STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MATERIALS HANDOUT

for

05-SCr-1-17.4/26.0
SANTA CRUZ HIGHWAY 1 GUARDRAIL UPGRADES
05-0M9701

OCTOBER 2011

INDEX

Portions of Aerially Deposited Lead
Site Investigation Report from the
Soquel to Morrissey Auxillary Lane Project
SCr-1-14.9/15.9
05-0F6501

Department of Transportation
Construction Department
1150 Laurel Lane
San Luis Obispo, CA 93403

LIMITED SITE INVESTIGATION REPORT

STATE ROUTE 1 AUXILIARY LANES PROJECT, SOQUEL AVENUE TO MORRISSEY BOULEVARD SANTA CRUZ, CALIFORNIA

PREPARED FOR:
NOLTE ASSOCIATES
1731 NORTH FIRST STREET, SUITE A
SAN JOSE, CALIFORNIA 95112

Caltrans

PREPARED BY:
GEOCON CONSULTANTS, INC.
6671 BRISA STREET
LIVERMORE, CALIFORNIA

GEOCON

GEOCON PROJECT NO. E8461-06-01
CALTRANS EA 05-0F6500

MAY 2009

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

VIA EMAIL

Project No. E8461-06-01
May 21, 2009

Suzanne Sarro, P.E.
Nolte Associates
1731 North First Street, Suite A
San Jose, California 95112

Subject: LIMITED SITE INVESTIGATION REPORT
STATE ROUTE 1 AUXILIARY LANES PROJECT
SOQUEL AVENUE TO MORRISSEY BOULEVARD
POST MILE SCR-01-14.96/15.94
SANTA CRUZ COUNTY, CALIFORNIA
CALTRANS EA 05-0F6500

Dear Ms. Sarro:

Geocon has performed environmental engineering services at the subject site in general accordance with the scope of work outlined in our Revised workplan dated October 28, 2008. The subject site includes the northbound and southbound shoulders, and the La Fonda bridge overcorssing within the project limits of the State Route 1 Auxiliary Lanes Project in Santa Cruz, California.

The accompanying report summarizes the services performed including limited soil sample collection from soil borings advanced using hand-auger and direct-push drilling equipment, and laboratory testing.

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

If there are any questions concerning the contents of this report, or if Geocon may be of further service, please contact the undersigned at your convenience.

Sincerely,

GEOCON CONSULTANTS, INC.

Lauren Vigliotti
Senior Staff Geologist

Richard Day, CEG, CHG
Vice President

PROFESSIONAL GEOLOGIST
RICHARD DAY
No. 5[illegible]
Exp. 03-30-09
STATE OF CALIFORNIA

LJV:RWD

(1) Addressee

TABLE 1
Boring Coordinates
SR1 Auxiliary Lanes Project
Santa Cruz, California

Boring	Northing	Easting
B1	1,821,617.874	6,124,432.245
B2	1,821,597.618	6,125,132.123
B3	1,821,563.515	6,125,420.290
B4	1,821,513.777	6,125,815.222
B5	1,821,477.291	6,126,045.265
B6	1,821,417.412	6,126,453.178
B7	1,821,386.376	6,126,611.389
B8	1,821,350.110	6,126,830.604
B9	1,821,775.723	6,123,664.402
B10	1,821,765.309	6,123,321.032
B11	1,821,493.170	6,126,556.365
B12	1,821,526.546	6,126,286.341
B13	1,821,577.764	6,125,979.679
B14	1,821,620.142	6,125,670.090
B15	1,821,692.340	6,125,146.665
B16	1,821,709.766	6,124,826.713
B17	1,821,728.627	6,124,499.698
B18	1,821,737.320	6,124,190.266
B19	1,821,752.295	6,123,878.425
B20	1,821,624.177	6,124,541.977
B21	1,821,575.318	6,125,279.158
B22	1,821,531.784	6,125,701.868
B23	1,821,385.006	6,126,643.902
B24	1,821,503.676	6,126,455.090
B25	1,821,534.174	6,126,209.912
B26	1,821,563.531	6,126,027.235
B27	1,821,632.506	6,125,932.356
B28	1,821,697.166	6,125,362.571
B29	1,821,684.461	6,125,237.314
B30	1,821,728.681	6,124,505.661

Boring Coordinates are in Zone 3, Datum NAD 83 (feet).

TABLE 2
Summary of Lead and pH Results
SR1 Auxiliary Lanes Project
Santa Cruz, California

Sample ID	Sample Depth (ft)	Total Lead (mg/kg)	WET Lead (mg/l)	WET-DI Lead (mg/l)	TCLP Lead (mg/l)	pH
B1-0	0	49	---	---	---	7.4
B1-0.5	0.5	35	---	---	---	---
B1-1	1	43	---	---	---	---
B1-1.5	1.5	8.8	---	---	---	---
B1-2	2	6.9	---	---	---	---
B2-0	0	42	---	---	---	---
B2-0.5	0.5	29	---	---	---	---
B2-1	1	41	---	---	---	---
B2-1.5	1.5	9.8	---	---	---	---
B2-2	2	<5.0	---	---	---	---
B3-0	0	170	13	<0.25	<0.25	---
B3-0.5	0.5	80	2.1	---	---	6.4
B3-1	1	28	---	---	---	---
B3-1.5	1.5	12	---	---	---	---
B4-0	0	290	18	<0.25	<0.25	---
B4-0.5	0.5	42	---	---	---	---
B4-1	1	20	---	---	---	---
B4-1.5	1.5	<5.0	---	---	---	---
B4-2	2	<5.0	---	---	---	---
B5-0	0	<5.0	---	---	---	---
B5-0.5	0.5	<5.0	---	---	---	---
B5-1	1	<5.0	---	---	---	---
B5-1.5	1.5	<5.0	---	---	---	6.5
B5-2	2	<5.0	---	---	---	---
B6-0	0	35	---	---	---	---
B6-0.5	0.5	14	---	---	---	---
B6-1	1	<5.0	---	---	---	---
B6-1.5	1.5	<5.0	---	---	---	---
B6-2	2	<5.0	---	---	---	---
B7-0	0	41	---	---	---	---
B7-0.5	0.5	110	4.3	---	---	---
B7-1	1	<5.0	---	---	---	---
B7-1.5	1.5	<5.0	---	---	---	---
B7-2	2	<5.0	---	---	---	6.6
B8-0	0	45	---	---	---	---
B8-0.5	0.5	1,100	---	---	1.7	---
B8-1	1	960	120	3.2	2.0	---
B8-1.5	1.5	690	57	0.30	<0.25	---
B8-2	2	41	---	---	---	---
B9-0	0	72	5.0	<0.25	---	---
B9-0.5	0.5	120	11	<0.25	<0.25	---
B9-1	1	<5.0	---	---	---	---
B9-1.5	1.5	<5.0	---	---	---	---
B9-2	2	8.4	---	---	---	6.1
B10-0	0	84	1.5	---	---	---
B10-0.5	0.5	10	---	---	---	---
B10-1	1	8.6	---	---	---	---
B10-1.5	1.5	16	---	---	---	---
B10-2	2	5.2	---	---	---	---

TABLE 2
Summary of Lead and pH Results
SR1 Auxiliary Lanes Project
Santa Cruz, California

Sample ID	Sample Depth (ft)	Total Lead (mg/kg)	WET Lead (mg/l)	WET-DI Lead (mg/l)	TCLP Lead (mg/l)	pH
B11-0	0	80	4.7	---	---	---
B11-0.5	0.5	46	---	---	---	---
B11-1	1	99	5.3	<0.25	---	---
B11-1.5	1.5	60	3.2	---	---	---
B11-2	2	8.7	---	---	---	---
B12-0	0	70	4.2	---	---	6.5
B12-0.5	0.5	<5.0	---	---	---	---
B12-1	1	8.9	---	---	---	---
B12-1.5	1.5	<5.0	---	---	---	---
B12-2	2	<5.0	---	---	---	---
B13-0	0	87	5.5	<0.25	---	---
B13-0.5	0.5	<5.0	---	---	---	---
B13-1	1	<5.0	---	---	---	---
B13-1.5	1.5	2.9	---	---	---	---
B13-2	2	<5.0	---	---	---	---
B14-0	0	130	7.2	0.30	<0.25	---
B14-0.5	0.5	53	5.7	<0.25	---	7.3
B14-1	1	24	---	---	---	---
B14-1.5	1.5	5.2	---	---	---	---
B14-2	2	19	---	---	---	---
B15-0	0	420	34	<0.25	0.51	---
B15-0.5	0.5	860	76	0.29	0.78	---
B15-1	1	1,400	---	---	0.61	---
B15-1.5	1.5	590	36	<0.25	0.28	---
B15-2	2	300	21	<0.25	0.27	---
B16-0	0	39	---	---	---	---
B16-0.5	0.5	680	56	0.40	0.44	---
B16-1	1	1,300	---	---	1.0	6.9
B16-1.5	1.5	21	---	---	---	---
B16-2	2	6.8	---	---	---	---
B17-0	0	310	23	<0.25	<0.25	---
B17-0.5	0.5	23	---	---	---	---
B17-1	1	20	---	---	---	---
B17-1.5	1.5	9.2	---	---	---	---
B17-2	2	5.1	---	---	---	---
B18-0	0	39	---	---	---	---
B18-0.5	0.5	26	---	---	---	---
B18-1	1	8.9	---	---	---	---
B18-1.5	1.5	120	5.5	<0.25	<0.25	---
B18-2	2	10	---	---	---	6.3
B19-0	0	160	13	<0.25	<0.25	5.8
B19-0.5	0.5	<5.0	---	---	---	---
B19-1	1	<5.0	---	---	---	---
B19-1.5	1.5	<5.0	---	---	---	---
B19-2	2	8.0	---	---	---	---
B20-0	0	27	---	---	---	---
B20-4	4	2.1	---	---	---	---

TABLE 2
Summary of Lead and pH Results
SR1 Auxiliary Lanes Project
Santa Cruz, California

Sample ID	Sample Depth (ft)	Total Lead (mg/kg)	WET Lead (mg/l)	WET-DI Lead (mg/l)	TCLP Lead (mg/l)	pH
B21-0	0	170	11	<0.25	<0.25	---
B21-1	1	<5.0	---	---	---	---
B21-4	4	2.7	---	---	---	---
B22-0	0	160	11	0.44	<0.25	---
B22-1	1	<5.0	---	---	---	---
B22-4	4	1.5	---	---	---	---
B23-0	0	42	---	---	---	---
B23-4	4	3.0	---	---	---	---
B24-0	0	6.3	---	---	---	---
B24-4	4	1.5	---	---	---	---
B25-0	0	33	---	---	---	---
B25-4	4	1.9	---	---	---	---
B26-0	0	310	17	<0.25	<0.25	---
B26-1	1	100	5.8	---	---	---
B26-4	4	36	---	---	---	---
B27-0	0	33	---	---	---	---
B27-4	4	4.5	---	---	---	---
B28-0	0	40	---	---	---	---
B28-4	4	5.4	---	---	---	---
B29-0	0	110	6.0	<0.25	0.55	---
B29-1	1	<5.0	---	---	---	---
B29-4	4	2.1	---	---	---	---
B30-0	0	240	5.8	<0.25	<0.25	---
B30-1	1	45	---	---	---	---
B30-4	4	60	1.9	---	---	---

Notes:
WET = Waste Extraction Test
WET DI = Waste Extraction Test using de-ionized water
TCLP = Toxicity Characteristic Leaching Procedure
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
< = Not detected above the laboratory reporting limit
--- = Not analyzed

TABLE 3
Summary of CAM17 Metals Results
SR1 Auxiliary Lanes Project
Santa Cruz, California

Sample ID	Sample Depth (ft)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
B2-0.5	0.5	<2.0	17	26	<1.0	<1.0	4.9	3.6	3.5	29	<1.0	2.0	<1.0	<1.0	<1.0	20	47	<0.10
B4-1	1	<2.0	4.5	61	<1.0	<1.0	23	2.4	12	20	<1.0	15	<1.0	<1.0	<1.0	25	45	<0.10
B6-0	0	<2.0	1.6	53	<1.0	<1.0	18	6.4	62	35	<1.0	10	1.4	<1.0	<1.0	53	85	<0.10
B8-1.5	1.5	<2.0	7.5	90	<1.0	1.4	25	5.8	27	690	<1.0	23	1.0	<1.0	<1.0	36	100	<0.10
B10-0	0	<2.0	5.0	140	<1.0	<1.0	13	4.5	70	84	<1.0	13	<1.0	<1.0	<1.0	34	140	<0.10
B11-2	2	<2.0	2.1	140	<1.0	<1.0	28	6.0	7.5	8.7	<1.0	29	1.0	<1.0	<1.0	32	34	<0.10
B13-1.5	1.5	<2.0	2.5	58	<1.0	<1.0	30	1.9	9.2	2.9	<1.0	14	<1.0	<1.0	<1.0	24	36	<0.10
B15-1	1	<2.0	9.6	93	<1.0	1.6	24	5.6	64	1,400	1.1	25	1.1	<1.0	<1.0	32	220	<0.10
B16-2	2	<2.0	3.4	110	<1.0	<1.0	43	8.3	3.9	6.8	<1.0	34	1.1	<1.0	<1.0	30	31	<0.10
B18-1.5	1.5	<2.0	3.3	91	<1.0	<1.0	25	5.6	13	120	<1.0	20	<1.0	<1.0	<1.0	31	53	<0.10
B20-0	0	<2.0	9.0	110	<1.0	<1.0	24	3.7	90	27	2.6	11	<1.0	<1.0	<1.0	25	210	<0.10
B20-4	4	<2.0	4.7	69	<1.0	<1.0	26	2.4	8.8	2.1	<1.0	10	<1.0	<1.0	<1.0	27	36	<0.10
B21-0	0	<2.0	3.4	91	<1.0	1.1	22	5.7	30	170	<1.0	20	<1.0	<1.0	<1.0	29	110	<0.10
B21-4	4	<2.0	1.9	100	<1.0	<1.0	21	5.6	4.9	2.7	<1.0	30	<1.0	<1.0	<1.0	27	28	<0.10
B22-0	0	<2.0	3.1	73	<1.0	<1.0	23	6.3	19	160	<1.0	23	<1.0	<1.0	<1.0	32	58	<0.10
B22-4	4	<2.0	3.0	38	<1.0	<1.0	21	3.7	6.6	1.5	<1.0	12	<1.0	<1.0	<1.0	22	31	<0.10

TABLE 3
Summary of CAM17 Metals Results
SR1 Auxiliary Lanes Project
Santa Cruz, California

Sample ID	Sample Depth (ft)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
B23-0	0	<2.0	2.5	130	<1.0	<1.0	21	5.1	58	42	1.3	13	<1.0	<1.0	<1.0	42	160	<0.10
B23-4	4	<2.0	1.6	110	<1.0	<1.0	33	5.2	10	3.0	<1.0	25	<1.0	<1.0	<1.0	37	42	<0.10
B24-0	0	<2.0	3.7	59	<1.0	<1.0	24	3.3	14	6.3	<1.0	15	<1.0	<1.0	<1.0	25	45	<0.10
B24-4	4	<2.0	5.4	49	<1.0	<1.0	26	2.8	8.5	1.5	<1.0	16	<1.0	<1.0	<1.0	26	38	<0.10
B25-0	0	<2.0	1.6	92	<1.0	<1.0	25	4.9	21	33	<1.0	19	<1.0	<1.0	<1.0	31	67	<0.10
B25-4	4	<2.0	<1.0	54	<1.0	1.1	28	3.2	7.9	1.9	<1.0	14	<1.0	<1.0	<1.0	26	34	<0.10
B26-0	0	<2.0	5.5	90	<1.0	1.1	21	4.7	49	310	<1.0	15	<1.0	<1.0	<1.0	27	160	<0.10
B26-4	4	<2.0	4.3	110	<1.0	<1.0	20	3.2	9.0	36	<1.0	10	<1.0	<1.0	<1.0	28	34	<0.10
B27-0	0	<2.0	1.8	54	<1.0	<1.0	14	4.4	7.5	33	<1.0	6.4	<1.0	<1.0	<1.0	25	28	<0.10
B27-4	4	<2.0	<1.0	110	<1.0	<1.0	20	7.8	4.7	4.5	<1.0	17	<1.0	<1.0	<1.0	31	26	<0.10
B28-0	0	<2.0	2.7	92	<1.0	<1.0	12	3.6	11	40	<1.0	8.9	<1.0	<1.0	<1.0	17	55	0.10
B28-4	4	<2.0	2.6	120	<1.0	<1.0	28	4.3	5.5	5.4	<1.0	29	<1.0	<1.0	<1.0	25	27	<0.10
B29-0	0	<2.0	16	63	<1.0	<1.0	6.8	3.1	17	110	1.3	13	<1.0	<1.0	<1.0	29	64	<0.10
B29-4	4	<2.0	6.2	45	<1.0	<1.0	20	1.0	11	2.1	2.7	5.6	<1.0	<1.0	<1.0	17	18	<0.10
B30-0	0	<2.0	3.2	91	<1.0	<1.0	18	5.1	15	240	<1.0	12	<1.0	<1.0	<1.0	27	54	<0.10
B30-4	4	<2.0	2.5	120	<1.0	<1.0	31	7.0	11	60	2.1	24	<1.0	<1.0	<1.0	33	42	<0.10
ESLs																		
Shallow Soils (≤3 m bgs)																		
Residential Land Use		6.3	0.39	750	4.0	1.7	750*	40	230	200	40	150	10	20	1.3	16	600	1.3
Comm/Ind Land Use		40	1.6	1,500	8.0	7.4	750*	80	230	750	40	150	10	40	16	200	600	10

Notes:

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

< = Analyte was not detected above the laboratory reporting limit

ESLs = Environmental Screening Levels, SFRWQCB, November 2007, Tables A and C.

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

TABLE 4
Summary of TPH Results
SR1 Auxiliary Lanes Project
Santa Cruz, California

Sample ID	Sample Depth (ft)	TPHg	TPHd	TPHmo
B2-0.5	0.5	<1.0	18	52
B4-1	1	1.0	30	66
B6-0	0	<1.0	50	190
B8-1.5	1.5	<1.0	89	330
B10-0	0	<1.0	210	820
B11-2	2	<1.0	16	41
B13-1.5	1.5	<1.0	3.9	11
B15-1	1	<1.0	210	770
B16-2	2	<1.0	1.9	3.6
B18-1.5	1.5	<1.0	92	350
B20-0	0	---	4.9	15
B20-4	4	---	2.2	3.4
B21-0	0	---	44	150
B21-4	4	---	3.5	5.4
B22-0	0	---	24	88
B22-4	4	---	<1.0	1.6
B23-0	0	---	13	47
B23-4	4	---	<1.0	1.2
B24-0	0	---	<1.0	2.3
B24-4	4	---	<1.0	1.2
B25-0	0	---	18	68
B25-4	4	---	1.1	1.4
B26-0	0	---	96	370
B26-4	4	---	20	69
B27-0	0	---	11	46
B27-4	4	---	1.2	1.5
B28-0	0	---	25	91
B28-4	4	---	<1.0	2.0
B29-0	0	---	56	150
B29-4	4	---	2.8	5.0
B30-0	0	---	34	130
B30-4	4	---	38	68
ESLs				
Shallow Soils (≤3 m bgs)				
Residential Land Use		83	83	370
Comm./Indust. Land Use		83	83	2,500

Notes:
Results are shown in units of milligrams per kilogram
TPHmo = Total Petroleum Hydrocarbons as motor oil
TPHd = Total Petroleum Hydrocarbons as diesel
TPHg = Total Petroleum Hydrocarbons as gasoline
ND = Not Detected above laboratory reporting limit
--- = Not Analyzed or No Standard
< = Not detected above the stated laboratory reporting limit
ESLs = Environmental Screening Levels, SFRWQCB, November 2007 (revised May 2008), Table A, Groundwdater is a Current or Potential Drinking Water Source.

TABLE 5
Summary of Pesticides Results
SR1 Auxiliary Lanes Project
Santa Cruz, California

Sample ID	Sample Depth (ft)	4,4'-DDE	4,4'-DDT	alpha-Chlordane	Chlordane	Dieldrin	gamma-Chlordane	Other Pesticides
B20-0	0	<2.0	<2.0	<1.0	<8.5	<2.0	<1.0	ND
B21-0	0	2.2	8.3	1.1	16	<2.0	<1.0	ND
B22-0	0	<2.0	3.3	<1.0	10	<2.0	<1.0	ND
B23-0	0	<2.0	2.2	1.2	21	<2.0	1.5	ND
B24-0	0	<2.0	<2.0	<1.0	<8.5	<2.0	<1.0	ND
B25-0	0	<2.0	<2.0	<1.0	<8.5	<2.0	<1.0	ND
B26-0	0	<2.0	11	2.9	32	2.4	3.0	ND
B27-0	0	<2.0	<2.0	<1.0	10	<2.0	<1.0	ND
B28-0	0	<2.0	<2.0	<1.0	9.3	<2.0	<1.0	ND
B29-0	0	<2.0	<2.0	<1.0	<8.5	<2.0	<1.0	ND
B30-0	0	<2.0	13	1.3	24	<2.0	1.4	ND
ESLs								
Shallow Soils (≤3 m bgs)								
Residential Land Use		1,700	1,700	---	440	2.3	---	---
Comm./Indust. Land Use		4,000	4,000	---	1,700	2.3	---	---

Notes:
ug/kg Results are shown in units of micrograms per kilogram
ND = Not Detected above laboratory reporting limit
--- = Not Analyzed or No Standard
< = Not detected above the stated laboratory reporting limit
ESLs = Environmental Screening Levels, SFRWQCB, November 2007 (revised May 2008), Table A, Groundwdater is a Current or Potential Drinking Water Source.

TABLE 6a
Summary of Lead Statistical Analysis
SR1 Auxiliary Lanes Project
Santa Cruz, California

Southbound Shoulder Near Edge of Pavement (Borings B1 to B8, and B20 to B23)

TOTAL LEAD UCLs/MAXIMUMS

	Total Lead (mg/kg)	
	90% UCL	95% UCL
0 to 0.5 ft	120.6	128.4
0.5 to 1.0 ft	331.3	385.9
1.0 to 1.5 ft	224.2	259.3
1.5 to 2.0 ft	196.6	220.9
	Maximum	
2.0 to 2.5 ft	41.0	
4.0 to 4.5 ft	3.0	

EXCAVATION SCENARIOS

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Soluble (WET) Lead* (mg/l)	90% UCL Soluble (TCLP) Lead# (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Soluble (WET) Lead* (mg/l)
0 to 0.5 ft.	121	12	0.1	128	13
Underlying Soil	*115*	*11*	*0.1*	*108*	*11*
0 to 1.0 ft.	226	23	0.2	257	26
Underlying Soil	*84*	*8.4*	*0.1*	*69*	*6.9*
0 to 1.5 ft.	225	23	0.2	258	26
Underlying Soil	*61*	*6.1*	*0.07*	*65*	*6.5*
0 to 2.0 ft.	218	22	0.2	249	25
Underlying Soil	*33*	*3.3*	*0.04*	*33*	*3.3*
0 to 2.5 ft.	183	18	0.2	249	25
Underlying Soil	*32*	*3.2*	*0.03*	*32*	*3.2*
0 to 4.0 ft.	130	13	0.1	124	12
Underlying Soil	*3.0*	*0.3*	*0.003*	*3.0*	*0.3*
0 to 4.5 ft.	116	12	0.1	111	11

Notes:

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

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

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

Regression Line Slope: $y = 0.10 \quad x$

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

Regression Line Slope: $y = 0.0011 \quad x$

TABLE 6b
Summary of Lead Statistical Analysis
SR1 Auxiliary Lanes Project
Santa Cruz, California

Northbound Shoulder Borings Near Edge of Pavement (Borings B9 to B19, B24 to B26, B29 and B30)

TOTAL LEAD UCLs

	Total Lead (mg/kg)	
	90% UCL	95% UCL
0 to 0.5 ft	174.5	184.7
0.5 to 1.0 ft	279.1	305.5
1.0 to 1.5 ft	374.5	416.7
1.5 to 2.0 ft	139.3	160.1
2.0 to 2.5 ft	66.7	77.3
4.0 to 4.5 ft	34.1	37.6

EXCAVATION SCENARIOS

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Soluble (WET) Lead* (mg/l)	90% UCL Soluble (TCLP) Lead# (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Soluble (WET) Lead* (mg/l)
0 to 0.5 ft.	175	17	0.2	185	18
Underlying Soil	*137*	*14*	*0.2*	*154*	*15*
0 to 1.0 ft.	227	23	0.2	245	25
Underlying Soil	*116*	*12*	*0.1*	*132*	*13*
0 to 1.5 ft.	276	28	0.3	302	30
Underlying Soil	*73*	*7.3*	*0.08*	*85*	*8.5*
0 to 2.0 ft.	242	24	0.3	267	27
Underlying Soil	*60*	*6.0*	*0.07*	*69*	*6.9*
0 to 2.5 ft.	207	21	0.2	229	23
Underlying Soil	*59*	*5.9*	*0.06*	*67*	*6.7*
0 to 4.0 ft.	154	15	0.2	172	17
Underlying Soil	*34*	*3.4*	*0.04*	*38*	*3.8*
0 to 4.5 ft.	141	14	0.2	157	16

Notes:

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

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

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

Regression Line Slope: $y = 0.10 \quad x$

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

Regression Line Slope: $y = 0.0011 \quad x$