

INFORMATION HANDOUT

**For Contract No. 12-0J61U4
At 12-Ora-5, 405-19.2/22.2, 0.0/1.2**

**Identified by
Project ID 1212000029**

MATERIALS INFORMATION

Aerially Deposited Lead (ADL) Study for Restoration Project on Route 5 from Lake Forest Drive to Alton Parkway and on Route 405 from I-5 Junction to Irvine Center Drive in Orange County in City of Irvine

MEMORANDUM

**To: Eric Dickson, Chief
Landscape Architect**

Date: April 10, 2013
File No: 12-ORA-5 & 405
PM: 19.2/22.2 & 0.0/1.2
EA: 12-216-0J61U
ID: 1212000029

**From: ENVIRONMENTAL ENGINEERING
D 12 – Project Delivery**

**Subject: Aerially Deposited Lead (ADL) Study for Restoration Project on Route 5 from
Lake Forest Drive to Alton Pkwy and Route 405 from I-5 Junction to Irvine
Center Dr., City of Irvine, CA.**

Mr. Dickson;

This lead investigation report was prepared based on a total of Six (6) ADL reports that has been prepared in the past and roughly covers the length of this project. Please see the following references for the list of the ADL reports.

Reportedly the project will consist of various working scope including plant removal, replacing existing irrigation systems and planting. Plant removal work includes removing trees, shrubs and pruning trees. Minor grading is also needed for the areas for paving of the maintenance vehicle access, (MVP), gore areas, and slopes under the existing bridges in various locations. There is no excavation needed for the aggregate mulch areas and maintenance vehicle access road that is aggregate base. A maximum depth of excavation should not exceed 18 inches. In addition all of excavated soil will be re-used for backfilling or will remain on the job site

Based on a review of the following reports and the test results, the soils contain lead throughout the project. However, the soils in majority of the project are considered to be non-hazardous, except localized areas. The main area of concern is located within the Boring No. (B-8) area. Hazardous waste concentrations of ADL exist within the top 2 feet in the vicinity of Boring 8 (B-

8) at Route 5 Main Line from PM 354 + 00 to 356+00 as shown on the layout sheet. All other areas within the project site contain non-hazardous levels of lead in earth material.

A LEAD COMPLIANCE PLAN must be prepared to prevent the workers exposure to lead while handling material containing Aerially Deposited Lead. The Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. The plan must be submitted to Engineer for review and acceptance at least 15 days prior to beginning of the work. As indicated above. There would be no excess soils on the job site or any excess soils will remain on the job

If you have any questions please contact Mr. David Yaghoubi @ (949) 756 7/828 or myself @ (949) 724 2738

Sincerely,



**Reza Aurasteh, Ph.D., P.E.,
Branch Chief, Environmental Engineering**

C: Stephen Su, Project Landscape Architect
David Yaghoubi, Environmental Engineering

Attachments;

1. Copy of HQ nSSP Approval
2. Referenced Reports
3. nSSP 14-11.04
4. Tabulated ADL Test Results

References:

1. Lead Investigation Report, Various Locations, , Route 5 From Lake Forest Drive Overcrossing to the 5/405 Separation and Route 405 From 0.6 KM South of Harbor Blvd Overcrossing to Magnolia Street Overcrossing, Orange County., California, Contract 43Y097, Task Order No. 12-0604U1-PE, Prepared by Geocon, dated April 1998.
2. Site Investigation Report, Lead Investigation, Route 405 Northbound, From Irvine Center Drive, to Sand Canyon Road, Irvine, California, Contract No.43A0012, Task Order No.12-09260K-QS, Prepared by Geocon, dated December 17, 1999.
3. Lead Investigation Report for Installation of Maintenance Vehicle Pullouts, Routes 5, 57, 504, and 605, Orange County, California, Contract No. SA43A0012, Task Order No. 12-0E1001-ZV, Prepared by Geocon, dated June 5, 2001.
4. Aerially Deposited Lead Investigation, Route 5, 22, 55, 57 and 405, Orange County, California, Contract No. 43A0078, Task Order No. 12-0E1601-HK, Prepared by Geocon, dated January 18, 2002
5. .ADL Investigation Report, Route 5, From Alton Parkway to Tustin Ranch Road, Orange County California, Contract No. 43A0078, Task Order No. 12-0A7301-4R, Prepared by Geocon, dated October 29, 2003.
6. Letter Report, Boring B1, Aerially Deposited Lead Investigation, SB I-5 On-Ramp at Lake Forest Drive, Laguna Hills, California, EA NO. 0L8701, Contract No. 12A1340, Task Order No. 5, Prepared by Ninyo and Moore, dated June 13, 2012.

Route 5 from Lake Forest drive to 5/405

Year 1998

TO No.12-0604U1

GEOCON

NO.	Sample Identification	Depth in Meters	Total Lead (mg/kg)	Soluble Lead/ Citric Acid (mg/L)	Soluble Lead/ DI Water (mg/L)	PH
1	B1-1	Surface	9.3			
2	B1-2	0.45	ND			
3	B1-3	0.75	ND			
4	B1-4	1.2	ND			
5	B2-1	Surface	ND			8.7
6	B2-2	0.45	ND			
7	B2-3	0.75	ND			
8	B2-4	1.2	2.3			
9	B3-1	Surface	7.0			
10	B3-2	0.45	12.0			
11	B3-3	0.75	9.3			7.9
12	B3-4	1.2	9.3			
13	B4-1	Surface	7.0			
14	B4-2	0.45	ND			
15	B4-3	0.75	ND			
16	B4-4	1.2	9.3			
17	B5-1	Surface	ND			
18	B5-2	0.45	9.3			8.7
19	B5-3	0.75	7.0			
20	B5-4	1.2	7.0			
21	B6-1	Surface	16.0			
22	B6-2	0.45	23.0			
23	B6-3	0.75	28			
24	B6-4	1.2	12			
25	B7-1	Surface	98	8.8		
26	B7-2	0.45	16			
27	B7-3	0.75	7.0			
28	B7-4	1.2	35			
29	B8-1	Surface	58	4.9		
30	B8-2	0.45	290	10		
31	B8-3	0.75	121	8.8	ND	
32	B9-1	Surface	30			
33	B9-2	0.45	40			
34	B9-3	0.75	12			
35	B9-4	1.2	56	4.9		
36	B10-1	Surface	16			
37	B10-2	0.45	19			
38	B10-3	0.75	42			8.1
39	B11-1	Surface	14			
40	B11-2	0.45	14			
41	B11-3	0.75	16			
42	B11-4	1.2	ND			
43	B12-1	Surface	37			
44	B12-2	0.45	16			
45	B12-3	0.75	28			7.6
46	B13-1	Surface	ND			
47	B13-2	0.45	16.0			
48	B13-3	0.75	7.0			
49	B13-4	1.2	9.3			

Average		30.7
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B14-1	Surface	673	21	Outside the project Area
B14-2	0.45	ND		Outside the project Area
B14-3	0.75	ND		Outside the project Area
B14-4	1.2	ND		Outside the project Area

Route 405 Northbound from Irvine Center Drive to Sand Canyon Rd

Year 1999

TO No.12-09260K

GEOCON

No.	Sample Identification	Depth in Meters	Total Lead (mg/kg)	Soluble Lead/ Citric Acid (mg/L)	Soluble Lead/ Wet DI Water (mg/L)	PH
1	B1-S	0.15	11.0			
2	B1-1.5	0.45	14.0			
3	B1-2.5	0.75	0.9			
4	B1-4	1.2	1.3			
5	B2-S	0.15	12.0			9.1
6	B2-1.5	0.45	0.7			
7	B2-2.5	0.75	2.2			
8	B3-S	0.15	20.0			
9	B3-1.5	0.45	9.1			
10	B3-2.5	0.75	2.1			
11	B3-4	1.2	3.2			
12	B4-S	0.15	26.0			
13	B4-1.5	0.45	13.0			
14	B4-2.5	0.75	3.9			
15	B4-4	1.2	1.3			
16	B5-S	0.15	28.0			8.8
17	B5-1.5	0.45	16.0			
18	B5-2.5	0.75	4.8			
19	B5-4	1.2	32.0			
	Average		10.6			

Route 5

Year 2002

TO No.12-0E1601

GEOCON

No.	Sample Identification	Depth in Meters	Total Lead (mg/kg)	Soluble Lead/ Citric Acid (mg/L)	Soluble Lead/ Wet DI Water (mg/L)	PH
1	B4-S	0.15	19.0			
2	B4-0.45	0.45	34.0			
3	B4-0.9	0.9	12.0			
4	B4-1.2	1.2	8.2			
	Average		18.3			

Southbound Route 5 Lake Forest On-Ramp

Year 2012

TO No.12-0L8701

Ninyo And Moore

No.	Sample Identification	Depth in Meters	Total Lead (mg/kg)	Soluble Lead/ Citric Acid (mg/L)	Soluble Lead/ Wet DI Water (mg/L)	PH
1	B-1-0.5	0.5	9.4			
2	B-1-1.5	1.5	4.4			
3	B-1-3.0	3.0	3.3			
4	B-1-4.0	4.0	3.0	ND		
	Average		5.0			

Route 5 from Alton Pkway to Tustin Ranch Road

Year 2003

TO No.12-0A7301

GEOCON

No.	Sample Identification	Depth in Meters	Total Lead (mg/kg)	Soluble Lead/ Citric Acid (mg/L)	Soluble Lead/ Wet DI Water (mg/L)	PH
1	BH1-0.15	0.15	51.0			
2	BH1-0.45	0.45	24.0			
3	BH-1-0.75	0.75	24.0			
4	B-H-1.2	1.2	7.2			
5	BH2-0.15	0.15	23.0			
6	BH2-0.45	0.45	ND			
7	BH-2-0.75	0.75	ND			
8	B-H3-0.15	0.15	9.7			
9	B-H3-0.45	0.45	ND			
10	B-H3-0.75	0.75	ND			
11	B-H3-1.2	1.2	ND			
12	B-H4-0.15	0.15	6.1			
13	B-H4-0.45	0.45	8.4			
14	B-H4-0.75	0.75	ND			
15	B-H4-1.2	1.2	ND			
16	B-H26-0.15	0.15	18.0			
17	B-H26-0.45	0.45	43.0			
18	B-H26-0.75	0.75	11.0			9.15
19	B-H26-1.2	1.2	ND			
20	B-H27-0.15	0.15	12.0			
21	B-H27-0.45	0.45	77			
22	B-H27-0.75	0.75	41			
23	B-H28-0.15	0.15	22			7.4
24	B-H28-0.45	0.45	15			
25	B-H28-0.75	0.75	21			
26	B-H28-1.2	1.2	7.3			
27	B-H29-0.15	0.15	7.4			
28	B-H29-0.45	0.45	ND			
29	B-H29-0.75	0.75	6.1			
30	B-H29-1.2	1.2	ND			
	Average		21.7			

Route 5

Year 2001

TO No.12-0E1001

Ninyo And Moore

No.	Sample Identification	Depth in Meters	Total Lead (mg/kg)	Soluble Lead/ Citric Acid (mg/L)	Soluble Lead/ Wet DI Water (mg/L)	PH
1	B-11-0.15	0.15	18.2			
2	B-11-0.45	0.45	17.6			
3	B-11-0.15	0.9	11.4			
4	B-11-0.15	1.2	53.5	ND		
	Average		25.2			