5.51	0.100	1		mg/L

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 1311
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0201-0.5	**08-12-1569-27-A**	**12/12/08 13:08**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 13:35**	**081224LA1**

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

Method Blank	**097-05-001-3,829**	**N/A**	**Solid**	**ICP 5300**	**12/23/08**	**12/24/08 12:04**	**081224LA1**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCEB03	**08-12-1569-30-A**	**12/12/08 14:20**	**Aqueous**	**ICP 5300**	**12/16/08**	**12/17/08 18:46**	**081216LA7**

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

Method Blank	**097-01-003-8,943**	**N/A**	**Aqueous**	**ICP 5300**	**12/16/08**	**12/17/08 15:29**	**081216LA7**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2002-1.5	**08-12-1569-1-A**	**12/12/08 10:22**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:00**	**081229LA1A**

Parameter	Result	RL	DF	Qual	Units
Lead	0.202	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1801-0.5	**08-12-1569-3-A**	**12/12/08 10:35**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 17:19**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.643	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1803-3.0	**08-12-1569-5-A**	**12/12/08 10:47**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:01**	**081229LA1A**

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
HA1601-0.5	**08-12-1569-6-A**	**12/12/08 11:06**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 17:56**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	4.52	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1602-1.5	**08-12-1569-7-A**	**12/12/08 11:09**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:03**	**081229LA1A**

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
HA1401-0.5	**08-12-1569-9-A**	**12/12/08 11:40**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 17:58**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	10.3	0.100	1		mg/L

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1201-0.5	**08-12-1569-10-A**	**12/12/08 11:56**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:00**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	6.58	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA3001-0.5	**08-12-1569-11-A**	**12/12/08 09:01**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:02**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	25.1	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA3002-1.5	**08-12-1569-12-A**	**12/12/08 09:11**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:03**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	7.04	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2801-0.5	**08-12-1569-14-A**	**12/12/08 09:34**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:05**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	44.4	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2802-1.5	**08-12-1569-15-A**	**12/12/08 09:37**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:06**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.423	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2601-0.5	**08-12-1569-17-A**	**12/12/08 10:03**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:08**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	1.44	0.100	1		mg/L

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2603-3.0	**08-12-1569-19-A**	**12/12/08 10:12**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:10**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.300	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2001-0.5	**08-12-1569-20-A**	**12/12/08 10:18**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:05**	**081229LA1A**

Parameter	Result	RL	DF	Qual	Units
Lead	1.42	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1001-0.5	**08-12-1569-21-A**	**12/12/08 12:09**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:06**	**081229LA1A**

Parameter	Result	RL	DF	Qual	Units
Lead	0.259	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1003-3.0	**08-12-1569-23-A**	**12/12/08 12:13**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:12**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.213	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0601-0.5	**08-12-1569-24-A**	**12/12/08 12:52**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:11**	**081229LA1A**

Parameter	Result	RL	DF	Qual	Units
Lead	0.290	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0602-1.5	**08-12-1569-25-A**	**12/12/08 12:57**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:13**	**081229LA1A**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: T22.11.5. AII
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0603-3.0	**08-12-1569-26-A**	**12/12/08 12:59**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:14**	**081229LA1A**

Parameter	Result	RL	DF	Qual	Units
Lead	0.178	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0201-0.5	**08-12-1569-27-A**	**12/12/08 13:08**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:17**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	2.41	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0203-3.0	**08-12-1569-29-A**	**12/12/08 13:36**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 18:18**	**081231LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	2.42	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-05-006-4,399**	**N/A**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 18:20**	**081229LA1A**

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
Method Blank	**097-05-006-4,404**	**N/A**	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08 17:11**	**081231LA2**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Kleinfelder, Inc.	Date Received:	12/15/08
5015 Shoreham Place	Work Order No:	08-12-1569
San Diego, CA 92122-5993	Preparation:	T22.11.5.AII DI
	Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1801-0.5	**08-12-1569-3-A**	**12/12/08 10:35**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:26**	**081229LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.173	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1601-0.5	**08-12-1569-6-A**	**12/12/08 11:06**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:31**	**081229LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.347	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1401-0.5	**08-12-1569-9-A**	**12/12/08 11:40**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:33**	**081229LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	1.08	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA1201-0.5	**08-12-1569-10-A**	**12/12/08 11:56**	**Solid**	**ICP 5300**	**12/23/08**	**01/02/09 18:28**	**081229LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.709	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA3001-0.5	**08-12-1569-11-A**	**12/12/08 09:01**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:36**	**081229LA2**

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
HA3002-1.5	**08-12-1569-12-A**	**12/12/08 09:11**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:38**	**081229LA2**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: T22.11.5.AII DI
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2801-0.5	**08-12-1569-14-A**	**12/12/08 09:34**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:39**	**081229LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.315	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2802-1.5	**08-12-1569-15-A**	**12/12/08 09:37**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:41**	**081229LA2**

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
HA2601-0.5	**08-12-1569-17-A**	**12/12/08 10:03**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:43**	**081229LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.190	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA2603-3.0	**08-12-1569-19-A**	**12/12/08 10:12**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:44**	**081229LA2**

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
HA1003-3.0	**08-12-1569-23-A**	**12/12/08 12:13**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:21**	**081229LA2**

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
HA0201-0.5	**08-12-1569-27-A**	**12/12/08 13:08**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:46**	**081229LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.136	0.100	1		mg/L

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Kleinfelder, Inc.		Date Received:	12/15/08
5015 Shoreham Place		Work Order No:	08-12-1569
San Diego, CA 92122-5993		Preparation:	T22.11.5.AII DI
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA0203-3.0	**08-12-1569-29-A**	**12/12/08 13:36**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 21:51**	**081229LA2**

Parameter	Result	RL	DF	Qual	Units
Lead	0.435	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-05-006-4,398**	**N/A**	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08 19:44**	**081229LA2**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Kleinfelder, Inc.	Date Received:	12/15/08
5015 Shoreham Place	Work Order No:	08-12-1569
San Diego, CA 92122-5993		

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA2002-1.5	**08-12-1569-1**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.10	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA1803-3.0	**08-12-1569-5**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	7.15	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA1603-3.0	**08-12-1569-8**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	5.15	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA1201-0.5	**08-12-1569-10**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.13	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA3002-1.5	**08-12-1569-12**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.64	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/15/08
Work Order No: 08-12-1569

Project: Caltrans 805 Northern ADL Study

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA2801-0.5	**08-12-1569-14**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.77	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA2603-3.0	**08-12-1569-19**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.53	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA1003-3.0	**08-12-1569-23**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	8.54	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA0601-0.5	**08-12-1569-24**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	7.95	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA0202-1.5	**08-12-1569-28**	**12/12/08**	**Solid**

Parameter	Result	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	7.04	0.01	1		pH units	12/15/08	12/15/08	EPA 9045D

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 3050B
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA1801-0.5	**Solid**	**ICP 5300**	**12/16/08**	**12/17/08**	**081216S03**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	81	87	75-125	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 3050B
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA0602-1.5	**Solid**	**ICP 5300**	**12/16/08**	**12/18/08**	**081216S04**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	95	102	75-125	6	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 1311
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-1934-2	**Solid**	**ICP 5300**	**12/23/08**	**12/24/08**	**081224SA1**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	100	97	75-125	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: EPA 3010A Total
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-1573-13	**Aqueous**	**ICP 5300**	**12/16/08**	**12/18/08**	**081216SA7**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	111	110	84-120	1	0-7	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: T22.11.5. AII
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-12-2381-1	**Solid**	**ICP 5300**	**12/24/08**	**12/29/08**	**081229SA1**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	72	87	75-125	6	0-20	3

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Kleinfelder, Inc.		Date Received:	12/15/08
5015 Shoreham Place		Work Order No:	08-12-1569
San Diego, CA 92122-5993		Preparation:	T22.11.5.AII DI
		Method:	EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA1003-3.0	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08**	**081229SA2**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	99	92	75-125	7	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 12/15/08
Work Order No: 08-12-1569
Preparation: T22.11.5. AII
Method: EPA 6010B

Project Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA1801-0.5	**Solid**	**ICP 5300**	**12/23/08**	**12/31/08**	**081231SA2**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	103	99	75-125	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1569
San Diego, CA 92122-5993			

Project: Caltrans 805 Northern ADL Study

Matrix: Solid

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
pH	EPA 9045D	08-12-1499-1	12/15/08	4.80	4.82	0	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1569
San Diego, CA 92122-5993		Preparation:	EPA 3050B
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-002-11,851	**Solid**	**ICP 5300**	**12/17/08**	**081216-I-03**	**081216L03**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	25.0	26.9	108	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

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

Date Received: N/A
Work Order No: 08-12-1569
Preparation: EPA 3050B
Method: EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-002-11,852	**Solid**	**ICP 5300**	**12/17/08**	**081216-I-04**	**081216L04**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	25.0	25.1	100	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Kleinfelder, Inc.	Date Received:	N/A
5015 Shoreham Place	Work Order No:	08-12-1569
San Diego, CA 92122-5993	Preparation:	EPA 1311
	Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-05-001-3,829	**Solid**	**ICP 5300**	**12/24/08**	**081224-la-1**	**081224LA1**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	5.00	5.34	107	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1569
San Diego, CA 92122-5993		Preparation:	EPA 3010A Total
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-003-8,943	**Aqueous**	**ICP 5300**	**12/16/08**	**12/17/08**	**081216LA7**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	109	110	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1569
San Diego, CA 92122-5993		Preparation:	T22.11.5. AII
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-05-006-4,399	**Solid**	**ICP 5300**	**12/23/08**	**12/29/08**	**081229LA1A**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	113	112	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1569
San Diego, CA 92122-5993		Preparation:	T22.11.5.AII DI
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-05-006-4,398	**Solid**	**ICP 5300**	**12/23/08**	**12/30/08**	**081229LA2**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	109	110	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Kleinfelder, Inc.		Date Received:	N/A
5015 Shoreham Place		Work Order No:	08-12-1569
San Diego, CA 92122-5993		Preparation:	T22.11.5. AII
		Method:	EPA 6010B

Project: Caltrans 805 Northern ADL Study

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-05-006-4,404	**Solid**	**ICP 5300**	**12/31/08**	**081231-la-2**	**081231LA2**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Lead	5.00	5.36	107	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 08-12-1569

Qualifier	Definition
*	See applicable analysis comment.
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 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 with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
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.
N	Nontarget Analyte.
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.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Calscience Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Date 12-12-08

Page 1 of 3

☑ 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

LABORATORY CLIENT: Kleinfelder, Inc.
ADDRESS: 5015 Shoreham Place
CITY: San Diego STATE: CA ZIP: 92122-5926
TEL: 858-320-2000 E-MAIL: vharris@Kleinfelder.com
TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5 days
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐ _____
SPECIAL INSTRUCTIONS:
HOLD SAMPLES FOR FURTHER ANALYSIS
SEND PRELIMINARY RESULTS
*LEAD WET Citrate if Pb > 50 mg/kg
LEAD DI if total Pb > 400 mg/kg
LEAD TCLP if total Pb > 100 mg/kg

CLIENT PROJECT NAME / NUMBER: Caltrans 805 Northern ADL Study
P.O. NO.: 99546
PROJECT CONTACT: Valerie Harris
LAB USE ONLY: 12-1569
SAMPLER(S): (PRINT) Chris Noland, Dan Eldredge
COELT LOG CODE:
COOLER RECEIPT TEMP= _____ °C

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH (___)	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]+ ___	Total Lead (6010) *	pH
1	HA2002-1.5		12-12-08	1022	Soil	1																X	X
2	HA2003-3.0			1030																		X	
3	HA1801-0.5			1035																		X	
4	HA1802-1.5			1045																		X	
5	HA1803-3.0			1047																		X	X
6	HA1601-0.5			1106																		X	
7	HA1602-1.5			1109																		X	
8	HA1603-3.0			1120 ~~1140~~ CAN																		X	X
9	HA1401-0.5			1140																		X	
10	HA1201-0.5			1156																		X	X

Relinquished by: (Signature)	Received by: (Signature/Affiliation) CEL	Date: 12/15/8	Time: 1255
Relinquished by: (Signature)	Received by: (Signature/Affiliation) Danuyle CEL	Date: 12/15/08	Time: 17:30
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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Date 12-12-08

Page 2 of 3

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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

LABORATORY CLIENT: Kleinfelder, Inc.

ADDRESS: 5015 Shoreham Place

CITY: San Diego STATE: CA ZIP: 92122-5926

TEL: 858-320-2000 E-MAIL: Vharris@kleinfelder.com

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5days

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐ _____

SPECIAL INSTRUCTIONS:
Hold samples for further analysis
Send preliminary results
* Lead WET citrate if total Pb > 50 mg/kg
Lead DI if total Pb > 400 mg/kg
lead TCLP if total Pb > 100 mg/kg

CLIENT PROJECT NAME / NUMBER: Caltrans 805 Northern ADL Study

P.O. NO.: 99546

PROJECT CONTACT: Valerie Harris

LAB USE ONLY: 12-1569

SAMPLER(S): (PRINT) Chris Noland, Dan Eldredge

COELT LOG CODE: ☐☐☐☐

COOLER RECEIPT: TEMP= _____ °C

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH ( )	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]+	Total Lead (6010)*	pH	
11	HA3001-0.5		12-12-08	0901	Soil	1																X	
12	HA3002-1.5			0911																		X	X
13	HA3003-3.0			0915																		X	
14	HA2801-0.5			0934																		X	X
15	HA2802-1.5			0937																		X	
16	HA2803-3.0			0952																		X	
17	HA2601-0.5			1003																		X	
18	HA2602-1.5			1006																		X	
19	HA2603-3.0			1012																		X	X
20	HA2001-0.5			1018																		X	

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 12/15/8	Time: 1255
Relinquished by: (Signature)	Received by: (Signature/Affiliation) Danny C CEL	Date: 12/15/08	Time: 17:30
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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(714) 895-5494

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

LABORATORY CLIENT: Kleinfelder, Inc.

ADDRESS: 5015 Shoreham Place

CITY: San Diego STATE: CA ZIP: 92122-5926

TEL: 858-320-2000 E-MAIL: vharris@kleinfelder.com

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD ☑ 5 days

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐ _____

SPECIAL INSTRUCTIONS:
Hold samples for further analysis
send preliminary results
* lead WET citrate if total Pb > 50 mg/kg
lead DI if total lead Pb > 400 mg/kg
lead TCLP if total Pb > 100 mg/kg
** HNO3 as preservative

CLIENT PROJECT NAME / NUMBER: Caltrans 805 Northern ADL Study

P.O. NO.: 99546

PROJECT CONTACT: Valerie Harris

LAB USE ONLY: 12-1569

SAMPLER(S): (PRINT) Chris Noland, Dan Eldredge

COELT LOG CODE: ☐☐☐☐

COOLER RECEIPT TEMP= _____ °C

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH ( )	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]+	Total lead (6010)*	pH
21	HA1001-0.5		12-12-08	1209	SOIL	1																X	
22	HA1002-1.5			1211																		X	
23	HA1003-3.0			1213																		X	X
24	HA0601-0.5			1252																		X	X
25	HA0602-1.5			1257																		X	
26	HA0603-3.0			1259																		X	
27	HA0201-0.5			1308																		X	
28	HA0202-1.5			1315																		X	X
29	HA0203-3.0			1336																		X	
30	QCEB03 **			1420	WATER																	X	

Relinquished by: (Signature)	Received by: (Signature/Affiliation) CEL	Date: 12-15-08	Time: 1255
Relinquished by: (Signature)	Received by: (Signature/Affiliation) Dannyle CEL	Date: 12/15/08	Time: 17:30
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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WORK ORDER #: 08-12-1569

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Kleinfelder

DATE: 12/15/8

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

Temperature 2.8 °C - 0.2 °C (CF) = 2.6 °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: [signature]

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A Initial: [signature]

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: YL

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Correct containers and volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Proper preservation noted on sample label(s)	☑	☐	☐
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☑8ozCGJ ☐16ozCGJ ☐Sleeve ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBpo_4 ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☐500AGBs ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna ☐250PB ☑250PBn ☐125PB ☐125PBznna ☐100PBsterile ☐100PBna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® ☐_____

Container: C:Clear A:Amber P:Poly/Plastic G:Glass J:Jar B:Bottle

Preservative: h:HCL n:HNO_3 na_2:$Na_2S_2O_3$ na:NaOH po_4:H_3PO_4 s:H_2SO_4 znna:$ZnAc_2$+NaOH

Checked/Labeled by: YL

Reviewed by: WSC.

Scanned by: YC

Johnny Dao

From: Valerie Harris [VHarris@kleinfelder.com]
Sent: Tuesday, December 23, 2008 3:09 PM
To: Johnny Dao
Cc: Ranjit Clarke; Chris Noland
Subject: Re: Caltrans 805 Northern ADL Study / CEL 08-12-1569(Preliminary)

Hi Johnny

Thank you for the preliminary results. Please add the following analyses to samples listed below.

Client Sample Number: HA2002-1.5 soluble lead using WET-citrate
Client Sample Number: HA1801-0.5 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA1803-3.0 soluble lead using WET-citrate
Client Sample Number: HA1601-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA1602-1.5 soluble lead using WET-citrate
Client Sample Number: HA1401-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA1201-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA3001-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA3002-1.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA2801-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA2802-1.5 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA2601-0.5 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA2603-3.0 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA2001-0.5 soluble lead using WET-citrate
Client Sample Number: HA1001-0.5 soluble lead using WET-citrate
Client Sample Number: HA1003-3.0 soluble lead using WET-citrate and DI-WET
Client Sample Number: HA0601-0.5 soluble lead using WET-citrate
Client Sample Number: HA6002-1.5 soluble lead using WET-citrate
Client Sample Number: HA6003-3.0 soluble lead using WET-citrate
Client Sample Number: HA0201-0.5 soluble lead using WET-citrate, TCLP, and DI-WET
Client Sample Number: HA0203-3.0 soluble lead using WET-citrate and DI-WET

Also, for the samples from Work Order No: 08-12-1238, please add the following analyses
Client Sample Number: HA0503-3.0 soluble lead using WET-citrate
Client Sample Number: HA0802-1.5 soluble lead using WET-citrate
Client Sample Number: HA0803-3.0 soluble lead using WET-citrate
Client Sample Number: HA1101-0.5 soluble lead using WET-citrate

And for the following samples from Work Order No. 08-12-1414, please add the following analyses:
Client Sample Number: HA1501-0.5 soluble lead using WET-citrate
Client Sample Number: HA2102-1.5 soluble lead using WET-citrate
Client Sample Number: HA2303-3.0 soluble lead using WET-citrate
Client Sample Number: HA2403-3.0 soluble lead using WET-citrate
Client Sample Number: HA2901-0.5 soluble lead using WET-citrate

I will be on vacation until January 6, 2009. Please send preliminary results to me and also copy Chris

APPENDIX D

Statistical Data Evaluation

APPENDIX D
STATISTICAL DATA EVALUATION

D1. STATISTICAL ANALYSIS

The following describes the statistical analysis performed on the data sets for the I-805 Northern Aerially Deposited Lead (ADL) Study.

D1.1. Total Lead Concentrations – All Depths

The data set for total lead concentrations at all depths was statistically analyzed. The histogram plot of the raw data did not appear to be normally distributed; however, the transformed data set appeared to be normally distributed, but skewed. It should be noted however, that the statistical tests for normal and log-normal distributions were positive. The following summary statistics were generated, including calculation of the 95 percent upper confidence limit on the mean (95 percent UCL).

Total Lead (all depths)	
Mean (mg/kg)	59.69
Standard Error	15.38
Median (mg/kg)	15.90
Mode (mg/kg)	11.90
Standard Deviation	140.08
Sample Variance	19623.11
Kurtosis	22.92
Skewness	4.48
Range	939.67
Minimum (mg/kg)	2.33
Maximum (mg/kg)	942
Count	83
95 Percent UCL (mg/kg)	
Student's-t (Assuming Normal Distribution)	85.27
95 percent H-UCL (Assuming Log Normal Distribution)	63.44
Standard Bootstrap (Assuming Non-Parametric)	85.70

Notes:
mg/kg – milligrams per kilogram
UCL – upper confidence limit on the mean

As observed, the 95 percent UCL varies between 63 milligrams per kilogram (mg/kg), assuming a log normal distribution to 85 mg/kg for normal or non-parametric distributions. Since the distribution did not pass the normal or log-normal tests, the non-parametric value of 85.7 mg/kg is recommended as the 95 percent UCL value for this data set.

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D1.2. Total Lead Concentrations – Less than 1 foot bgs

The data subset for total lead concentrations at depths of less than one foot below ground surface (bgs) was statistically analyzed. The histogram plot of the raw data did not appear to be normally distributed; however, the transformed data set appeared to be normally distributed. The statistical test for log-normal distribution was positive. The following summary statistics were generated, including calculation of the 95 percent UCL.

Total Lead <1 foot depth bgs	
Mean (mg/kg)	130.84
Standard Error	39.12
Median (mg/kg)	32.95
Standard Deviation	214.27
Sample Variance	45913.35
Kurtosis	7.22
Skewness	2.61
Range	937.33
Minimum (mg/kg)	4.67
Maximum (mg/kg)	942
Count	30
95 percent H-UCL (Log Normal Distribution) (mg/kg)	300.82

Notes:
bgs – below ground surface
mg/kg – milligrams per kilogram
UCL – upper confidence limit on the mean

The recommended 95 percent UCL for this subset is 300.8 mg/kg.

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D1.3. Total Lead Concentrations – Top 2 feet bgs

The data subset for total lead concentrations in the top two feet of the project site was statistically analyzed. The data subset did not meet the statistical tests for normal or log-normal distribution. The following summary statistics were generated, including calculation of the 95 percent UCL.

Total Lead in the top 2 feet bgs	
Mean (mg/kg)	79.18
Standard Error	21.53
Median (mg/kg)	17.60
Standard Deviation	163.97
Sample Variance	26887.22
Kurtosis	15.45
Skewness	3.70
Range	938.71
Minimum (mg/kg)	3.29
Maximum (mg/kg)	942
Count	58
Standard Bootstrap 95 percent UCL (Non-parametric) (mg/kg)	115.07

Notes:
bgs – below ground surface
mg/kg – milligrams per kilogram
UCL – upper confidence limit on the mean

The recommended 95 UCL for this subset is 115.1 mg/kg.

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D1.4. Total Lead Concentrations – Between 1 and 2 feet bgs

The data subset for total lead concentrations at depths equal to and greater than 1 foot bgs but shallower than 2 feet bgs was statistically analyzed. The histogram plot of the raw data did not appear to be normally distributed; however, the transformed data set appeared to be normally distributed. The statistical test for log-normal distribution was positive. The following summary statistics were generated, including calculation of the 95 percent UCL.

Total Lead (1-2 feet bgs)	
Mean (mg/kg)	23.84
Standard Error	6.83
Median (mg/kg)	13.10
Standard Deviation	36.14
Sample Variance	1306.06
Kurtosis	13.19
Skewness	3.47
Range	175.71
Minimum (mg/kg)	3.29
Maximum (mg/kg)	179
Count	28
95 percent H-UCL (Log Normal Distribution) (mg/kg)	32.74

Notes:
bgs – below ground surface
mg/kg – milligrams per kilogram
UCL - upper confidence limit on the mean

The recommended 95 percent UCL for this subset is 32.7 mg/kg.

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D1.5. Total Lead Concentrations – 2 feet and deeper

The data subset for total lead concentrations at depths equal to and greater than 2 feet bgs was statistically analyzed. The histogram plot of the raw data was normally distributed and the statistical test for normality was positive. The following summary statistics were generated, including calculation of the 95 percent UCL.

Total Lead (>2 feet bgs)	
Mean (mg/kg)	14.45
Standard Error	2.35
Median (mg/kg)	11.30
Mode (mg/kg)	16.60
Standard Deviation	11.75
Sample Variance	138.06
Kurtosis	5.10
Skewness	2.11
Range	51.27
Minimum (mg/kg)	2.33
Maximum (mg/kg)	53.6
Count	25
Student's-t (Normal Distribution) (mg/kg)	18.47

Notes:
bgs – below ground surface
mg/kg – milligrams per kilogram

The recommended 95 percent UCL for this subset is 18.5 mg/kg.

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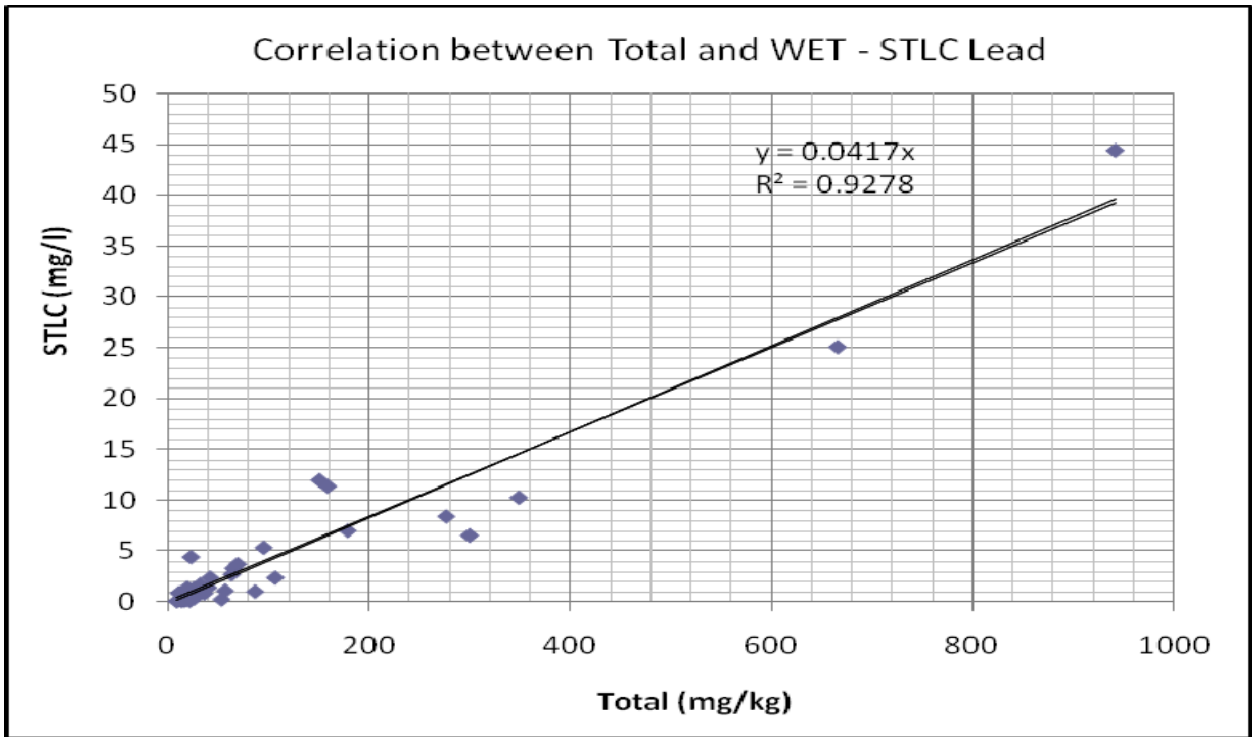
D1.6. Leaching Lead Concentrations (WET – STLC)

The data set for leaching lead concentrations analyzed by the Waste Extraction Test (WET) for comparison with the Soluble Threshold Limit Concentration (STLC) as defined in the California Code of Regulations (CCR) Title 22 consists of 53 sample results. Of these, 8 samples were non-detect. To evaluate a reasonable correlation between the total lead concentrations and the leaching concentrations, the detected leaching concentrations were plotted against the corresponding total concentrations from the sample. The resulting linear correlation showed an R^2 value of 0.88.

On further evaluation of the data set, which included excluding one or more data points that may be outliers, it was determined that the R^2 value improved to 0.92 when the outlier value of total and leaching concentrations from the sample collected at location HA-16 at a depth of 0.5 feet below ground surface were removed from the correlation. The resulting slope for this correlation is 0.04. The potential leaching concentrations of the other samples were estimated from the total concentration using this linear relationship and were used in the calculations presented in Sections D1.6.1 through D1.6.4.



The data set for leaching lead concentrations (WET – STLC) for all depths was statistically analyzed. The statistical tests indicated that the data set was not normally or log normally distributed. The following summary statistics were generated, including calculation of the 95 percent UCL.

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Leaching Concentrations (WET-STLC) for all depths	
Mean (mg/L)	2.26
Standard Error	0.65
Median (mg/L)	0.46
Mode	0.50
Standard Deviation	5.91
Sample Variance	34.89
Kurtosis	34.07
Skewness	5.40
Range	44.30
Minimum (mg/L)	1.10
Maximum (mg/L)	11.40
Count	83
95 percent H-UCL (Log Normal Distribution) (mg/L)	3.29

Notes:

bgs – below ground surface
mg/L – milligrams per liter
STLC – soluble threshold limit concentration
UCL – upper confidence limit on the mean
WET – waste extraction test

The recommended 95 percent UCL for this data set is 3.3 milligrams per liter (mg/L).

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D1.6.1. Leaching Lead Concentrations (WET – STLC) at depths <1 foot bgs

The data subset for leaching lead concentrations at depths less than 1 foot bgs was statistically analyzed. Similar to the larger dataset, the data subset met the test for log normal distribution. The following summary statistics were generated, including calculation of the 95 percent UCL.

Leaching Concentrations (WET-STLC) for depths <1 foot bgs	
Mean (mg/L)	4.81
Standard Error	1.68
Median (mg/L)	1.11
Standard Deviation	9.21
Sample Variance	84.91
Kurtosis	12.19
Skewness	3.30
Range	44.28
Minimum (mg/L)	0.12
Maximum (mg/L)	44.40
Count	30
95 percent H-UCL (Log Normal Distribution) (mg/L)	12.30

Notes:
bgs – below ground surface
mg/L – milligrams per liter
STLC – soluble threshold limit concentration
UCL – upper confidence limit on the mean
WET – waste extraction test

The recommended 95 percent UCL for this data subset is 12.3 mg/L.

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D1.6.2. Leaching Lead Concentrations (WET – STLC) – Top 2 feet bgs

The data subset for leaching lead concentrations in the top two feet bgs was obtained from the calculated data set for all depths correlated with total lead concentrations. This data subset did not meet the test for normal or log normal distribution. The following summary statistics were generated, including calculation of the 95 percent UCL.

Leaching Concentrations (WET-STLC) in top 2 feet bgs	
Mean (mg/L)	2.96
Standard Error	0.91
Median (mg/L)	0.61
Standard Deviation	6.94
Sample Variance	48.18
Kurtosis	23.77
Skewness	4.53
Range	44.28
Minimum (mg/L)	0.12
Maximum (mg/L)	44.40
Count	58
Standard Bootstrap 95 percent UCL (Non-Parametric) (mg/L)	4.41

Notes:
bgs – below ground surface
mg/L – milligrams per liter
STLC – soluble threshold limit concentration
UCL – upper confidence limit on the mean
WET – waste extraction test

The recommended 95 percent UCL for this data subset is 4.4 mg/L.

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D1.6.3. Leaching Lead Concentrations (WET – STLC) at depths between 1 and 2 feet bgs

The data subset for leaching lead concentrations at depths equal to or greater than 1 foot bgs, but less than 2 feet bgs was statistically analyzed. This data subset did not meet the tests for normal or log normal distribution. The following summary statistics were generated, including calculation of the 95 percent UCL.

Leaching Concentrations (WET-STLC) for depths between 1 and 2 feet bgs	
Mean (mg/L)	0.97
Standard Error	0.31
Median (mg/L)	0.40
Standard Deviation	1.62
Sample Variance	2.64
Kurtosis	8.38
Skewness	2.95
Range	6.90
Minimum (mg/L)	0.14
Maximum (mg/L)	7.04
Count	28
Standard Bootstrap UCL (Non-Parametric) (mg/L)	1.47

Notes:
bgs – below ground surface
mg/L – milligrams per liter
STLC – soluble threshold limit concentration
UCL – upper confidence limit on the mean
WET – waste extraction test

The recommended 95 percent UCL for this data subset is 1.5 mg/L.

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D1.6.4. Leaching Lead Concentrations (WET – STLC) at depths equal to or greater than 2 feet bgs

The data subset for leaching lead concentrations at depths equal to or greater than 2 feet bgs was statistically analyzed. This data subset also did not meet the tests for normal or log normal distribution. The following summary statistics were generated, including calculation of the 95 percent UCL.

Leaching Concentrations (WET-STLC) for depths >2 feet bgs	
Mean (mg/L)	0.63
Standard Error	0.18
Median (mg/L)	0.36
Mode	0.69
Standard Deviation	0.92
Sample Variance	0.84
Kurtosis	13.50
Skewness	3.56
Range	4.35
Minimum (mg/L)	0.10
Maximum (mg/L)	4.45
Count	25
Standard Bootstrap UCL (Non-Parametric) (mg/L)	0.94

Notes:
bgs – below ground surface
mg/L – milligrams per liter
STLC – soluble threshold limit concentration
UCL – upper confidence limit on the mean
WET – waste extraction test

The recommended 95 percent UCL for this data subset is 0.9 mg/L.

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D1.7. Leaching Lead Concentrations (WET – DI)

The data set for leaching lead concentrations analyzed by the WET using deionized (DI) water consists of 22 sample results, of which 12 are non-detect. To evaluate a reasonable correlation between the total lead concentrations and the leaching concentrations, the detected leaching concentrations were plotted against the corresponding total concentrations from the sample. A valid correlation could not be found between the two data sets. Accordingly, the data set of 22 sample results was statistically analyzed. The statistical tests indicated that the data set is not normally or log-normally distributed. The following summary statistics were generated, including calculation of the 95 percent UCL.

Leaching Concentrations (WET-DI)	
Mean (mg/L)	0.22
Standard Error	0.05
Median (mg/L)	0.10
Mode	0.10
Standard Deviation	0.24
Sample Variance	0.06
Kurtosis	7.37
Skewness	2.66
Range	0.98
Minimum (mg/L)	0.10
Maximum (mg/L)	1.08
Count	22
Standard Bootstrap UCL (Non-Parametric) (mg/L)	0.31

Notes:
bgs – below ground surface
mg/L – milligrams per liter
STLC – soluble threshold limit concentration
UCL – upper confidence limit on the mean
WET-DI – waste extraction test using deionized water as the extractant

Within the data set, only three data points were reported in soil collected between 1 and 2 feet bgs and three were from samples collected at depths greater than 2 feet bgs. All data points in the 1 to 2 feet bgs depth range were non-detect and two out of three data points in the 2 feet bgs and deeper range were non-detect. Separate descriptive statistical summaries were not generated for the depth ranges and the recommended 95 percent UCL for the WET – DI data set is 0.3 mg/L.

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D1.7.1. Leaching Lead Concentrations (WET – DI) – Top 2 feet bgs

Since a valid correlation does not exist between the measured total lead concentrations and leaching lead concentrations analyzed by the Waste Extraction Test using DI water, the measured data subset in the top two feet was used to estimate the 95 percent UCL. The statistical tests indicated that the data subset was not normally or log-normally distributed. The following summary statistics were generated, including calculation of the 95 percent UCL.

Leaching Lead Concentrations (WET-DI) top 2 feet	
Mean (mg/L)	0.23
Standard Error	0.06
Median (mg/L)	0.11
Mode	0.10
Standard Deviation	0.26
Sample Variance	0.07
Kurtosis	6.84
Skewness	2.62
Range	0.98
Minimum (mg/L)	0.10
Maximum (mg/L)	1.08
Count	18
Standard Bootstrap 95 percent UCL (Non-Parametric) (mg/L)	0.33

Notes:
bgs – below ground surface
mg/L – milligrams per liter
STLC – soluble threshold limit concentration
UCL – upper confidence limit on the mean
WET-DI – waste extraction test using deionized water as the extractant

The recommended 95 percent UCL for the data subset is 0.3 mg/L.

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D1.8. Leaching Lead Concentrations (TCLP)

The data set for leaching lead concentrations analyzed by the Toxicity Characteristic Leaching Procedure as defined in the Code of Federal Regulations (CFR) Title 40 Part 261, consists of 15 sample results, of which 6 were non-detect. To evaluate a reasonable correlation between the total lead concentrations and the leaching concentrations, the detected leaching concentrations were plotted against the corresponding total concentrations from the sample. A valid correlation could not be found between the two data sets. Accordingly, the data set of 15 sample results was statistically analyzed. The statistical tests indicated that the data set was not normally or log-normally distributed. The following summary statistics were generated, including calculation of the 95 percent UCL.

Leaching Concentrations (TCLP)	
Mean (mg/L)	0.85
Standard Error	0.38
Median (mg/L)	0.20
Mode	0.10
Standard Deviation (mg/L)	1.49
Sample Variance	2.21
Kurtosis	7.13
Skewness	2.62
Range	5.41
Minimum (mg/L)	0.10
Maximum (mg/L)	5.51
Count	15
Standard Bootstrap UCL (Non-Parametric) (mg/L)	1.45

Notes:
mg/L – milligrams per liter
TCLP – toxicity characteristic leaching procedure
UCL – upper confidence limit on the mean

Within the data set, only two data points were from samples collected between 1 and 2 feet bgs and none were from samples collected at depths greater than 2 feet bgs. Separate descriptive statistical summaries were not generated for the depth ranges and the recommended 95 percent UCL for the TCLP data set is 1.5 mg/L.

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D1.8.1. Leaching Lead Concentrations (TCLP) – Top 2 feet bgs

All 15 measured values in the TCLP data set were from samples in the top 2 feet bgs. Since no valid correlation exists between the total lead concentrations and the leaching TCLP values, the 15 measured values comprised the data subset. The statistical tests indicated that the data set was not normally or log-normally distributed. The following summary statistics were generated, including calculation of the 95 percent UCL.

Leaching Concentrations (TCLP) in the top 2 feet bgs	
Mean (mg/L)	0.85
Standard Error	0.38
Median (mg/L)	0.20
Mode	0.10
Standard Deviation	1.49
Sample Variance	2.21
Kurtosis	7.13
Skewness	2.62
Range	5.41
Minimum (mg/L)	0.10
Maximum (mg/L)	5.51
Count	15
Standard Bootstrap 95 percent UCL (Non-Parametric) (mg/L)	1.45

Notes:
bgs – below ground surface
mg/L – milligrams per liter
TCLP – toxicity characteristic leaching procedure
UCL – upper confidence limit on the mean

The recommended 95 percent UCL for the TCLP data set is 1.5 mg/L.

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D1.9. Summary

The recommended 95 percent UCL for the various data sets/subsets are summarized below.

Data Sets	Complete Data Set	Depth Range 0 to 1 foot bgs	Depth Range 0 to 2 feet bgs	Depth Range 1 to 2 feet bgs	Depth Range ≥ 2 feet bgs
Total Lead (mg/kg)	85.7	300.8	115.1	32.7	18.5
Leaching Lead (WET - STLC) (mg/L)	3.3	12.3	4.4	1.5	0.9
Leaching Lead (WET - DI) (mg/L)	0.3	NC	0.3	NC	NC
Leaching Lead (TCLP) (mg/L)	1.5	NC	1.5	NC	NC

Notes:

bgs – below ground surface
mg/kg – milligrams per kilogram
mg/L – milligrams per liter
NC – not calculated
STLC - soluble threshold limit concentration
TCLP – toxicity characteristic leaching procedure
WET – waste extraction test
WET-DI – waste extraction test using deionized water as the extractant

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Field Office
2730 Loker Avenue West
Carlsbad, California 92008

AUG 01 1997

David H. Densmore
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
980 Ninth Street, Suite 400
Sacramento, California 95814-2724

Attn: Mr. Jeff Lewis, Senior Transportation Engineer

Re: Biological Opinion on Nobel Drive/I-805 Interchange and Extension Project, San Diego County, California (1-6-97-F-30)

Dear Mr. Densmore

This Biological Opinion responds to your request for formal consultation with the Fish and Wildlife Service (Service) pursuant to section 7 of the Endangered Species Act of 1973, as amended (Act). Your request was dated March 11, 1997, and received by us on March 13, 1997. At issue are the effects that the Nobel Drive/I-805 Interchange and Extension Project may have on the coastal California gnatcatcher (*Polioptila californica californica*), a federally threatened species.

This Biological Opinion was prepared using the following sources of information: contained in your March 11, 1997 request for consultation, Environmental Impact Report/Environmental Impact Statement (EIR/EIS) dated July 1997, Biological Assessment dated March 11, 1997, and supplemental information to the Biological Assessment dated July 2, 1997; obtained during informal consultation between our staffs; and contained in our files. In addition, information was also acquired from staff at Naval Air Station (NAS) Miramar and from the Biological Opinion (1-6-95-F-33) that was issued to the Navy to address the realignment of the base to the Marine Corps.

BIOLOGICAL OPINION

It is the opinion of the Service that the proposed project is not likely to jeopardize the continued existence of the coastal California gnatcatcher. No critical habitat has been designated for this species. Therefore, the proposed action would not adversely modify critical habitat.

FROM :DESIGN DIVISION 1 619 533 3071 1997-08-04 16:07 #126 P.02/13

DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action would involve the extension of Nobel Drive easterly from its current terminus at Shoreline Drive to a new "T" or 3-way signalized intersection with Miramar Road, and would include the construction of two bridges, one over I-805 and one over a large drainage area to the east. A half-diamond interchange at Nobel Drive/I-805 would involve construction of on- and off-ramps south of the Nobel Drive Bridge. Interstate 805 would be widened by 12 feet in both directions, including the bridges over Rose Canyon. The Overpass at the I-805/Governor Drive interchange and Miramar Road from I-805 to just east of Eastgate Mall would be widened from six lanes to eight. Improvements would also be made to the I-805/La Jolla Drive/Miramar Road interchange, including changing from a full cloverleaf to a partial cloverleaf. (See Figure 1)

The proposed action contains the following measures which will be implemented as part of the project in order to avoid or otherwise minimize potential adverse effects of the action on listed species:

1. The loss of 8.84 acres of suitable gnatcatcher habitat will be mitigated offsite through contribution of funds for acquisition of lands with similar or greater habitat values.

2. During construction, no activity will occur in shrub land habitat within 500 feet of active nesting territories of the gnatcatcher.

3. All clearing and grubbing activity in shrub land habitats shall occur between August 31 and February 1.

4. Construction limits will be fenced with orange snow screen, or equivalent, to prevent habitat loss or indirect effects to adjacent habitat.

5. In order to avoid possible direct and indirect effects to vernal pools and other sensitive habitats from construction activities the following measures will be implemented:

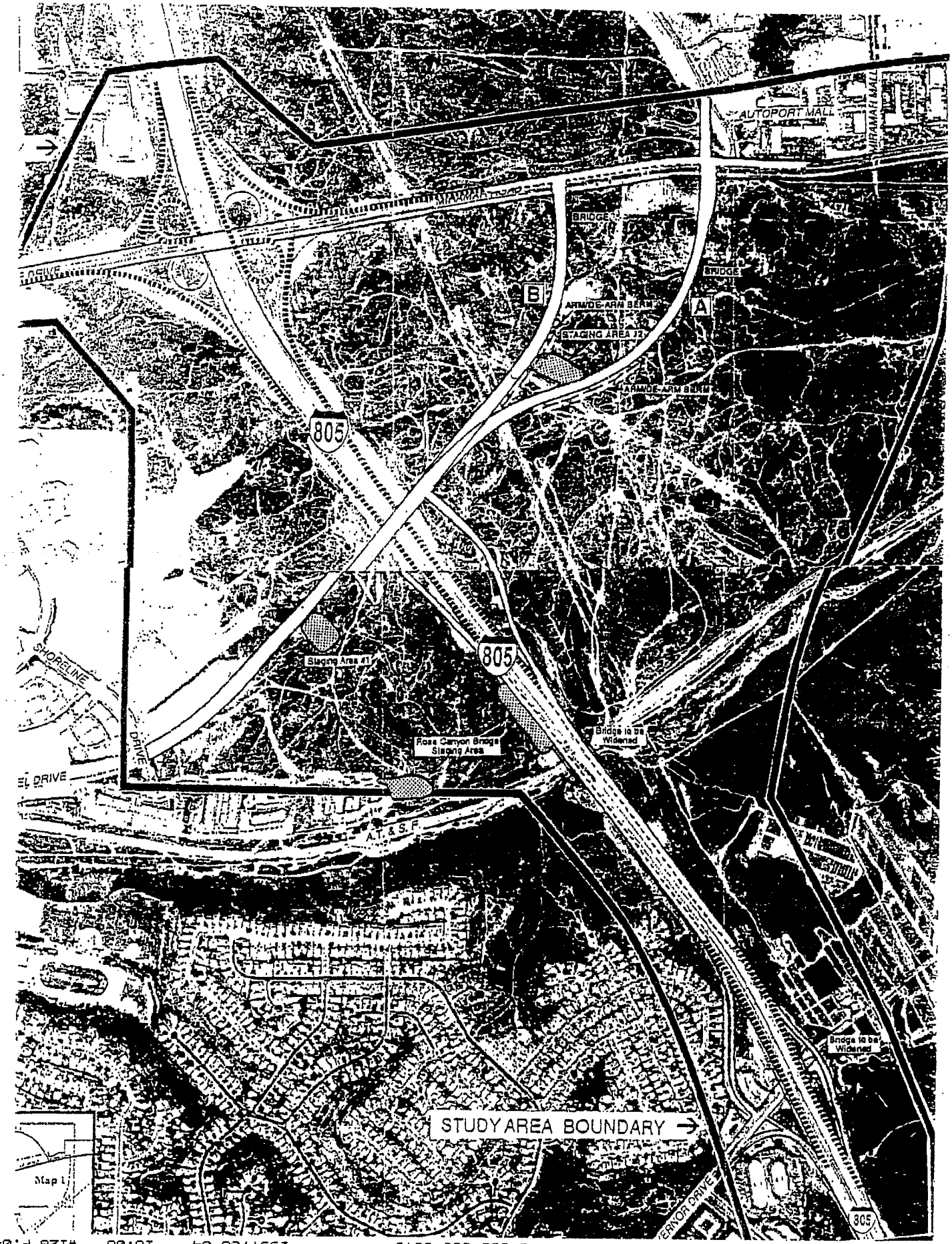
    a. The roadway alignment and grading is designed to avoid vernal pools and their drainage areas.

    b. Where roadway embankments will slope away from Nobel Drive toward a vernal pool, a brow ditch will be added at the toe of slope to avoid a change to the hydrology of the vernal pool.

    c. Constructed embankments (both cut and fill) will be finished with erosion control.

FROM DESIGN DIVISION

Figure 1. Proposed Project - Alternative B



FROM :DESIGN DIVISION 1 619 533 3071 1997,08-04 16:08 #126 P.04/13

d. Sensitive habitats will be shown on the construction plans.

e. Permanent chain link fencing, 8 feet high with 3 strands of barbed wire on top, will be installed along both sides of Nobel Drive from I-805 to Miramar Road.

f. During construction, the entire limits of clearing will be physically defined and temporary fencing will be installed adjacent to sensitive habitats.

g. During construction, temporary erosion control measures will be required of the construction contractor.

h. Prior to construction, a contractor education program will be implemented.

EFFECTS OF THE PROPOSED ACTION ON THE LISTED SPECIES

Species Account

Coastal California Gnatcatcher

The coastal California gnatcatcher is the recognized nominate subspecies of the California gnatcatcher (Polioptilla californica [Brewster]) and is endemic to coastal southern California and northwestern Baja California, Mexico (American Ornithologists' Union 1983, 1989; Atwood 1980, 1988, 1990, 1991). The gnatcatcher, a small, gray songbird, is an obligate resident of coastal sage scrub dominated plant communities from Los Angeles County generally south along the coast to the United States/Mexico border (see, for instance, Grinnell and Miller 1944; Garrett and Dunn 1981). Coastal sage scrub occurs in a patchy or mosaic pattern due to the expressed effects of a variety of variables.

Typical coastal sage scrub habitat constituents are relatively low-growing, drought-deciduous, and succulent plant species. Representative plant taxa in this plant community include coastal sagebrush (*Artemisia californica*), several species of sage (*Salvia* spp.), California buckwheat (*Eriogonum fasiculatum*), California encelia (*Encelia californica*), various species of cactus and cholla (*Opuntia* spp.), and several species of *Happlopappus* (Kirkpatrick and Hutchinson 1980). Of the 11 subassociations of coastal sage scrub identified by Kirkpatrick and Hutchinson (1977), the gnatcatcher apparently routinely occupies only three of these. On NAS Miramar, broom baccharis (*Baccharis sarothroides*) is also a dominant shrub component of the occupied gnatcatcher habitat.

The gnatcatcher is primarily insectivorous and defends breeding territories ranging in size from approximately 2 to 40 acres (Atwood 1990). Documented breeding season territory sizes at NAS Miramar in 1994 averaged 8.4 acres, and ranged from 5.0 to 12.3 acres. Atwood's comprehensive studies (1988, 1991) and status review (1990) further reveal that the breeding season of the species extends from February through July, and it apparently peaks in April.

However, substantial data exist indicating fledging can successfully occur into August. Juveniles associate with their parents for several weeks or even months after fledging.

Although considered locally common fewer than 50 years ago (Grinnell and Miller 1944), Atwood (1990) concluded that the current United States population is almost certainly less than 2,000 pairs. The documented decline of the gnatcatcher undoubtedly is the result of numerous factors, including nest depredation and brood parasitism by the essentially non-native brown-headed cowbird (*Molothrus ater*), and habitat destruction, fragmentation or modification (Garret and Dunn 1981). It has been estimated that as much as 90 percent of coastal sage scrub vegetation has been lost as a result of development and land conversion (see Westman 1981a, 1981b; Barbour and Major 1977), leaving coastal sage scrub as one of the most depleted habitat types in the United States (Kirkpatrick and Hutchinson 1977; Axelrod 1978; Klopatek *et al.* 1979; Westman 1987; O'Leary 1990).

Primarily because of substantial, recent reductions in the habitat and range of the species and the inadequacy of existing regulations, the Service listed the gnatcatcher as threatened (*Federal Register* 58(59):16742-16757, March 30, 1993). Pursuant to section 4(d) of the Act, a special rule authorizes incidental take of the gnatcatcher in conjunction with an approved plan pursuant to the California Natural Community Conservation Planning Act (NCCP).

Fifty-one point localities representing single individuals or pairs of gnatcatchers were observed on west of Interstate 15 on NAS Miramar; most of these occurred in either Rose Canyon or San Clemente Canyon. These data are from an unpublished 1995 study of gnatcatchers on NAS Miramar by Hunsaker, Cox, O'Leary, and Awbrey. Six pairs of gnatcatchers were observed in the study area by Merkel and Associates during spring surveys in 1995.

Analysis of Impacts

Construction of the Nobel Drive/I-805 Interchange and Extension Project would result in the loss of 8.84 acres of suitable habitat for the California gnatcatcher and affect at least three known active use areas for the gnatcatcher. Construction of the proposed project will result in the isolation of approximately 66 acres of native habitat between I-805, Miramar Road and the future Nobel Drive. In addition, native habitat west of I-805 will be further divided into parcels north and south of the extension of Nobel Drive. Isolation of natural lands would be expected to result in lowering of wildlife resources and a decline in habitat values as a result of diminished linkage to other natural areas and a greater degree of edge effects (EIR/EIS). Studies suggest that gnatcatchers may be highly sensitive to the effects of habitat fragmentation and development activity (Soule et al. 1988). Therefore, indirect impacts, including edge effects and fragmentation, may affect the other three pairs of gnatcatchers in the area. Furthermore, it may preclude the occupation of the area by new birds. The Service estimates the acreage of indirect impacts to be approximately 12 acres. This assessment is based on an estimate of an 100 foot edge effect on both sides of the road from I-805 to Miramar Road and is consistent with how impacts were assessed for the BRAC.

FROM :DESIGN DIVISION 1 619 533 3071 1997.08-04 16:12 #126 P.06/13

The Marine Corps is currently developing a Multispecies Habitat Management Plan (MHMP), which will integrate MCAS Miramar's military mission requirements with the conservation of natural resources based on ecosystem management principles. The approximately 20 acres of Federal land to be isolated from the Main Station by the extension of Nobel Drive is predominately suitable gnatcatcher habitat as is the City owned Pueblo Lands. This area was identified as a biological core linkage area and is an important and essential component of any viable preserve system for western San Diego County. In addition, the City's Pueblo Lands that are being isolated by this project are identified as being within the preserve for the MSCP. The open space on the Base currently provides a link between the undeveloped lands in the eastern part of the county, in Mission Gorge, and remnants of native vegetation on the coast. The effects of the proposed action reduce the opportunities for multispecies planning on the Base and for connectivity between the Base and the surrounding landscape. In addition, the quality of habitat on the City owned property may be diminished through isolation, and therefore contribute less to the overall preserve than was anticipated.

In addition to the effects of isolation, the Service is also concerned about the potential effects of roadside fire upon habitats and sensitive species. Studies have revealed that a significant percentage of fires in natural habitats occur near roads (Texas Transportation Institute, 1993). Just last year, a fire was started on the Base from a cigarette thrown out the window along Interstate 805 just south of the project area. The proposed extension of Nobel Drive will likely increase the chance of fire within the adjacent open space during both construction and operation of the roadway.

CUMULATIVE EFFECTS

Cumulative effects are those impacts of future non-Federal (State, local government, or private) activities on endangered or threatened species or critical habitat that are reasonably certain to occur during the course of the Federal activity subject to consultation. Future Federal actions are subject to the consultation requirements established in section 7 of the Act and, therefore, are not considered cumulative in the proposed project.

Rapid urbanization of areas adjacent to or within coastal sage scrub poses a significant threat to the coastal California gnatcatcher. In general, the growth rate of human populations and associated urban development in San Diego County and along the northern border of Baja California is equal to or exceeds that of any other region in California. The majority of activities anticipated to affect gnatcatchers within the foreseeable future are local urban development projects with no Federal involvement. Additional impacts which are adversely affecting the habitat of this species include an increased fire frequency, cowbird parasitism, and expansion of urban and agricultural development which limit the distribution and potential recovery of the gnatcatcher.

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SUMMARY

After reviewing the current status of the gnatcatcher, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the gnatcatcher.

We present this conclusion for the following reasons:

1. The area to be directly disturbed as a result of the proposed action is small compared to the overall range of the gnatcatcher.

2. The direct, indirect, and cumulative impacts of construction of the proposed project will be offset through the purchase of property that will contribute to the City of San Diego's multiple species preserve.

INCIDENTAL TAKE

Section 9 of the Act prohibits the take of listed species without special exemption. Taking is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Under the terms of section 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take statement. For the exemption in section 7(o)(2) of the Act to apply, the FHWA must fully regulate the activity covered by this incidental take statement. If the FHWA (1) fails to require permittees to adhere to the terms and conditions of the incidental take statement, or (2) fails to monitor compliance with the incidental take statement's terms and conditions through program evaluation activities, the protective coverage of 7(o)(2) of the Act may lapse. The terms and conditions described below are nondiscretionary, and must be undertaken by the agency or made a binding condition of any grant or permit, as appropriate.

Amount/Extent of Take

The Service anticipates that 3 pairs of gnatcatchers could be harmed as a result of this proposed action. The take may be in the form of harm and harassment as a result of the removal of 8.48 acres of suitable gnatcatcher habitat, including portions of three known territories, and indirect disturbances to the surrounding habitat during project construction or operation activities.

If, during the course of the action, the amount or extent of the incidental take limit is reached, the FHWA shall immediately notify the Service in writing as required by 50 CFR 402.14(I). If the

FROM :DESIGN DIVISION 1 619 533 3071 1997,08-04 15:15 #126 P.08/13

incidental take limit is exceeded, the FHWA should immediately cease the activity resulting in the take, and reinitiate consultation with the Service. The FHWA should provide an explanation of the causes of the taking.

To the extent that this statement concludes that take of any threatened or endangered species of migratory bird will result from the agency action for which consultation is being made, the Service will not refer the incidental take of any such migratory bird for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

Reasonable and Prudent Measures

The following Reasonable and Prudent Measures are necessary and appropriate to minimize incidental take.

1. The FHWA shall ensure that the City of San Diego minimizes the destruction of gnatcatcher habitat and provides compensation for unavoidable impacts.

2. The FHWA shall ensure that the City of San Diego minimizes impacts to occupied gnatcatcher territories during construction activities.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, FHWA is responsible for compliance with the following terms and conditions, which implement the reasonable and prudent measures described above.

1. To implement Reasonable and Prudent Measure Number 1, the project proponent shall implement the following Terms and Conditions:

   a. The loss of 8.84 acres of suitable gnatcatcher habitat shall be mitigated offsite at a 2:1 ratio through contribution of funds for acquisition of lands with similar or greater habitat values prior to the start of construction. The City has already contributed monies from the project equivalent to 21 acres of mitigation that went towards the purchase of MSCP lands on Carmel Mountain.

   b. Indirect impacts, including fragmentation and edge effects, should be mitigated offsite at a 1:1 ratio. The Service calculates this acreage to be approximately 12 acres. The conservation of either the Pueblo Lands adjacent to I- 805 and north of Eastgate Mall or through the contribution of funds for acquisition of lands with similar or greater habitat values are acceptable mitigation locations. Currently the City is considering parcels in the Del Mar Mesa area.

FROM :DESIGN DIVISION 1 619 533 3071 1997,08-04 16:15 #126 P.09/13

2. To implement Reasonable and Prudent Measure Number 2 the project proponent shall implement the following Terms and Conditions:

   a. All clearing and grubbing activity in shrub land habitats shall occur between August 31 and February 1.

   b. During construction, no activity will occur within 500 feet of active nesting territories of the gnatcatcher.

   c. Construction limits will be fenced with orange snow screen.

   d. Unauthorized destruction of coastal sage scrub or other suitable gnatcatcher habitat shall be offset at a 5:1 ratio.

   e. All street lights shall be shielded so as not to shine on native habitat.

Disposition of Sick, Injured, or Dead Specimens

The Service's Carlsbad Office is to be notified within three working days should any threatened species be found dead or injured during this project. Notification must include the date, time, and location of the carcass, and any other pertinent information. Dead animals may be marked in an appropriate manner, photographed, and left on-site. Injured animals should be transported to a qualified veterinarian. Should any treated animals survive, the Service should be contacted regarding the final disposition of the animals. The Service contact person is Ms. Susan Wynn and may be contacted at the letterhead address or at (760) 431-9440.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The recommendations provided here relate only to the proposed action and do not necessarily represent complete fulfillment of the agency's 7(a)(1) responsibility for these species.

1. Given the sensitivity of the wildlife habitats on NAS Miramar and in coastal San Diego County, FHWA should continue to assist the City of San Diego in developing and implementing traffic demand management strategies and techniques which would preclude the need to widen existing roads in the area, including Miramar Road and Eastgate Mall.

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In order for the Service to be kept informed of actions that either minimize or avoid adverse effects or that benefit listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

Conclusion

This concludes formal consultation on the Nobel Drive/I-805 Interchange and Extension Project. As required by 50 CFR 402.16, reinitiation of formal consultation is required if the action is significantly modified in a manner not discussed above, if new information becomes available on listed species or impacts to listed species, or if the incidental take limit is exceeded. We would appreciate notification of your final decision on this matter. Any questions or comments should be directed to Ms. Susan Wynn of my staff at (760) 431-9440.

Sincerely,

Gail C. Kobetich

Gail C. Kobetich
Field Supervisor

cc: EPA (attn: Dave Carlson)
BRAC (attn: Bruce Schaffer)

FROM :DESIGN DIVISION 1 619 533 3071 1997,08-04 16:17 #126 P.11/13

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FROM :DESIGN DIVISION 1 619 533 3071 1997-08-04 16:18 #126 P.13/13

MATERIALS INFORMATION BROCHURE
LA JOLLA VILLAGE DRIVE/INTERSTATE 805 INTERCHANGE PROJECT
CALTRANS DISTRICT 11
COUNTY OF SAN DIEGO
SAN DIEGO, CALIFORNIA

PREPARED FOR:
Boyle Engineering Corporation
7807 Convoy Court, Suite 200
San Diego, California 92111

PREPARED BY:
Ninyo & Moore Geotechnical and Environmental Sciences Consultants
5710 Ruffin Road
San Diego, California 92123

CALTRANS FILE: NO. 11-SD-805
K.P 40.9 TO 42.5
11/CU 11223/EA 089751

December 30, 2003
(Revised May 3, 2004)
Project No. 104765001

December 30, 2003
(Revised May 3, 2004)
Project No. 104765001

Mr. Greg Campbell
Boyle Engineering Company
7807 Convoy Court, Suite 200
San Diego, California 92111

Subject: Materials Information Brochure
La Jolla Village Drive/Interstate 805 Interchange Project
K.P 40.9 to 42.5
San Diego, California
11/CU 11223/EA 089751

Dear Mr. Campbell:

In accordance with the request and authorization of Boyle Engineering Company, we have completed a Materials Information Brochure for the improvements to the La Jolla Village Drive/Interstate 805 Interchange Project.

We appreciate the opportunity to be of service on this project. If you have questions regarding this brochure, please contact the undersigned.

Respectfully submitted,
NINYO & MOORE

Erik Olsen, G.E.
Chief Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
ERIK OLSEN
No. 2218
Exp. 3/31/06
GEOTECHNICAL
STATE OF CALIFORNIA

Rándal L. Irwin, C.E.G.
Chief Engineering Geologist

REGISTERED GEOLOGIST
Randal L. Irwin
No.1521
Certified
Engineering
Geologist
Exp. 9/30/05
STATE OF CALIFORNIA

RTW/EP/EO/RI/rlm/msf

Distribution: (6) Addressee

TABLE OF CONTENTS

Page

1. R-VALUES 1
2. CORROSION ANALYSIS 1
3. RECOMMENDED CULVERT ALTERNATIVES 1
4. GROUNDWATER 2
5. GRADING FACTORS 2
6. EARTHWORK QUANTITIES 2
7. MATERIAL SOURCES 2

Tables

Table 1 – R-Value Test Results 1
Table 2 – Eligible Mining Operations 3

1. R-VALUES

Two samples of soil from the proposed areas of widening within La Jolla Village Drive /I-805 Interchange were tested and found to have the resistance values (R-values) indicated in Table 1.

Table 1 – R-Value Test Results

Boring No. and Depth (m)	Location	R-value
02-4 @ 0.3 – 1.8 m	Sta 428+45, 107m Left	18
02-7 @ 0.6 – 1.5 m	Sta 426+50, 115m Left	34

2. CORROSION ANALYSIS

The corrosion potential of the on-site materials within the alignment was based on analyses of corrosivity tests performed on samples from the subsurface evaluation. The soils were analyzed to evaluate the effect of corrosion on underground culverts and structures. The samples obtained were considered representative of soils at various locations within the limits of the subject project. A corrosion test report has not been prepared for this project.

Laboratory test results indicate that the pH of on-site soil of 7.5. The sulfate content was 300 parts per million (ppm) and chloride content was 360 ppm. Minimum electrical resistivity of the sample tested was 7 500 ohm-cm. The results of the laboratory analyses indicate that the on-site materials do not warrant a corrosive site classification.

The recommendations resulting from our evaluation of the corrosivity of the on-site soils also apply to import embankment material. The import materials should be tested for corrosive properties prior to placement to evaluate adequacy of culvert and structure design.

3. RECOMMENDED CULVERT ALTERNATIVES

Standard reinforced concrete pipe design should be suitable for the level of chlorides encountered. On-site drainage inlets and pipes that would be entirely within the usually non-corrosive structural materials may be standard galvanized corrugated steel culvert pipe (CSP) or spiral rib (SSRP).

4. GROUNDWATER

Although groundwater was not encountered during our subsurface exploration and is not expected to be a constraint to the project, fluctuations in the groundwater level may occur due to variations in ground surface topography, subsurface geologic conditions and structure, rainfall, irrigation, and other factors.

5. GRADING FACTORS

Based on our subsurface exploration, our understanding of the project and our experience with similar materials in the project area, the grading factors to be used for the Scripps Formation should be 1.03 (3% bulking) and the grading factor to be used for other existing materials including fill should be 0.95 (5% shrinkage).

6. EARTHWORK QUANTITIES

At this stage of the project, no earthwork quantity estimates were available.

7. MATERIAL SOURCES

In case the engineer's estimates show excess material to be produced, we have identified the following disposal site:

East of I-5 between Del Mar Heights Road and Via De La Valle. This site will be available June 2003.

If the contractor elects to use the optional site provided herein, they will be responsible for complying with Caltrans requirements as referred to in the Special Provisions and the Standard Specifications.

- Section 5-1.13 Environmentally Sensitive Area (ESA).
- Section 5-1.14 Biologist.

- Section 5-1.24 Aerially Deposited Lead and Section 10-1.38 Material Containing Aerial Deposited Lead, if necessary.
- Section 10-1.02 Water Pollution Control (SWPPP).
- Section 10-1.21 Maintaining Traffic.
- Temporary and ultimate SWPPP as defined in the current permits shall be included.
- Traffic control shall be included using Chart Numbers 2 and 27 and Late Reopening of Closures, as defined in the contract shall apply.
- Permits with California Department of Fish and Game, US Army Corps and California Coastal Commission when issued. Any requirements not addressed shall be handled in accordance with Section 4-1.03.
- Removal/mitigation measures for work in the ESA shall be handled in accordance with Section 4-1.03.
- Section 16 Clearing and Grubbing shall be included.
- Section 19 Earthwork 90% compaction and 95% within 50m of future bridge widening shall be included.

A list of mining operations eligible to sell materials such as aggregates to the State of California in San Diego County can be found in Table 2. This list is current as of January 3, 2003.

Table 2 – Eligible Mining Operations

CA Mine ID	Mine Name	Operated By
91-37-0002	North Twin Oaks Valley Quarry	Hanson Aggregate Co.
91-37-0005	Pala Rock Plant (Sand)	Hanson Aggregate Co.
91-37-0010	Lakeside Sand Pit	C.W. Mcgrath, Inc.
91-37-0011	Hillsdale Pit	C.W. Mcgrath, Inc.
91-37-0019	TTT Quarry	Superior Ready Mix Concrete
91-37-0020	Hester's Granite	Hanson Agg
91-37-0021	Slaughter House Canyon	Pioneer Concrete Of Ca., Inc.
91-37-0022	Mcgrath Borrow Pit	C.W. Mcgrath, Inc.
91-37-0027	Sloan Canyon	Sloan Canyon Sand Company
91-37-0033	Lakeside	Vulcan Materials
91-37-0034	El Monte Pit	Hanson Aggregate Co.

Table 2 – Eligible Mining Operations

CA Mine ID	Mine Name	Operated By
91-37-0035	Otay Ranch Pit	Hanson Aggregate Co.
91-37-0036	Nelson & Sloan Pit 12	Hanson Aggregate Co.
91-37-0042	Monte Vista Borrow Pit	San Diego County Public Works
91-37-0043	Allen Borrow Pit	San Diego County Public Works
91-37-0044	Buckman Springs Borrow Pit	San Diego County Public Works
91-37-0045	Olive Street Borrow Pit	San Diego County Public Works
91-37-0046	Mccain Borrow Pit	San Diego County Public Works
91-37-0047	Burn and Borrow Pit	San Diego County Public Works
91-37-0048	Warner Borrow Pit	San Diego County Public Works
91-37-0050	Moretti-Mesa Grande B.P.	San Diego County Public Works
91-37-0052	National Quarries	National Quarries
91-37-0053	Jamul Quarry	Calmat Co.
91-37-0054	Inland Valley Materials	Inland Valley Materials
91-37-0056	Palo Verde Lake Desiltation	Palo Verde Ranch HOA
91-37-0057	The Pauma Valley Country Club	The Pauma Valley Country Club
91-37-0060	Rancho San Diego Golf Course	J. Cloud Inc.
91-37-0063	Woodward Sand	Lakeside Land Company, Inc.
91-37-0064	Baxter Quarry	M.J. Baxter Drilling Company
91-37-0029	Carroll Canyon Plant	Vulcan Materials
91-37-0007	Carroll Canyon Plant	Hanson Aggregate Company

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June 12, 2009

CERTIFIED MAIL – RETURN RECEIPT REQUESTED
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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.

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 (I), 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.

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\CoreRegulatoryUnit\Ghoram\EnrollmentLetter-CaltransMultipleConstructionDewateringSites-June 12-2009

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		

8/2/2011

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

6802/52/1

AECOM
7807 Convoy Court
Suite 200
San Diego, CA 92111
www.aecom.com

858 268 8080 tel
858 292 7432 fax

Memorandum

To	Abdul Malikyar/ Ed Hajj	Page	1 of 1
CC			
Subject	I-805/La Jolla Village Drive [EA 089751] - Earthwork Material Disposal		
From	Nick Haigh, Senior Transportation Engineer		
Date	March 18, 2010		

Through telephone conversations between Mike Crull (AECOM) and Harry Snowden (City of San Diego Miramar Landfill) on 12/22/09 and more recently Nick Haigh (AECOM) and Harry Snowden on 3/17/10, the following information was obtained regarding disposal of earthwork material from the I-805/La Jolla Village Drive project to the landfill.

City of San Diego Miramar Landfill Contact Information:

Landfill Manager:	Harry Snowden
Direct Phone:	(858) 492-6167 – voicemail available
Business Hours:	Monday to Friday incl. 7:00 AM to 4:30 PM
Landfill Address:	5180 Convoy Street, San Diego, CA 92111 (north of Highway 52)

In order for the disposal to be free of charge, the following requirements have to be met:

Earthwork Material Disposal Conditions:

- No materials accepted at night.
- No materials accepted if it is raining or the disposal area is too wet.
- No wet materials accepted.
- No concrete, asphalt or other pavement materials accepted.
- No material in trailers accepted (difficult to unload quickly at a specific location).
- No material in bottom-dump trucks accepted.
- Material in 10-wheelers and other vehicles that can deposit loads to specific locations as directed by the landfill manager is accepted.
- The landfill will only accept up to 1,000 cubic yards per day.

After Friday March 19, 2010, the landfill will not be accepting clean earthwork materials for a period of 4-8 weeks while the facility carried out grading operations.