FOR CONTRACT NO: 12-0H2324

PROJECT ID: 1200000200

INFORMATION HANDOUT

MATERIALS INFORMATION

MATERIALS LETTER REPORT

GEOTECHNICAL DESIGN REPORT

ROUTE: 12-ORA-5, 22, 73, 74, 90-Varies

M e m o r a n d u m

To: Kamran Mahzar, Chief
Design Branch "F"

Date: January 29, 2009

File: 12-Ora-73, 74
PM 14.76, 20.66, 2.4
Final Materials Letter Report
MLR- EA#0H2321

From: **DEPARTMENT OF TRANSPORTATION**
District 12
Materials and Research Branch

Cat: 441.01

Subject: **Maintenance Vehicle pullouts (MVP), Various Locations on Route 73 and 74 in Orange County**

In accordance with your request, Materials and Research (M&R) Branch has prepared this Materials Letter Report (MLR) to provide you with recommendations for pavement structural sections for the proposed MVPs.

This MLR provides pavement design and materials recommendations in accordance with Topic 114 of Highway Design Manual (2006). Our data is limited to a depth of 5 feet below the existing grade. Suitability of underlying material beyond the upper 5 feet and other issues such as settlement, groundwater elevations, etc. should be addressed by Roadway Geotechnical Design-South from HQ.

1. Introduction

The proposed MVP (3) to State Route 73 (PM 17.76, 20.66) and 74 (PM 2.4) are planned in the cities Aliso Viejo, Laguna Beach and San Juan Capistrano, County of Orange, CA. Topography in the vicinity of the proposed MVPs are relatively flat.

2.0 Proposed Project Improvement

It is proposed to install three (3) MVPs at various locations on Route 73 and 74.

3.0 Summary of Field Investigation

Our field investigation was performed on September 23,2008, and consisted of drilling a total of three (3) cores on the existing AC pavement at the location of the proposed MVPs. The purpose of this investigation was to obtain representative samples from the subsurface soils at the location of MB-1 through MB-3 as shown on the attached Coring Location Plan. Three (3) bulk samples were collected from MB1, MB2 and MB3. The samples were sent to District 7 laboratory for testing. The summary of core data obtained during coring is presented on the attached table 1.

4.0 Subsurface and Groundwater Conditions

The subsurface investigation conducted by Materials & Research (M&R) Branch is limited to a depth of about 5 feet. It was generally consisted of 0.75 ft of AC pavement over 0.25 ft ATPB underlain by fine brown silty sand (MB1, MB3), and 0.47 ft of AC over 0.5 ft aggregate base underlain by coarse sand and gravel (MB2). Groundwater was not detected in any of the three boreholes and we have no information regarding the groundwater elevations in this area. Any issues with respect to groundwater should be addressed by Roadway Geotechnical Design-South from HQ. It is required that groundwater levels be kept a minimum of 5 feet (1.5 meters) below the pavement structural section.

5.0 Cut and Fill Construction

Installation of the proposed MVPs will require removal of the existing AC pavement and the underlying unsuitable subgrade soil material. Per laboratory test results of the core sample the existing sub-grade soil is considered unsuitable at the location of MB 3 (location 3, NB SR-73, PM 14.76) and shall not be used within upper 4 feet of finish grade. Therefore, M&R Branch recommends removal or over excavation of the unsuitable material below the upper 4 feet of finished grade. The upper 4 feet of the pavement structural sections should consist of pavement structural sections over the imported fill as indicated in section 8 of this report. Any material placed within the upper 4 feet of the finished subgrade shall be imported borrow with a minimum R-Value of 40, PI of less than12 and with an expansion index of less than 50 and is subject to inspection and approval by the Resident Engineer.

6.0 Earthwork

6.1 General Earthwork Requirements

All earthworks shall conform to requirements of Section 19 of Caltrans May 2006 edition of Standard Specifications, and project Special Provisions. Compaction of soils shall be conducted in accordance with Section 19-5 of the Caltrans Standard Specifications. Any temporary sloping, sheeting and shoring shall be made the Contractor's responsibility. Appropriate measures shall be taken to prevent damage to adjacent structures and utilities. It should be noted that it is the responsibility of the Contractor to oversee the safety of the workers in the field during construction. The Contractor shall conform to all applicable occupational safety and health standards, rules, regulations, and orders established by the State of California.

6.2 Construction Observations and Testing

It is recommended that inspection and testing be performed and documented during the following stages of construction:

- Grading operations, including overexcavation and cut.
- Removal of existing AC Pavement.
- Preparation of pavement subgrade.
- Placement of aggregate base and subbase.
- Placement of Pavement sections.
- When any unusual conditions are encountered.

7.0 Laboratory Testing

The following laboratory tests were performed on each sample collected from the boreholes:

- Sieve Analysis (CTM 202)
- Mechanical Analysis (CTM 203)
- Atterberg Limits (CTM 204)
- Sand Equivalent (CTM 217)
- R-Value (CTM 301)
- Expansion Index (UBC 29.2)
- Resistivity and pH (CTM 643)

Summary of the laboratory test results performed on the recovered soil samples is presented on the attached table 2:

7.1 Corrosion Testing

Soil sample obtained from Core holes MB-I, MB-2 MB-3 were sent to District 7 Materials Laboratory for PH and resistivity testing. Results of laboratory corrosion testing are presented in Table 2.

7.2 Site Corrosion Recommendations

Caltrans Corrosion Guidelines (September 2003), defines a corrosive environment as one where one of the following condition exist at a site, the soil has electrical resistivity of less than 1000 Ω-cm, pH of less than 5.5, sulfate content of greater than 2,000 ppm, chloride content of greater than 500 ppm. All soil samples were sent to District 7 Materials Laboratory for pH and resistivity testing. Only samples with electrical resistivity of less than 1000 ohm-cm will be sent to Headquarters for chloride and sulfate content testing in accordance with CTM 422, and CTM 417 respectively. Based on the results of laboratory corrosion testing the site is non-corrosive.

8.0 Pavement Recommendations

The :following structural sections are based on the results of laboratory testing, TI, subgrade soil condition (R-Value) and the requirement of Topic 626.4 and 614.4 of the Highway Design Manual, September 1,2006:

MVP on Route 73, Locations 5 (TI = 6, R = 27)
0.65ft HMA (Type A)/ 0.5 ft AS (Class 2)

MVP on Route 73, Locations 3 (TI = 6. R = 40)
0.65ft HMA (Type A)/ 3.3 ft AS (Class 2)

MVP on Route 74, Locations 6 (TI = 13, R = 40)
0.65 ft HMA (Type A)/0.5ft AS (Class 2)

9.0 Material Availability

Imported borrow will be required for replacement of unsuitable soils within the project limits. Local sources of construction materials were not investigated in this study. However, materials are available from several commercial suppliers throughout Orange, Los Angeles, Riverside and San Hernardino Counties. Furthermore, the Web-Site of Department of Conservation on the Internet contains a current listing of mining operations eligible to sell materials to the State of California. The page can be accessed at: http://www.consrv.ca.gov/omr/index.htm

10.0 Limitations

This report is intended for the use of Caltrans for the proposed MVPs on Route 73 and 74 in the Cities of Aliso Viejo, Laguna Beach and San Juan Capistrano, County of Orange, CA This report is based on the project information described in this report and the information obtained from the exploratory boreholes at the approximate locations indicated on the attached Boring Location Layout plan. The findings and recommendations contained in this report are based on the results of the field investigation, laboratory tests, and engineering analyses. In addition, soils and subsurface conditions encountered in the exploratory borings are presumed to be representative of the project site. However, subsurface conditions and characteristics of soils between exploratory borings can vary. The findings reflect an interpretation of the direct evidence obtained. The recommendations presented in this report are based on the assumption that an appropriate level of quality control and quality assurance (testing and inspection) will be provided during the construction phase of the project. District Materials and Research Branch should be notified of any pertinent changes in the project plans or if subsurface conditions are found to vary from those described herein. Such changes or variations may require a re-evaluation of the recommendations contained in this report.

The data, opinions, and recommendations contained in this report are applicable to the specific design element(s) and location(s) which is (are) the subject of this report. They have no applicability to any other design elements or to any other locations and any and all subsequent users that accept any and all liability resulting from any use or reuse of the data, opinions, and recommendations without the prior written consent of the District Materials and Research Branch.

This report is prepared in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended.

11.0 Recommended Materials Specifications

The following requirements shall be included in the project specifications:

- Prior to the placement of pavement section on native soils, the native soils within the upper 5 ft to the finished grade shall be tested to verify that a minimum type II subgrade soil is achieved and be non-corrosive to metal and concrete and have an R value of not less than 16 or plasticity index of less than 12. If the existing native soils within the upper 5 ft to the finished grade is determined not meeting the above requirements, the existing native soils shall be over-excavated and replaced with imported borrow material meeting

the imported fill recommendations in section 5 of this report. Borrow materials shall conform to Section 19-7.02 of Caltrans Standard Specifications (May 2006).

Where required, for pavement reconstruction sections on imported fill areas, the engineering fill within the upper 4.0 feet to the finished grade shall have an R-value of at least 40. If imported material needed, the imported fill shall be non-corrosive to metal and concrete and have an expansive index (EI) of less than 50 or plasticity index (PI) of less than 12. Non-corrosive requirements shall be based on Caltrans Corrosion Guidelines (1996), class 3 aggregate sub-base may be used for this project.

- Edge drain does not required for this project.

- Prior to the placement of pavement sections, scarify 0.5' of sub-grade then compact the scarified sub-grade to 95% per section 19-5 of the Caltrans Standard Specifications. All sub-grade soils shall be compacted in accordance with Section 19-5.03 of Caltrans Standard Specification (May 2006).

- Saw cut and remove the existing shoulders (HMA pavement). The HMA pavement shall be saw cut to full depth.

- It is imperative that special attention is given to the mix design, compaction and temperature requirements for rigid and flexible pavement as stated in Caltrans Standard Specifications and Project Standard Special Provisions (SSPs).

- The prime coat and tack coat applications and requirements shall follow Sections 39-4.02 of the Caltrans Standard Specifications July 2007.

- Specifications are required for Hot Mix Asphalt (HMA) treatment by applying prime coat on AS prior to the placement of HMA.

- Tack coat shall be applied to all vertical faces of existing HMA pavement and construction joints in which additional HMA material is to be placed, and to other surfaces designated in the Special Provisions.

- Special attention is required to be given to the following sections of May 2006 Standard Specifications:
-

- Prior to the placement of pavement sections, the subgrade soils shall be compacted in accordance with Section 19-5.03 of Caltrans Standard Specification (May 2006).

  Saw cut and remove the existing AC pavement. The AC pavement shall be sawcut to full depth.

  Special attention should be given to the following sections of May 2006 Standard Specifications:

Section 19: Earthwork;
Section 25: Aggregate Subbases;
Section 28: Lean Concrete Base;
Section 39: Asphalt Concrete;
Section 40: Portland Cement Concrete Pavement;
Section 68: Subsurface Drains;
Section 90: Portland Cement Concrete;

- All Standard Special Provisions (SSP) to be included in the project shall be submitted to the Materials and Research Branch for review and approval.

If you have any questions, please call Mike Azmoudeh at 949-756-4940 or Behdad Baseghi at X-2485.

Prepared by:

Mike Azmoudeh
Materials & Research Branch
Division of Project Delivery

Concurred by:

REGISTERED PROFESSIONAL ENGINEER
FARHAD HADJIBABAIE
No. C50175
Exp. 6/30/2011
CIVIL
STATE OF CALIFORNIA

Farhad Hadjibabaie, PE
Materials & Research Branch
Division of Project Delivery
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Behdad Baseghi, Ph.D., P.E., G.E. PMP
Chief, Materials & Research Branch
Division of Project Delivery
RCE No. 47051, GE No. 2310

Attachments: Core Location Plan, Tables 1 and 2
CC: Judy Kennedy, Frank Lin, File

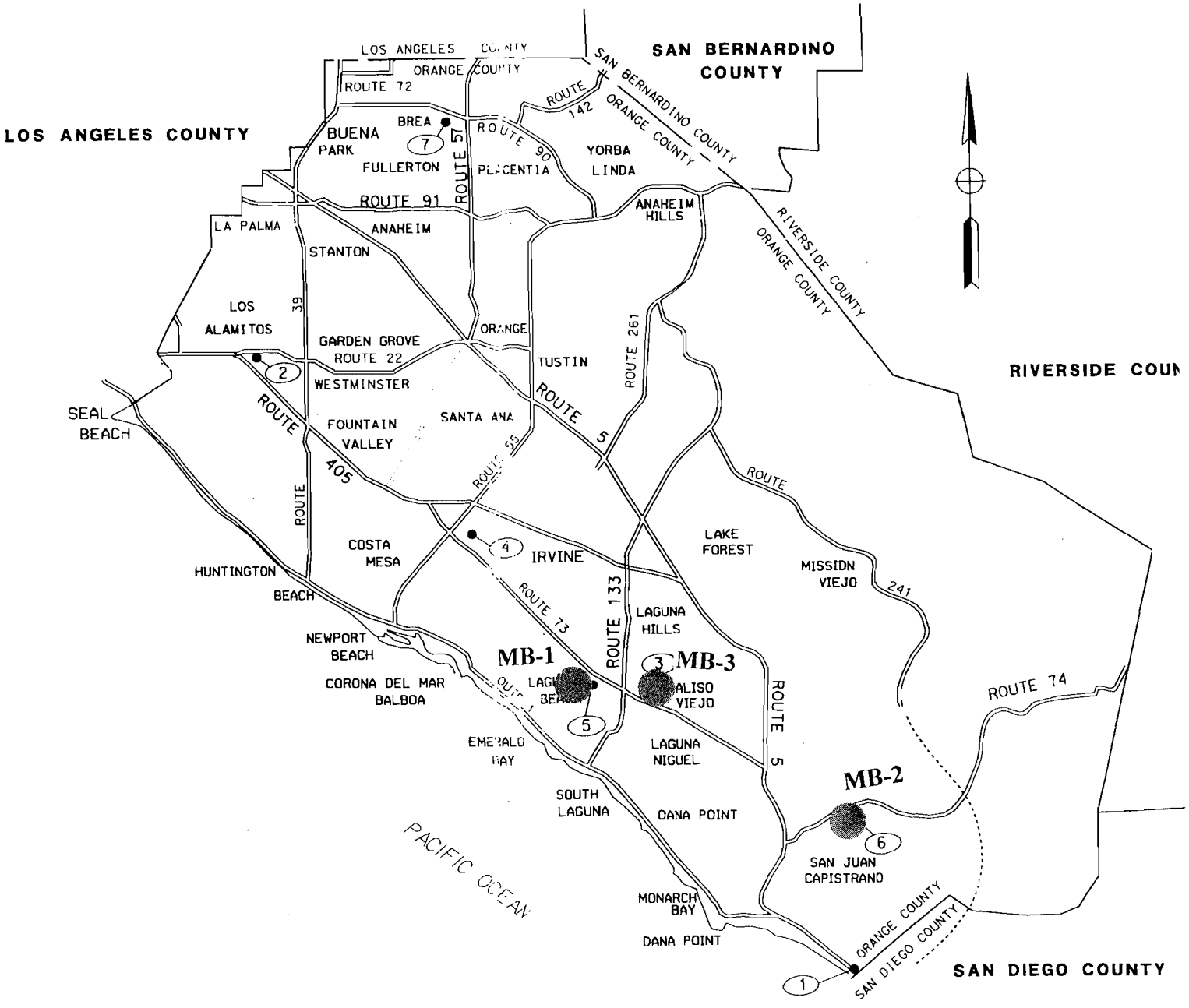
TABLE 2: SUMMARY OF LABORATORY TEST RESULTS

Boring No.	LL	PL	PI	SE	Percent Passing No. 200 Sieve	R-Value	Resistivity (Ohms-Cm)	EI	pH	Chloride Content	Sulfate Content	Subgrade Type
MB!	27	24	3	12	34	27	760	22	10.18	N/A	N/A	II
MB2	22	19	3	17	25	51	1700	10	9.7	N/A	N/A	I
MB3	84	47	37	2	92	16	570		7.81	N/A	N/A	III

TABLE 1: SUMMARY OF CORING DATA

Boring No.	Boring Location	Station	PM	Sample No.	Sample Depth (ft)	Sample Type	USGS Soil Type	AC/AB (ft)	Sampled by	Sampling Date	Date Sent to Lab	Date Received Results
MB1	SB SR-73, S. Wildlife Bridge # 55-862		20.66	1316	5	Subgrade	SM	0.75 AC/0.25 ATPB/ AS		09/23/2008	09/25/2008	10/17/2008
MB2	EB SR-74, W. of La Pata Ave.		2.4	1317	5	Subgrade	SM	0.47 AC/0.5 AB/AS		09/23/2008	09/25/2008	10/17/2008
MB3	NB SR-73, S. of Laguna Hills DR.		14.76	1318	5	Subgrade	MH		M. Azmoudeh	09/23/2008	09/25/2008	10/17/2008

CORE LOCATION PLAN



State of California
Agency

Business, Transportation and Housing

Memorandum

Flex your power!
Be energy efficient!

To: KAMRAN MAZHAR – 12
Design Branch F, District 12

Date: 04/28/2008

File: 12-ORA-Various
12-OH232
Install CMS-Various Locations

Attention: Judy Kennedy

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1

Subject: Geotechnical Design Report

Scope of the work

This report presents the geotechnical recommendations for the proposed changeable message signs (CMS) at seven locations on routes 5, 22, 73, 74 and 90 in the Cities of San Clemente, Garden Grove, Aliso Viejo, Newport Beach, and Brea and in unincorporated Orange County. The following report is based on subsurface information gathered during recent site exploration (February-March 2008) performed by this office.

Project Description

This project consists of installation of seven new CMS at various locations in Orange County. The proposed CMS locations and foundation types are tabulated in Table 1.

Table 1: General information for proposed CMS structures

CMS Location	Route/PM	Interchange	CIDH Pile	
			Dia, (ft)	Depth, (ft)
1	NB I-5 / PM 0.33	North of Orange/ San Diego county line	5	22
2	EB SR-22 / PM 1.75	West of Springdale St OC	5	22
3	NB SR-73 / PM 14.76	South of Laguna Hills Dr UC	5	22

4	NB SR-73 / PM 24.94	North of Jamboree Rd OC	5	22
5	SB SR-73 / PM 20.67	South of wildlife UC (Bridge No. 55-862)	5	22
6	EB SR-74 / PM 2.45	West of La Pata Ave/Antonio Parkway	4	18
7	EB SR-90 / PM 4.96	East of Brea Blvd	4	18

Subsurface Exploration

Subsurface exploration consisted of Cone Penetration Tests (CPTs) and boreholes with Standard Penetration Tests (SPTs) performed near each CMS location. For CMS locations 4 and 5 CPT could not penetrate beyond the proposed depths of the foundation, therefore bore holes with SPT tests were carried out. CPT tests were carried out in all other locations. Results of the subsurface exploration and correlated soil properties are presented in Table 2.

Table 2: Subsurface exploration results and correlated soil properties

Location (ID)	Layers		SPT (N)	CPT		Angle of internal friction	Undrained Shear Strength
	Description	Depth (ft)		Qc (ksf)	Fs (ksf)	ϕ (deg)	c (ksf)
CMS 1 (CPT-08-101)	Silty sand to sandy silt	0-10	-	131	4	33	-
	Clean sand to silty sand	10-18	-	322	5	35	-
	Silty sand to sandy silt	18-20	-	560	15	35	-
CMS 2 (CPT-08-102)	Clean sand to silty sand	0-6.5	-	260	4	35	-
	Silty sand to sandy silt	6.5-12	-	72	2	33	-
	Clay	12-14.5	-	156	3	33	10
	Silty sand to sandy silt	14.5-19.5	-	216	4	33	-
	Clay	19.5-36	-	37	1	-	2
CMS 3 (CPT-08-103)	Silty sand to sandy silt	0-12		51	2	33	-
	Clayey silt to silty clay	12-16		70	3	-	4

Location (ID)	Layers		SPT (N)	CPT		Angle of internal friction	Undrained Shear Strength
	Description	Depth (ft)		Qc (ksf)	Fs (ksf)	ϕ (deg)	c (ksf)
CMS 3 (contd.) (CPT-08-103)	Silty sand to sandy silt	16-26		158	6	33	-
	Clayey silt to silty clay	26-45	-	154	6	-	9
CMS 4 (R-08-101)	Silty sand to sandy silt	0-12	31	-	-	33	-
	Clay	12-36	5	-	-	-	1
CMS 5 (R-08-102)	Silty sand to sandy silt	0-25	> 50	-	-	35	-
CMS 6 (CPT-08-104)	Silty sand to sandy silt	0-12	-	95	4	33	-
	Clean sand to silty sand	12-36	-	388	4	35	-
CMS 7 (CPT-08-105)	Gravelly sand	0-11	-	682	6	38	-
	Silty sand to sandy silt	11-23	-	277	9	35	-

Note: Qc: tip resistance, Fs: side resistance,

Scour potential

Scour is not an issue for these CMS structures.

Ground water

Ground water was not measured during the present subsurface exploration.

Corrosion Evaluation

Soil samples were collected from all seven locations and tested for corrosion potential. The results of the corrosion test are presented in the Table 3.

Table 3: Results of Corrosion Test.

Location	ID	Lab Sample Number	pH	Minimum Resistivity	Sulphate Content (ppm)	Chloride Content (ppm)	Summary
CMS 1	CPT-08-101	0149	9.01	2000	NA[1]	NA[1]	Not Corrosive
CMS 2	CPT-08-102	0150	10.08	1300	NA[1]	NA[1]	Not Corrosive
CMS 3	CPT-08-103	0151	9.04	800	500	1360	Corrosive
CMS 4	R-08-101	0152	9.40	1000	NA[1]	NA[1]	Not Corrosive
CMS 5	R-08-102	0153	9.06	970	58	95	Corrosive
CMS 6	CPT-08-104	0154	8.79	870	300	133	Corrosive
CMS 7	CPT-08-105	0156	9.45	3900	NA[1]	NA[1]	Not Corrosive

Note:
For Corrosion definitions refer to Caltrans Division of Engineering Services "Memo to Designers" 3-1.

[1]Caltrans Corrosion Technology Section policy states that if the minimum resistivity is greater than 1000 ohm-cm the sample is considered to be noncorrosive and testing to determine sulfate and chloride is not performed.

As per Bridge Memo to Designers 3-1, December 2000, for additional assistance regarding corrosion protection of deep foundations, contact the Corrosion Technology Branch of the Division of Materials Engineering and Testing Services.

Design of CIDH Piles

Results of the tests and their correlation for CMS at locations 1, 2, 3, 5, 6 and 7 show that angle of internal friction is higher than 30 degrees for cohesionless soil. For cohesive soil the value for undrained shear strength was higher than 1.2 ksf. These values meet the design criteria for overhead sign-truss single post type foundation and miscellaneous details, Changeable Message Signs Model 500 (S 116) on Standard Plans, May 2006 and Changeable Message Signs Model 510 (S 135) on Standard Plans, May 2006.

For CMS location 4 LPILE PlUS 5.0 Program was used to calculate the lateral deflection of the pile head. Depth of pile used was 22 feet. Maximum service level deflection in CMS location 4 was 0.15 in.which is less than the allowable lateral pile head deflection under service loads of 1 inch.

Hence CIDH pile of diameter 5 feet and minimum depth of 22 feet is recommended for CMS 1, 2, 3, 4 and 5. CIDH pile of diameter 4 feet and depth 18 feet is recommended for CMS 6 and 7.

Construction Considerations

Cave-in conditions will be encountered during CIDH pile construction of the CMS foundations. Slurry method construction may be necessary for CIDH pile construction at these locations. During CIDH construction reinforcing steel cage must be installed and concrete must be placed immediately upon completion and final clean out of the boring to prevent cave-in, sloughing, slaking or other problems.

The contractor's pile installation should be in accordance with the Caltrans Standard Specifications, section 49-4.03, to avoid negative effect on load capacity of piles.

Any questions regarding the above recommendations should be directed to the attention of Harihar Shiwakoti, (916) 227-5739 or Deh-Jeng Jang, (916) 227-5722 at the Office of Geotechnical Design South-1, Branch A.

Prepared by:

Harihar Shiwakoti
Transportation Engineer, Civil
Branch A

Reviewed by:

REGISTERED PROFESSIONAL ENGINEER
DEH-JENG JANG
No.GE2525
Exp 6/30/2009
GEOTECHNICAL
STATE OF CALIFORNIA

4/28/2008

Deh-Jeng Jang, Ph.D., P.E., G.E., PMP
Chief
Branch A

cc: GS File Room
OGDS-1 (Sacramento)
OGDS-I (Los Angeles)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Ora	5/22			

Deh-Jeng Jang 8-27-08
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

The State of California its officers agents compensate responsible for the use of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
Deh-Jeng Jang
No. 2525
Exp. 6-30-09
GEOTECHNICAL
STATE OF CALIFORNIA

This LOTB sheet was prepared in accordonce with the **Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).**

BENCH MARK

Boring elevations provided by the District Survey.

SB Rte 5

℄ Rte 5 — N 22°06'14"W

7 8 9 30 1 2

(NB Rte 5 PM 0.33)

CMS Location 1
Sta 27+92.5

CPT-08-101

, ℄ Rte 22 ,

9 120 1 2 3

CMS Location 2
Sta 120+53

(EB Rte 22 PM 1.72)

CPT-08-102

PLAN

1" = 50'

Note: Ground water was not measured during field investigation.

75.14' Rt Sta 28+30.95
℄ Rte 5

CPT-08-101

EL. 118.7'

120
110
100
90
80

Friction Ratio (%) 10 8 6 4 2 0 — Tip Bearing (tsf) 60 120 180 240 300

Terminated at EL. 97.9'
02-07-08

PROFILE
HOR. 1" = 10'
VER. 1" = 10'

28+00

Note: Ground water was not measured during field investigation.

' Rt Sta 119+62.37
℄ Rte 22

CPT-08-102

EL. 35.86'

40 30 70 10 0 -10 -

Friction Ratio (%) 10 8 6 4 2 0 — Tip Bearing (tsf) 60 120 180 240 300

Terminated at EL. - 14.7'
02-06-08

PROFILE
HOR. 1" = 10'
VER. 1" = 10'

119+00 119+50 120+00

ENGINEERING SERVICES	**GEOTECHNICAL** SERVICES	
FUNCTIONAL SUPERVISOR	DRAWN BY: F. Nguyen 06/08	FIELD INVESTIGATION BY:
NAME: D. Jang	CHECKED BY: H. P. Yang	H. Shiwakoti

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH

CU 12
EA 0H2321

BRIDGE NO.
POST MILES

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES | M.I. | OF

INSTALL CMS

LOG OF TEST BORINGS 1 OF 6

FILE => @REQUEST

cms1of6.dgn 8/27/2008 3:40:49 PM

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	73			

Deh-Jeng Jang 8-27-08
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Deh-Jeng Jang — No. 2525 — Exp. 6-30-09 — GEOTECHNICAL — STATE OF CALIFORNIA

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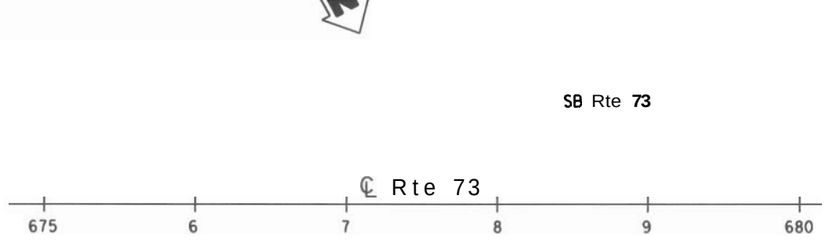
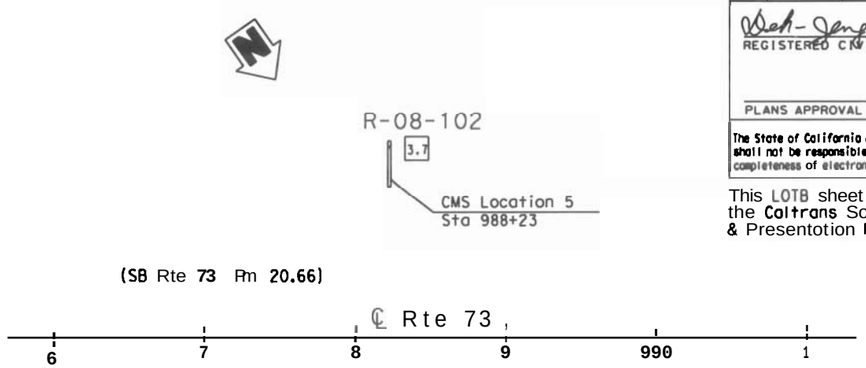
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentotion Manual (June 2007).

BENCH MARK

Boring elevations provided by the District Survey.

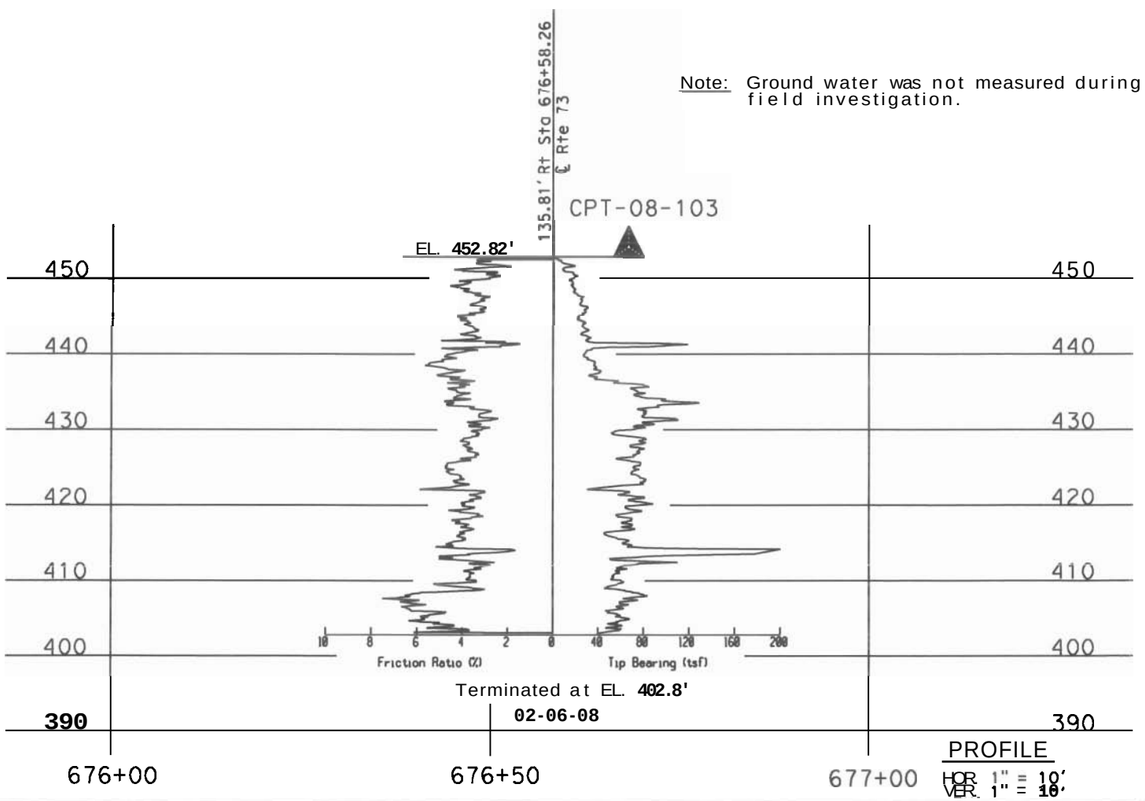




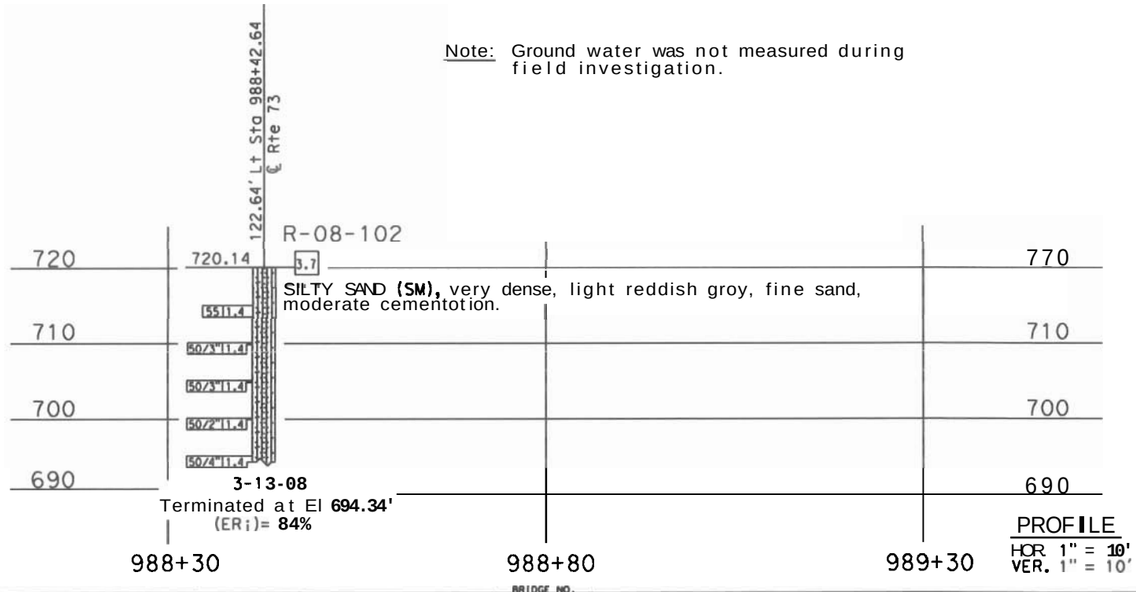
PLAN

1" = 50'

Note: Ground water was not measured during field investigation.



Note: Ground water was not measured during field investigation.



ENGINEERING SERVICES	GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	INSTALL CMS
FUNCTIONAL SUPERVISOR	DRAWN BY: F. Nguyen 08/08	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILES	LOG OF TEST BORINGS 2 OF 6
NAME: D. Jang	CHECKED BY: H. P. Yang	H. Shiwakoti		CU 12 EA 0H2321	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES / SHEET / OF

OGS CIVIL LOG OF TEST BORINGS SHEET — ORIGINAL SCALE IN INCHES FOR REDUCED PLANS — 0 1 2 3 — FILE => @REQUEST

cms2of6.dgn 8/27/2008 3:36:12 PM

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	73			

Deh-Jeng Jang 8-27-08
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Deh-Jeng Jang — No. 2525 — Exp. 6-30-09 — GEOTECHNICAL — STATE OF CALIFORNIA

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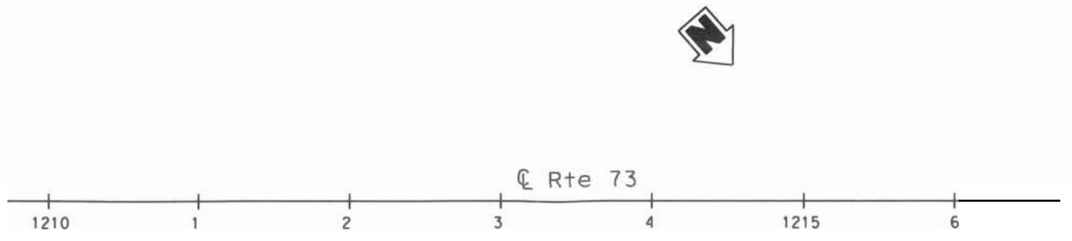
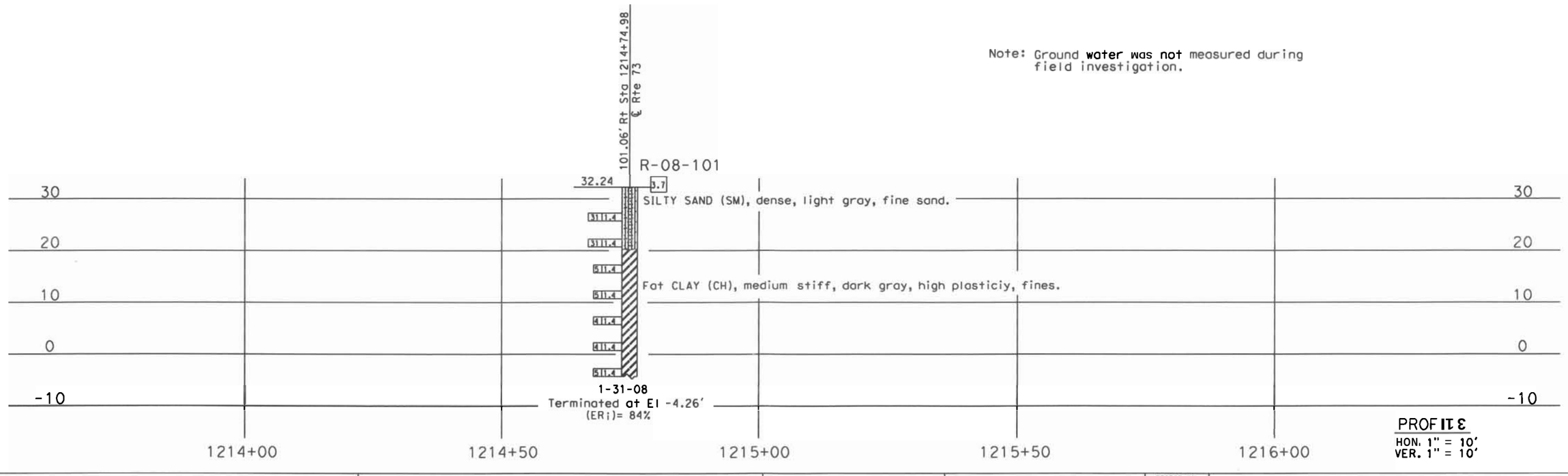
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).

BENCH MARK
Boring elevations provided by the District Survey.



PLAN
1" = 50'

Note: Ground water was not measured during field investigation.



PROFILE
HON. 1" = 10'
VER. 1" = 10'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	INSTALL CMS
FUNCTIONAL SUPERVISOR	DRAWN BY: F. Nguyen 08/08		DESIGN BRANCH	POST MILES	LOG OF TEST BORINGS 3 OF 6
NAME: D. Jang	CHECKED BY: H. P. Yang	FIELD INVESTIGATION BY: H. Shiwakoti	CU 12 EA 0H2321		

OGS CIVIL LOG OF TEST BORINGS SHEET — ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 — FILE => @REQUEST — DISREGARD PRINTS BEARING EARLIER REVISION DATES → — REVISION DATES 08-27-08 — SHEET — OF

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DIST	COUNTY	ROUTE	KILOUETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oro	74/90			

Deh-Jeng Jang 8-27-08
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Deh-Jeng Jang — No. 2525 — Exp. 6-30-09 — GEOTECHNICAL — STATE OF CALIFORNIA

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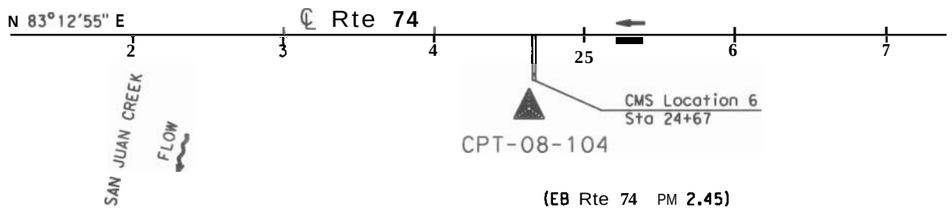
This LOTB sheet was prepared in accordonce with the Coltrons Soil & Rock Logging, Classification, & Presentation Manual (June 2007).

BENCH MARK

Boring elevotions provided by the District Survey.



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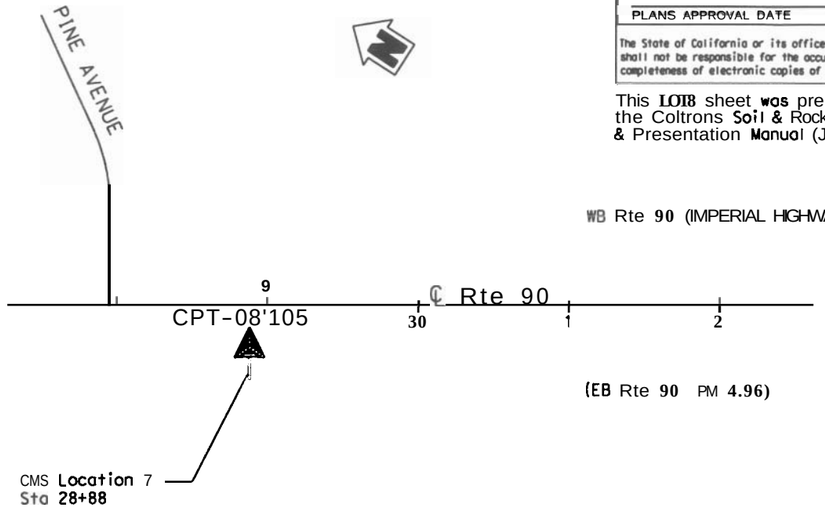
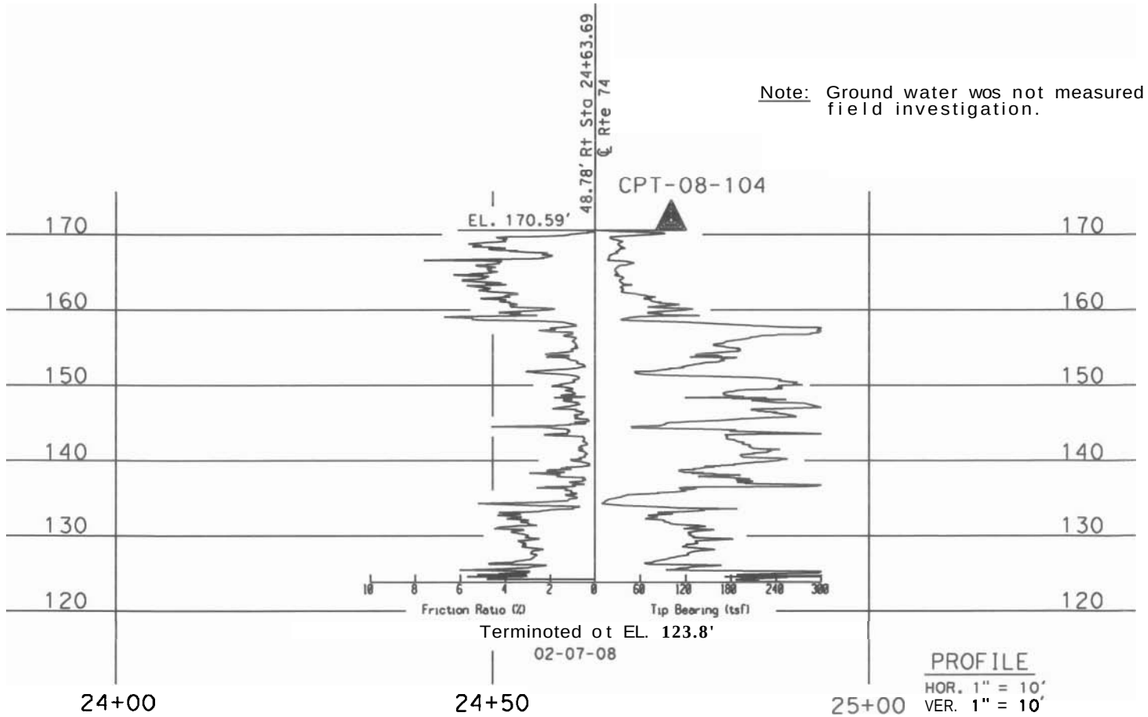


(EB Rte 90 PM 4.96)

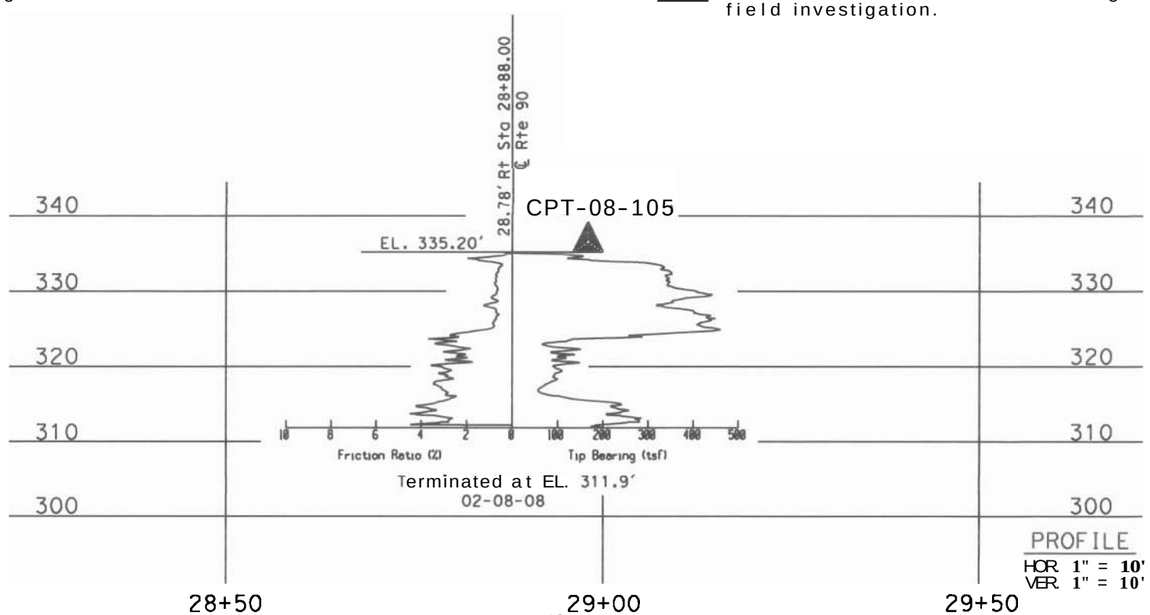
PLAN

1" = 50'

Note: Ground water wos not measured during field investigation.



Note: Ground water was not measured during field investigation.



ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE Of CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	INSTALL CMS
FUNCTIONAL SUPERVISOR	DRAWN BY: F. Nguyen 08/08	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILES	LOG OF TEST BORINGS 4 OF 6
NAME: D. Jong	CHECKED BY: H. P. Yang	H. Shiwakoti				
CIVIL LOG OF TEST BORINGS SHEET	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2		CU 12 EA 0H2321	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET OF

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REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	Var.			

Deh-Jeng Jang 8-27-08
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

Deh-Jeng Jang No. 2525 Exp. 6-30-09 REGISTERED PROFESSIONAL ENGINEER GEOTECHNICAL STATE OF CALIFORNIA

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CEMENTATION

Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
Size	A	Auger Boring
	R	Rotary drilled boring
Size	P	Rotary percussion boring (air)
Size	R	Rotary drilled diamond core
Size	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
●	D	Dynamic Cone Penetrotion Boring
▲	CPT	Cone Penetrotion Test (ASTM D 5778-95)
[ ]	O	Other

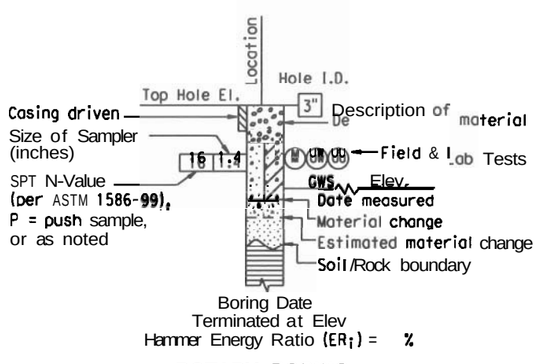
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

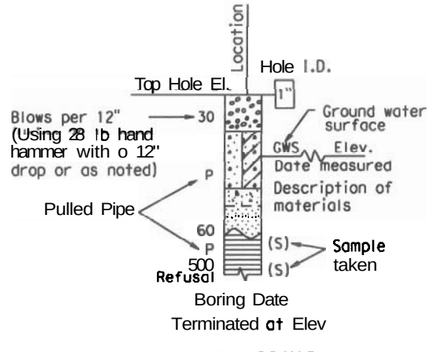
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
very Soft	< 0.25	< 0.25	< 0.12	Easily penetroted severol inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Reodily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

PLASTICITY OF FINE-QRAINED SOILS

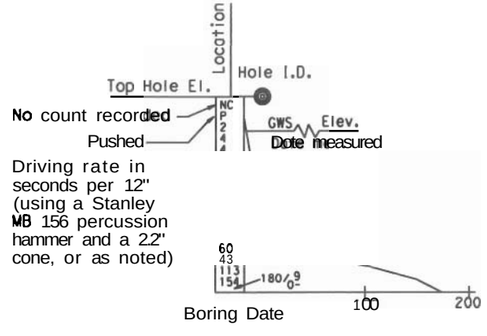
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
LOw	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



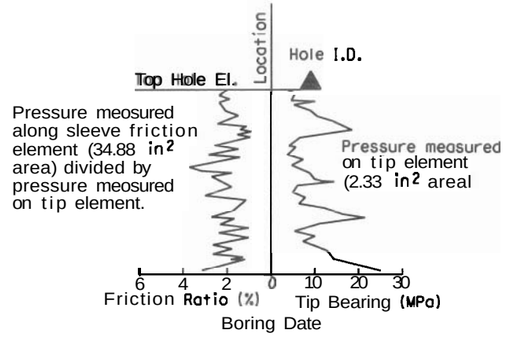
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.
	PREPARED BY: F. Nguyen 08/08		DESIGN BRANCH	XX
				POST MILE

INSTALL CMS

LOG OF TEST BORINGS 5 OF 6

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 12
EA 0H2321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES | SHEET | OF

08-27-08

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REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

GROUP SYMBOLS AND NAMES

Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND	CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
GP	Poorly graded GRAVEL Poorly groded GRAVEL with SAND		
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT ond SAND	CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND	ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GM	SILTY GRAVEL SILTY GRAVEL with SAND	OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND		
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND	OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL		
SP	Poorly graded SAND Poorly graded SAND with GRAVEL	CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL		
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL		
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
SM	SILTY SAND SILTY SAND with GRAVEL		
SC	CLAYEY SAND CLAYEY SAND with GRAVEL	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL		
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND
	COBBLES COBBLES and BOULDERS BOULDERS		

FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 2161
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Exponsion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 22161
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Lood Index (ASTM D 5731)
- (PM) Pressure Meter
- (PP) Pocket Penetrometer
- (R) R-Value (CTM 301)
- (SE) Sond Equivalent (CTM 2171
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (TV) Pocket Torvane
- (UC) Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)
- (VS) Vane Shear (AASHTO T 223)

DIST	COUNTY		KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	Var.			

Deh-Jeng Jang 8-27-08
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Deh-Jeng Jang — No. 2525 — Exp. 6-30-09 — GEOTECHNICAL — STATE OF CALIFORNIA

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APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE

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

PERCENT OR PROPORTION OF SOILS

Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE

Description		Size
Boulder		> 12"
Cobble		3" to 12"
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

ENGINEERING SERVICES

GEOTECHNICAL SERVICES

PREPARED BY: F. Nguyen 08/08

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN

DESIGN BRANCH

BRIDGE NO.

POST MILE

INSTALL CMS

LOG OF TEST BORINGS 6 OF 6

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
EA 0H2321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES | SHEET | OF

08-27-08

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AERIALLY DEPOSITED LEAD INVESTIGATION REPORT I-5 AND SR-22, 73, 74, AND 90 ORANGE COUNTY, CALIFORNIA TASK ORDER NO. 12-0H2321-06 EA NO. 0H2321, CONTRACT NO. 12A1139

PREPARED FOR:
State of California
Department of Transportation
District 12, Environmental Engineering
3337 Michelson Drive, Suite 380
Irvine, California 92612-8894

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
475 Goddard, Suite 200
Irvine, California 92618

April 30, 2008
Project No. 207384006

April 30, 2008
Project No. 207384006

Dr. Reza Aurasteh, P.E.
State of California Department of Transportation
District 12, Environmental Engineering
3337 Michelson Drive, Suite 380
Irvine, California 92612-8894

Subject: Aerially Deposited Lead Investigation Report
Interstate 5 and State Routes 22, 73, 74, and 90
Orange County, California
Task Order No. 12-0H2321-06
EA No. 0H2321
Contract No. 12A1139

Dear Dr. Aurasteh:

In accordance with Caltrans Contract No. 12A1139, Task Order No. 12-0H2321-06, Ninyo & Moore has conducted an Aerially Deposited Lead Investigation at selected locations along Interstate 5 and State Routes 22, 73, 74, and 90 in Orange County. The following report documents our methodologies, findings, conclusions, and recommendations.

We appreciate the opportunity to be of service to you on this project.

Sincerely,
NINYO & MOORE

Nancy J. Anglin, R.E.A.
Senior Engineer

Walter R. Crone, P.G. 4350, R.E.A.
Principal Environmental Geologist

PROFESSIONAL GEOLOGIST
WALTER R. CRONE
NO. 4350
EXP 03/09
STATE OF CALIFORNIA

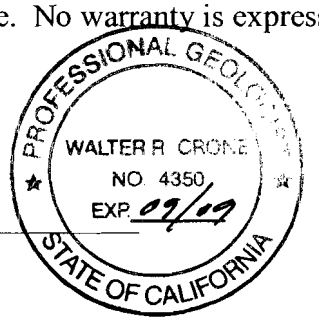
NA/DIS/WRC/jad/emp

Distribution: (7) Addressee (5 bound copies, 1 unbound copy, and 1 compact disc)

AERIALLY DEPOSITED LEAD INVESTIGATION REPORT
Task Order No. 12-0H2321-06
E.A. 0H2321

This report was prepared by the staff of Ninyo & Moore Geotechnical and Environmental Sciences Consultants under the supervision of the Engineer and/or Geologist whose signature appears hereon.

The findings, recommendations, specifications, or professional opinions are presented within the limits described by the client, after being prepared in accordance with generally accepted professional engineering and geologic practice. No warranty is expressed or implied.



Walter R. Crone, P.G. 4350, R.E.A.
Principal Environmental Geologist

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EXECUTIVE SUMMARY

The State of California Department of Transportation (Department) authorized Ninyo & Moore to conduct an Aerially Deposited Lead (ADL) Site Investigation (SI) of various locations near southbound Interstate 5 (I-5) and State Routes (SR-) 22, 73, 74, and 90 in Orange County, California (site). Work was conducted in general accordance with the Department Contract No. 12A1139, Task Order No. 12-0H2321-06 (TO No. 6), dated February 29, 2008. It is our understanding that the Department is proposing to install changeable message signs (CMS) at seven locations (Sites 1 through 7).

This investigation was performed to evaluate the presence of lead in soil resulting from the combustion of leaded fuel from freeway traffic. Data collected during this investigation were used to develop recommendations for the potential reuse or disposal of soil excavated from the site and to inform the Department of potential health and safety issues concerning the presence of lead in soil for workers at the site during construction activities.

Ninyo & Moore collected 35 soil samples from nine borings at the seven sites. One of the 35 samples (B2-0.5) contained a total lead concentration greater than or equal to 50 milligrams per kilogram (mg/kg) and was analyzed for soluble lead using the Waste Extraction Test (WET) with citric acid (WET-citric acid) method. That sample contained soluble lead at concentrations greater than or equal to 5.0 milligrams per liter (mg/l) and was further analyzed for soluble lead using the WET with deionized water (WET-DI) method and the Toxicity Characteristic Leaching Procedure (TCLP). That sample contained soluble lead using the WET-DI method at a concentration greater than or equal to 0.5 mg/l but soluble lead using the TCLP at a concentration less than 5.0 mg/l. Approximately 10 percent (4 samples) were analyzed for pH. The pH levels ranged from 7.9 to 8.4, which would not be classified as Resource Conservation and Recovery Act (RCRA) hazardous waste and are above the lower limit of 5.0.

Our recommendations for soil reuse on site are based on the guidelines set forth by the California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC), Lead Variance issued to the Department in October 2000 that was subsequently modified by Assembly Bill 414, a DTSC Variance modification letter dated December 13, 2002, and a subse-

quent extension dated February 8, 2007 (DTSC Variance). Laboratory analytical results for lead were compared to the guidelines of the DTSC Variance for potential reuse of the soil as fill within the Department right-of-way (R/W).

Our recommendations for off site disposal were based on the comparison of total and soluble lead concentrations in soil samples to the DTSC Variance thresholds, the California Health and Safety Code thresholds, and 40 Code of Federal Regulations (CFR) 261.24 thresholds.

Based on the analytical results and data evaluation, the on-site reuse and the off site disposal recommendations are summarized below.

Recommendations for Soil for Reuse by the Department

- Soil in the seven CMS locations is suitable for on-site reuse by the Department with respect to total and soluble lead concentrations without restrictions based on lead with the exception of soil in the surface layer of Site 2.

- Soil in the surface layer of Site 2 is suitable for on-site reuse by the Department with respect to total and soluble lead concentrations. If this soil is to be reused, it should be managed under the conditions of reuse – Condition 2. Condition 2 allows the soil to be used as fill in the Department R/W provided this soil is placed a minimum of 5 feet above the maximum level of the water table and protected from infiltration with a paved structure that will be maintained by the Department.

Recommendations for Soil to be Disposed Off Site

- If the Department elects to dispose the soil off site, soil in the seven CMS locations has no restrictions based on lead with the exception of soil in the surface layer of Site 2.

- If the Department elects to dispose soil in the surface layer of Site 2 off site, this soil should be classified as California hazardous waste, because the predicted WET-citric acid soluble lead concentration exceeds the Soluble Threshold Limit Concentration (STLC) of 5.0 mg/l in this layer, and therefore should be disposed at a Class 1 hazardous waste facility.

The Department should notify the contractors performing the construction activities that hazardous concentrations of lead could be present in isolated on-site locations, but as a whole (with the exception the soil in the surface layer of Site 2), the sites would be considered non-

hazardous. Appropriate health and safety measures should be taken to minimize the potential exposure to lead.

1. INTRODUCTION

The State of California Department of Transportation (Department) authorized Ninyo & Moore to conduct an Aerially Deposited Lead (ADL) Site Investigation (SI) of various locations near southbound Interstate 5 (I-5) and State Routes (SR-) 22, 73, 74, and 90 in Orange County, California (Sites 1 through 7; Figure 1). Work was conducted in general accordance with the Department Contract No. 12A1139, Task Order No. 12-0H2321-06 (TO No. 6), dated February 29, 2008.

This report has been prepared by Ninyo & Moore to document the results of a study to evaluate the potential presence of ADL along the unpaved shoulder and slope in the area of the site.

1.1. Project Description and Objective

It is our understanding that the Department is proposing to install changeable message signs (CMS) at seven locations. Nine borings were augered at the seven location, one boring each at Sites 1, 2, 3, 4, and 7, and two borings each at Sites 5 and 6 (Construction Details 1 through 7).

This investigation was performed to evaluate the potential presence of ADL along the road shoulders of the site before excavation of soil begins as part of the CMS installation project.

1.2. Scope of Work

Ninyo & Moore performed the following tasks:

1.2.1. Prefield Activities

Prefield activities included:

- Preparing a site specific health and safety plan (HSP),
- Marking boring locations at the site,
- Notifying Underground Service Alert (USA) that Ninyo & Moore would be advancing soil borings in the area (USA ticket numbers A80740848, A80740862, A80740868, A80740882, A80740895, A80740908, and A80740923),

- Preparing a project schedule, and coordinating work with subcontractors.

1.2.2. Soil Sampling

Soil sampling was conducted on March 18 through 19, 2008. Nine sampling locations (B1 through B9) were located as shown on Construction Details 1 through 7. The borings were advanced and sampled using a hand auger. Four soil samples were collected from depths of ½ foot, 1½ feet, 3 feet, and 4 feet below ground surface (bgs). The target depth of the borings was 4 feet bgs. Eight borings were advanced to 4 feet bgs, and refusal was encountered at 3 feet bgs in one boring (B8 at Site 6).

1.2.3. Laboratory Analysis

Ninyo & Moore submitted the soil samples under chain of custody to Advanced Technology Laboratories (ATL) of Signal Hill, California, a laboratory certified by the State of California Department of Health Services Environmental Laboratory Accreditation Program (ELAP).

1.2.4. GPS Surveying

Approximate latitude and longitude (North American Datum [NAD] 83) of sampling locations were recorded with a handheld Global Positioning System (GPS) unit (GeoXT, Trimble). The latitude and longitude data for each boring is presented on Table 1.

1.2.5. Report Preparation

This report was prepared in general accordance with Department Contract No. 12A1139 and TO No. 6 dated February 29, 2008.

1.3. Previous Site Investigations

Ninyo & Moore has not performed previous investigations at this site. In addition, the Department has not notified Ninyo & Moore of previous investigations performed at the site.

2. BACKGROUND

The Department obtained a variance (00-H-VAR-02) from the California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC), on October 2000 that was subsequently modified by Assembly Bill 414, a DTSC Variance modification letter dated December 13, 2002, and a subsequent extension dated February 8, 2007 (DTSC Variance). The DTSC Variance allows for conditional reuse of lead-impacted soil within the Department right-of-way (R/W). Background information regarding the source of ADL and the reuse and/or disposal of lead-impacted soil is discussed in the following sections:

2.1. Aerially Deposited Lead in Soil

Analyses for lead in soil along highways throughout the state of California have found that lead is commonly present along the shoulders of the highways as a result of automobile exhaust containing lead from the combustion of leaded gasoline. Elevated concentrations of lead are commonly found in the upper 2 feet of soil. Lead concentrations in soil are dependent on many variables, but in general, are a function of the age of the highway and the volume of traffic using the highway (DTSC, 2000).

2.2. Hazardous Waste Classification Criteria

Soil that exceeds the following limitations may be classified as hazardous waste with respect to lead concentrations:

- The soil contains more than 1,000 milligrams per kilogram (mg/kg) total lead, exceeding the Total Threshold Limit Concentration (TTLC) for California hazardous waste (Title 22 California Code of Regulations [CCR], Section 66261.24);
- The soil contains more than 5.0 milligrams per liter (mg/l) citric acid-extractable lead, exceeding the Soluble Threshold Limit Concentration (STLC) for California hazardous waste (Title 22 CCR, Section 66261.24);
- The soil contains more than 5.0 mg/l leachable lead using the Toxicity Characteristic Leaching Procedure (TCLP), exceeding the maximum concentration for the Toxicity Characteristic of the Resource, Conservation, and Recovery Act (RCRA; Title 40 Code of Federal Regulations [CFR] 261.24); or

- The soil pH is less than or equal to 2.0 or greater than or equal to 12.5, which exceeds the limits for the Corrosivity Characteristic of RCRA hazardous waste (40CFR 261.22).

2.3. DTSC Variance

In accordance with the DTSC Variance, soil that is subject to the guidelines presented below may be reused within the Department R/W.

2.3.1. Reuse – Condition 1

Soil containing less than 0.5 mg/l extractable lead by the Waste Extraction Test (WET) using de-ionized water as the extractant (WET-DI) and less than or equal to 1,411 mg/kg total lead (United States Environmental Protection Agency [EPA] Method 6010B) may be used as fill in the Department R/W provided the soil is placed a minimum of 5 feet above the maximum level of the water table and covered with at least 1 foot of non-hazardous soil.

2.3.2. Reuse – Condition 2

Soil containing greater than or equal to 0.5 mg/l but less than 50 mg/l extractable lead by WET-DI method, and more than 1,411 mg/kg total lead but less than 3,397 mg/kg total lead, may be used as fill in the Department R/W provided the soil is placed a minimum of 5 feet above the maximum level of the water table and protected from infiltration by a paved structure that will be maintained by the Department.

2.3.3. Reuse – Condition 3

Soil that has a pH value less than 5.0 may only be used as fill material under the paved portion of the roadway. The condition takes precedence over Conditions 1 and 2.

2.4. Criteria for Disposal of Soil not Intended for Reuse On Site

If the Department elects to reuse soil within the Department R/W that has been excavated during construction activities, the soil may be classified either as hazardous waste or non-hazardous waste. The distinction is based on the total and soluble lead concentrations com-

pared to the TTLC and STLC criteria. As mentioned in Section 2.2, the TTLC for total lead is 1,000 mg/kg and the STLC for citric acid extractable lead is 5.0 mg/l. Waste containing lead concentrations in excess of or equal to those listed must be disposed at a Class I hazardous waste disposal facility pursuant to State of California regulations.

3. INVESTIGATION METHODS

The investigation activities are described in the following subsections and were conducted in general accordance with TO No. 6 that was approved by the Department prior to beginning the field activities.

3.1. Health and Safety Plan (HSP)

A site-specific HSP dated March 17, 2008, was prepared by Ninyo & Moore and submitted to the Department for approval prior to commencing field work.

3.2. Utility Clearance

The boring locations were described to USA during the notification at least 48 hours prior to conducting the soil sampling. USA marked the member utilities known to be in the vicinity of the boring locations.

3.3. Hand-Auger Sampling

The field work was conducted on March 18 through 19, 2008. The boring locations were approved by the Department Task Order Manager and are shown on the attached Department Construction Details 1 through 7. Four samples were attempted for collection from each of the nine boreholes at depths of 0 to ½ foot, 1½ to 2 feet, 2½ to 3 feet, and 3½ to 4 feet bgs unless refusal was encountered. Refusal was encountered in one boring (B8 at 3 feet bgs). That boring was stepped out approximately 3 feet and attempted again. Refusal was encountered again and the boring was terminated. The depths reached for each boring are presented on Table 1.

Samples were placed into new, 4-ounce, glass jars, capped with Teflon-coated plastic lids, labeled, placed in a resealable plastic bag, and stored in a cooler. The sampling equipment was decontaminated between each boring. Soil samples were transferred under chain-of-custody (COC) protocol to ATL within 24 hours of collection. In accordance with TO No. 6, soil sample homogenization was performed in the laboratory.

Traffic control was provided by the American Barricade. Hand augering was conducted by Ninyo & Moore personnel.

3.4. Investigative-Derived Wastes

Soil cuttings generated by hand-auger drilling were returned to their corresponding bore-holes after collection of soil samples. Decontamination water was transported to Ninyo & Moore's Irvine office and placed in a drum pending chemical characterization. Based on the result of the decontamination water sample (non-detect), the decontamination water was subsequently disposed in the sanitary sewer.

3.5. Laboratory Analyses

Once the samples were received by ATL, the samples were homogenized and analyzed for the following:

- Thirty-five samples were analyzed for total lead using EPA Method 6010B;
- One sample contained a total lead concentration greater than or equal to 50 mg/kg and was analyzed for soluble lead using the WET-citric acid method (EPA Method 7420);
- That sample analyzed using the WET-citric acid method contained a soluble lead concentration greater than or equal to 5.0 mg/l and was analyzed for soluble lead using the WET-DI method and the TCLP method (EPA Methods 7420 and 1311/7420, respectively);
- Approximately 10 percent of the soil samples (4 samples) were analyzed for pH using EPA Method 9045; and
- One sample of the decontamination water was analyzed for total lead using EPA Method 6010B.

4. ANALYTICAL RESULTS

The results of this investigation are described in the following subsections. The analytical results of lead and pH are summarized in Table 1, and the sampling locations are shown on Department Construction Details 1 through 7. Laboratory reports and COC records are included in Appendix A.

4.1. Total Lead

Ten of the 35 samples contained total lead at concentrations ranging from the reporting limit of 5.0 mg/kg to 350 mg/kg at the site (Table 1). The highest reported total lead concentration was in the surface sample collected from boring B2. The arithmetic mean of the total lead concentrations for the 35 samples is 15.39 mg/kg (half the reporting limit, 2.5 mg/kg, is used in the mean calculation for the samples where lead was not detected).

The decontamination water sample did not contain reportable concentrations of lead.

4.2. Soluble Lead – Citric Acid

One of the 35 samples (B2-0.5) contained total lead at a concentration greater than or equal to 50 mg/kg and was analyzed for soluble lead using the WET-citric acid method. That sample contained soluble lead at a concentration greater than or equal to the STLC of 5.0 mg/l. Soluble lead using the WET-citric acid method was detected at a concentration of 8.9 mg/l.

4.3. Soluble Lead – DI

The sample analyzed for soluble lead using the WET-citric acid method contained a concentration greater than or equal to 5.0 mg/l and was analyzed for soluble lead using the WET-DI method. The sample contained soluble lead using WET-DI at a concentration of 11 mg/l (greater than or equal to 0.5 mg/l).

4.4. Leachable Lead

The sample analyzed for soluble lead using the WET-citric acid method contained concentrations greater than or equal to 5.0 mg/l and was analyzed for soluble lead using the TCLP. The sample contained soluble lead at a concentration of 3.4 mg/l (less than 5.0 mg/l).

4.5. pH

Approximately 10 percent of the samples collected (4 samples) were analyzed for pH. The pH levels ranged from 7.9 to 8.4. The arithmetic mean of the pH levels for the 4 samples is 8.1. These soil pH values are not characteristic of RCRA hazardous waste and are above the lower limit of 5.0 specified in the DTSC Variance.

5. STATISTICAL EVALUATION

Because only one sample contained total lead concentrations in excess of 50 mg/kg, that location and layer were treated as a hot spot and statistical analyses were not performed.

6. CONCLUSIONS

The analyses of the data indicate that the surface layers tend to have the highest concentrations of total lead, followed by the 1½-, 3-, and then the 4-foot layers. Assuming the soil has not been disturbed since construction of the routes in the site vicinities, concentrations of total lead would be expected to decrease with depth.

One sample was analyzed using the WET-citric and WET-DI methods and contained soluble lead at concentrations of greater than or equal to 5.0 mg/l and 0.5 mg/l, respectively. The sample was also analyzed using the TCLP method and did not contain soluble lead at concentrations greater than or equal to 5.0 mg/l.

Based on the analytical results, the conclusions for the Sites are summarized below.

6.1. Conclusion for Soil for Reuse by the Department

With the exception of the surface layer at Site 2, soil at the Sites would be considered non-hazardous with respect to lead. Soil in the surface layer at Site 2 had a total lead concentration of 350 mg/kg and a soluble lead concentration by WET-DI of greater than 0.5 mg/l but less than 50 mg/l. Therefore, this soil would be subject to restrictions as stated in the DTSC variance.

6.2. Conclusion for Soil to be Disposed Off Site

With the exception of the surface layer at Site 2, soil at the Sites would be considered non-hazardous with respect to lead. If soil in the surface layer at Site 2 is disposed off site, it would be classified as a California hazardous waste with respect to soluble lead concentrations.

The laboratory results are presented in Table 1 and shown on Construction Details 1 through 7.

7. RECOMMENDATIONS

Based on the findings of this study, recommendations (based on the ADL sampling) are summarized on block diagrams in Appendix B and are discussed below:

7.1. Recommendations for Soil for Reuse by the Department

- Soil in the seven CMS locations is suitable for on-site reuse by the Department with respect to total and soluble lead concentrations without restrictions based on lead with the exception of soil in the surface layer of Site 2.

- Soil in the surface layer of Site 2 is suitable for on-site reuse by the Department with respect to total and soluble lead concentrations. If this soil is to be reused, it should be managed under the conditions of reuse – Condition 2. Condition 2 allows the soil to be used as fill in the Department R/W provided this soil is placed a minimum of 5 feet above the maximum level of the water table and protected from infiltration with a paved structure that will be maintained by the Department.

7.2. Recommendations for Soil to be Disposed Off Site

- If the Department elects to dispose the soil off site, soil in the seven CMS locations has no restrictions based on lead with the exception of soil in the surface layer of Site 2.
- If the Department elects to dispose soil in the surface layer of Site 2 off site, this soil should be classified as California hazardous waste, because the predicted WET-citric acid soluble lead concentration exceeds the STLC of 5.0 mg/l in this layer, and therefore should be disposed at a Class 1 hazardous waste facility.

8. HEALTH EFFECTS OF LEAD

Concentrations of lead in soil at the site represent a potential threat to the health of site workers performing earthwork activities.

Lead in its element form is a heavy, ductile, soft, gray metal. The permissible exposure limit (PEL) for lead is 0.05 milligrams per cubic meter (mg/m^3) in air based on an eight-hour time-weighted average (TWA); Immediately Dangerous to Life and Health (IDLH) exposure limit is 100 mg/m^3 as established by the National Institute of Occupational Safety and Health (NIOSH). Exposure may produce several symptoms including weakness, eye irritation, facial pallor, pale eyes, lassitude, insomnia, anemia, tremors, malnutrition, constipation, paralysis of the wrists and ankles, abdominal pain, colic, nephropathy, encephalopathy, gingival lead line, hypertension, anorexia, and weight loss. Target organs are the central nervous system, kidneys, eyes, blood, gingival tissue, and the gastrointestinal tract.

Because of the potential hazard from exposure to lead-contaminated soil, a lead HSP should be prepared by a Certified Industrial Hygienist (CIH). In addition, all site workers (earthwork) should have completed a training program meeting the requirements of 29 CFR/910.120 and 8 CCR 1532.1. The plan developed by the CIH should include a hazard analysis, dust control measures, air monitoring, signage, work practices, emergency response plans, personal protective equipment, decontamination, and documentation.

9. LIMITATIONS

The services outlined in this report have been conducted in a manner generally consistent with current regulatory guidelines. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Ninyo & Moore's opinions are based on an analysis of observed conditions and on information obtained from third parties. It is likely that variations in soil conditions may exist.

The samples collected and chemically analyzed and the observations made are believed to be representative of the general area evaluated; however, conditions can vary significantly between sampling locations. The interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and measure the concentration of selected chemical or physical constituents in samples collected from the site. The analyses have been conducted by an independent laboratory certified by the State of California to conduct such analyses. Ninyo & Moore has no involvement in, or control over, such analyses and has no means of confirming the accuracy of laboratory results. Ninyo & Moore, therefore, disclaims any responsibility for inaccuracy in such laboratory results.

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 wants any additional information, or has questions regarding content, interpretations presented, or completeness of this document. Opinions and judgments expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal opinions

For individuals with sensory disabilities, this document is available in alternate formats upon request. For any questions regarding this document, please call or write Marta Halabi, Project Delivery, Environmental Engineering, 3337 Michelson Drive, Suite 380, Irvine, California 92612-8894. Phone Number 949-724-2739..

10. REFERENCES

Department of Toxic Substance Control (DTSC), 2000, Variance (no 00-H-VAR-02), dated September 22.

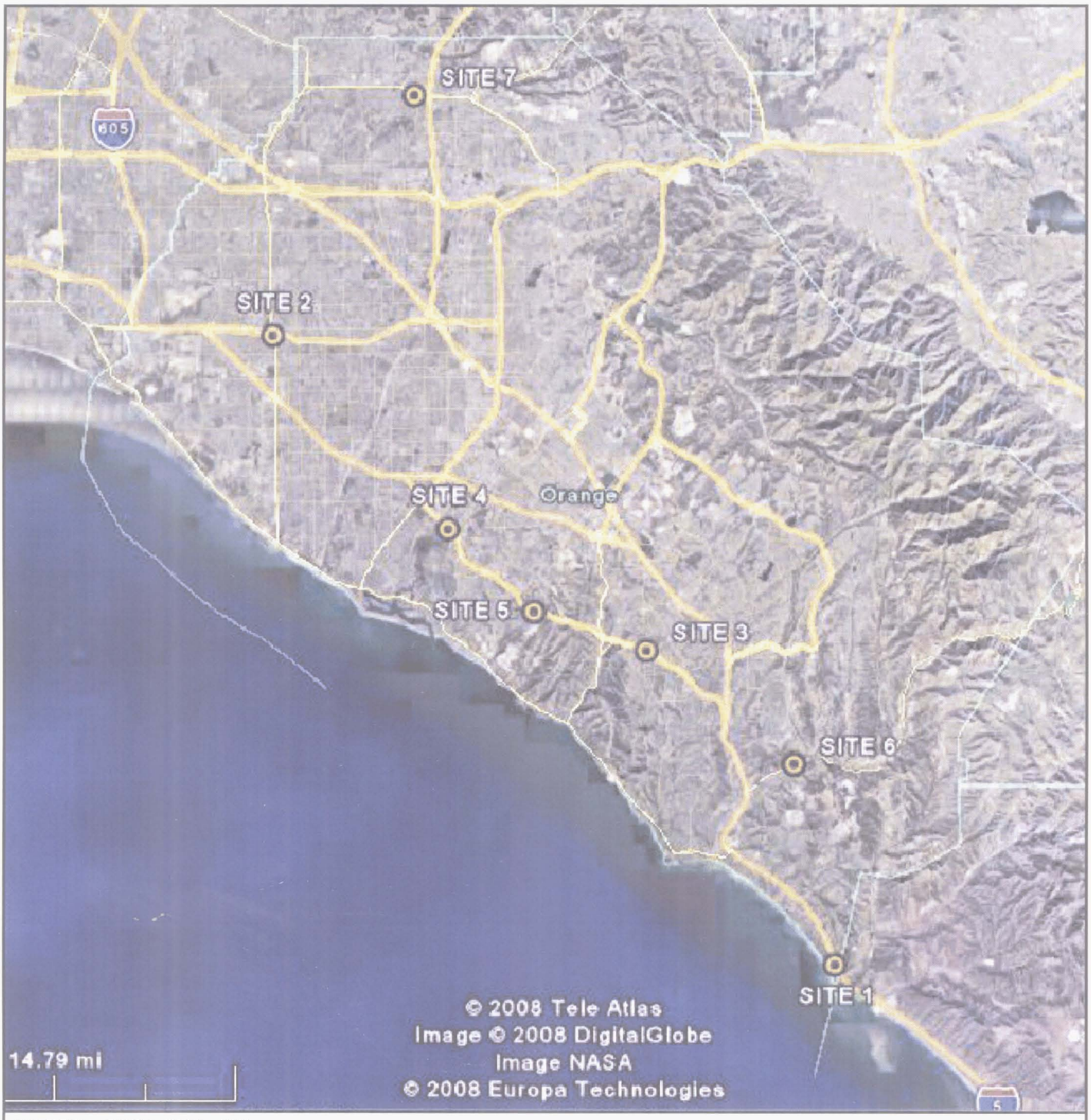
Department of Toxic Substance Control (DTSC), 2002, Lead Contaminated Soil Variance Modification, Caltrans District 12, dated December 13.

Department of Toxic Substance Control (DTSC), 2007, Lead Contaminated Soil Variance Modification, Caltrans District 12, dated February 8.

TABLE 1 – SOIL ANALYTICAL RESULTS – AERIALLY DEPOSITED LEAD, pH, AND GPS COORDINATES

Site	Sample	Sample Depth (feet)	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH	Latitude	Longitude
1	B1-0.5	0.5	45					33.4008570	-117.5957430
	B1-1.5	1.5	ND <5.0						
	B1-3	3.0	ND <5.0						
	B1-4	4.0	ND <5.0						
2	B2-0.5	0.5	350	8.9	11	3.4		33.7712470	-117.9906430
	B2-1.5	1.5	ND <5.0						
	B2-3	3.0	ND <5.0						
	B2-4	4.0	ND <5.0						
3	B3-0.5	0.5	ND <5.0					33.5859310	-117.7281220
	B3-1.5	1.5	ND <5.0						
	B3-3	3.0	ND <5.0						
	B3-4	4.0	ND <5.0						
4	B4-0.5	0.5	6.9					33.6573660	-117.8672810
	B4-1.5	1.5	18				8.4		
	B4-3	3.0	ND <5.0						
	B4-4	4.0	21						
5	B5-0.5	0.5	ND <5.0					33.6088550	-117.8066170
	B5-1.5	1.5	ND <5.0						
	B5-3	3.0	ND <5.0				7.9		
	B5-4	4.0	ND <5.0						
	B6-0.5	0.5	ND <5.0					33.6088900	-117.8071240
	B6-1.5	1.5	ND <5.0						
	B6-3	3.0	ND <5.0						
	B6-4	4.0	ND <5.0						
6	B7-0.5	0.5	5.4					33.5190610	-117.6245040
	B7-1.5	1.5	5.4						
	B7-3	3.0	ND<5.0						
	B7-4	4.0	ND<5.0				8.1		
	B8-0.5	0.5	6.4					33.5191040	-117.6240950
	B8-1.5	1.5	5.9						
	B8-3	3.0	ND<5.0						
7	B9-0.5	0.5	12				8.1	33.9130360	-117.8915430
	B9-1.5	1.5	ND <5.0						
	B9-3	3.0	ND <5.0						
	B9-4	4.0	ND <5.0						
Maximum			350	8.9	11	3.4	8.4		
Minimum			<5.0	8.9	11	3.4	7.9		
Average			15.39	8.9	11	3.4	8.1		
DTSC Variance Thresholds			1,411 or 3,397	≤ 5	≤ 0.5		≤ 5		
CCR Thresholds			≤ 1000	≤ 5					
FCR Thresholds						≤ 5	≤ 2 or ≥ 12.5		
Decontamination Water (mg/l)									
	Decon		ND <0.25						

Notes:
mg/kg – milligrams per kilogram
mg/l – milligrams per liter
TTLC – total lead for comparison to the Total Threshold Limit Concentration
WET – Waste Extration Test
WET-citric – soluble lead by WET using citric acid for comparison to the Soluble Threshold Limit Concentration
WET-DI – soluble lead by WET using deionized water for comparison to the Soluble Threshold Limit Concentration
TCLP – soluble lead by the Toxicity Characteristic Leaching Procedure
ND – None detected above the reporting limit



REFERENCE: GOOGLE EARTH, 2008.

APPROXIMATE SCALE IN FEET

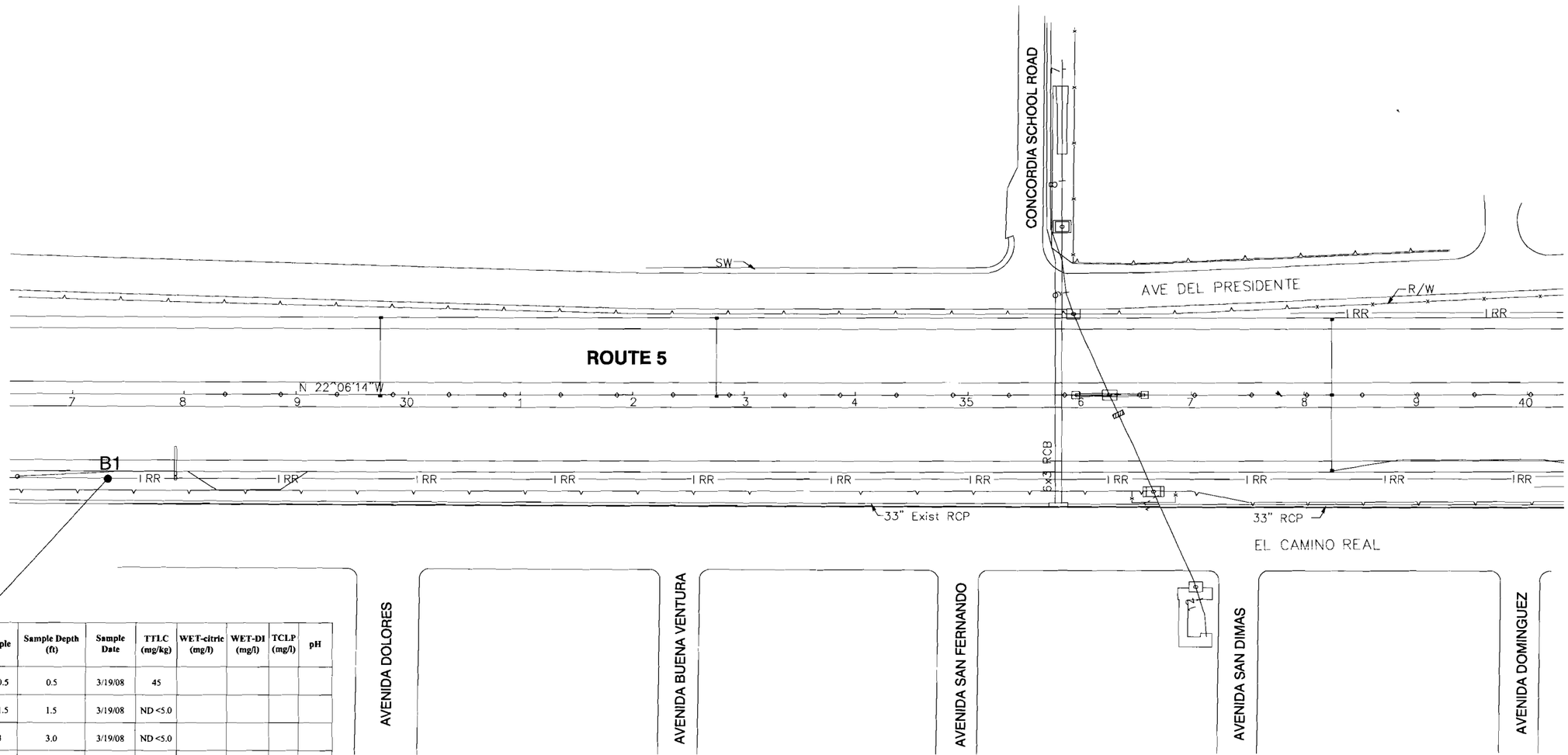
0 40,000 80,000

N

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

207384-A8.DWG

Ninyo & Moore	SITE LOCATION MAP	FIGURE
PROJECT NO. 207384006 / DATE 4/08	I-5 AND SR-22, 73, 74 AND 90 ORANGE COUNTY, CALIFORNIA	1



Sample	Sample Depth (ft)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B1-0.5	0.5	3/19/08	45				
B1-1.5	1.5	3/19/08	ND <5.0				
B1-3	3.0	3/19/08	ND <5.0				
B1-4	4.0	3/19/08	ND <5.0				

LEGEND	
B1 ●	APPROXIMATE BORING LOCATION

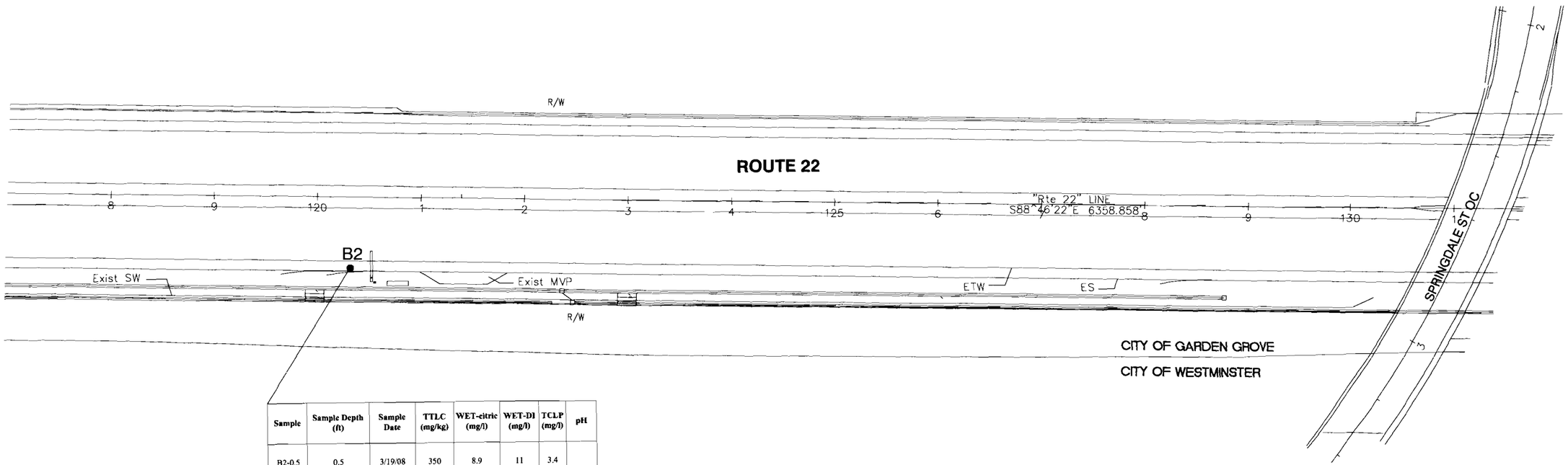
APPROXIMATE SCALE IN FEET

0 100 200

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

207384-B1.DWG

Ninyo & Moore	BORING DATA MAP-SITE 1	CONSTRUCTION DETAIL
PROJECT NO. 207384006 / DATE 4/08	I-5 AND SR-22, 73, 74 AND 90 ORANGE COUNTY, CALIFORNIA	1



Sample	Sample Depth (ft)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B2-0.5	0.5	3/19/08	350	8.9	11	3.4	
B2-1.5	1.5	3/19/08	ND <5.0				
B2-3	3.0	3/19/08	ND <5.0				
B2-4	4.0	3/19/08	ND <5.0				

N

APPROXIMATE SCALE IN FEET

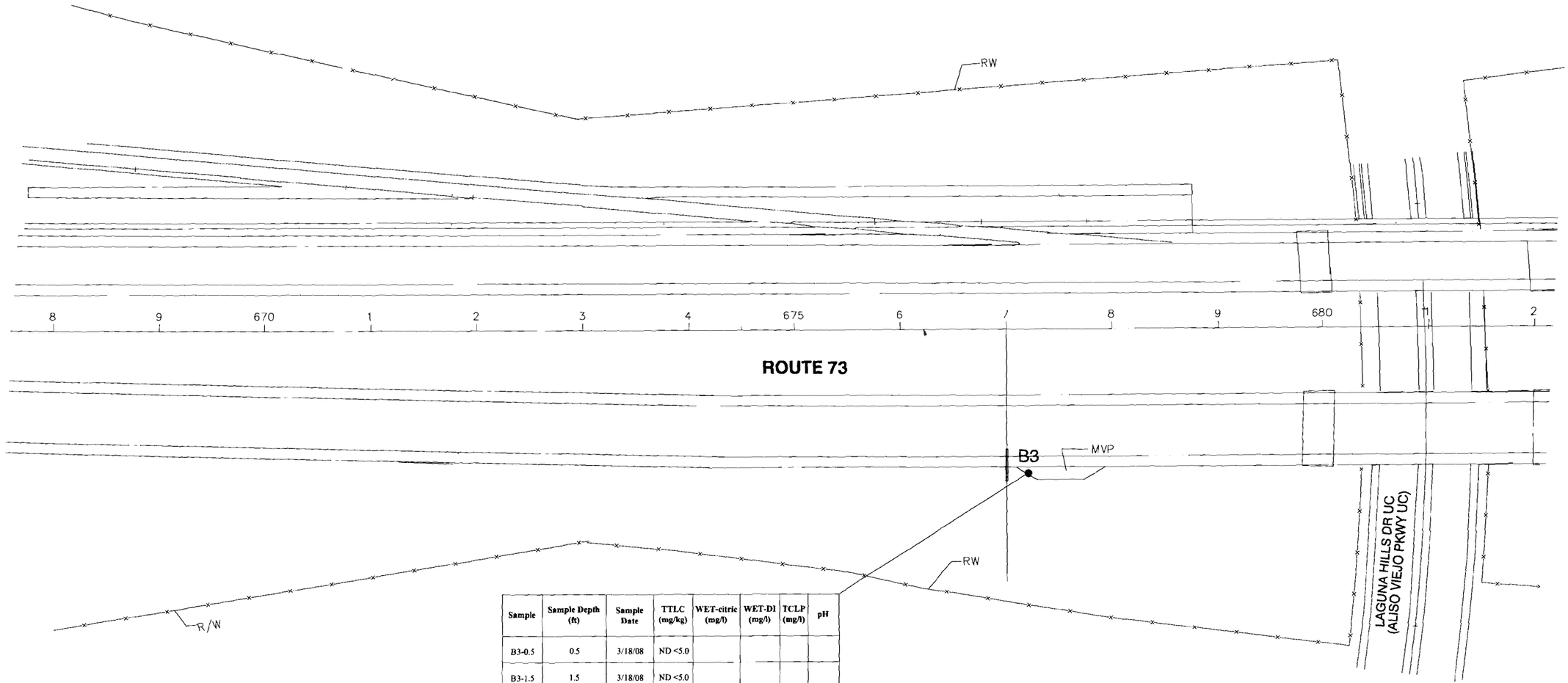
0 100 200

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND	
B2 ●	APPROXIMATE BORING LOCATION

207384-B2.DWG

Ninyo & Moore	BORING DATA MAP-SITE 2	CONSTRUCTION DETAIL
PROJECT NO. 207384006	DATE 4/08	I-5 AND SR-22, 73, 74 AND 90 ORANGE COUNTY, CALIFORNIA	2



Sample	Sample Depth (ft)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B3-0.5	0.5	3/18/08	ND <5.0				
B3-1.5	1.5	3/18/08	ND <5.0				
B3-3	3.0	3/18/08	ND <5.0				
B3-4	4.0	3/18/08	ND <5.0				

LEGEND

B3 ● APPROXIMATE BORING LOCATION

APPROXIMATE SCALE IN FEET

0 100 200

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

207384-B3.DWG

Ninyo & Moore

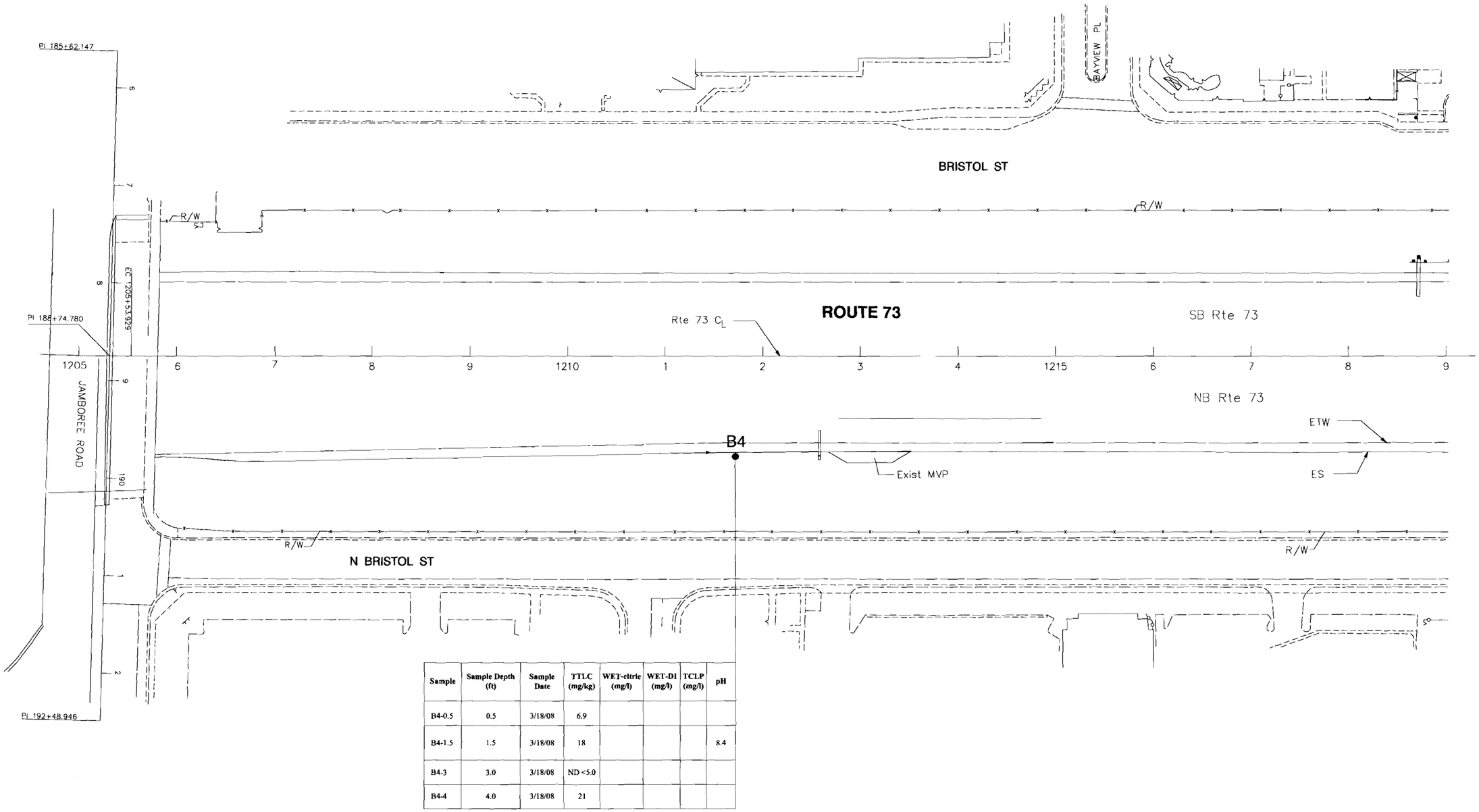
PROJECT NO.	DATE
207384006	4/08

BORING DATA MAP-SITE 3

I-5 AND SR-22, 73, 74 AND 90
ORANGE COUNTY, CALIFORNIA

CONSTRUCTION DETAIL

3



Sample	Sample Depth (ft)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B4-0.5	0.5	3/18/08	6.9				
B4-1.5	1.5	3/18/08	18				8.4
B4-3	3.0	3/18/08	ND <5.0				
B4-4	4.0	3/18/08	21				

APPROXIMATE SCALE IN FEET

0 100 200

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND	
B4 ●	APPROXIMATE BORING LOCATION

Ninyo & Moore

PROJECT NO.	DATE
207384006	4/08

BORING DATA MAP-SITE 4

I-5 AND SR-22, 73, 74 AND 90
ORANGE COUNTY, CALIFORNIA

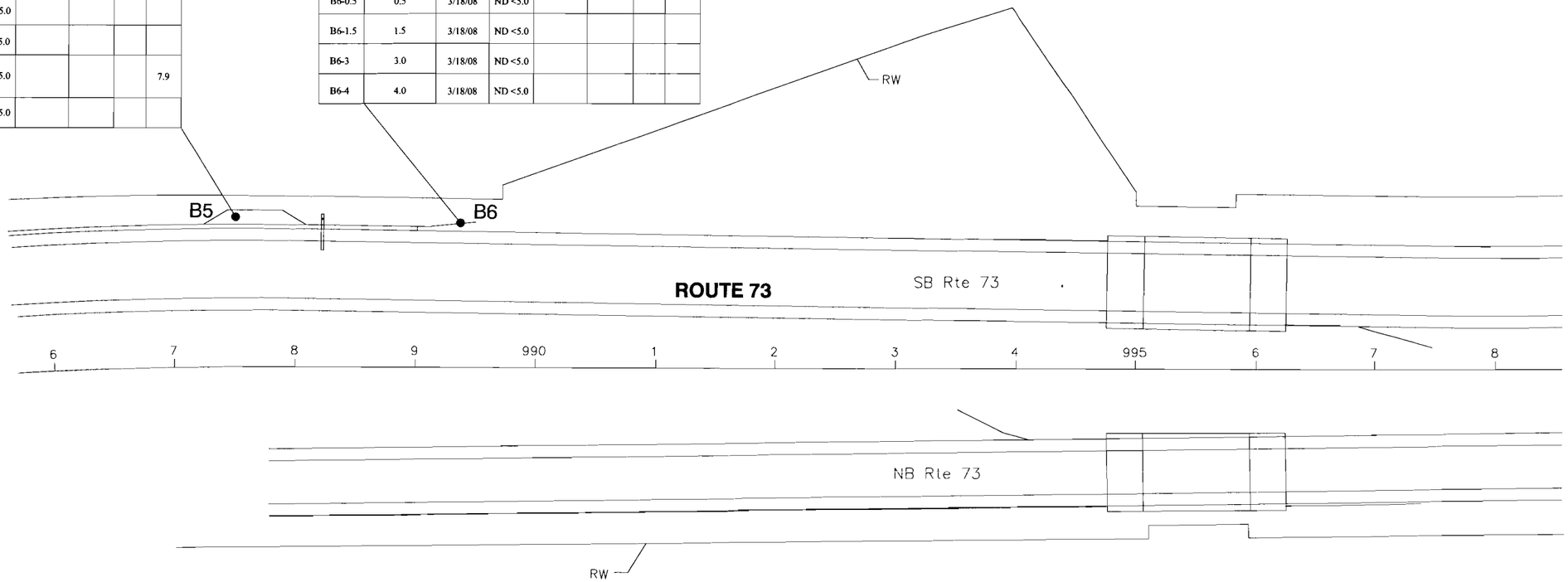
CONSTRUCTION DETAIL

4

207384-B4.DWG

Sample	Sample Depth (ft)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B5-0.5	0.5	3/18/08	ND <5.0				
B5-1.5	1.5	3/18/08	ND <5.0				
B5-3	3.0	3/18/08	ND <5.0				7.9
B5-4	4.0	3/18/08	ND <5.0				

Sample	Sample Depth (ft)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B6-0.5	0.5	3/18/08	ND <5.0				
B6-1.5	1.5	3/18/08	ND <5.0				
B6-3	3.0	3/18/08	ND <5.0				
B6-4	4.0	3/18/08	ND <5.0				



N

APPROXIMATE SCALE IN FEET

0 100 200

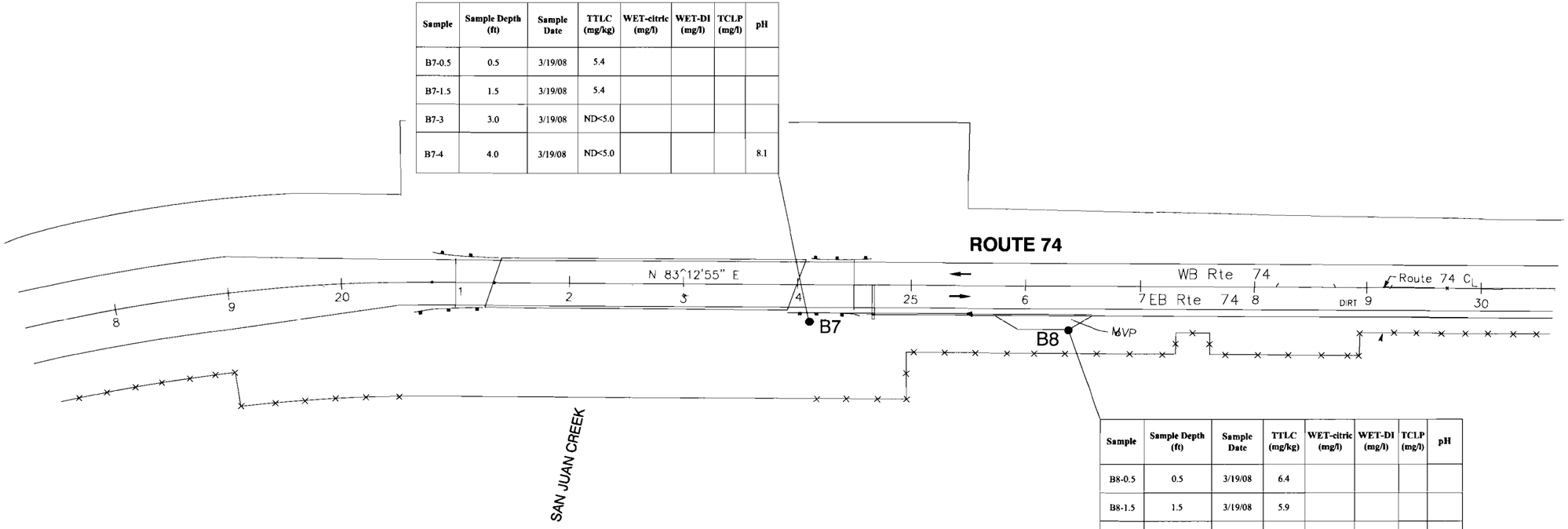
NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND	
B6 ●	APPROXIMATE BORING LOCATION

Ninyo & Moore	BORING DATA MAP-SITE 5	CONSTRUCTION DETAIL
PROJECT NO. 207384006 / DATE 4/08	I-5 AND SR-22, 73, 74 AND 90 ORANGE COUNTY, CALIFORNIA	5

207384-B5.DWG

Sample	Sample Depth (ft)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B7-0.5	0.5	3/19/08	5.4				
B7-1.5	1.5	3/19/08	5.4				
B7-3	3.0	3/19/08	ND<5.0				
B7-4	4.0	3/19/08	ND<5.0				8.1



Sample	Sample Depth (ft)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B8-0.5	0.5	3/19/08	6.4				
B8-1.5	1.5	3/19/08	5.9				
B8-3	3.0	3/19/08	ND<5.0				

APPROXIMATE SCALE IN FEET

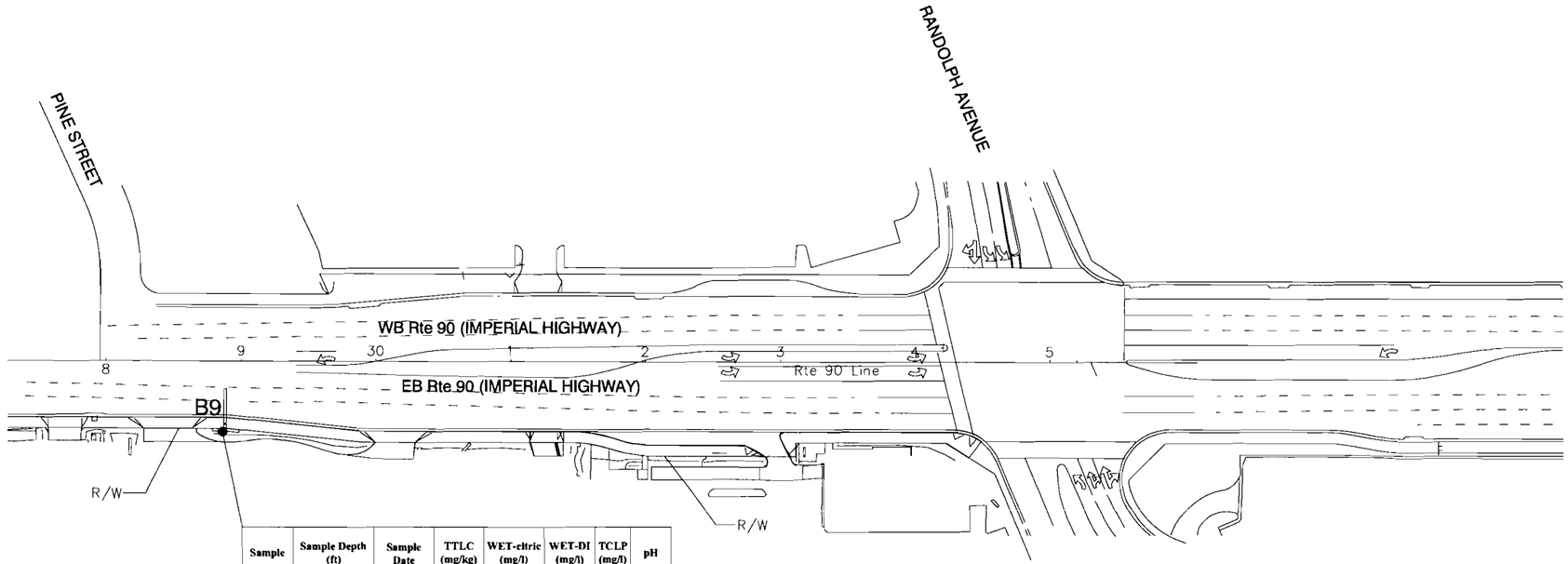
0 100 200

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND
B8 ● APPROXIMATE BORING LOCATION

207384-B6.DWG

Ninyo & Moore		BORING DATA MAP-SITE 6	CONSTRUCTION DETAIL
PROJECT NO.	DATE	I-5 AND SR-22, 73, 74 AND 90 ORANGE COUNTY, CALIFORNIA	6
207384006	4/08		



Sample	Sample Depth (ft)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B9-0.5	0.5	3/18/08	12				8.1
B9-1.5	1.5	3/18/08	ND <5.0				
B9-3	3.0	3/18/08	ND <5.0				
B9-4	4.0	3/18/08	ND <5.0				

N

APPROXIMATE SCALE IN FEET

0 100 200

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND
B9 ● APPROXIMATE BORING LOCATION

Ninyo & Moore		BORING DATA MAP-SITE 7	CONSTRUCTION DETAIL
PROJECT NO.	DATE	I-5 AND SR-22, 73, 74 AND 90 ORANGE COUNTY, CALIFORNIA	7
207384006	4/08		

207384-B7.DWG

APPENDIX A

LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

March 25, 2008

Beth Padgett
Ninyo & Moore
475 Goddard Suite 200
Irvine, CA 92618
TEL: (949) 753-7070
FAX: (949) 753-7071

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
Arizona: AZ0689
CSDLAC No.: 10196
Workorder No.: 097751

RE: Changeable Message Sign ADL SITE 1, 20738

Attention: Beth Padgett

Enclosed are the results for sample(s) received on March 19, 2008 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

Advanced Technology Laboratories

Date: *25-Mar-08*

CLIENT: Ninyo & Moore
Project: Changeable Message Sign ADL SITE 1, 20738
Lab Order: 097751
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
097751-001A	B1-0.5	Soil	3/19/2008 11:45:00 AM	3/19/2008	3/25/2008
097751-002A	B1-1.5	Soil	3/19/2008 11:51:00 AM	3/19/2008	3/25/2008
097751-003A	B1-3	Soil	3/19/2008 11:58:00 AM	3/19/2008	3/25/2008
097751-004A	B1-4	Soil	3/19/2008 12:05:00 PM	3/19/2008	3/25/2008

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *25-Mar-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B1-0.5
Lab Order:	097751	**Collection Date:**	3/19/2008 11:45:00 AM
Project:	Changeable Message Sign ADL SITE 1, 2073	**Matrix:**	SOIL
Lab ID:	097751-001A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	45	0.25	5.0		mg/Kg	1	3/24/2008 07:42 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *25-Mar-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B1-1.5
Lab Order:	097751	**Collection Date:**	3/19/2008 11:51:00 AM
Project:	Changeable Message Sign ADL SITE 1, 2073	**Matrix:**	SOIL
Lab ID:	097751-002A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 07:45 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B1-3
Lab Order:	097751	**Collection Date:**	3/19/2008 11:58:00 AM
Project:	Changeable Message Sign ADL SITE 1, 2073	**Matrix:**	SOIL
Lab ID:	097751-003A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M		**EPA 6010B**				
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 07:49 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *25-Mar-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B1-4
Lab Order:	097751	**Collection Date:**	3/19/2008 12:05:00 PM
Project:	Changeable Message Sign ADL SITE 1, 2073	**Matrix:**	SOIL
Lab ID:	097751-004A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate: **3/21/2008**		Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 07:52 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: Ninyo & Moore
Work Order: 097751
Project: Changeable Message Sign ADL SITE 1, 20738

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-44448A**	SampType: **MBLK**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **PBS**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.820	5.0									

Sample ID: **LCS-44448**	SampType: **LCS**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **LCSS**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	259.043	5.0	250.0	0.8201	103	80	120				

Sample ID: **097752-002ADUP**	SampType: **DUP**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **ZZZZZZ**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.270	5.0						5.441	3.19	20	

Sample ID: **097752-002AMS**	SampType: **MS**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **ZZZZZZ**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	175.016	5.0	250.0	5.441	67.8	45	110				

Sample ID: **MB-44448B**	SampType: **MBLK**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **PBS**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097751
Project: Changeable Message Sign ADL SITE 1, 20738

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: 097752-007ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: ZZZZZZ	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424444

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.660	5.0						3.166	56.5	20	R

Sample ID: 097752-007AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: ZZZZZZ	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424445

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	180.881	5.0	250.0	3.166	71.1	45	110				

Sample ID: 097752-007AMSD	SampType: MSD	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: ZZZZZZ	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424446

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	144.876	5.0	250.0	3.166	56.7	45	110	180.9	22.1	20	R

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

LABORATORY:	SITE:	CONSULTANT:
Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90807 (562) 989-4045 / fax (562) 989-4040	Changeable Message Sign ADL SITE 1 EA 0H2321 Project Number 207384006	Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 (949) 753-7070 / fax (949)

Special Instructions:

If total lead is <1,000 mg/kg, but >/= 50 mg/kg, run STLC WET test (citric acid extraction EPA Method 7000 series)

If STLC WET >/= 5 mg/l, run STLC-DI (DI extraction EPA Method 7000 series)

If total lead is >/=1,000 mg/kg or >/=5 mg/l STLC WET, run TCLP (EPA Method 7000 series for leachable lead)

Relinquished by (name/date and time):	Received by (name/date and time):
Tommy Mutter 3/19/08 16:03	3/19/08 16:03
Relinquished by (name/date and time):	Received by (name/date and time):
Relinquished by (name/date and time):	Received by (name/date and time):
Relinquished by (name/date and time):	Received by (name/date and time):

Lab No.	Sample I. D.	Date	Time	Total Lead EPA Method 6010	pH EPA Method 9045	Sample Type	Turn-Around Time	Container Type
	B1-0.5	3/19/08	11:45	X		Soil	Normal	Glass Jar
	B1-1.5		11:51	X		Soil	Normal	Glass Jar
	B1-3		11:58	X		Soil	Normal	Glass Jar
	B1-4		12:05	X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar

7.4'

April 04, 2008

Beth Padgett
Ninyo & Moore
475 Goddard Suite 200
Irvine, CA 92618
TEL: (949) 753-7070
FAX: (949) 753-7071

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
Arizona: AZ0689
CSDLAC No.: 10196
Workorder No.: 097740

RE: Changeable Message Sign ADL, 207384006

Attention: Beth Padgett

Enclosed are the results for sample(s) received on March 19, 2008 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

Advanced Technology Laboratories

Date: *04-Apr-08*

CLIENT: Ninyo & Moore
Project: Changeable Message Sign ADL, 207384006
Lab Order: 097740
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
097740-001A	B2-0.5	Soil	3/18/2008 10:53:00 AM	3/19/2008	4/4/2008
097740-002A	B2-1.5	Soil	3/18/2008 10:58:00 AM	3/19/2008	4/4/2008
097740-003A	B2-3	Soil	3/18/2008 11:05:00 AM	3/19/2008	4/4/2008
097740-004A	B2-4	Soil	3/18/2008 11:08:00 AM	3/19/2008	4/4/2008
097740-005A	B9-0.5	Soil	3/18/2008 8:49:00 AM	3/19/2008	4/4/2008
097740-006A	B9-1.5	Soil	3/18/2008 8:52:00 AM	3/19/2008	4/4/2008
097740-007A	B9-3	Soil	3/18/2008 8:56:00 AM	3/19/2008	4/4/2008
097740-008A	B9-4	Soil	3/18/2008 8:59:00 AM	3/19/2008	4/4/2008
097740-009A	B4-0.5	Soil	3/18/2008 11:46:00 AM	3/19/2008	4/4/2008
097740-010A	B4-1.5	Soil	3/18/2008 11:52:00 AM	3/19/2008	4/4/2008
097740-011A	B4-3	Soil	3/18/2008 11:57:00 AM	3/19/2008	4/4/2008
097740-012A	B4-4	Soil	3/18/2008 12:02:00 PM	3/19/2008	4/4/2008
097740-013A	B6-0.5	Soil	3/18/2008 12:28:00 PM	3/19/2008	4/4/2008
097740-014A	B6-1.5	Soil	3/18/2008 12:33:00 PM	3/19/2008	4/4/2008
097740-015A	B6-3	Soil	3/18/2008 12:38:00 PM	3/19/2008	4/4/2008
097740-016A	B6-4	Soil	3/18/2008 12:42:00 PM	3/19/2008	4/4/2008
097740-017A	B5-0.5	Soil	3/18/2008 12:56:00 PM	3/19/2008	4/4/2008
097740-018A	B5-1.5	Soil	3/18/2008 12:59:00 PM	3/19/2008	4/4/2008
097740-019A	B5-3	Soil	3/18/2008 1:03:00 PM	3/19/2008	4/4/2008
097740-020A	B5-4	Soil	3/18/2008 1:06:00 PM	3/19/2008	4/4/2008
097740-021A	B3-0.5	Soil	3/18/2008 2:22:00 PM	3/19/2008	4/4/2008
097740-022A	B3-1.5	Soil	3/18/2008 2:25:00 PM	3/19/2008	4/4/2008
097740-023A	B3-3	Soil	3/18/2008 2:30:00 PM	3/19/2008	4/4/2008
097740-024A	B3-4	Soil	3/18/2008 2:38:00 PM	3/19/2008	4/4/2008
097740-025A	DECON	Water	3/18/2008 3:30:00 PM	3/19/2008	4/4/2008

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

ANALYTICAL RESULTS

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B2-0.5
Lab Order:	097740	**Collection Date:**	3/18/2008 10:53:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate: **3/21/2008**		Analyst: **CL**
Lead	350	0.25	5.0		mg/Kg	1	3/24/2008 05:31 PM
LEAD BY ATOMIC ABSORPTION							
	WET				**WET DI/ EPA 7420**		
RunID: **AA2_080403C**	QC Batch: **44681**				PrepDate: **4/1/2008**		Analyst: **LKN**
Lead	11	0.37	0.50		mg/L	2	4/3/2008
LEAD BY ATOMIC ABSORPTION (STLC)							
					WET/ EPA 7420		
RunID: **AA2_080328D**	QC Batch: **R92914**				PrepDate:		Analyst: **LKN**
Lead	8.9	0.19	0.25		mg/L	1	3/28/2008
LEAD BY ATOMIC ABSORPTION (TCLP)							
	EPA3010A				**EPA 1311/ 7420**		
RunID: **AA2_080403H**	QC Batch: **44704**				PrepDate: **4/2/2008**		Analyst: **LKN**
Lead	3.4	0.19	0.25		mg/L	1	4/3/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B2-1.5
Lab Order:	097740	**Collection Date:**	3/18/2008 10:58:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 05:34 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ANALYTICAL RESULTS

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B2-3
Lab Order:	097740	**Collection Date:**	3/18/2008 11:05:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 05:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ANALYTICAL RESULTS

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B2-4
Lab Order:	097740	**Collection Date:**	3/18/2008 11:08:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 05:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ANALYTICAL RESULTS

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B9-0.5
Lab Order:	097740	**Collection Date:**	3/18/2008 8:49:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate: **3/21/2008**		Analyst: **CL**
Lead	12	0.25	5.0		mg/Kg	1	3/24/2008 05:45 PM
PH							
					EPA 9045C		
RunID: **WETCHEM_080321A**	QC Batch: **R92641**				PrepDate:		Analyst: **CNP**
pH	8.1	0.10	0.10		pH Units	1	3/21/2008

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

ANALYTICAL RESULTS

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B9-1.5
Lab Order:	097740	**Collection Date:**	3/18/2008 8:52:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 05:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B9-3
Lab Order:	097740	**Collection Date:**	3/18/2008 8:56:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 05:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B9-4
Lab Order:	097740	**Collection Date:**	3/18/2008 8:59:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 05:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ANALYTICAL RESULTS

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B4-0.5
Lab Order:	097740	**Collection Date:**	3/18/2008 11:46:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	6.9	0.25	5.0		mg/Kg	1	3/24/2008 05:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B4-1.5
Lab Order:	097740	**Collection Date:**	3/18/2008 11:52:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate: **3/21/2008**		Analyst: **CL**
Lead	18	0.25	5.0		mg/Kg	1	3/24/2008 06:02 PM
PH							
					EPA 9045C		
RunID: **WETCHEM_080321A**	QC Batch: **R92641**				PrepDate:		Analyst: **CNP**
pH	8.4	0.10	0.10		pH Units	1	3/21/2008

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B4-3
Lab Order:	097740	**Collection Date:**	3/18/2008 11:57:00 AM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 06:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B4-4
Lab Order:	097740	**Collection Date:**	3/18/2008 12:02:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	21	0.25	5.0		mg/Kg	1	3/24/2008 06:26 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B6-0.5
Lab Order:	097740	**Collection Date:**	3/18/2008 12:28:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 06:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B6-1.5
Lab Order:	097740	**Collection Date:**	3/18/2008 12:33:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 06:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ANALYTICAL RESULTS

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B6-3
Lab Order:	097740	**Collection Date:**	3/18/2008 12:38:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 06:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B6-4
Lab Order:	097740	**Collection Date:**	3/18/2008 12:42:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 06:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B5-0.5
Lab Order:	097740	**Collection Date:**	3/18/2008 12:56:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 06:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B5-1.5
Lab Order:	097740	**Collection Date:**	3/18/2008 12:59:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 06:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B5-3
Lab Order:	097740	**Collection Date:**	3/18/2008 1:03:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate: **3/21/2008**		Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 06:57 PM
PH							
					EPA 9045C		
RunID: **WETCHEM_080321A**	QC Batch: **R92641**				PrepDate:		Analyst: **CNP**
pH	7.9	0.10	0.10		pH Units	1	3/21/2008

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B5-4
Lab Order:	097740	**Collection Date:**	3/18/2008 1:06:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324F**	QC Batch: **44447**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 07:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B3-0.5
Lab Order:	097740	**Collection Date:**	3/18/2008 2:22:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 07:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B3-1.5
Lab Order:	097740	**Collection Date:**	3/18/2008 2:25:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate: **3/21/2008**		Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 07:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B3-3
Lab Order:	097740	**Collection Date:**	3/18/2008 2:30:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 07:35 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B3-4
Lab Order:	097740	**Collection Date:**	3/18/2008 2:38:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	SOIL
Lab ID:	097740-024		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 07:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ANALYTICAL RESULTS

Advanced Technology Laboratories

Print Date: *04-Apr-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	DECON
Lab Order:	097740	**Collection Date:**	3/18/2008 3:30:00 PM
Project:	Changeable Message Sign ADL, 207384006	**Matrix:**	WATER
Lab ID:	097740-025		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **ICP8_080320E**	QC Batch: **44404**				PrepDate:	**3/20/2008**	Analyst: **CL**
Lead	ND	0.0021	0.25		mg/L	1	3/20/2008 03:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: Ninyo & Moore
Work Order: 097740
Project: Changeable Message Sign ADL, 207384006

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-44447A**	SampType: **MBLK**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92676**
Client ID: **PBS**	Batch ID: **44447**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: **LCS-44447**	SampType: **LCS**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92676**
Client ID: **LCSS**	Batch ID: **44447**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	268.808	5.0	250.0	0	108	80	120				

Sample ID: **097740-010ADUP**	SampType: **DUP**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92676**
Client ID: **B4-1.5**	Batch ID: **44447**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424408**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	20.381	5.0						17.76	13.8	20	

Sample ID: **097740-010AMS**	SampType: **MS**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92676**
Client ID: **B4-1.5**	Batch ID: **44447**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	150.789	5.0	250.0	17.76	53.2	45	110				

Sample ID: **097740-020AMSD**	SampType: **MSD**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92676**
Client ID: **B5-4**	Batch ID: **44447**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	142.707	5.0	250.0	2.643	56.0	45	110	139.3	2.45	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097740
Project: Changeable Message Sign ADL, 207384006

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: MB-44448A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: PBS	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424424

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.820	5.0									

Sample ID: LCS-44448	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: LCSS	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424425

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	259.043	5.0	250.0	0.8201	103	80	120				

Sample ID: 097752-002ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: ZZZZZZ	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424436

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.270	5.0						5.441	3.19	20	

Sample ID: 097752-002AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: ZZZZZZ	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424437

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	175.016	5.0	250.0	5.441	67.8	45	110				

Sample ID: 097752-007AMSD	SampType: MSD	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: ZZZZZZ	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424446

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	144.876	5.0	250.0	3.166	56.7	45	110	180.9	22.1	20	R

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097740
Project: Changeable Message Sign ADL, 207384006

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID: MB-44404	SampType: MBLK	TestCode: 6010_WPB	Units: mg/L	Prep Date: 3/20/2008	RunNo: 92565
Client ID: PBW	Batch ID: 44404	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 3/20/2008	SeqNo: 1422303

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: LCS-44404	SampType: LCS	TestCode: 6010_WPB	Units: mg/L	Prep Date: 3/20/2008	RunNo: 92565
Client ID: LCSW	Batch ID: 44404	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 3/20/2008	SeqNo: 1422304

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.986	0.25	1.000	0	98.6	85	115				

Sample ID: 097764-001ADUP	SampType: DUP	TestCode: 6010_WPB	Units: mg/L	Prep Date: 3/20/2008	RunNo: 92565
Client ID: ZZZZZZ	Batch ID: 44404	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 3/20/2008	SeqNo: 1422306

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Sample ID: 097764-001AMS	SampType: MS	TestCode: 6010_WPB	Units: mg/L	Prep Date: 3/20/2008	RunNo: 92565
Client ID: ZZZZZZ	Batch ID: 44404	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 3/20/2008	SeqNo: 1422307

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.348	0.25	2.500	0	93.9	71	118				

Sample ID: 097764-001AMSD	SampType: MSD	TestCode: 6010_WPB	Units: mg/L	Prep Date: 3/20/2008	RunNo: 92565
Client ID: ZZZZZZ	Batch ID: 44404	TestNo: EPA 6010B	EPA 3010A	Analysis Date: 3/20/2008	SeqNo: 1422308

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.316	0.25	2.500	0	92.7	71	118	2.348	1.37	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097740
Project: Changeable Message Sign ADL, 207384006

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID: MB-44681A	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 4/1/2008	RunNo: 93080
Client ID: PBS	Batch ID: 44681	TestNo: WET DI/ EPA WET		Analysis Date: 4/3/2008	SeqNo: 1432331

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: LCS-44681	SampType: LCS	TestCode: 7420_DI	Units: mg/L	Prep Date: 4/1/2008	RunNo: 93080
Client ID: LCSS	Batch ID: 44681	TestNo: WET DI/ EPA WET		Analysis Date: 4/3/2008	SeqNo: 1432332

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.079	0.25	5.000	0	102	80	120				

Sample ID: 097759-045A-DUP	SampType: DUP	TestCode: 7420_DI	Units: mg/L	Prep Date: 4/1/2008	RunNo: 93080
Client ID: ZZZZZZ	Batch ID: 44681	TestNo: WET DI/ EPA WET		Analysis Date: 4/3/2008	SeqNo: 1432343

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.315	0.25						1.341	1.95	20	

Sample ID: 097759-045A-MS	SampType: MS	TestCode: 7420_DI	Units: mg/L	Prep Date: 4/1/2008	RunNo: 93080
Client ID: ZZZZZZ	Batch ID: 44681	TestNo: WET DI/ EPA WET		Analysis Date: 4/3/2008	SeqNo: 1432344

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.691	0.25	5.000	1.341	87.0	70	130				

Sample ID: MB-44681B	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 4/1/2008	RunNo: 93080
Client ID: PBS	Batch ID: 44681	TestNo: WET DI/ EPA WET		Analysis Date: 4/3/2008	SeqNo: 1432345

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097740
Project: Changeable Message Sign ADL, 207384006

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID: **097886-015A-MSD**	SampType: **MSD**	TestCode: **7420_DI**	Units: **mg/L**	Prep Date: **4/1/2008**	RunNo: **93080**
Client ID: **ZZZZZZ**	Batch ID: **44681**	TestNo: **WET DI/ EPA WET**		Analysis Date: **4/3/2008**	SeqNo: **1432358**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	8.531	0.25	5.000	4.592	78.8	70	130	8.600	0.815	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097740
Project: Changeable Message Sign ADL, 207384006

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: **MB-44546A**	SampType: **MBLK**	TestCode: **7420_ST**	Units: **mg/L**	Prep Date:			RunNo: **92914**		
Client ID: **PBS**	Batch ID: **R92914**	TestNo: **WET/ EPA 74**		Analysis Date: **3/28/2008**			SeqNo: **1429239**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: **LCS-44546**	SampType: **LCS**	TestCode: **7420_ST**	Units: **mg/L**	Prep Date:			RunNo: **92914**		
Client ID: **LCSS**	Batch ID: **R92914**	TestNo: **WET/ EPA 74**		Analysis Date: **3/28/2008**			SeqNo: **1429240**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.695	0.25	5.000	0	93.9	80	120				

Sample ID: **097896-001A-DUP**	SampType: **DUP**	TestCode: **7420_ST**	Units: **mg/L**	Prep Date:			RunNo: **92914**		
Client ID: **ZZZZZZ**	Batch ID: **R92914**	TestNo: **WET/ EPA 74**		Analysis Date: **3/28/2008**			SeqNo: **1429244**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.300	0.25						0.2698	10.7	20	

Sample ID: **097896-001A-MS**	SampType: **MS**	TestCode: **7420_ST**	Units: **mg/L**	Prep Date:			RunNo: **92914**		
Client ID: **ZZZZZZ**	Batch ID: **R92914**	TestNo: **WET/ EPA 74**		Analysis Date: **3/28/2008**			SeqNo: **1429245**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.893	0.25	5.000	0.2698	92.5	80	120				

Sample ID: **097896-001A-MSD**	SampType: **MSD**	TestCode: **7420_ST**	Units: **mg/L**	Prep Date:			RunNo: **92914**		
Client ID: **ZZZZZZ**	Batch ID: **R92914**	TestNo: **WET/ EPA 74**		Analysis Date: **3/28/2008**			SeqNo: **1429246**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.728	0.25	5.000	0.2698	89.2	80	120	4.893	3.43	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097740
Project: Changeable Message Sign ADL, 207384006

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: MB-44704A	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/2/2008	RunNo: 93116
Client ID: PBS	Batch ID: 44704	TestNo: EPA 1311/ 74	EPA3010A	Analysis Date: 4/3/2008	SeqNo: 1432866

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: MB-44673A TCLP	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/2/2008	RunNo: 93116
Client ID: PBS	Batch ID: 44704	TestNo: EPA 1311/ 74	EPA3010A	Analysis Date: 4/3/2008	SeqNo: 1432867

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.216	0.25									

Sample ID: LCS-44704	SampType: LCS	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/2/2008	RunNo: 93116
Client ID: LCSS	Batch ID: 44704	TestNo: EPA 1311/ 74	EPA3010A	Analysis Date: 4/3/2008	SeqNo: 1432868

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.099	0.25	1.000	0	110	80	120				

Sample ID: 097759-001A-DUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/2/2008	RunNo: 93116
Client ID: ZZZZZZ	Batch ID: 44704	TestNo: EPA 1311/ 74	EPA3010A	Analysis Date: 4/3/2008	SeqNo: 1432879

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	11.262	0.62						11.33	0.577	20	

Sample ID: 097759-001A-MS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/2/2008	RunNo: 93116
Client ID: ZZZZZZ	Batch ID: 44704	TestNo: EPA 1311/ 74	EPA3010A	Analysis Date: 4/3/2008	SeqNo: 1432880

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	17.947	0.62	6.250	11.33	106	70	130				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097740
Project: Changeable Message Sign ADL, 207384006

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: **097759-049A-MS**	SampType: **MS**	TestCode: **7420_TC**	Units: **mg/L**	Prep Date: **4/2/2008**	RunNo: **93116**
Client ID: **ZZZZZZ**	Batch ID: **44704**	TestNo: **EPA 1311/ 74 EPA3010A**		Analysis Date: **4/3/2008**	SeqNo: **1432895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	7.479	0.25	2.500	5.300	87.2	70	130				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097740
Project: Changeable Message Sign ADL, 207384006

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: **097740-019ADUP**	SampType: **DUP**	TestCode: **9045_S**	Units: **pH Units**	Prep Date:	RunNo: **92641**
Client ID: **B5-3**	Batch ID: **R92641**	TestNo: **EPA 9045C**		Analysis Date: **3/21/2008**	SeqNo: **1423727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.860	0.10						7.880	0.254	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

LABORATORY:	SITE:	CONSULTANT:
Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90807 (562) 989-4045 / fax (562) 989-4040	Changeable Message Sign ADL SITE 2 EA 0H2321 Project Number 207384006	Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 (949) 753-7070 / fax (949)

Special Instructions:
If total lead is <1,000 mg/kg, but >/= 50 mg/kg, run STLC WET test (citric acid extraction EPA Method 7000 series)
If STLC WET >/= 5 mg/l, run STLC-DI (DI extraction EPA Method 7000 series)
If total lead is >/=1,000 mg/kg or >/=5 mg/l STLC WET, run TCLP (EPA Method 7000 series for leachable lead)

Relinquished by (name/date and time):	Received by (name/date and time):
Tammy Mitton 3/18/08 15:41	Beth Padgett 3/18/08 15:41
Beth Padgett 3/19/08 8:08	[signature] 3/19/08 8:08
[signature] 3/19/08 9:35	Kal 3/19/08 9:35
Relinquished by (name/date and time):	Received by (name/date and time):

Lab No.	Sample I. D.	Date	Time	Total Lead EPA Method 6010	pH EPA Method 9045	Sample Type	Turn-Around Time	Container Type
	Bz-0.5	3/18/08	10:53	X		Soil	Normal	Glass Jar
	Bz-1.5	↓	10:58	X		Soil	Normal	Glass Jar
	Bz-3		11:05	X		Soil	Normal	Glass Jar
	Bz-4		11:08	X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar

LABORATORY:	SITE:	CONSULTANT:
Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90807 (562) 989-4045 / fax (562) 989-4040	Changeable Message Sign ADL SITE 7 EA 0H2321 Project Number 207384006	Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 (949) 753-7070 / fax (949)

Special Instructions:
If total lead is <1,000 mg/kg, but >/= 50 mg/kg, run STLC WET test (citric acid extraction EPA Method 7000 series)
If STLC WET >/= 5 mg/l, run STLC-DI (DI extraction EPA Method 7000 series)
If total lead is >/=1,000 mg/kg or >/=5 mg/l STLC WET, run TCLP (EPA Method 7000 series for leachable lead)

Relinquished by (name/date and time):	Received by (name/date and time):
Tammy Mathes 3/18/08 15:41	Beth Padgett 3/18/08 15:41
Beth Padgett 3/19/08 8:08	[illegible] 3/19/08 8:08
[illegible] 3/19/08 9:35	Kal 3/19/08 9:35
Relinquished by (name/date and time):	Received by (name/date and time):

Lab No.	Sample I. D.	Date	Time	Total Lead EPA Method 6010	pH EPA Method 9045	Sample Type	Turn-Around Time	Container Type
	B9-0.5	3/18/08	8:49	X	X	Soil	Normal	Glass Jar
	B9-1.5	↓	8:52	X		Soil	Normal	Glass Jar
	B9-3		8:56	X		Soil	Normal	Glass Jar
	B9-4		8:59	X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar

LABORATORY:	SITE:	CONSULTANT:
Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90807 (562) 989-4045 / fax (562) 989-4040	Changeable Message Sign ADL SITE 4 EA 0H2321 Project Number 207384006	Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 (949) 753-7070 / fax (949)

Special Instructions:
If total lead is <1,000 mg/kg, but >/= 50 mg/kg, run STLC WET test (citric acid extraction EPA Method 7000 series)
If STLC WET >/= 5 mg/l, run STLC-DI (DI extraction EPA Method 7000 series)
If total lead is >/=1,000 mg/kg or >/=5 mg/l STLC WET, run TCLP (EPA Method 7000 series for leachable lead)

Relinquished by (name/date and time):	Received by (name/date and time):
Tammy Matthews 3/18/08 15:41	Beth Padgett 3/18/08 15:41
Beth Padgett 3/19/08 8:08	[signature] 3/19/08 8:08
[signature] 3/19/08 9:35	Kal 3/19 9:35
Relinquished by (name/date and time):	Received by (name/date and time):

Lab No.	Sample I. D.	Date	Time	Total Lead EPA Method 6010	pH EPA Method 9045	Sample Type	Turn-Around Time	Container Type
	B4-0.5	3/18/08	11:46	X		Soil	Normal	Glass Jar
	B4-1.5		11:52	X	X	Soil	Normal	Glass Jar
	B4-3		11:57	X		Soil	Normal	Glass Jar
	B4-4	↓	12:02	X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar

LABORATORY:	SITE:	CONSULTANT:
Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90807 (562) 989-4045 / fax (562) 989-4040	Changeable Message Sign ADL SITE 5 EA 0H2321 Project Number 207384006	Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 (949) 753-7070 / fax (949)

Special Instructions:
If total lead is <1,000 mg/kg, but >/= 50 mg/kg, run STLC WET test (citric acid extraction EPA Method 7000 series)
If STLC WET >/= 5 mg/l, run STLC-DI (DI extraction EPA Method 7000 series)
If total lead is >/=1,000 mg/kg or >/=5 mg/l STLC WET, run TCLP (EPA Method 7000 series for leachable lead)

Relinquished by (name/date and time):	Received by (name/date and time):
3/18/08 15:41	Beth Padgett 3/18/08 15:41
Beth Padgett 3/19/08 8:08	3/19/08 8:08
3/19/08 9:35	Kal 3/19/08 9:35
Relinquished by (name/date and time):	Received by (name/date and time):

Lab No.	Sample I. D.	Date	Time	Total Lead EPA Method 6010	pH EPA Method 9045	Sample Type	Turn-Around Time	Container Type
	B6-0.5	3/19/08	12:28	X		Soil	Normal	Glass Jar
	B6-1.5		12:33	X		Soil	Normal	Glass Jar
	B6-3		12:38	X		Soil	Normal	Glass Jar
	B6-4		12:42	X		Soil	Normal	Glass Jar
	B5-0.5		12:56	X		Soil	Normal	Glass Jar
	B5-1.5		12:59	X		Soil	Normal	Glass Jar
	B5-3		13:03	X	X	Soil	Normal	Glass Jar
	B5-4	↓	13:06	X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar

LABORATORY:	SITE:	CONSULTANT:
Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90807 (562) 989-4045 / fax (562) 989-4040	Changeable Message Sign ADL SITE 3 EA 0H2321 Project Number 207384006	Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 (949) 753-7070 / fax (949)

Special Instructions:
If total lead is <1,000 mg/kg, but >/= 50 mg/kg, run STLC WET test (citric acid extraction EPA Method 7000 series)
If STLC WET >/= 5 mg/l, run STLC-DI (DI extraction EPA Method 7000 series)
If total lead is >/=1,000 mg/kg or >/=5 mg/l STLC WET, run TCLP (EPA Method 7000 series for leachable lead)

Relinquished by (name/date and time):	Received by (name/date and time):
[signature] 3/18/08 15:41	Beth Padgett 3/18/08 15:41
Beth Padgett 3/19/08 8:08	[signature] 3/19/08 8:08

Lab No.	Sample I. D.	Date	Time	Total Lead EPA Method 6010	pH EPA Method 9045	Sample Type	Turn-Around Time	Container Type
	B3-0.5	3/18/08	14:22	X		Soil	Normal	Glass Jar
	B3-1.5	"	14:25	X		Soil	Normal	Glass Jar
	B3-3	"	14:30	X		Soil	Normal	Glass Jar
	B3-4	"	14:38	X		Soil	Normal	Glass Jar
	DECON	"	15:30	X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar

March 25, 2008

Beth Padgett
Ninyo & Moore
475 Goddard Suite 200
Irvine, CA 92618
TEL: (949) 753-7070
FAX: (949) 753-7071

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
Arizona: AZ0689
CSDLAC No.: 10196
Workorder No.: 097752

RE: Changeable Message Sign ADL SITE 6, 20738

Attention: Beth Padgett

Enclosed are the results for sample(s) received on March 19, 2008 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

for Eddie F. Rodriguez
Laboratory Director

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90755 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *25-Mar-08*

CLIENT: Ninyo & Moore
Project: Changeable Message Sign ADL SITE 6, 20738
Lab Order: 097752
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
097752-001A	B7-0.5	Soil	3/19/2008 9:55:00 AM	3/19/2008	3/25/2008
097752-002A	B7-1.5	Soil	3/19/2008 9:59:00 AM	3/19/2008	3/25/2008
097752-003A	B7-3	Soil	3/19/2008 10:09:00 AM	3/19/2008	3/25/2008
097752-004A	B7-4	Soil	3/19/2008 10:13:00 AM	3/19/2008	3/25/2008
097752-005A	B8-0.5	Soil	3/19/2008 10:25:00 AM	3/19/2008	3/25/2008
097752-006A	B8-1.5	Soil	3/19/2008 10:28:00 AM	3/19/2008	3/25/2008
097752-007A	B8-3	Soil	3/19/2008 10:36:00 AM	3/19/2008	3/25/2008

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *25-Mar-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B7-0.5
Lab Order:	097752	**Collection Date:**	3/19/2008 9:55:00 AM
Project:	Changeable Message Sign ADL SITE 6, 2073	**Matrix:**	SOIL
Lab ID:	097752-001A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M		**EPA 6010B**				
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	5.4	0.25	5.0		mg/Kg	1	3/24/2008 07:56 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B7-1.5
Lab Order:	097752	**Collection Date:**	3/19/2008 9:59:00 AM
Project:	Changeable Message Sign ADL SITE 6, 2073	**Matrix:**	SOIL
Lab ID:	097752-002A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate: **3/21/2008**	Analyst: **CL**	
Lead	5.4	0.25	5.0		mg/Kg	1	3/24/2008 07:59 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *25-Mar-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B7-3
Lab Order:	097752	**Collection Date:**	3/19/2008 10:09:00 AM
Project:	Changeable Message Sign ADL SITE 6, 2073	**Matrix:**	SOIL
Lab ID:	097752-003A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M		**EPA 6010B**				
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 08:20 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B7-4
Lab Order:	097752	**Collection Date:**	3/19/2008 10:13:00 AM
Project:	Changeable Message Sign ADL SITE 6, 2073	**Matrix:**	SOIL
Lab ID:	097752-004A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate: **3/21/2008**		Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 08:23 PM
PH							
					EPA 9045C		
RunID: **WETCHEM_080324A**	QC Batch: **R92688**				PrepDate:		Analyst: **CNP**
pH	8.1	0.10	0.10		pH Units	1	3/24/2008

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *25-Mar-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B8-0.5
Lab Order:	097752	**Collection Date:**	3/19/2008 10:25:00 AM
Project:	Changeable Message Sign ADL SITE 6, 2073	**Matrix:**	SOIL
Lab ID:	097752-005A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M				**EPA 6010B**		
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	6.4	0.25	5.0		mg/Kg	1	3/24/2008 08:27 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *25-Mar-08*

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B8-1.5
Lab Order:	097752	**Collection Date:**	3/19/2008 10:28:00 AM
Project:	Changeable Message Sign ADL SITE 6, 2073	**Matrix:**	SOIL
Lab ID:	097752-006A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M		**EPA 6010B**				
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	5.9	0.25	5.0		mg/Kg	1	3/24/2008 08:30 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	Ninyo & Moore	**Client Sample ID:**	B8-3
Lab Order:	097752	**Collection Date:**	3/19/2008 10:36:00 AM
Project:	Changeable Message Sign ADL SITE 6, 2073	**Matrix:**	SOIL
Lab ID:	097752-007A		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
LEAD BY ICP							
	EPA 3050M		**EPA 6010B**				
RunID: **ICP8_080324G**	QC Batch: **44448**				PrepDate:	**3/21/2008**	Analyst: **CL**
Lead	ND	0.25	5.0		mg/Kg	1	3/24/2008 08:34 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: Ninyo & Moore
Work Order: 097752
Project: Changeable Message Sign ADL SITE 6, 20738

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-44448A**	SampType: **MBLK**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **PBS**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.820	5.0									

Sample ID: **LCS-44448**	SampType: **LCS**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **LCSS**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	259.043	5.0	250.0	0.8201	103	80	120				

Sample ID: **097752-002ADUP**	SampType: **DUP**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **B7-1.5**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.270	5.0						5.441	3.19	20	

Sample ID: **097752-002AMS**	SampType: **MS**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **B7-1.5**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	175.016	5.0	250.0	5.441	67.8	45	110				

Sample ID: **MB-44448B**	SampType: **MBLK**	TestCode: **6010_SPB**	Units: **mg/Kg**	Prep Date: **3/21/2008**	RunNo: **92677**
Client ID: **PBS**	Batch ID: **44448**	TestNo: **EPA 6010B**	**EPA 3050M**	Analysis Date: **3/24/2008**	SeqNo: **1424438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097752
Project: Changeable Message Sign ADL SITE 6, 20738

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: 097752-007ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: B8-3	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424444

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.660	5.0						3.166	56.5	20	R

Sample ID: 097752-007AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: B8-3	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424445

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	180.881	5.0	250.0	3.166	71.1	45	110				

Sample ID: 097752-007AMSD	SampType: MSD	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 3/21/2008	RunNo: 92677
Client ID: B8-3	Batch ID: 44448	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 3/24/2008	SeqNo: 1424446

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	144.876	5.0	250.0	3.166	56.7	45	110	180.9	22.1	20	R

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: Ninyo & Moore
Work Order: 097752
Project: Changeable Message Sign ADL SITE 6, 20738

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: **097759-011ADUP**	SampType: **DUP**	TestCode: **9045_S**	Units: **pH Units**	Prep Date:	RunNo: **92688**
Client ID: **ZZZZZZ**	Batch ID: **R92688**	TestNo: **EPA 9045C**		Analysis Date: **3/24/2008**	SeqNo: **1424688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.130	0.10						8.110	0.246	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

LABORATORY:	SITE:	CONSULTANT:
Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90807 (562) 989-4045 / fax (562) 989-4040	Changeable Message Sign ADL SITE 6 EA 0H2321 Project Number 207384006	Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 (949) 753-7070 / fax (949)

Special Instructions:
If total lead is <1,000 mg/kg, but >/= 50 mg/kg, run STLC WET test (citric acid extraction EPA Method 7000 series)
If STLC WET >/= 5 mg/l, run STLC-DI (DI extraction EPA Method 7000 series)
If total lead is >/=1,000 mg/kg or >/=5 mg/l STLC WET, run TCLP (EPA Method 7000 series for leachable lead)

Relinquished by (name/date and time): Tommy Matter 3/19/08 16:03	Received by (name/date and time): Kalsang 3/19/08 16:03
Relinquished by (name/date and time):	Received by (name/date and time):
Relinquished by (name/date and time):	Received by (name/date and time):
Relinquished by (name/date and time):	Received by (name/date and time):

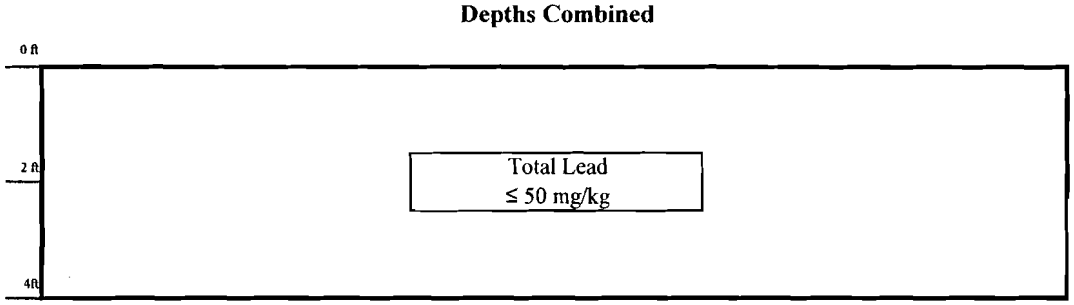
Lab No.	Sample I. D.	Date	Time	Total Lead EPA Method 6010	pH EPA Method 9045	Sample Type	Turn-Around Time	Container Type
	B7-0.5	3/19/08	9:55	X		Soil	Normal	Glass Jar
	B7-1.5		9:59	X		Soil	Normal	Glass Jar
	B7-3		10 09	X		Soil	Normal	Glass Jar
	B7-4		10:13	X	X	Soil	Normal	Glass Jar
	B8-0.5		10:25	X		Soil	Normal	Glass Jar
	B8-1.5		10:28	X		Soil	Normal	Glass Jar
	B8-3	↓	10:36	X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar
				X		Soil	Normal	Glass Jar

7.4

APPENDIX B

BLOCK DIAGRAMS

FIGURE B1 – BLOCK DIAGRAM FOR POTENTIAL CALTRANS RIGHT-OF-WAY RE-USE SITES 1, 3, 4, 5, 6, AND 7



– Non-hazardous soil with respect to total and soluble lead

– Reuse Condition 1 [Hazardous. Variance applies. Use material on job site. Place a minimum of 5 feet above maximum water table elevation and cover with at least 1 foot of non-hazardous soil]

– Reuse Condition 2 [Hazardous. Variance applies. Use material on job site. Place a minimum of 5 feet above maximum water table elevation and protect from infiltration with a pavement structure which will be maintained by the Department]

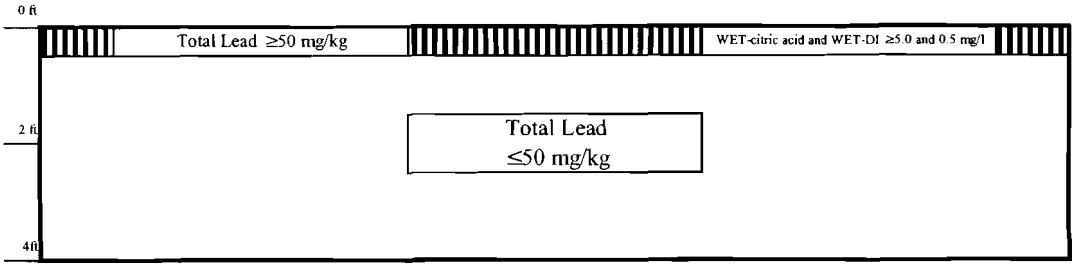
– Hazardous. Class I disposal site, all other Title 22 CCR requirements apply

– Hazardous. Class I disposal site RCRA based on the layer having a TCLP value ≥ 5 mg/l

UCL – upper confidence limit
WET-DI – soluble lead using the Waste Extraction Test with deionized water
WET-citric acid – soluble lead using the Waste Extraction Test with citric acid
TCLP – Toxicity Characteristic Leaching Procedure
mg/kg – milligrams per kilogram
mg/l – milligrams per liter
CCR – California Code of Regulations
RCRA – Resource, Conservation, and Recovery Act

FIGURE B2 – BLOCK DIAGRAM FOR POTENTIAL CALTRANS RIGHT-OF-WAY RE-USE SITE 2

Depths Seperated



– Non-hazardous soil with respect to total and soluble lead

– Reuse Condition 1 [Hazardous. Variance applies. Use material on job site. Place a minimum of 5 feet above maximum water table elevation and cover with at least 1 foot of non-hazardous soil]

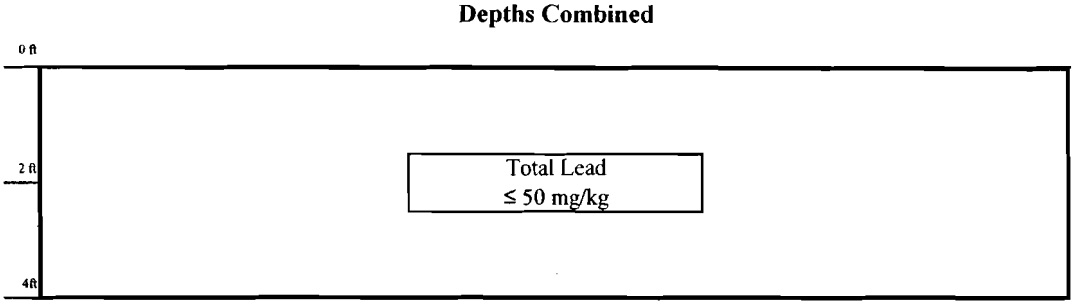
– Reuse Condition 2 [Hazardous. Variance applies. Use material on job site. Place a minimum of 5 feet above maximum water table elevation and protect from infiltration with a pavement structure which will be maintained by the Department]

– Hazardous. Class 1 disposal site, all other Title 22 CCR requirements apply

– Hazardous. Class 1 disposal site RCRA based on the layer having a TCLP value ≥ 5 mg/l

UCL – upper confidence limit
WET-DI – soluble lead using the Waste Extraction Test with deionized water
WET-citric acid – soluble lead using the Waste Extraction Test with citric acid
TCLP – Toxicity Characteristic Leaching Procedure
mg/kg – milligrams per kilogram
ng/l – milligrams per liter
CCR – California Code of Regulations
RCRA – Resource, Conservation, and Recovery Act

FIGURE B3 – BLOCK DIAGRAM FOR POTENTIAL CALTRANS OFF SITE DISPOSAL SITES 1, 3, 4, 5, 6, AND 7



– Non-hazardous soil with respect to total and soluble lead

– Reuse Condition 1 [Hazardous. Variance applies. Use material on job site. Place a minimum of 5 feet above maximum water table elevation and cover with at least 1 foot of non-hazardous soil]

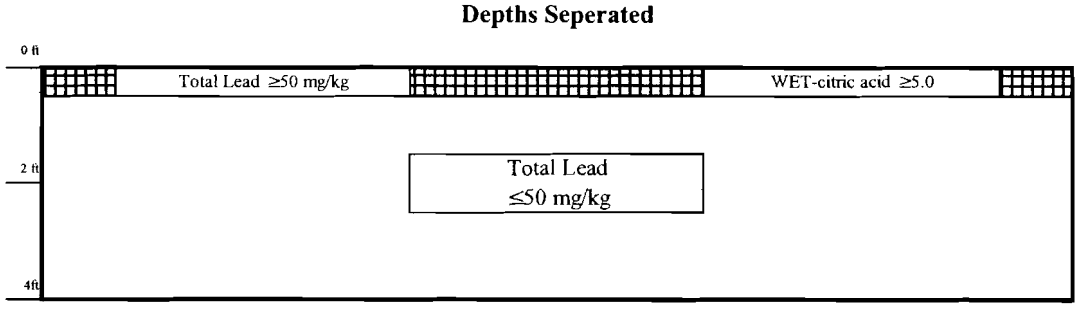
– Reuse Condition 2 [Hazardous. Variance applies. Use material on job site. Place a minimum of 5 feet above maximum water table elevation and protect from infiltration with a pavement structure which will be maintained by the Department]

– Hazardous. Class 1 disposal site, all other Title 22 CCR requirements apply

– Hazardous. Class 1 disposal site RCRA based on the layer having a TCLP value ≥ 5 mg/l

UCL – upper confidence limit
WET-DI – soluble lead using the Waste Extraction Test with deionized water
WET-citric acid – soluble lead using the Waste Extraction Test with citric acid
TCLP – Toxicity Characteristic Leaching Procedure
mg/kg – milligrams per kilogram
mg/l – milligrams per liter
CCR – California Code of Regulations
RCRA – Resource, Conservation, and Recovery Act

FIGURE B4 – BLOCK DIAGRAM FOR POTENTIAL CALTRANS OFF SITE DISPOSAL SITE 2



– Non-hazardous soil with respect to total and soluble lead

– Reuse Condition 1 [Hazardous. Variance applies. Use material on job site. Place a minimum of 5 feet above maximum water table elevation and cover with at least 1 foot of non-hazardous soil]

– Reuse Condition 2 [Hazardous. Variance applies. Use material on job site. Place a minimum of 5 feet above maximum water table elevation and protect from infiltration with a pavement structure which will be maintained by the Department]

– Hazardous. Class 1 disposal site, all other Title 22 CCR requirements apply

– Hazardous. Class 1 disposal site RCRA based on the layer having a TCLP value ≥ 5 mg/l

UCL – upper confidence limit
WET-DI – soluble lead using the Waste Extraction Test with deionized water
WET-citric acid – soluble lead using the Waste Extraction Test with citric acid
TCLP – Toxicity Characteristic Leaching Procedure
mg/kg – milligrams per kilogram
mg/l – milligrams per liter
CCR – California Code of Regulations
RCRA – Resource, Conservation, and Recovery Act