

INFORMATION HANDOUT

MATERIALS INFORMATION

**AERIALY DEPOSITED LEAD SITE INVESTIGATION REPORT
INSTALLATION DETAIL FOR BATTERY BACKUP SYSTEM**

ROUTE: 12-Ora-39-3.6

June 30, 2009
Project No. 207384024

Mitch Khalilifar
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
Intersection of Beach Boulevard and Talbert Avenue
Huntington Beach, California
Task Order No. 12-0K2601-24
EA No. 0K2601
Contract No. 12A1139

Dear Mr. Khalilifar:

In accordance with the State of California Department of Transportation Contract No. 12A1139, Task Order No. 12-0K2601-24, Ninyo & Moore has conducted an aerially deposited lead investigation at the intersection of Beach Boulevard and Talbert Avenue in Huntington Beach, California. The following report documents our methodologies, findings, conclusions, and recommendations.

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

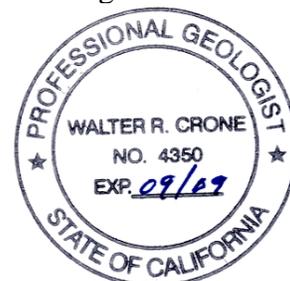
Sincerely,
NINYO & MOORE


Zack Mason
Senior Staff Environmental Geologist


Walter R. Crone, PG 4350, REA
Principal Environmental Geologist

ZKM/NA/WRC/sc

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



**AERIALY DEPOSITED LEAD SITE
INVESTIGATION REPORT
INTERSECTION OF BEACH BOULEVARD
AND TALBERT AVENUE
HUNTINGTON BEACH, CALIFORNIA
TASK ORDER NO. 12-0K2601-24
EA NO. 0K2601, 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

June 30, 2009
Project No. 207384024

AERIALLY DEPOSITED LEAD INVESTIGATION REPORT

Task Order No. 12-0K2601-24
E.A. 0K2601

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, PG 4350, REA
Principal Environmental Geologist

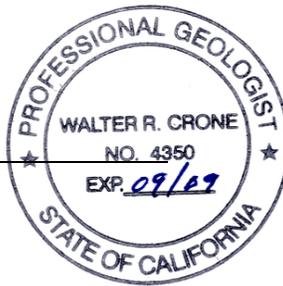


TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	1
1. INTRODUCTION	3
1.1. Project Description and Objective	3
1.2. Scope of Work	3
1.2.1. Prefield Activities	3
1.2.2. Soil Sampling	4
1.2.3. Laboratory Analysis	4
1.2.4. GPS Surveying	4
1.2.5. Report Preparation	4
1.3. Previous Site Investigations	4
2. BACKGROUND	4
2.1. Aerially Deposited Lead in Soil	5
2.2. Hazardous Waste Classification Criteria	5
2.3. DTSC Variance	6
2.3.1. Reuse – Condition 1	6
2.3.2. Reuse – Condition 2	6
2.3.3. Reuse – Condition 3	6
2.4. Criteria for Disposal of Soil not Intended for Reuse On Site	6
3. INVESTIGATION METHODS	7
3.1. HSP	7
3.2. Utility Clearance	7
3.3. Hand-Auger Sampling	7
3.4. Investigative-Derived Wastes	8
3.5. Laboratory Analyses	8
4. ANALYTICAL RESULTS	8
4.1. Total Lead	9
4.2. Soluble Lead – Citric Acid	9
4.3. Soluble Lead – Deionized Water	9
4.4. Leachable Lead - TCLP	9
4.5. pH	9
5. STATISTICAL EVALUATION	10
6. CONCLUSIONS	10
6.1. Conclusion for Soil for Reuse by the Department	10
6.2. Conclusion for Soil to be Disposed Off Site	10
7. RECOMMENDATIONS	11
7.1. Recommendations for Soil for Reuse by the Department	11
7.2. Recommendations for Soil to be Disposed Off Site	11

8. HEALTH EFFECTS OF LEAD11
9. LIMITATIONS.....12
10. REFERENCES14

Table

Table 1 – Soil Analytical Results – Aerially Deposited Lead, pH, and GPS Coordinates

Figures

- Figure 1 – Site Location Map
- Figure 2 – Boring Location Map
- Figure 3 – Boring Data Map

Appendices

- Appendix A – Laboratory Reports and Chain-of-Custody Documentation
- Appendix B – Block Diagrams

EXECUTIVE SUMMARY

The State of California Department of Transportation (Department) authorized Ninyo & Moore to conduct an aerially deposited lead (ADL) investigation for the project that involves safety enhancement to the intersection of Beach Boulevard and Talbert Avenue. Work was conducted in general accordance with the Department Contract No. 12A1139, Task Order No. 12-0K2601-24 (TO 24), dated May 12, 2009. It is our understanding that the Department is planning to extend the southbound Beach Boulevard left turn pocket to eastbound Talbert Avenue.

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 eight soil samples from two borings at the site. One of the eight samples contained a total lead concentration greater than or equal to 50 milligrams per kilogram (mg/kg). The soil sample from B2 at 0.5 foot bgs had a total lead concentration of 76 mg/kg. Approximately 10 percent (one sample) was analyzed for pH. The pH level was 8.5, which would not be classified as Resource Conservation and Recovery Act (RCRA) hazardous waste.

Our recommendations for soil reuse on site are based on the guidelines set forth by the 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 subsequent extension dated June 17, 2008 (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 (ROW).

Our recommendations for off site disposal were based on the comparison of lead concentrations in soil samples to the DTSC Variance thresholds, the California Health and Safety Code thresholds, and Title 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 at the site is suitable for on-site reuse by the Department without restrictions based on total and soluble lead concentrations with the exception of soil from the vicinity of boring B2 in the separated 0.5 foot layer (from surface to 0.5 foot below ground surface [bgs]).

Soil from the vicinity of boring B2 in the in the separated 0.5 foot layer (from surface to 0.5 foot bgs) is suitable for on-site reuse if it is placed a minimum of 5 feet above the maximum water table elevation and covered with at least 1 foot of non-hazardous soil.

Recommendations for Soil to be Disposed Off Site

If the Department elects to dispose the soil off site, soil at the site has no restrictions based on total and soluble lead concentrations with the exception of soil from the vicinity of boring B2, in the separated 0.5 foot layer (from surface to 0.5 foot bgs).

If the Department elects to dispose soil off site, soil from the vicinity of boring B2, in the separated 0.5 foot layer (from surface to 0.5 foot bgs) is classified as hazardous, and should be disposed at a Class 1 disposal site in accordance with Title 22 California Code Regulations (CCR) requirements.

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 the site 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) investigation at the intersection of Beach Boulevard and Talbert Avenue in Huntington Beach (Figure 1). Work was conducted in general accordance with the Department Contract No. 12A1139, Task Order No. 12-0K2601-24 (TO 24), dated May 12, 2009.

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

1.1. Project Description and Objective

It is our understanding that the Department is planning to extend the southbound Beach Boulevard left turn pocket to eastbound Talbert Avenue (Figure 1). Two borings were hand-augered at the site (Figure 2).

This investigation was performed to evaluate the potential presence of ADL along the median of the road at the site before excavation of soil begins as part of the turn pocket extension.

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 number A91471323).
- Preparing a project schedule and coordinating work with subcontractors.

1.2.2. Soil Sampling

Soil sampling was conducted on May 29, 2009. Two sampling locations (B1 and B2) were located as shown on Figure 2. The borings were advanced and sampled using a hand auger. Four soil samples were attempted for collection from depths of surface to ½, 1½ to 2, 2½ to 3, and 3½ to 4 feet below ground surface (bgs). The target depth of the borings was 4 feet bgs. Both borings were advanced to 4 feet bgs.

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 24 dated May 12, 2009.

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 June 17, 2008 (DTSC Variance). The DTSC Variance allows for conditional reuse of lead-impacted soil within the Department right-of-way (ROW). 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 ROW.

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 ROW 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 ROW 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 ROW 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 compared 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 24 that was approved by the Department prior to beginning the field activities.

3.1. HSP

A site-specific HSP dated May 28, 2009, 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 marked out in white paint and USA was notified at least 48 hours prior to conducting the soil sampling. USA marked the member utilities known to be in the vicinity (USA ticket number A91471323).

3.3. Hand-Auger Sampling

The field work was conducted on May 29, 2009. The boring locations were approved by the Department Task Order Manager and are shown on the attached Figure 3. Four samples were attempted for collection from each of the two boreholes at depths of surface to ½ foot, 1½ to 2, 2½ to 3, and 3½ to 4 feet bgs unless refusal was encountered. Both of the borings reached total depth of four feet bgs.

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 24, soil sample homogenization was performed in the laboratory.

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:

- Eight soil samples were analyzed for total lead using EPA Method 6010B;
- One of the soil samples contained a total lead concentration greater than or equal to 50 mg/kg and was subsequently analyzed for soluble lead by WET using citric acid;
- One soil sample contained soluble lead concentrations greater than or equal to 5 mg/l and was analyzed for soluble lead by WET using de-ionized water and soluble lead by TCLP;
- Approximately 10 percent of the soil samples (one sample) 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 with their corresponding data are shown on Figure 3. Laboratory reports and COC records are included in Appendix A.

4.1. Total Lead

The maximum total lead concentration was 76 mg/kg. The minimum total lead concentration was less than the laboratory practical quantitation limit (PQL) of 5.0 mg/kg (Table 1).

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

4.2. Soluble Lead – Citric Acid

One of the eight samples contained a total lead concentration greater than or equal to 50 mg/kg and was subsequently analyzed for soluble lead by WET using citric acid. Reported WET-citric acid soluble lead concentration was 9.7 mg/l.

4.3. Soluble Lead – Deionized Water

The sample that was analyzed for soluble lead using the WET-citric acid method contained concentrations greater than 5.0 mg/l and was subsequently analyzed for soluble lead using the WET-DI method. The sample was found to contain less than the laboratory PQL of 0.25 mg/l.

4.4. Leachable Lead - TCLP

One sample contained soluble lead at a concentration greater than or equal to 5 mg/l and was subsequently analyzed for soluble lead by TCLP. The concentration was 0.32 mg/l.

4.5. pH

Approximately 10 percent of the samples collected (1 sample) were analyzed for pH. The pH level was 8.5. The soil pH value is not characteristic of RCRA hazardous waste and is greater than the lower limit of 5.0 specified in the DTSC Variance.

5. STATISTICAL EVALUATION

Because only one sample contained WET-citric acid lead concentrations in excess of the STLC of 5.0 mg/l, 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 method and one contained soluble lead at a concentration greater than 5.0 mg/l. That sample was then tested using the WET-DI method and was found to have soluble lead at a concentration less than the laboratory PQL of 0.25 mg/l. 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 site are summarized below.

6.1. Conclusion for Soil for Reuse by the Department

Soil at the site is suitable for on-site reuse by the Department with respect to total and soluble lead concentrations. Soil from the vicinity of boring B2 in the separated 0.5 foot layer (from surface to 0.5 foot bgs), may be reused on site if it is placed a minimum of 5 feet above the maximum water table elevation and covered with at least 1 foot of non-hazardous soil. The remaining soil has no restrictions based on total and soluble lead concentrations.

6.2. Conclusion for Soil to be Disposed Off Site

If the Department elects to dispose soil off site from the vicinity of boring B2 in the separated 0.5 foot layer (from surface to 0.5 foot bgs) it is classified as hazardous and should be disposed at a Class 1 disposal site in accordance with Title 22 CCR requirements. The re-

maining soil is classified as non-hazardous and may be disposed of off site with no restrictions based on total and soluble lead concentrations.

The laboratory results are presented in Table 1 and shown on Figure 3.

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 at the site is suitable for on-site reuse by the Department without restrictions based on total and soluble lead concentrations with the exception of soil from the vicinity of boring B2 in the separated 0.5 foot layer (from surface to 0.5 foot bgs).

Soil from the vicinity of boring B2 in the in the separated 0.5 foot layer (from surface to 0.5 feet bgs) is suitable for on-site reuse if it is placed a minimum of 5 feet above the maximum water table elevation and covered with at least 1 foot of non-hazardous soil.

7.2. Recommendations for Soil to be Disposed Off Site

If the Department elects to dispose the soil off site, soil at the site has no restrictions based on total and soluble lead concentrations with the exception of soil from the vicinity of boring B2, in the separated 0.5 foot layer (from surface to 0.5 foot bgs).

If the Department elects to dispose soil off site, soil from the vicinity of boring B2, in the separated 0.5 foot layer (from surface to 0.5 foot bgs) is classified as hazardous and should be disposed at a Class 1 disposal site in accordance with Title 22 CCR requirements.

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 $100 \text{ mg}/\text{m}^3$ 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 Califor-

nia 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 Mitch Khalilifar, Project Delivery, Environmental Engineering, 3337 Michelson Drive, Suite 380, Irvine, California 92612-8894. Phone Number (949) 756-7649.

10. REFERENCES

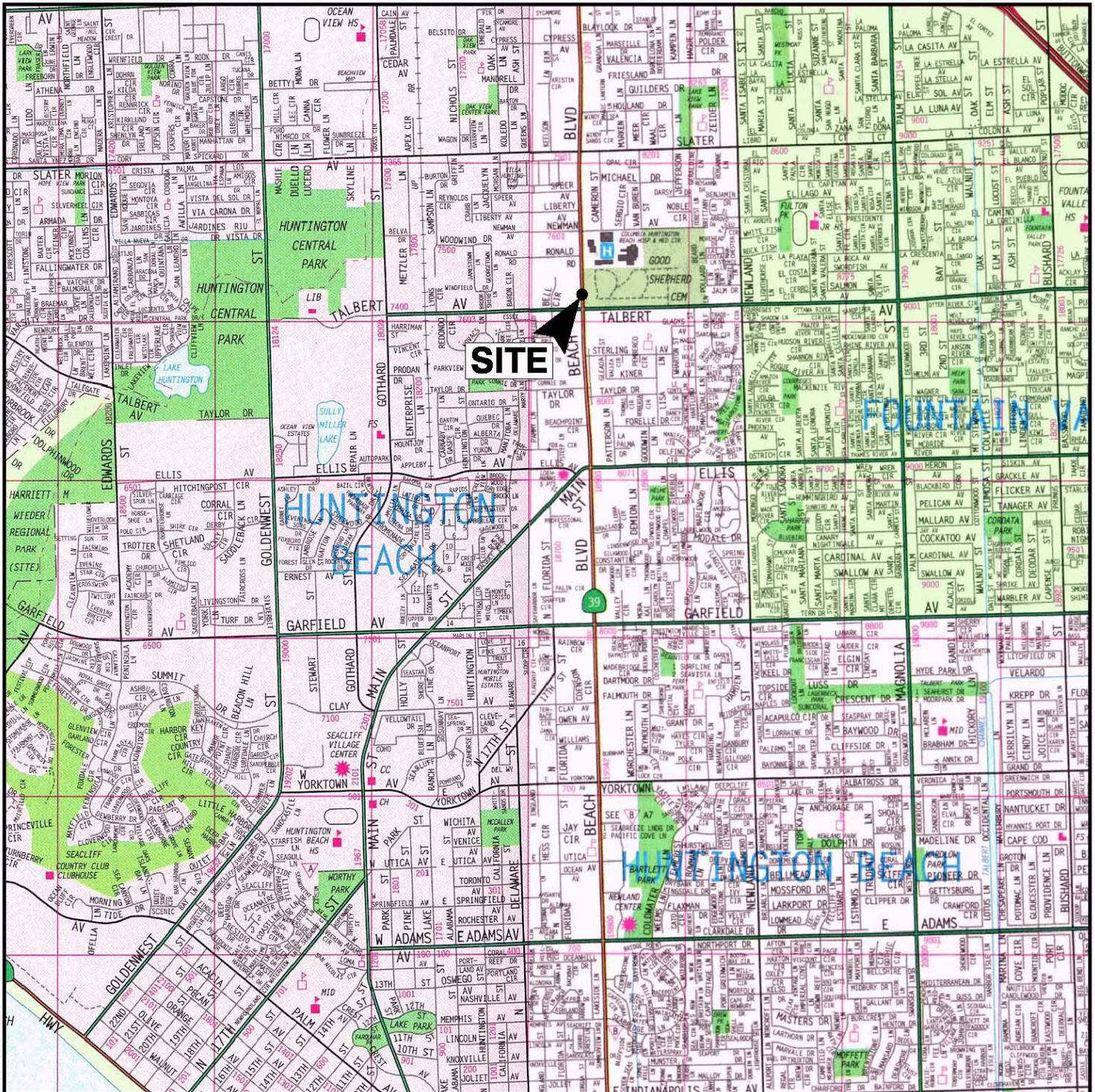
Department of Toxic Substance Control, 2000, Variance (no 00-H-VAR-02), dated September 22.

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

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

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

Sample	Sample Depth (feet)	Sample Date	TTLc (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH	Latitude	Longitude
B1-0.5	0.5	5/29/09	27					6032749.07017	2203554.29238
B1-1.5	1.5	5/29/09	ND<5.0						
B1-3	3.0	5/29/09	14						
B1-4	4.0	5/29/09	7.7						
B2-0.5	0.5	5/29/09	76	9.7	ND<0.25	0.32		6032750.00274	2203690.06823
B2-1.5	1.5	5/29/09	14				8.5		
B2-3	3.0	5/29/09	ND<5.0						
B2-4	4.0	5/29/09	ND<5.0						
Maximum			76	9.7	ND<0.25	0.32	8.5		
Average			18.3	9.7	ND<0.25	0.32	8.5		
Minimum			ND<5.0	9.7	ND<0.25	0.32	8.5		
Regulatory Limits			1411 ⁽¹⁾	5 ⁽²⁾	0.5 ⁽³⁾	5 ⁽⁴⁾	5 ⁽⁵⁾		
Decontamination Water (mg/l)									
Decon		5/29/09	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 Extraction 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 - not detected above reporting limits presented in Appendix A									
1 - Limit specified in addendum to Variance issued by the Department of Toxic Substance Control to Caltrans (DTSC) Variance, September 22, 2000; Addendum, December 2002; Addendum June 2008)									
2 - STLc for California Hazardous Waste (California Code of Regulations [CCR] Title 22, Section 66261.24)									
3 - Limit Specified by DTSC Variance									
4 - Maximum concentration for the TCLP of Resource, Conservation, and Recovery Act (RCRA) hazardous waste (CCR Title 22, Section 66216.24)									
5 - Minimum value specified by DTSC variance									



REFERENCE: 2007 THOMAS GUIDE FOR LOS ANGELES/ORANGE COUNTIES, STREET GUIDE AND DIRECTORY

APPROXIMATE SCALE IN FEET



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Map © Rand McNally, R.L.07-S-129



Ninyo & Moore

SITE LOCATION MAP

FIGURE

PROJECT NO.

DATE

BEACH BOULEVARD AND TALBERT AVENUE
HUNTINGTON BEACH, CALIFORNIA

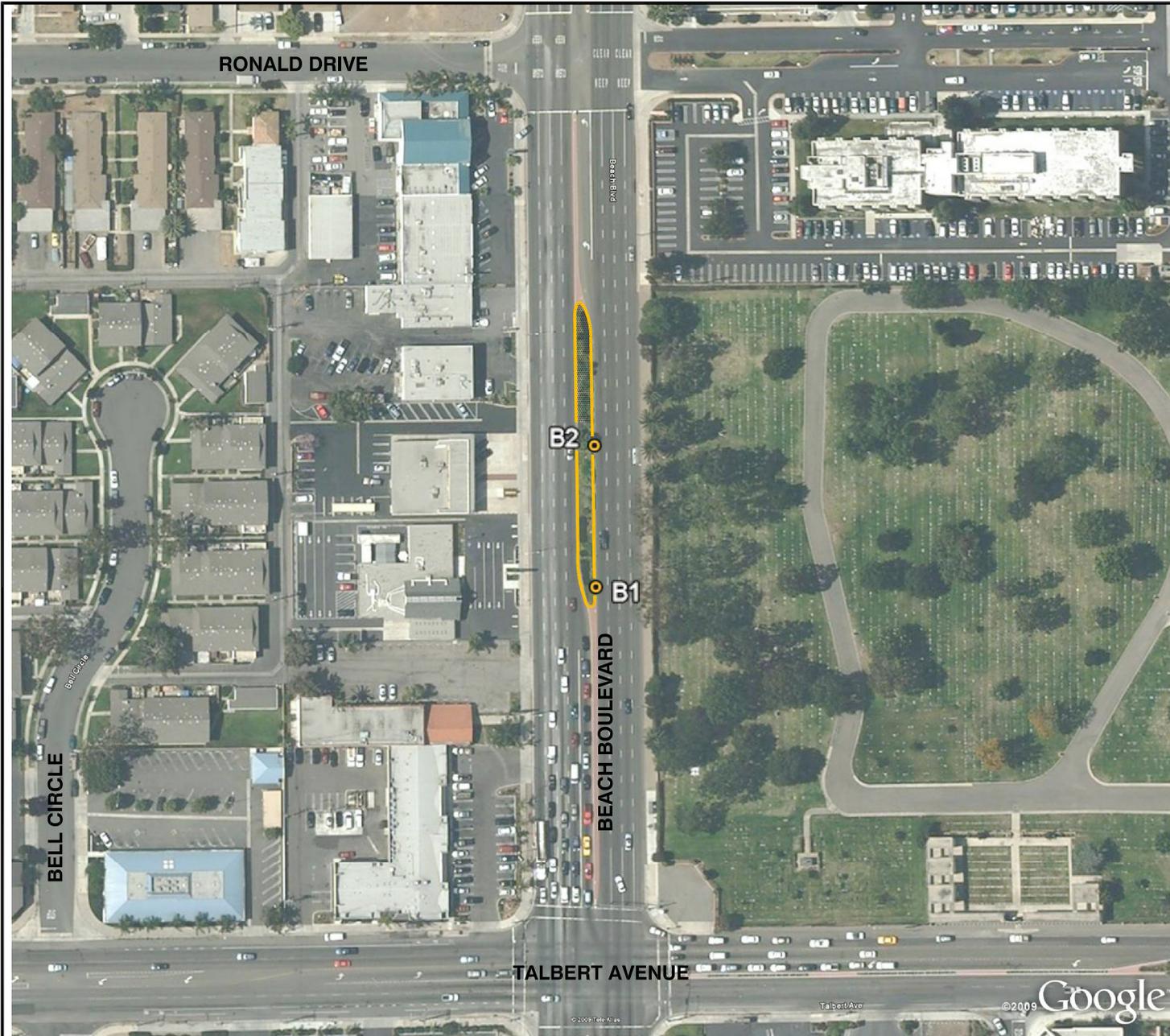
1

207384024

6/09

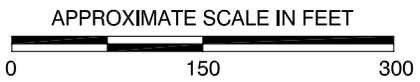
207384-A2.DWG

207384-A3.DWG



LEGEND	
	APPROXIMATE SITE BOUNDARY
	APPROXIMATE BORING LOCATION

REFERENCE: GOOGLE AERIAL PHOTO, 2009.



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore

PROJECT NO.	DATE
207384024	6/09

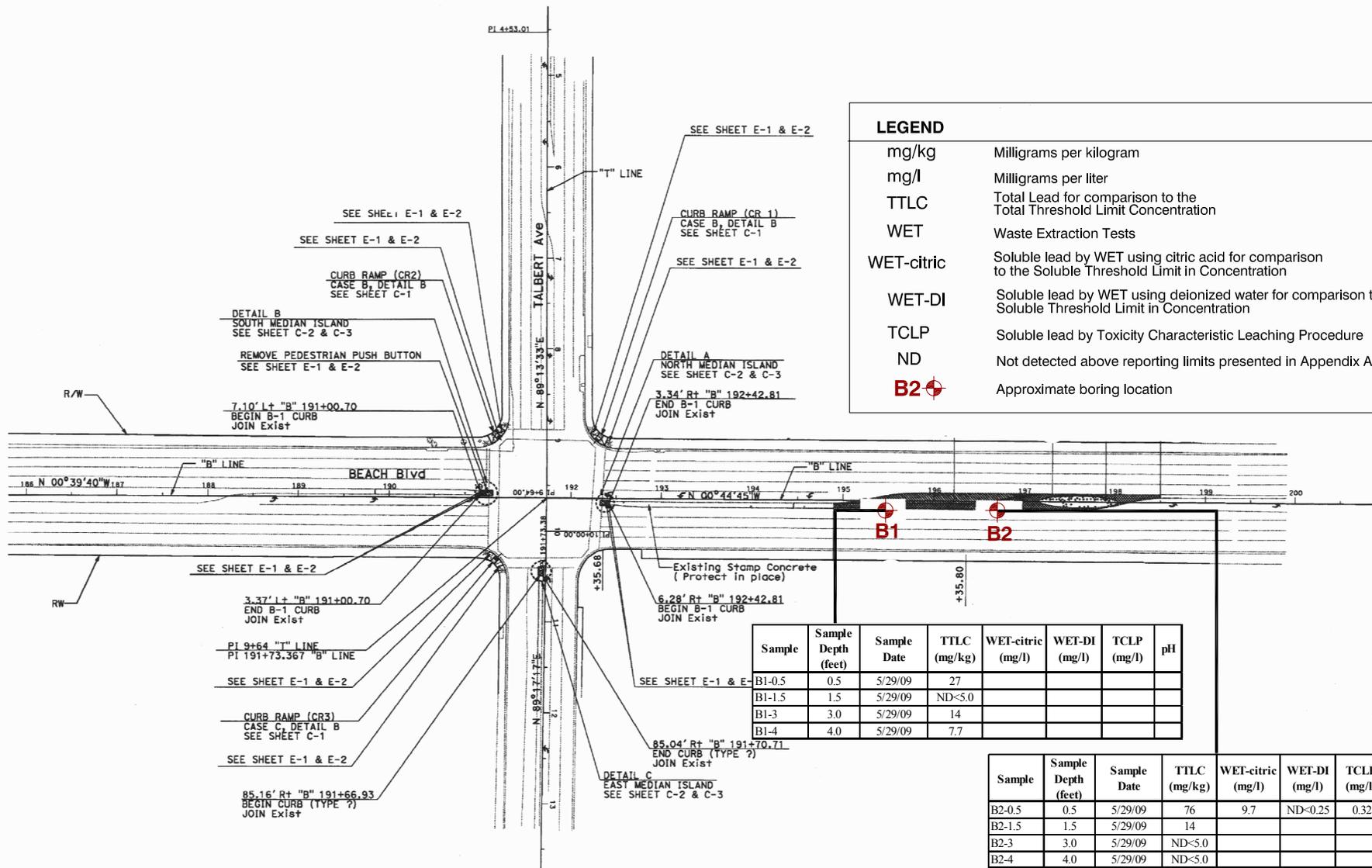
BORING LOCATION MAP

BEACH BOULEVARD AND TALBERT AVENUE
HUNTINGTON BEACH, CALIFORNIA

FIGURE

2

207384--A5.DWG



LEGEND

- mg/kg Milligrams per kilogram
- mg/l Milligrams per liter
- TTLC Total Lead for comparison to the Total Threshold Limit Concentration
- WET Waste Extraction Tests
- WET-citric Soluble lead by WET using citric acid for comparison to the Soluble Threshold Limit in Concentration
- WET-DI Soluble lead by WET using deionized water for comparison to the Soluble Threshold Limit in Concentration
- TCLP Soluble lead by Toxicity Characteristic Leaching Procedure
- ND Not detected above reporting limits presented in Appendix A
- B2 Approximate boring location

Sample	Sample Depth (feet)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B1-0.5	0.5	5/29/09	27				
B1-1.5	1.5	5/29/09	ND<5.0				
B1-3	3.0	5/29/09	14				
B1-4	4.0	5/29/09	7.7				

Sample	Sample Depth (feet)	Sample Date	TTLC (mg/kg)	WET-citric (mg/l)	WET-DI (mg/l)	TCLP (mg/l)	pH
B2-0.5	0.5	5/29/09	76	9.7	ND<0.25	0.32	
B2-1.5	1.5	5/29/09	14				8.5
B2-3	3.0	5/29/09	ND<5.0				
B2-4	4.0	5/29/09	ND<5.0				



APPROXIMATE SCALE IN FEET



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

REFERENCE: CALTRANS, 2009, LAYOUT L-1, 05-05.



PROJECT NO.	DATE
207384024	6/09

BORING DATA MAP

BEACH BOULEVARD AND TALBERT AVENUE
HUNTINGTON BEACH, CALIFORNIA

FIGURE

3

APPENDIX A

LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

June 22, 2009



Nancy Anglin
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
CSDLAC No.: 10196
Workorder No.: 105713

RE: 207384024, Intersection of Beach Boulevard an

Attention: Nancy Anglin

Enclosed are the results for sample(s) received on May 29, 2009 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,

A handwritten signature in black ink, appearing to read "Eddie F. Rodriguez".

Eddie F. Rodriguez
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.



CLIENT: Ninyo & Moore
Project: 207384024, Intersection of Beach Boulevard an
Lab Order: 105713
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
105713-001A	B1-0.5	Soil	5/29/2009 2:40:00 PM	5/29/2009	6/22/2009
105713-002A	B1-1.5	Soil	5/29/2009 2:42:00 PM	5/29/2009	6/22/2009
105713-003A	B1-3	Soil	5/29/2009 2:45:00 PM	5/29/2009	6/22/2009
105713-004A	B1-4	Soil	5/29/2009 2:48:00 PM	5/29/2009	6/22/2009
105713-005A	B2-0.5	Soil	5/29/2009 2:55:00 PM	5/29/2009	6/22/2009
105713-006A	B2-1.5	Soil	5/29/2009 2:57:00 PM	5/29/2009	6/22/2009
105713-007A	B2-3	Soil	5/29/2009 3:00:00 PM	5/29/2009	6/22/2009
105713-008A	B2-4	Soil	5/29/2009 3:03:00 PM	5/29/2009	6/22/2009
105713-009A	DECON	Water	5/29/2009 3:15:00 PM	5/29/2009	6/22/2009



CLIENT: Ninyo & Moore
Project: 207384024, Intersection of Beach Boulevard an
Lab Order: 105713

CASE NARRATIVE

Analytical Comments for EPA 6010B

Sample 105713-001ADUP, RPD for Sample Duplicate (DUP) is outside criteria; however, the Laboratory Control Sample (LCS) validated the analytical batch.



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 22-Jun-09

CLIENT:	Ninyo & Moore	Client Sample ID:	B1-0.5
Lab Order:	105713	Collection Date:	5/29/2009 2:40:00 PM
Project:	207384024, Intersection of Beach Boulevard a	Matrix:	SOIL
Lab ID:	105713-001A		

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed
----------	--------	-----	-----	------------	----	---------------

LEAD BY ICP

	EPA 3050M		EPA 6010B		
RunID: ICP8_090604G	QC Batch: 55649		PrepDate: 6/2/2009	Analyst: CL	
Lead	27	0.11	5.0	mg/Kg	1 6/4/2009 04:34 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		



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: 22-Jun-09

CLIENT:	Ninyo & Moore	Client Sample ID:	B1-1.5
Lab Order:	105713	Collection Date:	5/29/2009 2:42:00 PM
Project:	207384024, Intersection of Beach Boulevard a	Matrix:	SOIL
Lab ID:	105713-002A		

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed
----------	--------	-----	-----	------------	----	---------------

LEAD BY ICP

	EPA 3050M		EPA 6010B		
RunID: ICP8_090604G	QC Batch: 55649		PrepDate: 6/2/2009	Analyst: CL	
Lead	ND	0.11	5.0	mg/Kg	1 6/4/2009 04:41 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		



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: 22-Jun-09

CLIENT: Ninyo & Moore **Client Sample ID:** B1-3
Lab Order: 105713 **Collection Date:** 5/29/2009 2:45:00 PM
Project: 207384024, Intersection of Beach Boulevard a **Matrix:** SOIL
Lab ID: 105713-003A

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed
----------	--------	-----	-----	------------	----	---------------

LEAD BY ICP

	EPA 3050M	EPA 6010B		
RunID: ICP8_090604G	QC Batch: 55649	PrepDate: 6/2/2009	Analyst: CL	
Lead	14 0.11	5.0 mg/Kg	1	6/4/2009 04:44 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*

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 22-Jun-09

CLIENT:	Ninyo & Moore	Client Sample ID:	B1-4
Lab Order:	105713	Collection Date:	5/29/2009 2:48:00 PM
Project:	207384024, Intersection of Beach Boulevard a	Matrix:	SOIL
Lab ID:	105713-004A		

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed
----------	--------	-----	-----	------------	----	---------------

LEAD BY ICP

	EPA 3050M		EPA 6010B		
RunID: ICP8_090604G	QC Batch: 55649		PrepDate: 6/2/2009	Analyst: CL	
Lead	7.7	0.11	5.0	mg/Kg	1 6/4/2009 04:48 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

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 22-Jun-09

CLIENT:	Ninyo & Moore	Client Sample ID:	B2-0.5
Lab Order:	105713	Collection Date:	5/29/2009 2:55:00 PM
Project:	207384024, Intersection of Beach Boulevard a	Matrix:	SOIL
Lab ID:	105713-005A		

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed
LEAD BY ICP						
	EPA 3050M		EPA 6010B			
RunID: ICP8_090604G	QC Batch: 55649			PrepDate:	6/2/2009	Analyst: CL
Lead	76	0.11	5.0	mg/Kg	1	6/4/2009 05:00 PM
LEAD BY ATOMIC ABSORPTION						
	WET		WET DI/ EPA 7420			
RunID: AA2_090619A	QC Batch: 55970			PrepDate:	6/17/2009	Analyst: VV
Lead	ND	0.21	0.25	mg/L	1	6/19/2009 12:19 PM
LEAD BY ATOMIC ABSORPTION (STLC)						
	WET		WET/ EPA 7420			
RunID: AA2_090611B	QC Batch: 55776			PrepDate:	6/9/2009	Analyst: VV
Lead	9.7	0.41	0.50	mg/L	2	6/11/2009 02:36 PM
LEAD BY ATOMIC ABSORPTION (TCLP)						
	EPA3010A		EPA 1311/ 7420			
RunID: AA2_090619B	QC Batch: 56011			PrepDate:	6/18/2009	Analyst: VV
Lead	0.32	0.21	0.25	mg/L	1	6/19/2009 12:11 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: 22-Jun-09

CLIENT: Ninyo & Moore

Client Sample ID: B2-1.5

Lab Order: 105713

Collection Date: 5/29/2009 2:57:00 PM

Project: 207384024, Intersection of Beach Boulevard a

Matrix: SOIL

Lab ID: 105713-006A

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed
----------	--------	-----	-----	------------	----	---------------

LEAD BY ICP

EPA 3050M

EPA 6010B

RunID: ICP8_090604G	QC Batch: 55649			PrepDate: 6/2/2009	Analyst: CL
Lead	14	0.11	5.0	mg/Kg	1 6/4/2009 05:03 PM

PH

EPA 9045C

RunID: WETCHEM_090604B	QC Batch: R109594			PrepDate:	Analyst: DDL
pH	8.5	0.10	0.10	pH Units	1 6/4/2009

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

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 22-Jun-09

CLIENT:	Ninyo & Moore	Client Sample ID:	B2-3
Lab Order:	105713	Collection Date:	5/29/2009 3:00:00 PM
Project:	207384024, Intersection of Beach Boulevard a	Matrix:	SOIL
Lab ID:	105713-007A		

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed
----------	--------	-----	-----	------------	----	---------------

LEAD BY ICP

	EPA 3050M	EPA 6010B		
RunID: ICP8_090604G	QC Batch: 55649	PrepDate: 6/2/2009	Analyst: CL	
Lead	ND 0.11	5.0	mg/Kg	1 6/4/2009 05:07 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

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 22-Jun-09

CLIENT:	Ninyo & Moore	Client Sample ID:	B2-4
Lab Order:	105713	Collection Date:	5/29/2009 3:03:00 PM
Project:	207384024, Intersection of Beach Boulevard a	Matrix:	SOIL
Lab ID:	105713-008A		

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed
----------	--------	-----	-----	------------	----	---------------

LEAD BY ICP

	EPA 3050M	EPA 6010B			
RunID: ICP8_090604G	QC Batch: 55649			PrepDate: 6/2/2009	Analyst: CL
Lead	ND 0.11	5.0	mg/Kg	1	6/4/2009 05:11 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

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 22-Jun-09

CLIENT:	Ninyo & Moore	Client Sample ID:	DECON
Lab Order:	105713	Collection Date:	5/29/2009 3:15:00 PM
Project:	207384024, Intersection of Beach Boulevard a	Matrix:	WATER
Lab ID:	105713-009A		

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed
----------	--------	-----	-----	------------	----	---------------

LEAD BY ICP

EPA 3010A

EPA 6010B

RunID: ICP8_090602D	QC Batch: 55644	PrepDate: 6/2/2009	Analyst: CL
Lead	ND 0.0046	0.25 mg/L	1 6/2/2009 02:01 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	



Advanced Technology
Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

CLIENT: Ninyo & Moore
Work Order: 105713
Project: 207384024, Intersection of Beach Boulevard an

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: MB-55649	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 6/2/2009	RunNo: 109613						
Client ID: PBS	Batch ID: 55649	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 6/4/2009	SeqNo: 1721419						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.133 5.0

Sample ID: LCS-55649	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 6/2/2009	RunNo: 109613						
Client ID: LCSS	Batch ID: 55649	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 6/4/2009	SeqNo: 1721420						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 260.496 5.0 250.0 0.1327 104 80 120

Sample ID: 105713-001ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 6/2/2009	RunNo: 109613						
Client ID: B1-0.5	Batch ID: 55649	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 6/4/2009	SeqNo: 1721422						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 36.901 5.0 26.89 31.4 20 R

Sample ID: 105713-008AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 6/2/2009	RunNo: 109613						
Client ID: B2-4	Batch ID: 55649	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 6/4/2009	SeqNo: 1721430						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

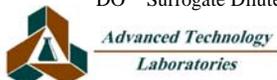
Lead 198.601 5.0 250.0 3.244 78.1 33 120

Sample ID: 105713-008AMSD	SampType: MSD	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 6/2/2009	RunNo: 109613						
Client ID: B2-4	Batch ID: 55649	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 6/4/2009	SeqNo: 1721431						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 191.003 5.0 250.0 3.244 75.1 33 120 198.6 3.90 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: 105713
Project: 207384024, Intersection of Beach Boulevard an

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPB

Sample ID: MB-55644	SampType: MBLK	TestCode: 6010_WPB	Units: mg/L	Prep Date: 6/2/2009	RunNo: 109493						
Client ID: PBW	Batch ID: 55644	TestNo: EPA 6010B EPA 3010A		Analysis Date: 6/2/2009	SeqNo: 1719697						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: LCS-55644	SampType: LCS	TestCode: 6010_WPB	Units: mg/L	Prep Date: 6/2/2009	RunNo: 109493						
Client ID: LCSW	Batch ID: 55644	TestNo: EPA 6010B EPA 3010A		Analysis Date: 6/2/2009	SeqNo: 1719698						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.003	0.25	1.000	0	100	85	115				

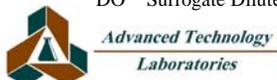
Sample ID: 105737-002ADUP	SampType: DUP	TestCode: 6010_WPB	Units: mg/L	Prep Date: 6/2/2009	RunNo: 109493						
Client ID: ZZZZZZ	Batch ID: 55644	TestNo: EPA 6010B EPA 3010A		Analysis Date: 6/2/2009	SeqNo: 1719700						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Sample ID: 105737-002AMS	SampType: MS	TestCode: 6010_WPB	Units: mg/L	Prep Date: 6/2/2009	RunNo: 109493						
Client ID: ZZZZZZ	Batch ID: 55644	TestNo: EPA 6010B EPA 3010A		Analysis Date: 6/2/2009	SeqNo: 1719701						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.405	0.25	2.500	0	96.2	71	121				

Sample ID: 105737-002AMSD	SampType: MSD	TestCode: 6010_WPB	Units: mg/L	Prep Date: 6/2/2009	RunNo: 109493						
Client ID: ZZZZZZ	Batch ID: 55644	TestNo: EPA 6010B EPA 3010A		Analysis Date: 6/2/2009	SeqNo: 1719702						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.484	0.25	2.500	0	99.4	71	121	2.405	3.25	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 | |



CLIENT: Ninyo & Moore
Work Order: 105713
Project: 207384024, Intersection of Beach Boulevard an

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI

Sample ID: MB-55970A	SampType: MBLK	TestCode: 7420_DI	Units: mg/L	Prep Date: 6/17/2009	RunNo: 110058						
Client ID: PBS	Batch ID: 55970	TestNo: WET DI/ EPA WET		Analysis Date: 6/19/2009	SeqNo: 1728758						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: LCS-55970	SampType: LCS	TestCode: 7420_DI	Units: mg/L	Prep Date: 6/17/2009	RunNo: 110058						
Client ID: LCSS	Batch ID: 55970	TestNo: WET DI/ EPA WET		Analysis Date: 6/19/2009	SeqNo: 1728759						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.961	0.25	5.000	0	99.2	80	120				

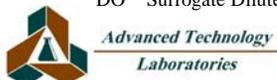
Sample ID: 105760-013A-DUP	SampType: DUP	TestCode: 7420_DI	Units: mg/L	Prep Date: 6/17/2009	RunNo: 110058						
Client ID: ZZZZZZ	Batch ID: 55970	TestNo: WET DI/ EPA WET		Analysis Date: 6/19/2009	SeqNo: 1728765						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Sample ID: 105760-013A-MS	SampType: MS	TestCode: 7420_DI	Units: mg/L	Prep Date: 6/17/2009	RunNo: 110058						
Client ID: ZZZZZZ	Batch ID: 55970	TestNo: WET DI/ EPA WET		Analysis Date: 6/19/2009	SeqNo: 1728766						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.275	0.25	5.000	0	105	70	130				

Sample ID: 105760-013A-MSD	SampType: MSD	TestCode: 7420_DI	Units: mg/L	Prep Date: 6/17/2009	RunNo: 110058						
Client ID: ZZZZZZ	Batch ID: 55970	TestNo: WET DI/ EPA WET		Analysis Date: 6/19/2009	SeqNo: 1728767						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.351	0.25	5.000	0	107	70	130	5.275	1.43	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 | |



CLIENT: Ninyo & Moore
Work Order: 105713
Project: 207384024, Intersection of Beach Boulevard an

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: MB-55776A	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/9/2009	RunNo: 109773						
Client ID: PBS	Batch ID: 55776	TestNo: WET/ EPA 74 WET		Analysis Date: 6/11/2009	SeqNo: 1723796						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: LCS-55776	SampType: LCS	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/9/2009	RunNo: 109773						
Client ID: LCSS	Batch ID: 55776	TestNo: WET/ EPA 74 WET		Analysis Date: 6/11/2009	SeqNo: 1723797						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.947	0.25	5.000	0	98.9	80	120				

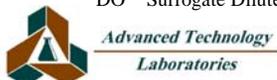
Sample ID: 105713-005A-DUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/9/2009	RunNo: 109773						
Client ID: B2-0.5	Batch ID: 55776	TestNo: WET/ EPA 74 WET		Analysis Date: 6/11/2009	SeqNo: 1723799						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	9.615	0.50						9.669	0.559	20	

Sample ID: 105713-005A-MS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/9/2009	RunNo: 109773						
Client ID: B2-0.5	Batch ID: 55776	TestNo: WET/ EPA 74 WET		Analysis Date: 6/11/2009	SeqNo: 1723800						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	14.131	0.50	5.000	9.669	89.2	80	120				

Sample ID: 105713-005A-MSD	SampType: MSD	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/9/2009	RunNo: 109773						
Client ID: B2-0.5	Batch ID: 55776	TestNo: WET/ EPA 74 WET		Analysis Date: 6/11/2009	SeqNo: 1723801						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	13.879	0.50	5.000	9.669	84.2	80	120	14.13	1.80	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 | |



CLIENT: Ninyo & Moore
Work Order: 105713
Project: 207384024, Intersection of Beach Boulevard an

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: MB-56011A	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/18/2009	RunNo: 110059						
Client ID: PBS	Batch ID: 56011	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/19/2009	SeqNo: 1728768						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: MB-55987 TCLP	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/18/2009	RunNo: 110059						
Client ID: PBS	Batch ID: 56011	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/19/2009	SeqNo: 1728769						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

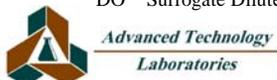
Sample ID: LCS-56011	SampType: LCS	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/18/2009	RunNo: 110059						
Client ID: LCSS	Batch ID: 56011	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/19/2009	SeqNo: 1728770						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.082	0.25	1.000	0	108	80	120				

Sample ID: 105760-013A-DUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/18/2009	RunNo: 110059						
Client ID: ZZZZZZ	Batch ID: 56011	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/19/2009	SeqNo: 1728776						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.394	0.25						0.3939	0	20	

Sample ID: 105760-013A-MS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/18/2009	RunNo: 110059						
Client ID: ZZZZZZ	Batch ID: 56011	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/19/2009	SeqNo: 1728777						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.051	0.25	2.500	0.3939	106	70	130				

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 | |



CLIENT: Ninyo & Moore
Work Order: 105713
Project: 207384024, Intersection of Beach Boulevard an

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: 105760-013A-MSD	SampType: MSD	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/18/2009	RunNo: 110059						
Client ID: ZZZZZZ	Batch ID: 56011	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/19/2009	SeqNo: 1728778						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.006	0.25	2.500	0.3939	104	70	130	3.051	1.49	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 | |



*Advanced Technology
Laboratories*

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

CLIENT: Ninyo & Moore
Work Order: 105713
Project: 207384024, Intersection of Beach Boulevard an

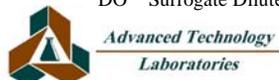
ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: 105697-027ADUP	SampType: DUP	TestCode: 9045_S	Units: pH Units	Prep Date:	RunNo: 109594						
Client ID: ZZZZZ	Batch ID: R109594	TestNo: EPA 9045C		Analysis Date: 6/4/2009	SeqNo: 1721151						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.980	0.10						7.970	0.125	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 | | |



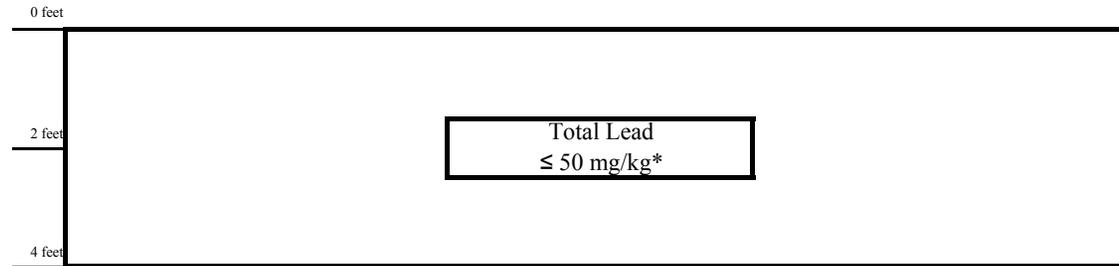
Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

APPENDIX B

BLOCK DIAGRAMS

APPENDIX B1 – BLOCK DIAGRAM FOR POTENTIAL DEPARTMENT RIGHT-OF-WAY RE-USE

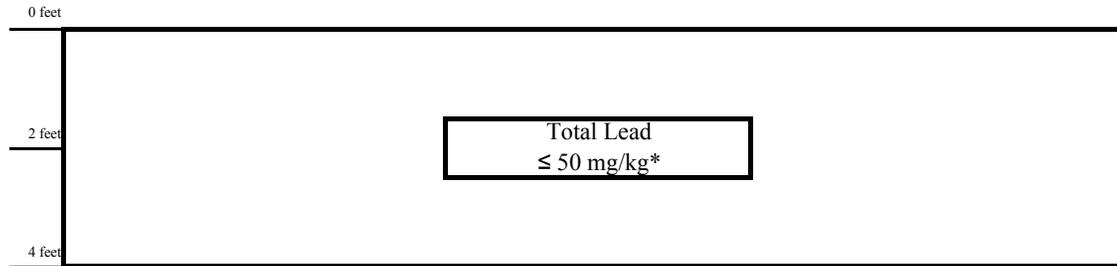
Layers Combined



-  – 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 \geq 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
- * – Soil from the vicinity of boring B2 in the 0.5 foot layer (surface to 0.5 feet below ground surface) should be treated as Condition 1 soil.

APPENDIX B2 – BLOCK DIAGRAM FOR POTENTIAL DEPARTMENT OFF-SITE DISPOSAL

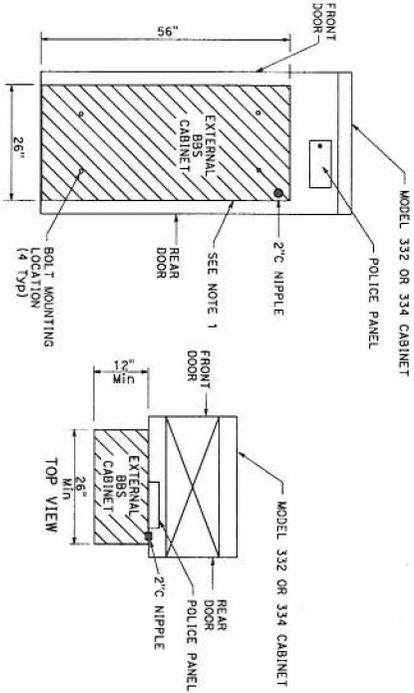
Layers Combined



-  — 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 \geq 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
- * — Soil from the vicinity of boring B2 in the 0.5 foot layer (surface to 0.5 feet below ground surface) is hazardous and should be disposed of at a Class 1 disposal site.

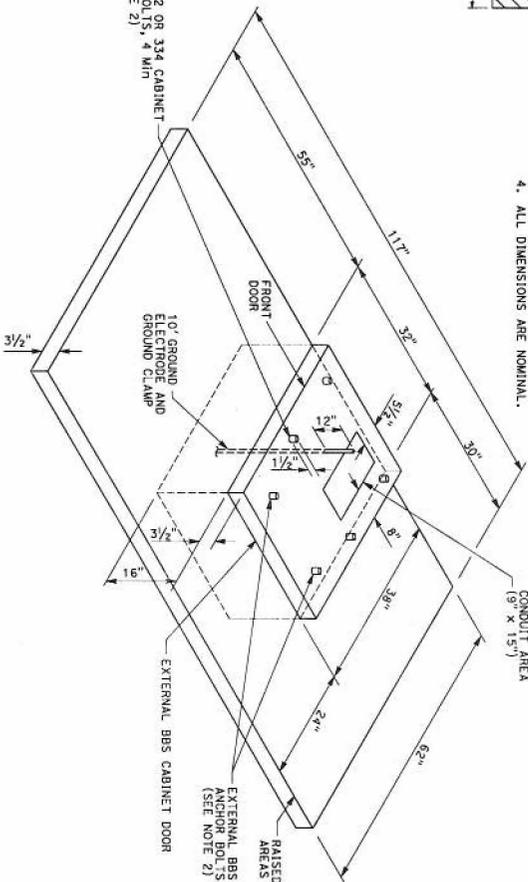
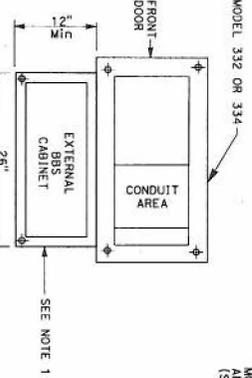


ROBBER LAST REVISED 4/11/2008



EXTERNAL BBS CABINET MOUNTED TO THE MODEL 332 OR 334 CABINET

BASE PLAN FOR BBS MOUNTED TO THE MODEL 332 OR 334 CABINET
 (FOR DIMENSIONS AND DETAILS OF THE TRANSPORTATION A6-4, CABINET HOUSING DETAILS OF THE TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATION (TEES))



MODIFIED MODEL 332 AND 334 CABINET FOUNDATION DETAIL FOR BATTERY BACKUP SYSTEM (BBS)
 (FOR DIMENSIONS AND DETAILS NOT SHOWN AND ADDITIONAL NOTES, SEE SHEET ES-3C OF THE STANDARD PLANS FOR MODEL 332 AND 334 CABINETS)

- NOTE: (THIS SHEET ONLY)**
1. THE EXTERNAL BBS CABINET SHALL BE MOUNTED TO THE MODEL 332 OR 334 CABINET WITH FOUR 1/8" STAINLESS STEEL HEX HEAD, FULLY-THREADED, 3/8" - 16 X 1" BOLTS; TWO WASHERS PER BOLT, DESIGNED FOR 3/8" BOLT AND ARE 1/8" STAINLESS STEEL, THE OUTSIDE DIAMETER, HOLE, AND FLAT; AND ONE K-LOCK NUT PER BOLT THAT IS 1/8" STAINLESS STEEL AND A HEX-NUT. THE ENGINEER WILL HAVE TO APPROVE THE BOLT MOUNTING LOCATION PRIOR TO INSTALLATION.
 2. THE ANCHOR BOLTS SHALL BE 3/4" DIA X 15" WITH A 2"-90° BEND. THE CABINET MANUFACTURER'S SPECIFICATION SHALL DETERMINE THE LOCATION OF THE ANCHOR BOLTS IN THE FOUNDATION. THE ENGINEER WILL HAVE TO APPROVE THE ANCHOR BOLTS AND ITS LOCATION PRIOR TO CONSTRUCTION.
 3. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF THE BBS CABINET PRIOR TO CONSTRUCTING THE FOUNDATION OF THE MODIFIED PORTION OF THE STD MODEL 332 AND 334 CABINET FOUNDATION. THE ENGINEER WILL HAVE TO APPROVE ANY NECESSARY DEVIATIONS PRIOR TO CONSTRUCTION.
 4. ALL DIMENSIONS ARE NOMINAL.

ELECTRICAL SYSTEMS (BBS FOUNDATION DETAILS)

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.
 RELATIVE ROBBER SCALE
 1/8" = 1' IN INCHES

USFORM 88-1 (REV. 10-1991)
 DEN FILE #3 BBS Foundation-257

CU 00000 EA 000000

COUNTY	LOCATION CODE	POST OFFICE	SHEET TOTAL
REGISTERED PROFESSIONAL ENGINEER	DATE	REGISTERED PROFESSIONAL ENGINEER	DATE
12-28-07		12-28-07	
BLANK APPROVAL DATE		REGISTERED PROFESSIONAL ENGINEER	DATE
		12-28-07	
REGISTERED PROFESSIONAL ENGINEER THERESA A. COFFIN No. ELS128 Exp. 12-31-10 STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER LICENSE NO. ELS128 EXPIRES 12-31-10 OR ASSETS SHALL NOT BE RESPONSIBLE FOR CORRECTNESS OF THIS PLAN SHEET.			

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 FUNCTIONAL SUPERVISOR
 CALCULATED/DESIGNED BY
 CHECKED BY

LEGEND: (THIS SHEET ONLY)

- PTS = POWER TRANSFER SWITCH
- UPS = UNINTERRUPTIBLE POWER SUPPLY
- UPSC = UNINTERRUPTIBLE POWER SUPPLY CONTROLLER
- UPSM = UPS MODE
- BP = BYPASS
- MBPS = MANUAL BYPASS SWITCH
- AC+ = UNGROUNDED CONDUCTOR
- AC- = GROUNDED CONDUCTOR
- C = COMMON
- Grn = GREEN
- Blk = BLACK
- Whi = WHITE
- SF = STATE-FURNISHED
- TB = TERMINAL BOARD
- Cntrl = CONTROL
- Gnd = GROUND
- Temp = TEMPERATURE
- Batt = BATTERY

NOTES: (THIS SHEET ONLY)

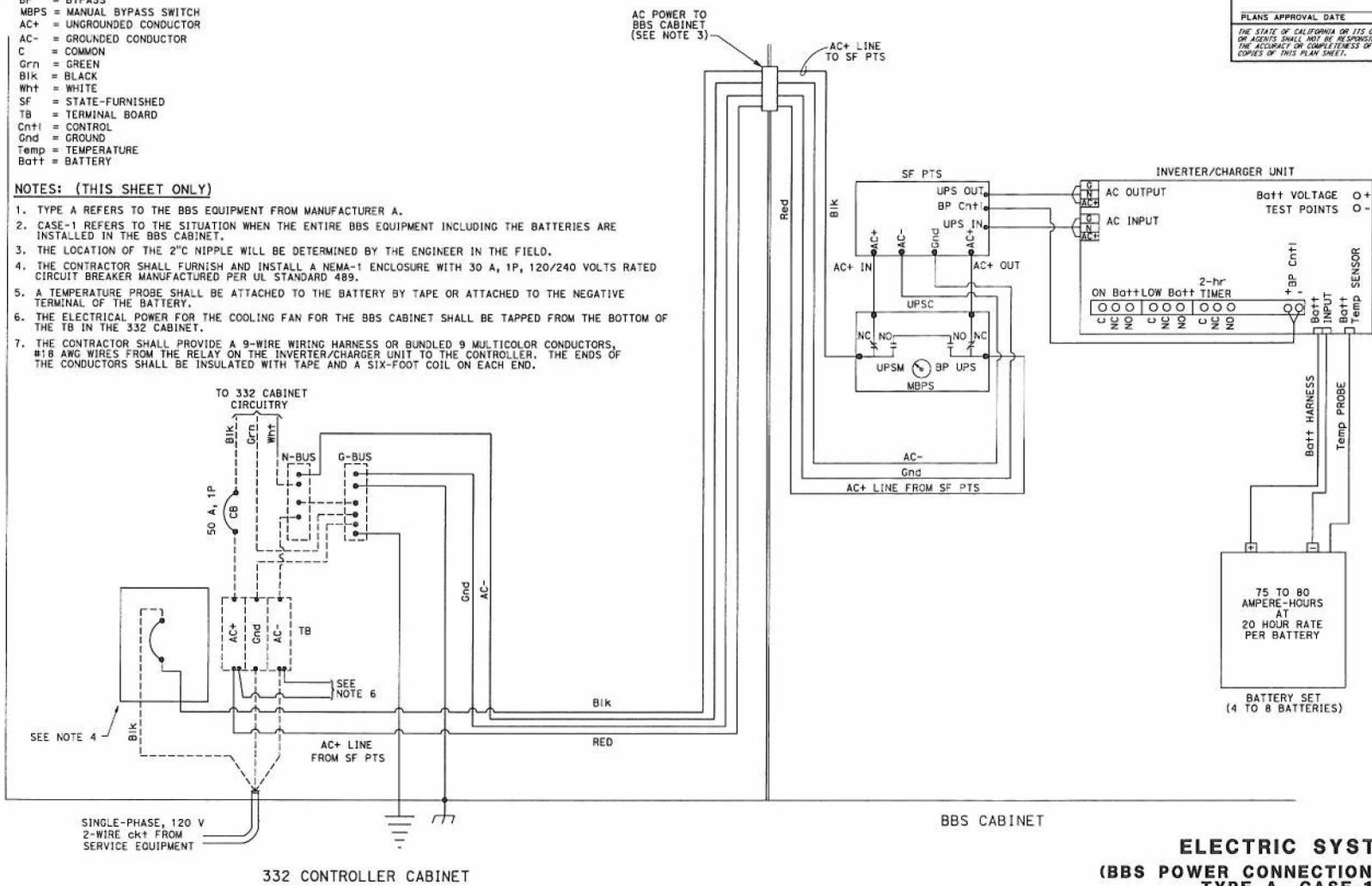
1. TYPE A REFERS TO THE BBS EQUIPMENT FROM MANUFACTURER A.
2. CASE-1 REFERS TO THE SITUATION WHEN THE ENTIRE BBS EQUIPMENT INCLUDING THE BATTERIES ARE INSTALLED IN THE BBS CABINET.
3. THE LOCATION OF THE 2" C NIPPLE WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA-1 ENCLOSURE WITH 30 A, 1P, 120/240 VOLTS RATED CIRCUIT BREAKER MANUFACTURED PER UL STANDARD 489.
5. A TEMPERATURE PROBE SHALL BE ATTACHED TO THE BATTERY BY TAPE OR ATTACHED TO THE NEGATIVE TERMINAL OF THE BATTERY.
6. THE ELECTRICAL POWER FOR THE COOLING FAN FOR THE BBS CABINET SHALL BE TAPPED FROM THE BOTTOM OF THE TB IN THE 332 CABINET.
7. THE CONTRACTOR SHALL PROVIDE A 9-WIRE WIRING HARNESS OR BUNDLED 9 MULTICOLOR CONDUCTORS, #18 AWG WIRES FROM THE RELAY ON THE INVERTER/CHARGER UNIT TO THE CONTROLLER. THE ENDS OF THE CONDUCTORS SHALL BE INSULATED WITH TAPE AND A SIX-FOOT COIL ON EACH END.

DIST	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET TOTAL No. SHEETS

REGISTERED CHARTERED ENGINEER
 DATE 12-20-07
 THE STATE OF CALIFORNIA ON ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ELECTRICAL ENGINEER
 THEODORE A. COBRLETT
 No. E15129
 Exp. 6-30-10
 ELECT
 STATE OF CALIFORNIA



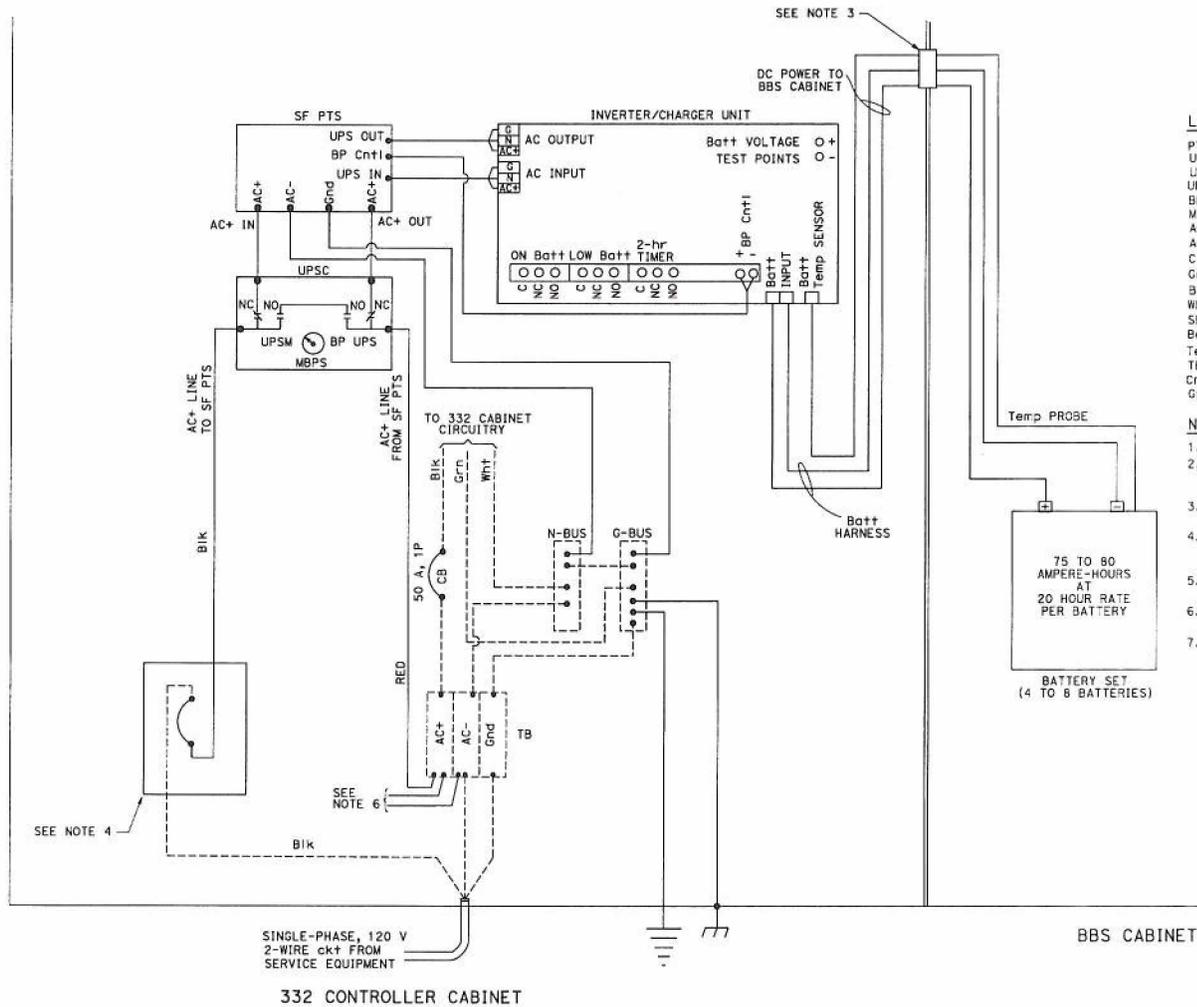
**ELECTRIC SYSTEM
 (BBS POWER CONNECTION DIAGRAM, TYPE A, CASE-1)**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR
 CALCULATED/DISTONED BY
 CHECKED BY
 REVISED BY
 DATE REVISED

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET TOTAL No.

12-20-00
 REGISTERED CIVIL ENGINEER DATE
 Theresia A. GabrTol
 No. E15129
 Exp. 8-30-10
 ELECT
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER

PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



LEGEND: (THIS SHEET ONLY)

- PTS = POWER TRANSFER SWITCH
- UPS = UNINTERRUPTIBLE POWER SUPPLY
- UPSC = UNINTERRUPTIBLE POWER SUPPLY CONTROLLER
- UPSM = UPS MODE
- BP = BYPASS
- MBPS = MANUAL BYPASS SWITCH
- AC+ = UNGROUNDED CONDUCTOR
- AC- = GROUNDED CONDUCTOR
- C = COMMON
- Grn = GREEN
- Blik = BLACK
- Whlt = WHITE
- SF = STATE-FURNISHED
- Batt = BATTERY
- Temp = TEMPERATURE
- TB = TERMINAL BOARD
- Cntrl = CONTROL
- Gnd = GROUND

NOTES: (THIS SHEET ONLY)

1. TYPE B REFERS TO THE BBS EQUIPMENT FROM MANUFACTURER B.
2. CASE-2 REFERS TO THE SITUATION WHEN ONLY THE BATTERIES ARE INSTALLED IN THE BBS CABINET. THE REMAINING EQUIPMENT IS PLACED IN THE 332 CONTROLLER CABINET.
3. THE LOCATION OF THE 2" C NIPPLE WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA-1 ENCLOSURE WITH 30 A, 1P, 120/240 VOLTS RATED CIRCUIT BREAKER MANUFACTURED PER UL STANDARD 489.
5. A TEMPERATURE PROBE SHALL BE ATTACHED TO THE BATTERY BY TAPE OR ATTACHED TO THE NEGATIVE TERMINAL OF THE BATTERY.
6. THE ELECTRICAL POWER FOR THE COOLING FAN FOR THE BBS CABINET SHALL BE TAPPED FROM THE BOTTOM OF THE TB IN THE 332 CABINET.
7. THE CONTRACTOR SHALL PROVIDE A 9-WIRE WIRING HARNESS OR BUNDLED 9 MULTICOLOR CONDUCTORS, #18 AWG WIRES FROM THE RELAY ON THE INVERTER/CHARGER UNIT TO THE CONTROLLER. THE ENDS OF THE CONDUCTORS SHALL BE INSULATED WITH TAPE AND A SIX-FOOT COIL ON EACH END.

**ELECTRICAL SYSTEMS
 (BBS POWER CONNECTION DIAGRAM, TYPE A, CASE-2)**

NO SCALE

