

# **INFORMATION HANDOUT**

**For Contract No. 07-276004**

**At 07-Ven-101-14.1/21.1**

**Identified by**

**Project ID 0712000100**

## **MATERIALS INFORMATION**

ADL Site Investigation Report by Stantec, Oct 17, 2014

Silicone Joint Sealant for Austin Vault Sand Filter



**Stantec**

**SITE INVESTIGATION REPORT**

**AERIALLY DEPOSITED LEAD SITE  
INVESTIGATION  
SR 101, VENTURA COUNTY, CALIFORNIA  
LOCATION: VEN-101, PM 14.0/21.0**

**E-FIS NUMBER: 07-12000100  
EA NUMBER: 276001  
TASK ORDER NO. 19**

**STANTEC PROJECT NO.: 185832019**

**Submitted to:  
California Department of Transportation,  
District 7 – 07A3322  
100 South Main Street  
Los Angeles, California 90012**

**Submitted by:  
Stantec Consulting Services Inc.  
25864-F Business Center Drive  
Redlands, California 92374**

**Prepared by:**

**Kristy Edblad  
Senior Engineer, P.E.**

**Reviewed by:**

**Anne E. Perez  
Associate Geologist**

**Approved by:**

**Kevin Miskin, P.E. C48458  
Principal Engineer**

**October 17, 2014**

## EXECUTIVE SUMMARY

At the request of the California Department of Transportation (Department) District 7 (07A3322), a site investigation (SI) was conducted at sixteen (16) locations to evaluate the potential presence of lead contamination in subsurface soils along sections of State Route 101 (SR101). The objective of the SI is to evaluate potential constituents of concern, specifically lead in the subsurface soil profile within the proposed construction areas and to make recommendations for special handling and disposal of excess soil, as necessary.

A total of 19 borings were advanced from the surface to either 2.0 or 10.0 feet below ground surface (bgs). Soil samples were collected from the surface to 0.5 feet, 0.5 to 1.0 feet, and 1.5 to 2.0 feet at 15 boring locations and from 4.5 to 5.0 feet, 6.5 to 7.0 feet, and 9.5 to 10.0 feet at one boring location.

Soil samples collected from each boring were analyzed for total lead and soluble lead by the California Waste Extraction Test (Cal WET) using citric acid as the extractant. Select soil samples were analyzed Title 22 metals and pH (the ten soil samples with the highest total lead value). Samples with a Cal WET-Citric concentration equal or greater than 5 milligrams per liter (mg/L) were additionally analyzed for soluble lead by Cal WET using deionized water as the extractant. Samples with a total lead concentration equal or greater than 1,000 milligrams per kilogram (mg/kg) or the 18 samples with the highest total lead concentration were analyzed for soluble lead by the Toxicity Characteristic Leaching Procedure (TCLP).

All analytes were reported below their respective California and Federal hazardous waste thresholds with the exception of the following:

- Cal WET-Citric soluble lead concentrations were reported above the Soluble Threshold Limit Concentration (STLC) in nine of the 60 samples (six of the 16 locations) with a maximum concentration of 21 mg/L.

Based on the findings and results of the investigation, the following are concluded:

1. Subsurface soils within the investigation profile are impacted with aerially deposited lead (ADL).
2. Soluble lead concentrations exceeded the STLC at nine of the 16 locations. Surplus soil in these areas qualifies as a Type Z-2 California (Non-RCRA) hazardous waste or may be reused on-Site as Type Y-1 material in accordance with Caltrans' Lead Variance.
3. pH was not reported in the range of Federal non-hazardous waste thresholds. The pH in tested soil samples ranged from 7.0 to 8.3 and was well within the conditions of Caltrans' Lead Variance.
4. Title 22 metals, other than lead, were reported at concentrations below hazardous waste thresholds and appear to be consistent with expected background concentrations.

5. The total lead concentrations did not exceed California and USEPA human health screening levels for the industrial/commercial worker scenario.

Based on the findings and conclusions presented in the attached report, the following are recommended:

1. Due to the presence of hazardous substances (metals), construction activities should be conducted under the guidance of a soil management plan that includes the elements of a Lead Compliance Plan (LCP) and any additional measures to protect workers and public from exposure to lead and other hazardous substances.
2. All construction activities should be conducted under a site specific Health and Safety Plan (HASP) and in accordance with California and the U.S. Occupational Safety and Health Administration (OSHA) HAZWOPER standards and guidelines for worker protection.
3. Surplus soil may be reused or disposed as follows:
  - a. Soil generated from locations L-1, L-4, L-10, D-1 through D-3, and D-6 through D-9 (see Table 1 and Figures 2, 5, 11 through 14, and 17 through 20) may be reused or disposed as a non-hazardous waste (Type X).
  - b. Soil from locations L-5 through L-7, L-9, D-4, and D-5 (see Table 1 and Figures 6 through 8, 10, 15 and 16) qualifies as Non-RCRA California hazardous waste based on Cal WET soluble lead concentrations and may be reused as Type Y-1 material or disposed as a Type Z-2 material.

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## **1.0 INTRODUCTION**

### **1.1 PROJECT DESCRIPTION**

At the request of the California Department of Transportation (Department) District 7, an aerially deposited lead (ADL) site investigation (SI) was conducted at sixteen (16) locations to evaluate the potential presence of lead contamination in subsurface soils along two sides of State Route 101 (SR101) within the cities of Camarillo and Oxnard between State Route 34 (SR34) and State Route 232 (SR232), Ventura County, California (the Site). The data from the SI will be used to evaluate the proper disposal and handling of the excess soil generated during construction activities. The work was conducted pursuant to the provisions in Agreement 07A3322, and with the Task Order No. 19 request dated September 9, 2014.

### **1.2 PURPOSE AND OBJECTIVES**

The objective of the SI is to evaluate potential constituents of concern, specifically lead, in the subsurface soil profile within the proposed construction areas and to make recommendations for special handling and disposal of excess soil, as necessary.

### **1.3 BACKGROUND**

According to the Task Order No. 19 Request, dated September 9, 2014, the Department is preparing Plan, Specifications, and Estimates to improve the roadsides along both sides of SR101 between PM 14.0 to PM 21.0. An ADL survey of multiple discontinuous locations is necessary in the project area where excess soils will be generated or disturbed during the construction period. The objective of the ADL survey is to collect soil samples from 20 of the 37 sites to assist in the evaluation of reuse and disposal of excess soil.

The remainder of this report describes the scope of work, methodology, findings, results, conclusions and recommendations of the SI.

## **2.0 PROJECT SETTING**

This section describes the project setting including a description of the study area, the physiographic setting of the study area, the geology and hydrogeology, and a description of the area around the Site.

### **2.1 SITE DESCRIPTION**

The study area is located along the northbound and southbound shoulders of SR101 from SR232 to SR34, in Ventura County (Figure 1).

### **2.2 PHYSIOGRAPHIC SETTING**

The topography along SR101 is relatively flat at the bottom of the Conejo Grade through Oxnard at approximate elevation ranges of 55 to 160 feet amsl (Oxnard [1949 and photorevised in 1967] and Camarillo [1950 and photorevised 1967] Quadrangle topographic maps produced by the United States Geological Survey [USGS]).

### **2.3 REGIONAL GEOLOGY AND HYDROGEOLOGY**

The Site is located within the Transverse Ranges Geomorphic Province of California. The Transverse Ranges extend from the Santa Ynez River and San Andreas Fault in the north to the Los Angeles Basin in the south. From the east, the Transverse Ranges extend from the Colorado and Mojave Deserts to Point Arguello and San Miguel Island in the west. The Transverse Ranges are characterized by east-west trending mountain ranges, valleys, and associated faults and folds. The Site is underlain by alluvium and unconsolidated deposits of silt, sand, and gravel (CDCDMG, 1986).

According to DWR's Bulletin 118, the Site portion of SR101 within Camarillo lies in the Pleasant Valley Groundwater Basin within the South Coast Hydrologic Region. The Pleasant Valley Basin primary water-bearing minerals are alluvial sands and gravels of upper Pleistocene to Holocene age and the lower Pleistocene San Pedro Formation. The Pleistocene to Holocene age alluvium consists of silts and clays with lenses of more permeable sand and gravel. The Pleistocene age San Pedro Formation consists of an upper unit of fine silt and clay that forms an impermeable layer over an extensive 100 to 300 foot thick gravel unit in the lower San Pedro Formation called the Fox Canyon Aquifer. The Pleasant Valley Basin is bounded on the north by the Camarillo and Las Posas Hills and on the south by the Santa Monica Mountains (DWR, 2006).

### **2.4 SITE VICINITY**

The area surrounding the site along SR101 is comprised largely of commercial with minor residential and agricultural properties interspersed along the right of way (ROW).

### 3.0 SCOPE OF WORK

The scope of the SI consisted of the following general elements:

- Pre-field activities
  - Development of a project work plan to guide task order activities;
  - Development of a site specific health and safety plan;
  - Notification to Underground Service Alert (USA) for inquiry identification numbers;
  - Coordination of equipment and subcontractors.
  
- Field Investigations
  - Advancement of 18 hand auger borings to a depth of two (2) feet below ground surface (bgs);
  - Advancement of one hand auger boring to a depth of ten (10) feet bgs;
  - Collection and preservation of either three (3) or six (6) soil samples from each boring from surface to 0.5 feet bgs, 0.5 to 1.0 feet bgs, 1.5 to 2.0 feet bgs, 4.5 to 5.0 feet bgs, 6.5 to 7.0 feet bgs, and 9.5 to 10 feet bgs;
  - Boring location survey using global positioning system (GPS); and
  - Boring abandonment.
  
- Laboratory analysis of select soil samples
  - Total lead by EPA Test Method 6010B;
  - Soluble lead by the California Waste Extraction Test (Cal WET) using citric acid as the extractant;
  - Soluble lead by Cal WET modified using deionized water (DI) as the extractant on all Cal WET samples reporting a soluble lead concentration greater than 5.0 milligrams per liter (mg/L) for;
  - Soluble lead by the Toxicity Characteristic Leaching Procedure (TCLP) [EPA Method 1311] on all samples reporting total lead concentrations greater than 1,000 milligrams per kilogram (mg/kg) or the 18 samples reporting the highest total lead concentrations.
  - Analysis of the ten samples reporting the highest total lead concentrations for:
    - Title 22 Metals by EPA Test Method 6010B/7000; and
    - pH by EPA Test Method 9045C.
  
- Data evaluation and report preparation.

## 4.0 SOIL INVESTIGATION METHODOLOGY

The soil investigation was conducted in general accordance with the methods and requirements of Contract 07A3322, Task Order No. 19. The following subsections summarize the methodology implemented in completing the required scope of work. In addition, any deviations from the scope of work are also identified in the following subsections.

### 4.1 PRE-FIELD ACTIVITIES

Prior to beginning field work, the scope of work was reviewed and approved by the Department. Proposed sample locations designated on site plans by the Department were checked for accessibility in the field through Site reconnaissance.

As required by Task Order No. 19, a site-specific Health and Safety Plan (HASP) was used in accordance with California Occupational Safety and Health Administration (Cal OSHA) requirements to guide field sampling activities. The HASP describes health and safety procedures and was submitted to Department for approval prior to initiating field activities. A pre-field tail gate health and safety meeting was conducted at the Site with field personnel prior to beginning work each day. During the tail gate meeting, daily work activities and health and safety issues were discussed, including the following:

- Field tasks to be conducted throughout the day,
- Project schedule,
- Hazard awareness,
- General health and safety practices, procedures and issues,
- Specific health and safety issues related to the day's work,
- Health and Safety procedures, controls, etc.;
- Engineering controls; personal protective equipment and monitoring;
- Traffic control and safety; and
- Emergency procedures and contacts.

Field documentation of health and safety meetings and monitoring were maintained throughout the duration of field activities. A copy of the completed field forms are provided in Appendix A.

Stantec contacted USA to obtain inquiry identification numbers for the boring locations prior to the start of work. Locations were pre-marked in the field as required by USA. USA inquiry identification numbers as follows:

- A42661630
- A42661636
- A42661640
- A42661643
- A42661649
- A42661782
- A42670037
- A42670050
- A42670054
- A42670069
- A42670073

### 4.2 FIELD INVESTIGATIONS

Field investigations were conducted on April 28, 29, 30 and May 1 and 2, 2014. The weather was sunny throughout each day. There were no weather-related restrictions during the field

investigation. The following subsections describe the methodology and procedures followed in conducting field investigations.

#### **4.2.1 Soil Borings and Sampling**

The locations were located off the northbound and southbound shoulders of SR101. Multiple hand auger borings were made at various locations in order to achieve the desired (2 foot or 10 foot) penetration goal. The target depth of each boring was achieved at all boring locations.

Boring locations are described on Table 1 and shown on Figures 2 through 20. Boring coordinates are provided in Appendix B. The following paragraphs summarize field sample protocols.

#### **4.2.2 Sample Collection and Preservation**

Soil samples were collected from the surface to 0.5 feet, 0.5 to 1.0 feet, and 1.5 to 2.0 feet at 18 locations and also from 4.5 to 5.0 feet, 6.5 to 7.0 feet, and 9.5 to 10.0 feet at one location. Samples at these depths were obtained by hand auger and discharged from the hand auger bucket into one clean eight-ounce laboratory certified clean glass jar for laboratory analysis of nonvolatile constituents of concern.

Upon sampling at each depth interval, the soils contained therein were visually examined and logged in accordance with the latest edition of the Soil & Rock Logging Classification Manual (Field Guide), State of California, Department of Transportation, Engineering Service Center, Office of Structural Foundations. A summary of the soil classifications are presented in the boring logs in Appendix C.

Each sample jar was labeled with a specific sample I.D., boring I.D., project I.D., EA number, sample date, and sample time, and then placed in an ice-filled cooler. Each sample was also recorded on a chain-of-custody (CoC) form and delivered to an environmental laboratory for analysis.

#### **4.2.3 Boring Locations**

All boring locations were identified and plotted on a field map with a unique boring identification (I.D.) number to represent each borehole. In addition, the spatial coordinates for each borehole were obtained using a handheld field GPS Trimble unit and recorded on field data sheets. The latitude and longitude for each boring are provided in Appendix B.

#### **4.2.4 Decontamination**

All sampling equipment was decontaminated prior to advancing to the next borehole using a non-phosphate detergent solution and double-rinsed with distilled water.

#### **4.2.5 Borehole Abandonment**

Excess soil cuttings were replaced in the borehole.

#### **4.2.6 Field Quality Assurance/Quality Control**

One equipment blank was collected for every CoC (per field team per day) to evaluate the adequacy of field decontamination efforts. The equipment blanks were collected by pouring deionized water over the sampling equipment and collecting the water in appropriate sample containers. The equipment blanks were analyzed for Title 22 metals.

#### **4.3 DEVIATIONS FROM TASK ORDER SCOPE OF WORK**

There were no deviations from the proposed scope of work.

## 5.0 LABORATORY ANALYSIS

With 19 locations, 60 soil samples were submitted under CoC to Advanced Technology Laboratories (ATL). ATL is certified through the California Environmental Laboratory Accreditation Program (ELAP) to conduct the analyses required in this task order. The lab was directed to perform the following analyses:

- *Total lead by EPA test method 6010B*—used to evaluate total lead concentrations against health screening limits, California hazardous waste total threshold limit concentration (TTLC), and the conditions of Caltrans' lead variance.
- *pH (EPA test method 9045C)*—select samples were analyzed for pH to evaluate the requirements for managing and disposing of excess soil in accordance with State and Federal regulations.
- *Title 22 metals (EPA test method 6010B/7470)*—select samples were analyzed for the full suite of Title 22 metals (except for lead) to screen soil samples for other potentially elevated heavy metal analytes to further characterize excess soil for off-site disposal.
- *Cal WET-Citric*—used to evaluate waste characteristics and the requirements for disposal against California hazardous waste Soluble Threshold Limit Concentration (STLC).
- *Cal WET-DI*—used to assess soluble lead concentrations with respect to on-site reuse options in accordance with the criteria set forth in Caltrans lead variance.
- *TCLP (EPA test method 1311)*—used to evaluate waste characteristics and the requirements for disposal against Federal hazardous waste toxicity characteristic thresholds.

Copies of the laboratory CoCs and analytical reports are attached in Appendix D.

## 6.0 INVESTIGATIVE RESULTS

This section describes observations, findings and results of field investigations and laboratory analysis.

### 6.1 FIELD FINDINGS

The soils encountered during sampling were generally brown or dark grayish brown in color and consisted primarily of well-graded sand with silt, gravels, or cobbles; sandy silt with gravel; or silty gravel with sand. Groundwater was not encountered in any of the boreholes and not expected to be present in shallow soils.

### 6.2 ANALYTICAL RESULTS

A summary of the analytical results is presented in Tables 1 and 2. Copies of the laboratory reports and CoC forms are included in Appendix D.

#### 6.2.1 *Total Lead*

A total of 60 soil samples were analyzed for total lead by EPA test method 6010B. Total lead concentrations ranged from 1.1 to 300 mg/kg (see Table 1).

None of the samples had total lead concentrations which exceeded the California Total Threshold Limit Concentration (TTLC) threshold of 1,000 mg/kg.

#### 6.2.2 *Soluble Lead (Cal WET- Citric)*

A total of 60 soil samples were analyzed for soluble lead by Cal WET-Citric. Samples with a total lead concentration equal or greater than 50 mg/kg were analyzed for Cal WET-Citric. Soluble lead concentrations ranged from 0.031 to 21 mg/L (see Table 2). Cal WET-Citric soluble lead was reported above the STLC threshold of 5 mg/L in nine samples at six of the 16 locations.

#### 6.2.3 *Soluble Lead (Cal WET- DI)*

A total of nine samples were analyzed for soluble lead by Cal WET-DI. Samples with a Cal WET-Citric concentration equal or greater than 5 mg/L were analyzed for Cal WET-DI. Soluble lead concentrations ranged from non-detect to 1.1 mg/L (see Table 2).

#### 6.2.4 *Soluble Lead (TCLP)*

A total of 18 soil samples were analyzed for soluble lead by the Federal TCLP. Samples with a total lead concentration equal or greater than 100 mg/kg were analyzed for TCLP. TCLP soluble lead concentrations ranged from 0.005 to 0.51 mg/L (see Table 2).

TCLP soluble lead did not exceed the Federal toxicity characteristic threshold of 5 mg/L in any of the samples.

#### 6.2.5 *Title 22 Metals*

Ten (10) soil samples were analyzed for Title 22 metals to evaluate whether concentrations of heavy metals, other than lead, would require special handling and disposal. The soil sample with the highest TTLC value for each location was analyzed for Title 22 metals. Title 22 metals,

other than lead, were reported at concentrations generally consistent with expected background, with the exception of arsenic, cadmium, molybdenum, and zinc (Table 2).

Of the metals detected above expected background levels, none were detected above the California TTLC or were greater than 10 times the STLC.

#### **6.2.6 pH**

Ten (10) soil samples were analyzed for pH. The soil sample with the highest TTLC value for each location was analyzed for pH. The pH values ranged from 7.0 to 8.3, within the range for non-hazardous waste and well above the Department's variance thresholds (Table 1).

### **6.3 DATA VALIDATION**

#### **6.3.1 Field QA/QC**

Quality assurance and quality control (QA/QC) procedures were performed in general accordance with the Work Plan and Task Order No. 19 request. Field QA/QC procedures included analyses of equipment blanks. Low concentrations of metals were detected in the field equipment blanks analyzed for Title 22 metals. The low levels may also be attributed to the metal sampling equipment from which the sample was derived. The low concentrations have no effect on the quality of the data or recommendations provided in this report.

#### **6.3.2 Laboratory QA/QC**

Laboratory quality assurance and quality control data (method blanks, laboratory control samples and duplicates, matrix spike samples and duplicates) were also reviewed for compliance with QA/QC objectives. Based upon this review, the data, as qualified, are acceptable for the purposes described in this document. Data validation records are included in Appendix E.

## 7.0 CONCLUSIONS

At the request of the California Department of Transportation (Department) District 7 (07A3322), a site investigation (SI) was conducted at 16 locations to evaluate the potential presence of lead contamination in subsurface soils along sections of State Route 101 (SR101). The objective of the SI is to evaluate potential constituents of concern, specifically lead in the subsurface soil profile within the proposed construction areas and to make recommendations for special handling and disposal of excess soil, as necessary.

A total of 19 borings were advanced from the surface to either 2.0 or 10.0 feet bgs. Soil samples were collected from the surface to 0.5 feet, 0.5 to 1.0 feet, and 1.5 to 2.0 feet at 15 boring locations and from 4.5 to 5.0 feet, 6.5 to 7.0 feet, and 9.5 to 10.0 feet at one boring location.

Soil samples collected from each boring were analyzed for total lead and Cal WET-Citric. Select soil samples were analyzed Title 22 metals and pH (the 10 soil samples with the highest total lead value). Samples with a Cal WET-Citric concentration equal or greater than 5 mg/L were additionally analyzed for Cal WET-DI. Samples with a total lead concentration equal or greater than 1,000 mg/kg or the 18 samples with the highest total lead concentration were analyzed for TCLP.

All analytes were reported below their respective California and Federal hazardous waste thresholds with the exception of the following:

- Cal WET-Citric soluble lead concentrations were reported above the STLC in nine of the 60 samples (six of the 16 locations) with a maximum concentration of 21 mg/L.

Based on the findings and results of the investigation, the following are concluded:

1. Subsurface soils within the investigation profile are impacted with ADL.
2. Soluble lead concentrations exceeded the STLC at nine of the 16 locations. Surplus soil in these areas qualifies as a Type Z-2 California (Non-RCRA) hazardous waste or may be reused on-Site as Type Y-1 material in accordance with Caltrans' Lead Variance.
3. pH was not reported in the range of Federal non-hazardous waste thresholds. The pH in tested soil samples ranged from 7.0 to 8.3 and was well within the conditions of Caltrans' Lead Variance.
4. Title 22 metals, other than lead, were reported at concentrations below hazardous waste thresholds and appear to be consistent with expected background concentrations.
5. The total lead concentrations did not exceed California and USEPA human health screening levels for the industrial/commercial worker scenario.

## 8.0 RECOMMENDATIONS

Based on the findings, results, and conclusions of the investigation, soil in the various investigation areas is impacted by aerially deposited lead. Recommendations for reuse and disposal of surplus soil are provided in Table 1 and summarized below:

1. Due to the presence of hazardous substances (metals), construction activities should be conducted under the guidance of a soil management plan that includes the elements of a Lead Compliance Plan (LCP) and any additional measures to protect workers and public from exposure to lead and other hazardous substances.
2. All construction activities should be conducted under a site specific Health and Safety Plan (HASP) and in accordance with California and the U.S. Occupational Safety and Health Administration (OSHA) HAZWOPER standards and guidelines for worker protection.
3. Surplus soil may be reused or disposed as follows:
  - a. Soil generated from locations L-1, L-4, L-10, D-1 through D-3, and D-6 through D-9 (see Table 1 and Figures 2, 5, 11 through 14, and 17 through 20) may be reused or disposed as a non-hazardous waste (Type X).
  - b. Soil from locations L-5 through L-7, L-9, D-4, and D-5 (see Table 1 and Figures 6 through 8, 10, 15 and 16) qualifies as Non-RCRA California hazardous waste based on Cal WET soluble lead concentrations and may be reused as Type Y-1 material or disposed as a Type Z-2 material.

## 9.0 REFERENCES

California Department of Conservation Division of Mines and Geology (CDCDMG), 1986, Geomorphic Provinces and Some Principal Faults of California, May.

California Department of Toxic Substances Control (DTSC), 2008, Determination of a Southern California Regional Background Arsenic Concentration in Soil, March.

California Department of Toxic Substances Control (DTSC), 2009, Variance No. V09HQSCD006, July 1.

California Environmental Protection Agency (Cal EPA), 2005, Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January.

Cal EPA, 2010, Soil Screening Numbers – Updated Table (9/23/10), online. <http://oehha.ca.gov/risk/chhsltable.html>

California Department of Water Resources (DWR), 2006, California's Groundwater Bulletin 118, South Coast Hydrologic Region, Pleasant Valley Groundwater Basin, updated January 20.

Kearny Foundation of Soil Science, 1996, Background Concentrations of Trace and Major Elements in California Soils, Division of Agriculture and Natural Resources, University of California, March.

Marret, D.J., A.L. Page, G.R. Bradford, D. Bakhtar, R.C. Graham, A.C. Chang, 1991, Background Levels of Soil Trace Elements in Southern California Soils, April.

United States Geological Survey (USGS) Topographic Map, 1950 (photorevised 1967), 7.5-minute series, Camarillo, California Quadrangle.

United States Geological Survey (USGS) Topographic Map, 1949 (photorevised 1967), 7.5-minute series, Oxnard, California Quadrangle.

U.S. EPA, Region 9, 2012, Regional Screening Levels for Chemical Contaminants at Superfund Sites, May.

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## TABLES

**FIGURES**

**APPENDIX A  
HASP FIELD FORM**

**APPENDIX B**  
**BORING GPS COORDINATES**

**APPENDIX C  
BORING LOGS**

**APPENDIX D**  
**ANALYTICAL LABORATORY REPORTS and CHAIN-OF-CUSTODY RECORDS**

**APPENDIX E  
DATA VALIDATION RECORDS**

TABLE 1  
SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD and pH  
ADL SITE INVESTIGATION  
VEN-101, PM 14.0/21.0  
VENTURA COUNTY, CALIFORNIA  
EFIS: 0712000100 (EA#276001)  
TASK ORDER #19  
CONTRACT 07A3322

Location ID	Sample ID	Total Lead <sup>(1)</sup> (mg/kg)	Soluble Lead <sup>(1)</sup> Cal WET- Citric (mg/L)	Soluble Lead <sup>(1)</sup> Cal WET-DI (mg/L)	Soluble Lead <sup>(1)</sup> TCLP (mg/L)	pH <sup>(2)</sup>	Soil Classification
L-1	1257-101-0	43	1.9	--	--	--	X
	1257-101-1	8.8	0.17	J	--	--	
	1257-101-2	11	0.17	J	--	--	
L-4	1257-102-0	29	2.3	--	--	--	X
	1257-102-1	8.4	0.097	J	--	--	
	1257-102-2	7.2	0.17	J	--	--	
L-5	1257-103-0	60	3.7	--	0.0067	J	Y-1-Reuse Z-2-Excess
	1257-103-1	58	2.2	--	0.014	J	
	1257-103-2	300	21	1.1	0.51	8.3	
	1257-104-0	23	1.3	--	--	--	
	1257-104-1	43	2.1	--	0.030	J	
L-6	1257-104-2	31	0.80	J	--	--	Y-1-Reuse Z-2-Excess
	1257-105-0	220	13	<0.027	0.014	J	
	1257-105-1	30	1.2	--	--	--	
L-7	1257-105-2	7.0	0.089	J	--	--	Y-1-Reuse Z-2-Excess
	1257-106-0	140	12	<0.027	0.056	7.7	
	1257-106-1	150	9.3	<0.027	0.057	7.6	
L-9	1257-106-2	240	6.5	<0.027	0.051	7.5	Y-1-Reuse Z-2-Excess
	1257-107-0	130	7.2	<0.027	0.035	J	
	1257-107-1	100	5.1	<0.027	0.020	J	
L-10	1257-107-2	28	1.6	--	--	--	X
	1257-108-0	18	0.83	J	--	--	
	1257-108-1	21	0.77	J	--	--	
D-1	1257-108-2	60	4.5	--	0.031	J	X
	1257-109-0	5.0	0.079	J	--	--	
	1257-109-1	25	1.0	J	--	--	
D-2	1257-109-2	3.3	0.052	J	--	--	X
	1257-110-0	62	2.4	--	<0.0014	--	
	1257-110-1	28	0.91	J	--	--	
D-3	1257-110-2	14	0.41	J	--	--	X
	1257-111-0	22	0.87	J	--	--	
	1257-111-1	17	0.50	J	--	--	
D-4	1257-111-2	13	0.32	J	--	--	Y-1-Reuse Z-2-Excess
	1257-112-0	300	1.5	--	0.014	J	
	1257-112-1	36	1.3	--	--	--	
	1257-112-2	50	16	<0.027	0.014	J	
	1257-113-0	46	2.0	--	0.016	J	
D-5	1257-113-1	27	1.5	--	--	--	Y-1-Reuse Z-2-Excess
	1257-113-2	25	0.84	J	--	--	
	1257-114-0	110	5.3	<0.027	0.0054	J	
D-6	1257-114-1	17	0.26	J	--	--	X
	1257-114-2	6.3	0.11	J	--	--	
	1257-115-0	80	3.2	--	0.012	J	
D-7	1257-115-1	18	1.2	--	--	--	X
	1257-115-2	10	0.22	J	--	--	
	1257-116-0	29	1.2	--	--	--	
D-8	1257-116-1	21	0.53	J	--	--	X
	1257-116-2	8.7	0.11	J	--	--	
	1257-117-0	36	1.0	--	--	--	
	1257-117-1	50	3.2	--	0.031	J	
	1257-117-2	29	0.74	J	--	--	
D-9	1257-118-0	27	0.76	J	--	--	X
	1257-118-1	31	0.96	J	--	--	
	1257-118-2	8.9	0.10	J	--	--	
	1257-119-0	20	1.1	--	--	--	
	1257-119-1	17	0.99	J	--	--	
QA/QC	1257-119-2	1.9	0.036	J	--	--	X
	1257-119-5	3.0	0.037	J	--	--	
	1257-119-7	3.0	0.031	J	--	--	
	1257-119-10	1.1	<0.027	--	--	--	
Statistics	EB1-092614	<0.0014	--	--	--	--	-
	EB2-092614	0.0039	J	--	--	--	
	EB3-092614	<0.0014	--	--	--	--	
	EB4-092614	<0.0014	--	--	--	--	
	EB5-092614	<0.0014	--	--	--	--	
	EB6-092614	<0.0014	--	--	--	--	
	EB7-092614	<0.0014	--	--	--	--	
	EB8-092614	<0.0014	--	--	--	--	
	EB9-092614	<0.0014	--	--	--	--	
	EB10-092614	<0.0014	--	--	--	--	
Statistics	Minimum	1.1	0.031	--	--	--	-
	Maximum	300	21	--	--	--	
	Mean	49.5	2.5	--	--	--	
	Standard Deviation	67.5	4.1	--	--	--	
Non-Hazardous Waste Type X		<1000	<5	--	<5	--	--

TABLE 1  
 SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD and pH  
 ADL SITE INVESTIGATION  
 VEN-101, PM 14.0/21.0  
 VENTURA COUNTY, CALIFORNIA  
 EFIS: 0712000100 (EA#276001)  
 TASK ORDER #19  
 CONTRACT 07A3322

Location ID	Sample ID	Total Lead <sup>(1)</sup> (mg/kg)	Soluble Lead <sup>(1)</sup> Cal WET- Citric (mg/L)	Soluble Lead <sup>(1)</sup> Cal WET-DI (mg/L)	Soluble Lead <sup>(1)</sup> TCLP (mg/L)	pH <sup>(2)</sup>	Soil Classification
<b>Threshold Limits</b>	Caltrans Lead Variance Type Y-1	<1411	≥5	<1.5	<5	≥5.5	
	California Hazardous Waste (Type Z-2)	≥1000	≥5	--	<5	--	--
	RCRA Hazardous Waste (Type Z-3)	--	--	--	≥5	≤2 or ≥12.5	--
	California Human Health Screening Level <sup>3</sup>	320	--	--	--	--	--
	Regional Screening Level <sup>4</sup>	800	--	--	--	--	--

**Notes:**

(1) Total Lead, California Waste Extraction Test (Cal WET - Citric), and Toxicity Characteristic Leaching Procedure (TCLP) analysis done using EPA method 6010B. Extraction methods vary.

(2) pH determined with EPA method 9045B.

(3) California Human Health Screening Levels for Commercial/Industrial and Residential Land Use, Soil, California Environmental Protection Agency, January 2005; updated 2010 Office of Environmental Health Hazard Assessment Table 1.

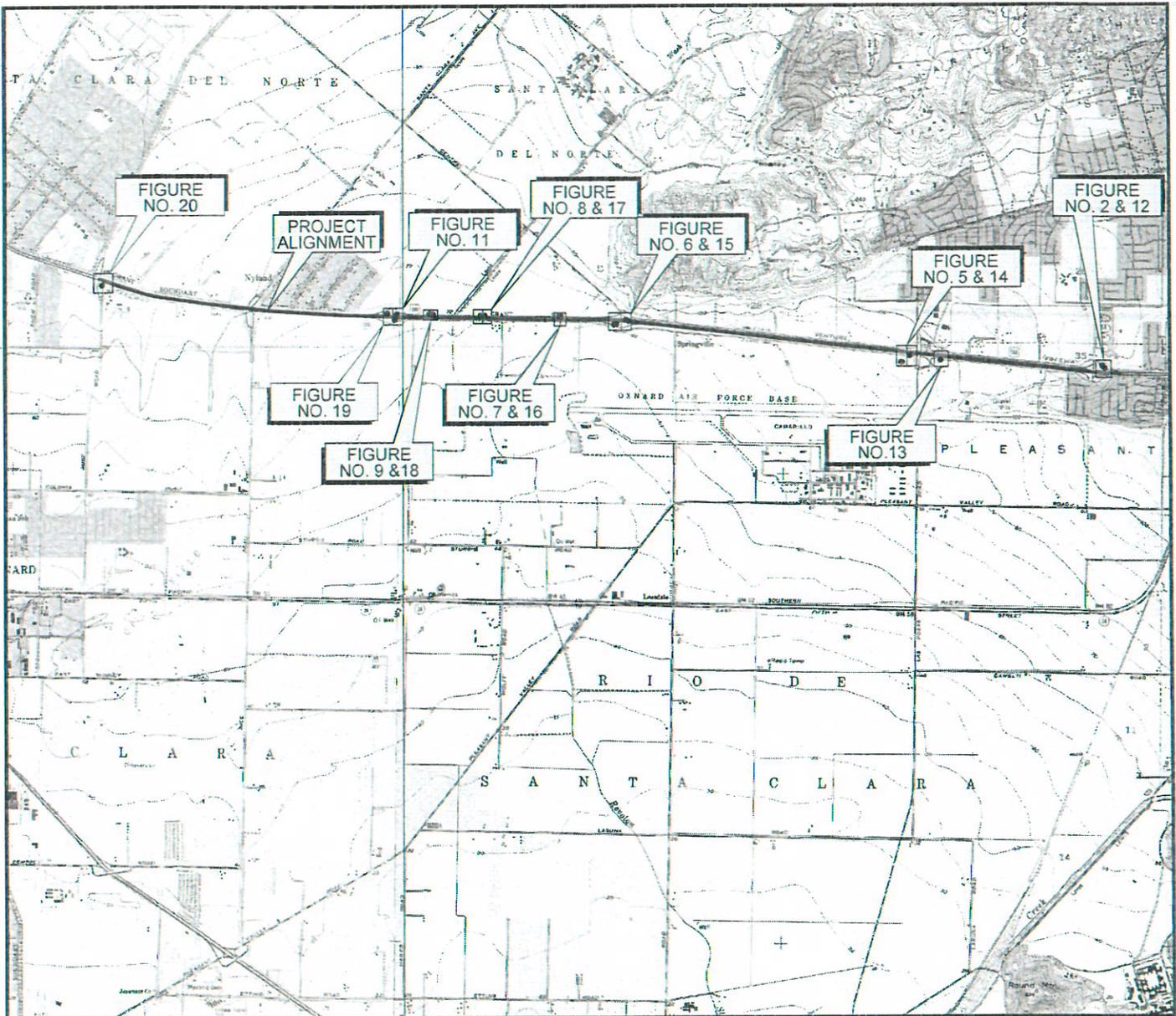
(4) United States Environmental Protection Agency (Region 9) Regional Screening Levels (RSLs; in mg/kg) for VOCs for industrial and residential soil (last updated May 2013)

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

-- = Not analyzed or not applicable

**Bold** = Exceeds threshold limit



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, LOS ANGELES QUADRANGLE, 1966  
PHOTOREVISED, 1994

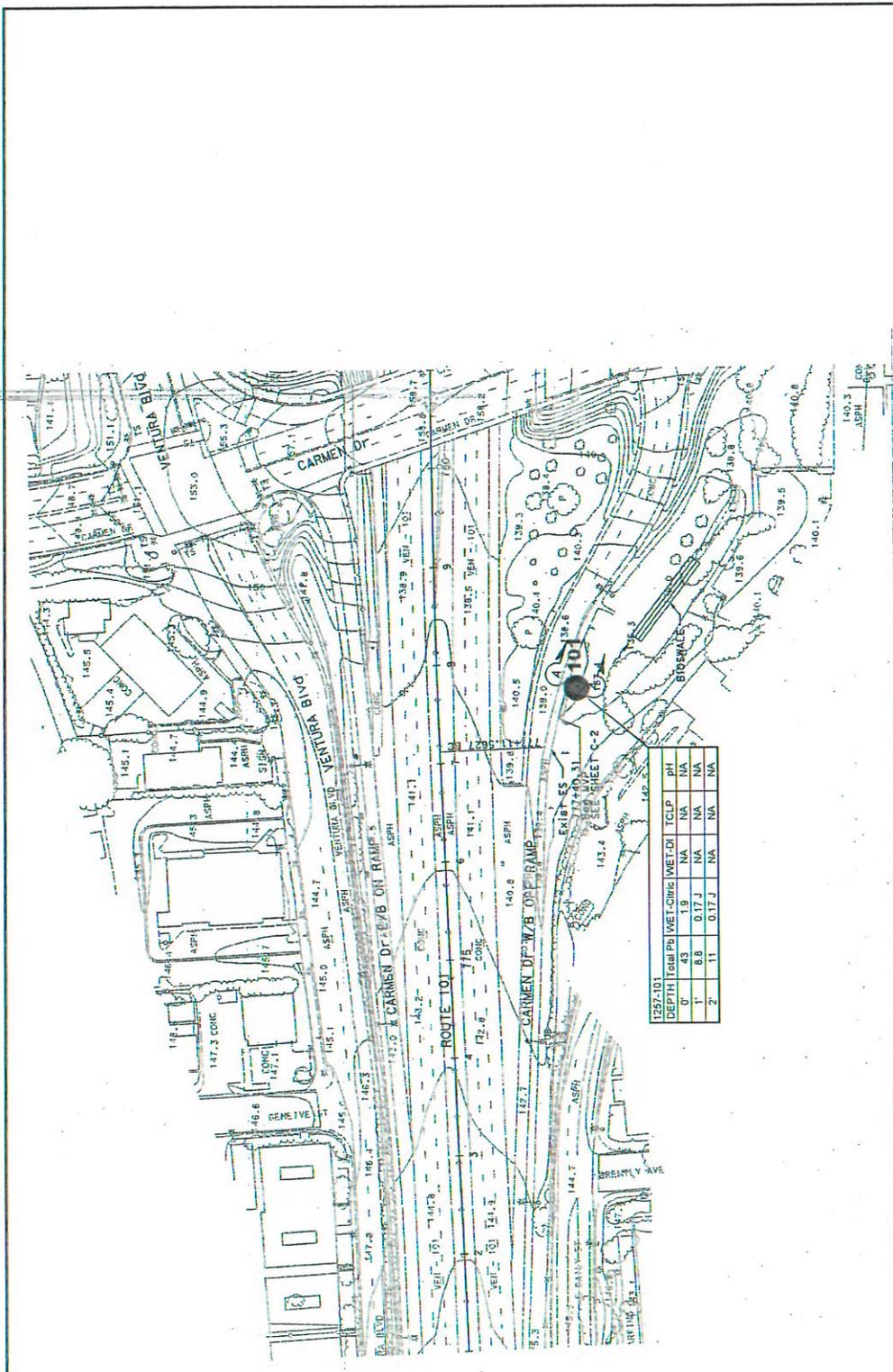


0 5000 10000



APPROXIMATE SCALE (FEET)

 290 Conejo Ridge Avenue Thousand Oaks, CA 91361 PHONE: (805) 230-1266 FAX: (805) 230-1277	FOR: ADL Site Investigation Agreement No. 07A3322 Task Order No. 19 VEN-101, PM 14.0/21.0 PN/E-FIS:07-12000100 EA Number:276001	SITE LOCATION MAP		FIGURE: <div style="font-size: 2em; text-align: center;">1</div>
	JOB NUMBER: 185832019.200.0000	DRAWN BY: RAR	CHECKED BY: KE	APPROVED BY: KE



DEPTH	TCLP	PH	WET-CITRIC	WET-DI	TCLP	PH
0'	4.9	1.9	NA	NA	NA	NA
1'	8.8	0.17 J	NA	NA	NA	NA
2'	1.1	0.17 J	NA	NA	NA	NA

LEGEND

- SAMPLE LOCATION

SAMPLE ID	DEPTH	TCLP	PH	WET-CITRIC	WET-DI	TCLP	PH
101	0'	4.9	1.9	NA	NA	NA	NA
101	1'	8.8	0.17 J	NA	NA	NA	NA
101	2'	1.1	0.17 J	NA	NA	NA	NA

SAMPLE DEPTH IN FEET BGS AND ANALYTICAL CONCENTRATION

Total Pb = TOTAL LEAD (mg/kg)  
 WET-CITRIC = SOLUBLE LEAD CAL WET-CITRIC (mg/L)  
 WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)  
 TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)  
 PH = pH  
 NA = NOT ANALYZED

200 Capitol Mall, Suite 1900  
 Oakland, CA 94612  
 PHONE (866) 230-1268 FAX: (866) 230-1277

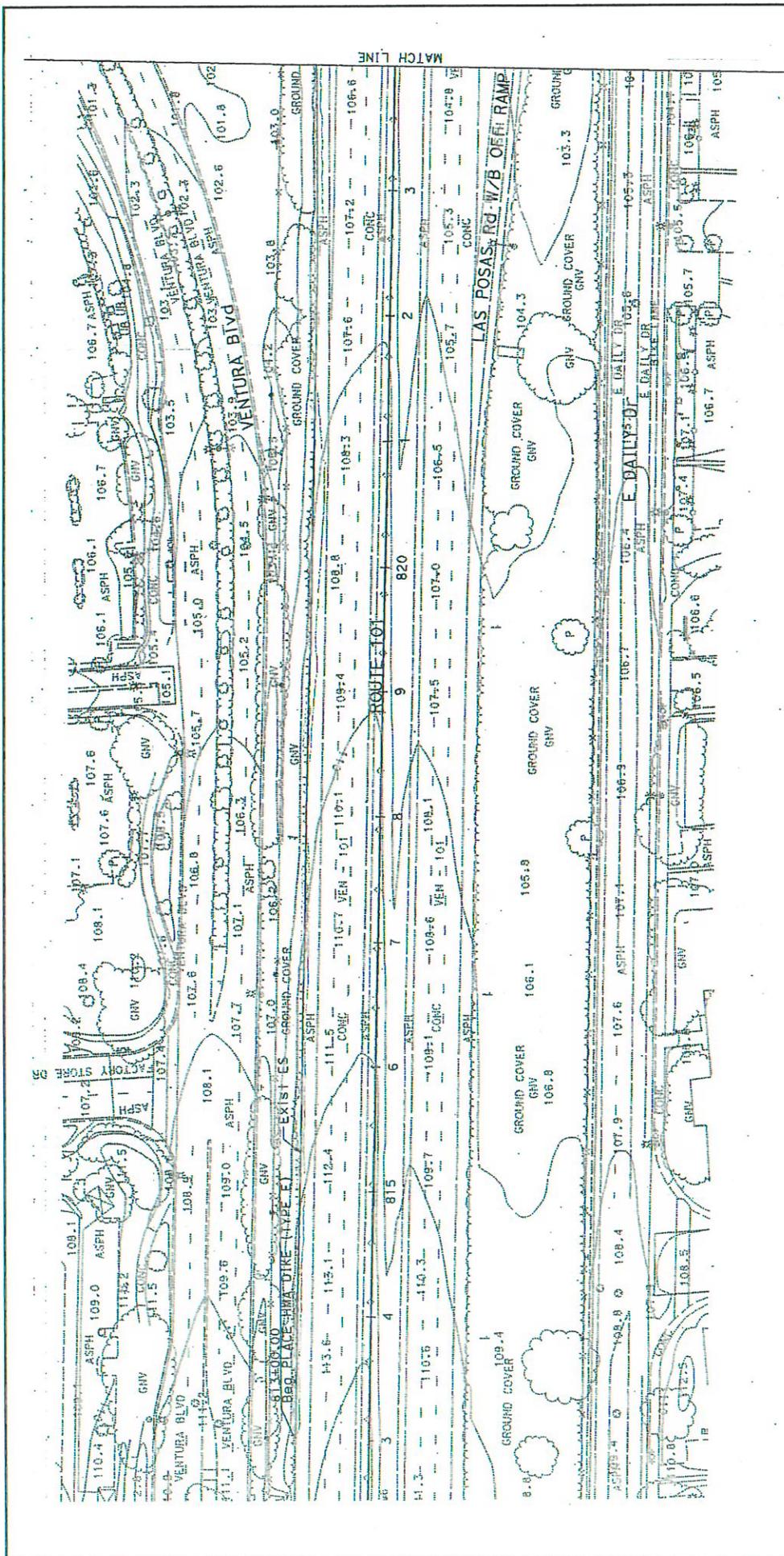


NOT TO SCALE

FOR: ADL Site Investigation  
 Agreement No. 074322  
 Task Order No. 19  
 VEN-101, PH 14/021-10  
 PNE-FIS-07-12000100 EA Number: 276001  
 JOB NUMBER: 185832019.200.0000  
 DRAWN BY: RAR  
 CHECKED BY: KE  
 APPROVED BY: KE

FIGURE 2  
 DATE 10/18/14

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LEGEND

● SAMPLE LOCATION

SAMPLE ID	WET-CHIC				WET-DI				TCP				PH			
	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#

SAMPLE DEPTH IN FEET BGS AND ANALYTICAL CONCENTRATION

- Total Pb = TOTAL LEAD (mg/kg)
- WET-Chic = SOLUBLE LEAD CAL WET-CHIC (mg/L)
- WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)
- TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)
- PH = pH
- NA = NOT ANALYZED

NOTE: NO BORINGS THIS FIGURE

200 Conroy Ridge Avenue  
Houston, Texas, USA  
PHONE: (800) 230-1000 FAX: (800) 230-1277

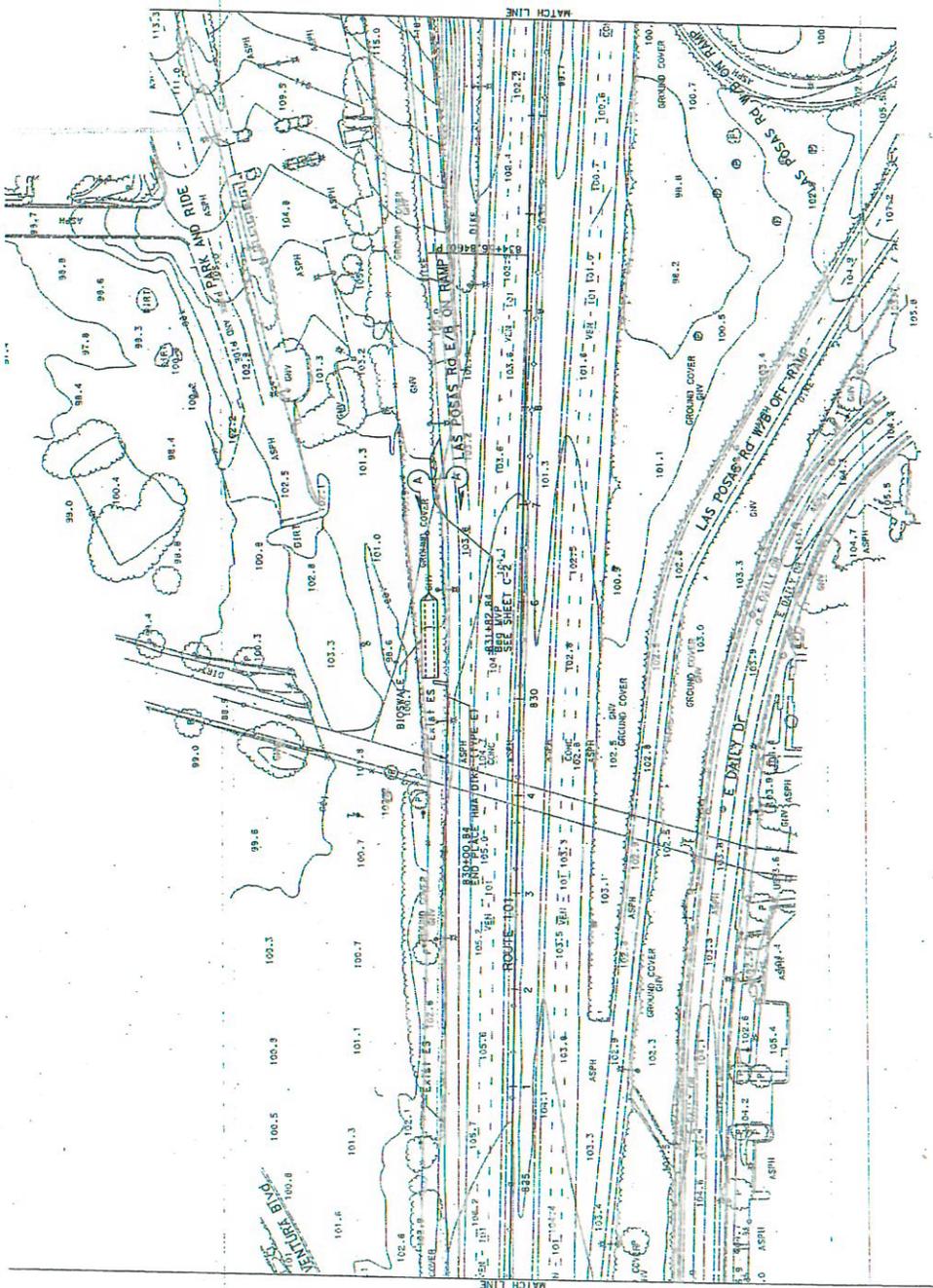
FOR: ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.0/21.0  
 PNE-FIS-07-12000100 EA Number: 276001  
 JOB NUMBER: 18532019.200.0000  
 DRAWN BY: RAR  
 CHECKED BY: KE  
 APPROVED BY: KE

SITE PLAN  
L-2

FIGURE 3  
DATE: 10/18/14



NOT TO SCALE



**LEGEND**

SAMPLE ID	SAMPLE LOCATION			
	Total Pb	WET-Citric	WET-DI	TCLP
DEPTH	#	#	#	#
	#	#	#	#

Total Pb = TOTAL LEAD (mg/kg)  
 WET-Citric = SOLUBLE LEAD CAL WET-CITRIC (mg/L)  
 WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)  
 TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)  
 pH = pH  
 NA = NOT ANALYZED

NOTE: NO BORINGS THIS FIGURE

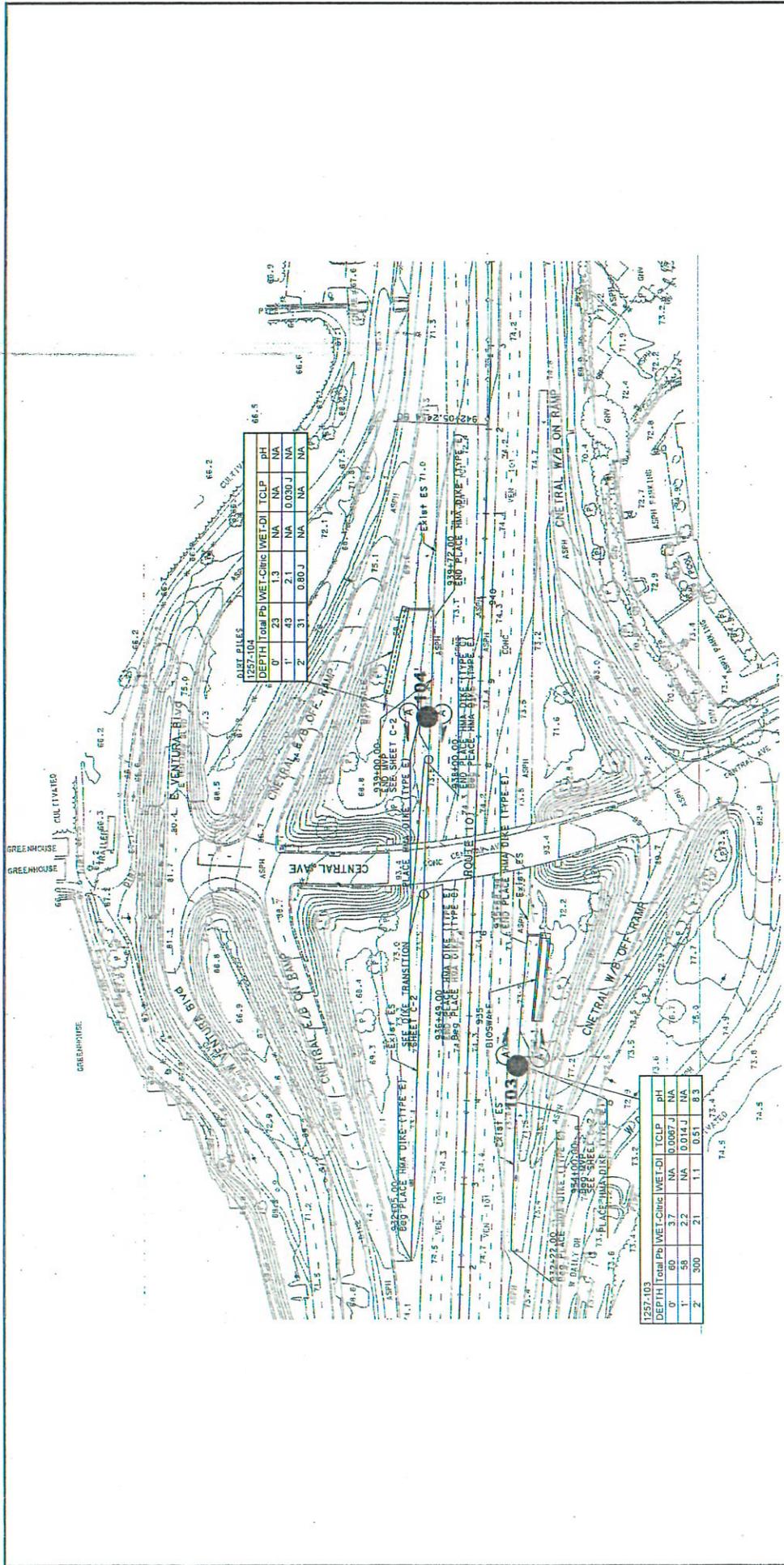
290 Connelo Ridge Avenue  
 Thousand Oaks, CA 91321  
 PHONE: (805) 230-1286 FAX: (805) 230-1277

FOR: ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.0/21.0  
 PNI/E-FIS:07-12000100 EA Number:276001  
 JOB NUMBER: 18582019.000.0000  
 DRAWN BY: BAR  
 CHECKED BY: KE  
 APPROVED BY: KE

SITE PLAN  
 L-3  
 FIGURE  
 4  
 DATE: 10/18/14

NOT TO SCALE





LEGEND

SAMPLE LOCATION

SAMPLE ID	DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#	#	#	#	#	#

SAMPLE DEPTH IN FEET BGS AND ANALYTICAL CONCENTRATION

- Total Pb = TOTAL LEAD (mg/kg)
- WET-Citric = SOLUBLE LEAD CAL WET-CITRIC (mg/L)
- WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)
- TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)
- pH = pH
- NA = NOT ANALYZED



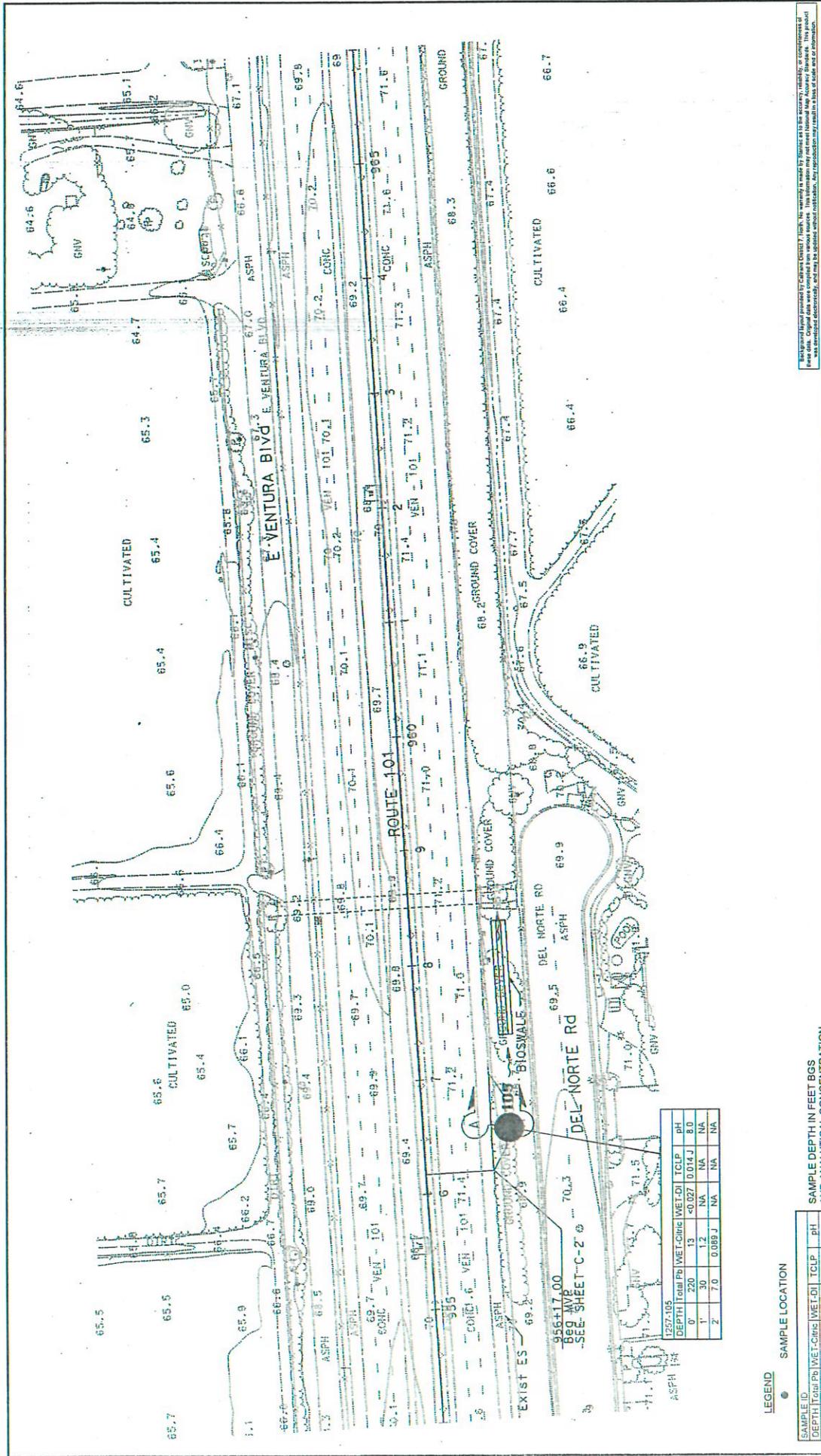
290 Concho Ridge Avenue  
Thousand Oaks, CA 91321  
PHONE: (805) 230-1288 FAX: (805) 230-1277

FOR: ADL Site Investigation  
Agreement No. 07A3322  
Task Order No. 19  
VEN-101, PM 14.0/21.0  
PNIE-FIS-07-12000100 EA Number: 278001

SITE PLAN L-5  
FIGURE: 6  
APPROVED BY: KE  
CHECKED BY: RAR  
DRAWN BY: RAR  
DATE: 10/16/14

NOT TO SCALE

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ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.0/21.0  
 PNE-FIS:07-12000100 EA Number:276001

FOR: ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.0/21.0  
 PNE-FIS:07-12000100 EA Number:276001

JOB NUMBER:  
 18832019.000.0000

DRAWN BY:  
 RAR

CHECKED BY:  
 KE

APPROVED BY:  
 KE

DATE:  
 10/18/14

FIGURE:  
 7



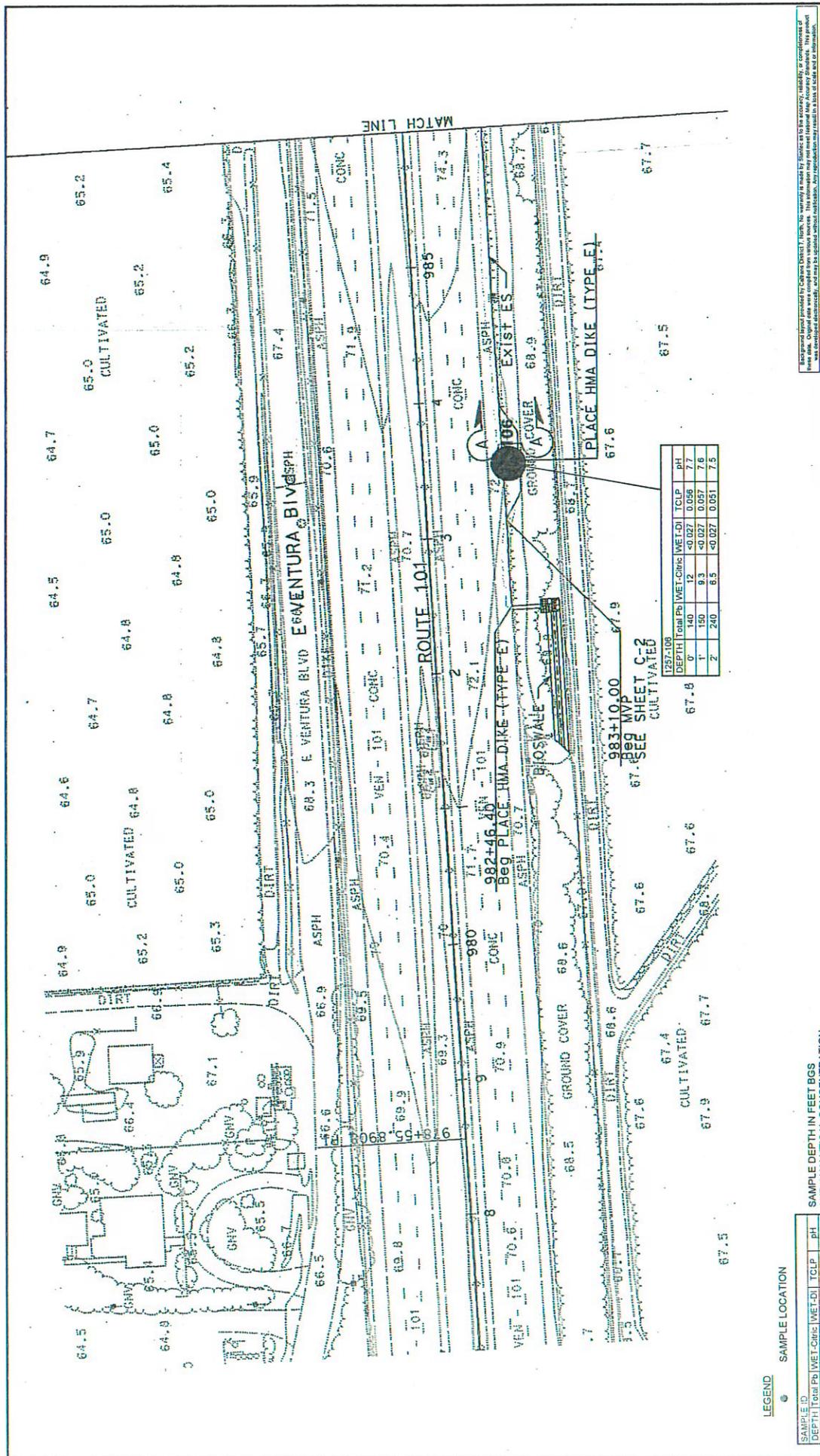
NOT TO SCALE

LEGEND

SAMPLE LOCATION		SAMPLE DEPTH IN FEET BGS		AND ANALYTICAL CONCENTRATION	
DEPTH	ANALYTICAL	DEPTH	ANALYTICAL	DEPTH	ANALYTICAL
0"	WET-Citric	13"	WET-DI	0"	TCLP
1"	WET-Citric	30"	WET-DI	1"	pH
2"	WET-Citric	7.0"	WET-DI	2"	pH

- Total Pb = TOTAL LEAD (mg/kg)
- WET-Citric = SOLUBLE LEAD CAL. WET-CITRIC (mg/L)
- WET-DI = SOLUBLE LEAD CAL. WET-DI (mg/L)
- TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)
- pH = pH
- NA = NOT ANALYZED

DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0"	220	13	<0.027	0.014 J	8.0
1"	30	12	NA	NA	NA
2"	7.0	0.089 J	NA	NA	NA



**Stantec**  
290 Conroy Ridge Avenue  
Houston, Texas 77058  
PHONE: (832) 230-1282 FAX: (832) 230-1277

**FOR:** ADL Site Investigation  
Agreement No. 07A3522  
Task Order No. 19  
VEN-101, PM 14.0/21.0  
PNE-FIS-07-12000100 EA Number: 276001

**DRAWN BY:** RAR  
**CHECKED BY:** KE  
**APPROVED BY:** KE

**FIGURE:** 8

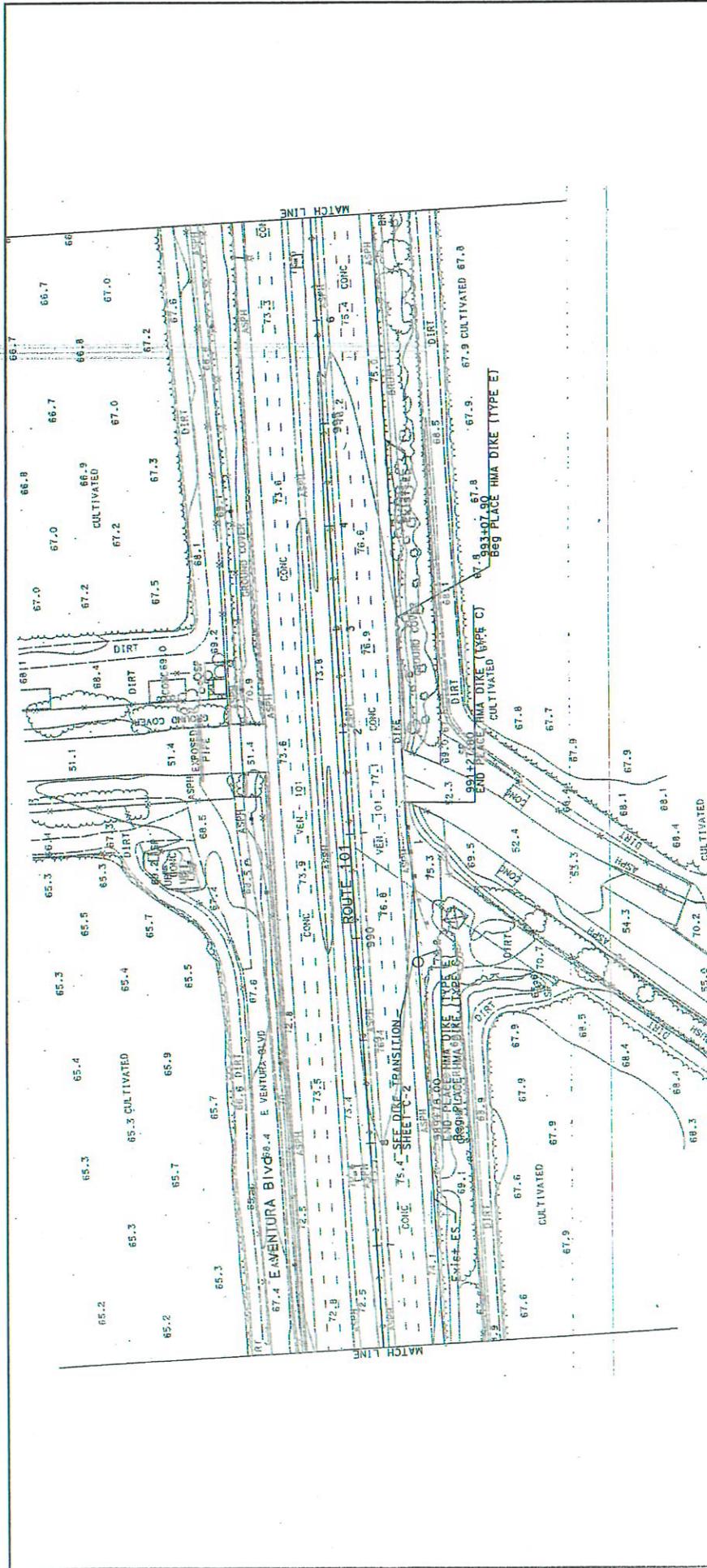
**SITE PLAN**  
L-7

**DATE:** 10/18/14

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**LEGEND**

SAMPLE ID	SAMPLE LOCATION					
	DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#	#	#	#	#	#

- Total Pb = TOTAL LEAD (mg/kg)
- WET-Citric = SOLUBLE LEAD CAL WET-CITRIC (mg/L)
- WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)
- TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)
- pH = pH
- NA = NOT ANALYZED

NOTE: NO BORINGS THIS FIGURE



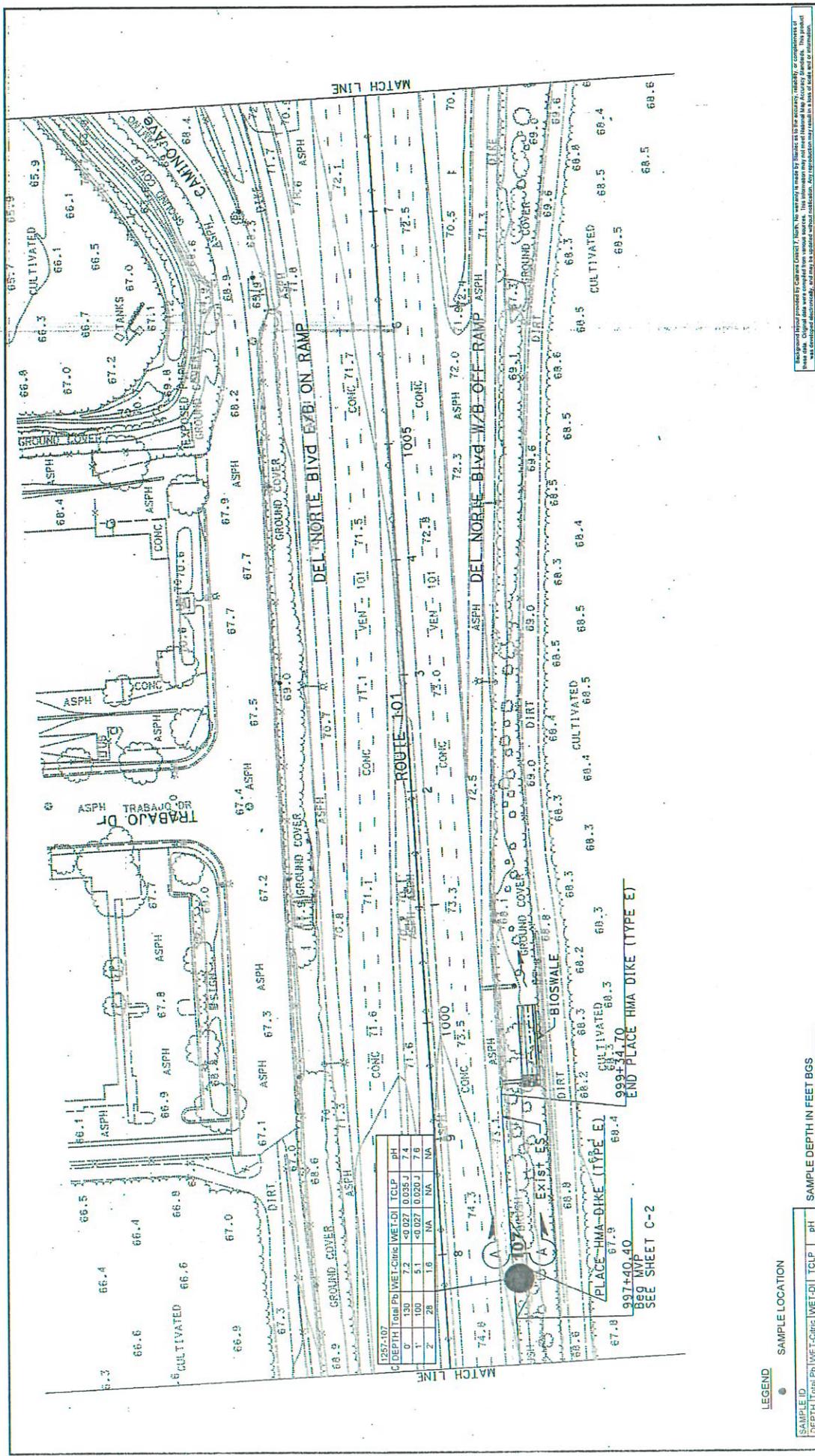
250 Conroy Ridge Avenue  
Thousand Oaks, CA 91321  
PHONE: (805) 200-1266 FAX: (805) 200-1277

FOR: ADL Site Investigation  
Agreement No. 07A3322  
Task Order No. 19  
VEN-101, PM 14.0/21.0  
PVE/FIS:07-12000100 EA Number:276001

JOB NUMBER: 18832019.200.0000  
DRAWN BY: RAR  
CHECKED BY: AE  
APPROVED BY: AE  
DATE: 10/16/14

SITE PLAN  
L-8

FIGURE  
9



**Stantec**  
 230 Conroy Ridge Avenue  
 Thousand Oaks, CA 91320  
 PHONE: (805) 233-1288 FAX: (805) 233-1277

FOR: ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.0/21.0  
 PNV-FIS-07-12000100 EA Number: 276001

DRAWN BY: RAR  
 CHECKED BY: KE  
 APPROVED BY: KE

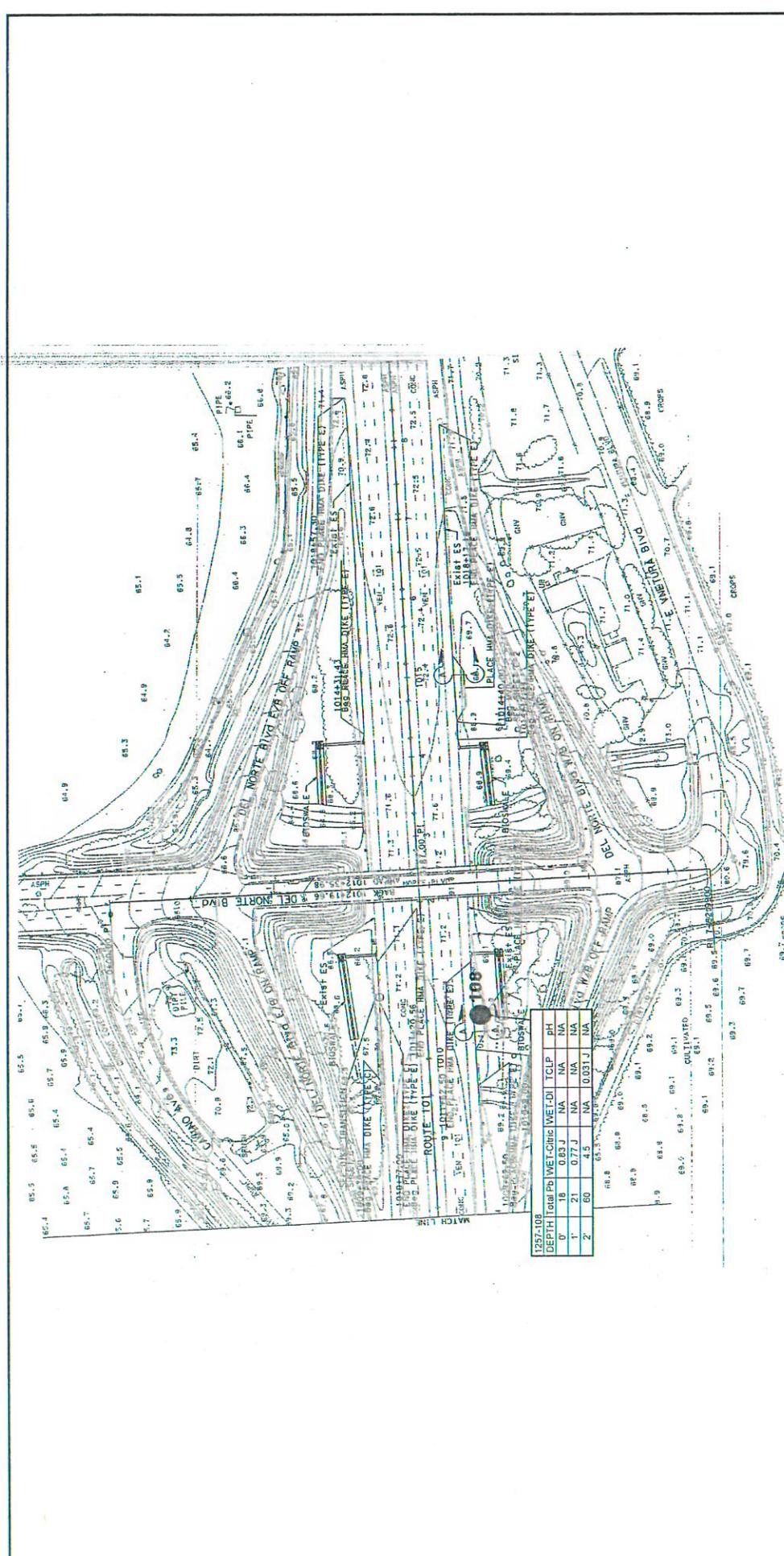
FIGURE **10**

**SITE PLAN**  
L-9

DATE: 10/16/14

NOT TO SCALE

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FOR: ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.0/21.0  
 PNVE-FIS-07-12000100 EA Number:276001  
 JOB NUMBER: 18533019.200.0000  
 DRAWN BY: RAR  
 CHECKED BY: KE  
 APPROVED BY: KE  
 DATE: 10/01/14



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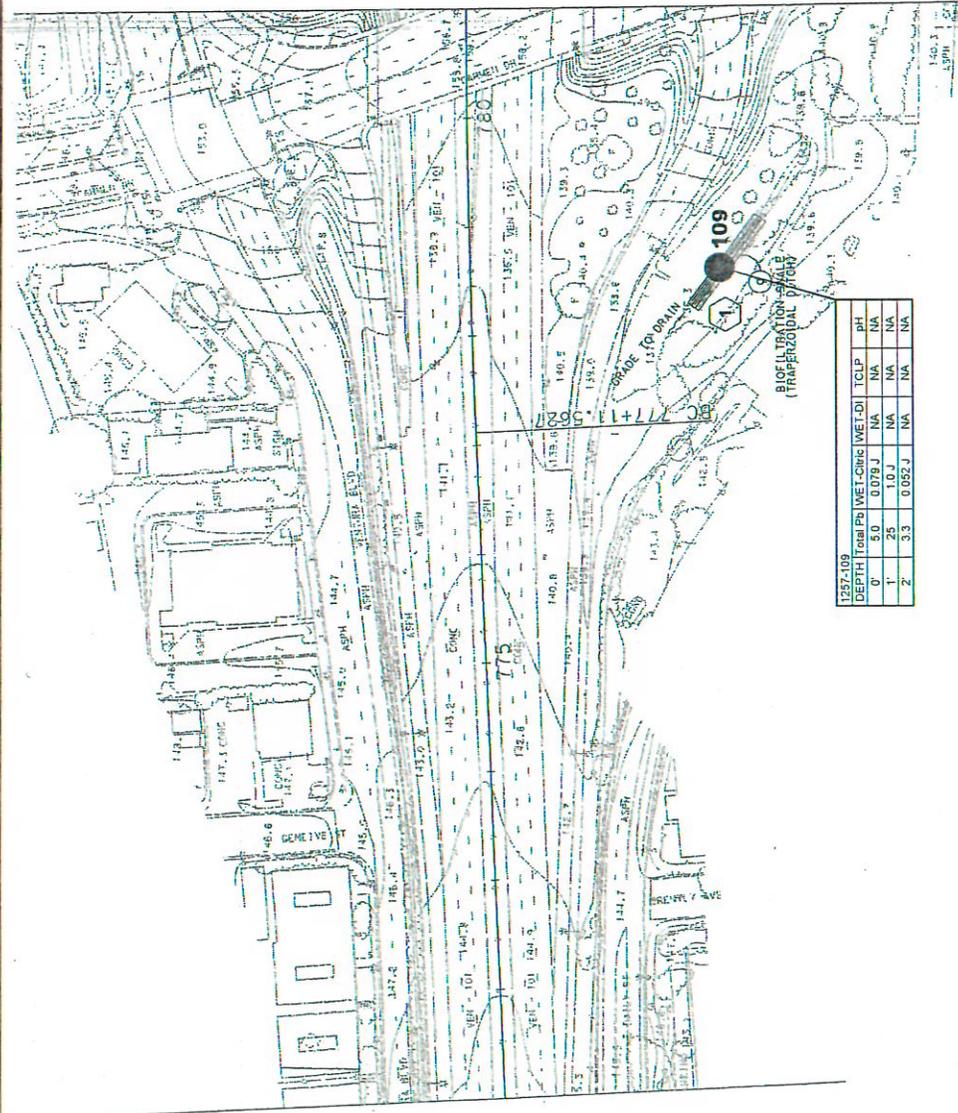
LEGEND

SAMPLE ID		SAMPLE LOCATION			
DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#	#	#	#	#

Total Pb = TOTAL LEAD (mg/kg)  
 WET-Citric = SOLUBLE LEAD CAL WET-CITRIC (mg/L)  
 WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)  
 TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)  
 pH = pH  
 NA = NOT ANALYZED

DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#	#	#	#	#
0	0	0.97 J	NA	NA	NA
1	1	0.77 J	NA	0.031 J	NA
2	60	4.5	NA	0.031 J	NA

SAMPLE DEPTH IN FEET BGS AND ANALYTICAL CONCENTRATION



DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	5.0	0.078 J	NA	NA	NA
1'	2.5	1.0 J	NA	NA	NA
2'	3.3	0.052 J	NA	NA	NA

**LEGEND**

● **SAMPLE LOCATION**

SAMPLE ID	DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#	#	#	#	#	#

Total Pb = TOTAL LEAD (mg/kg)  
 WET-Citric = SOLUBLE LEAD CAL WET-CITRIC (mg/L)  
 WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)  
 TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)  
 pH = pH  
 NA = NOT ANALYZED

SAMPLE DEPTH IN FEET BGS  
 AND ANALYTICAL CONCENTRATION

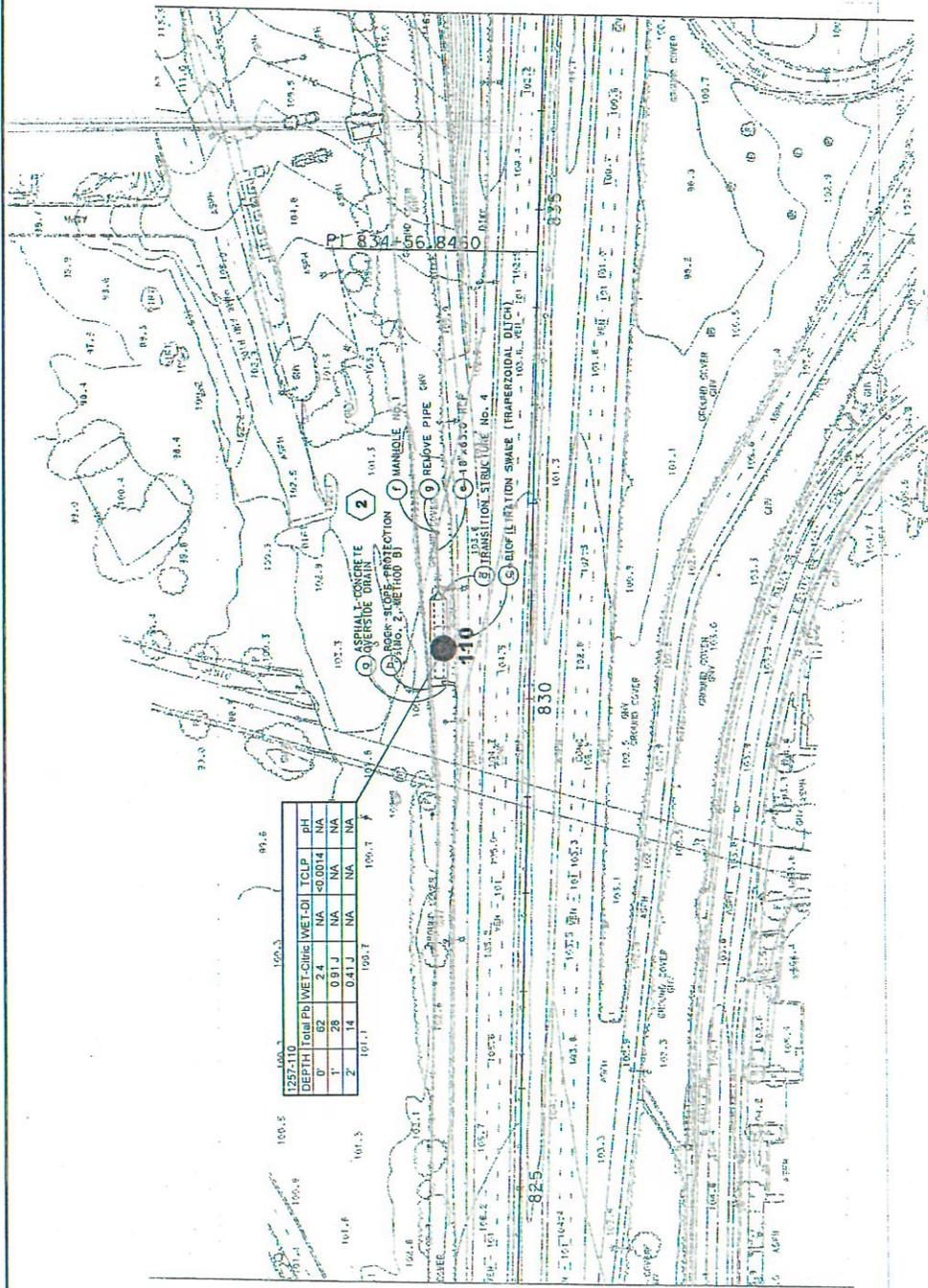
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 285 Connelley Ridge Avenue  
 Thousand Oaks, CA 91320  
 PHONE: (805) 230-1266 FAX: (805) 230-1277

**FOR:** ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.02.1.0  
 PNVE-FIS.07-12000100 EA Number: 276001  
**JOB NUMBER:** 168832019.200.0000  
**DRAWN BY:** RAR  
**CHECKED BY:** KE  
**APPROVED BY:** KE

**SITE PLAN**  
 D-1  
**FIGURE**  
 12  
**DATE:** 10/18/14

NOT TO SCALE  
 FILEPATH: C:\CA\0037\Caltrans\Caltrans TO19\07A3322 TO-19.mxd | rcoman\Oct 18, 2014 at 13:47 | Layout: F12\_D-1



DEPTH	Total Pb	WET-Circ	WET-DI	TCLP	pH
0'	62	2.4	NA	<0.0014	NA
1'	28	0.91 J	NA	NA	NA
2'	14	0.41 J	NA	NA	NA

**LEGEND**

SAMPLE ID	DEPTH	Total Pb	WET-Circ	WET-DI	TCLP	pH
##	##	##	##	##	##	##

Total Pb = TOTAL LEAD (mg/kg)  
 WET-Circ = SOLUBLE LEAD CAL WET-CITRIC (mg/L)  
 WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)  
 TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)  
 pH = pH  
 NA = NOT ANALYZED

SAMPLE DEPTH IN FEET BGS AND ANALYTICAL CONCENTRATION



290 Connel Ridge Avenue  
Thousand Oaks, CA 91320  
PHONE (805) 237-2889 FAX (805) 230-1277

FOR: ADL Site Investigation  
Agreement No. 07A3322  
Task Order No. 19  
VEN-101, PM 14.0/21.0  
PNE-FIS-07-12000100 EA Number: 276001

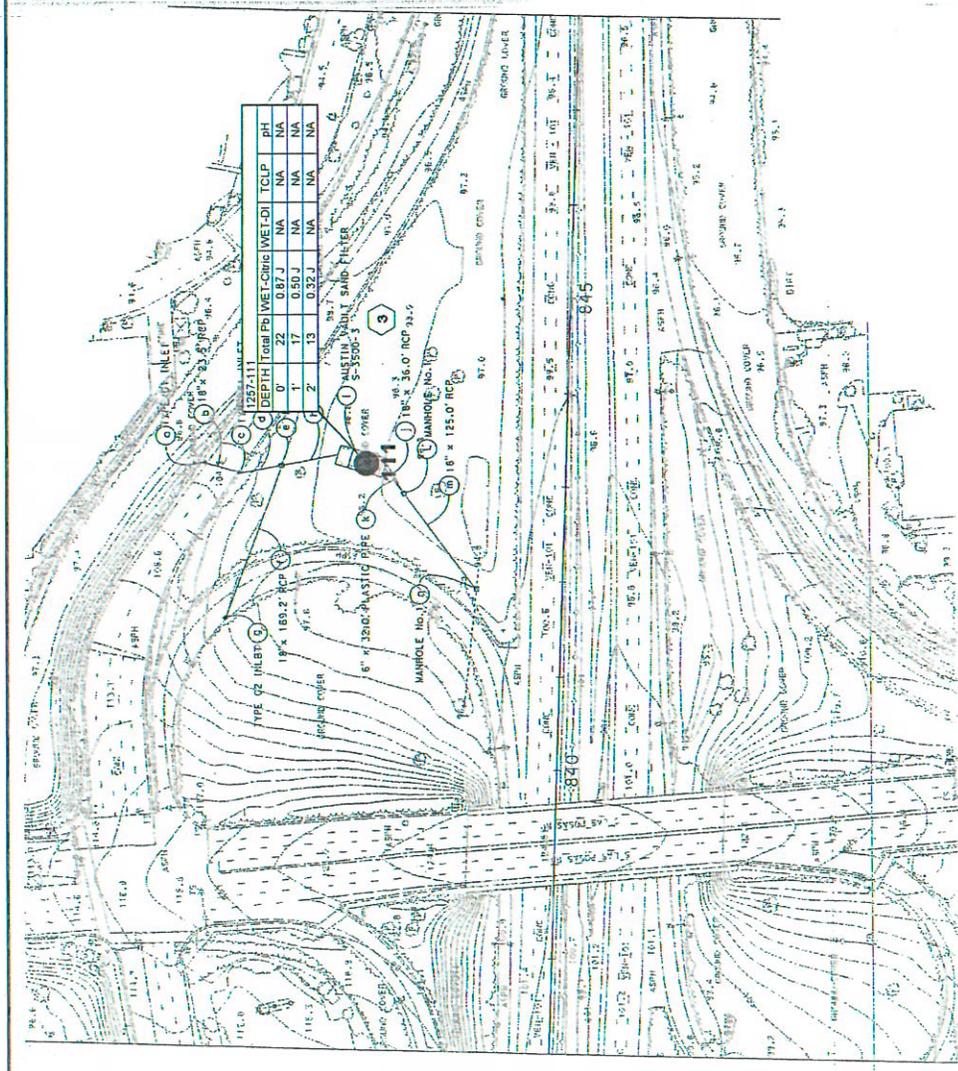
JOB NUMBER: 18582519.200.0000  
DRAWN BY: BAR  
CHECKED BY: KE  
APPROVED BY: KE

SITE PLAN  
D-2

FIGURE  
13

DATE:  
10/18/14

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**LEGEND**

**● SAMPLE LOCATION**

SAMPLE ID	DEPTH	Total Pb	WET-Chric	WET-DI	TCLP	pH
#	#	#	#	#	#	#

Total Pb = TOTAL LEAD (mg/kg)  
 WET-Chric = SOLUBLE LEAD CAL WET-CHRIC (mg/L)  
 WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)  
 TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)  
 pH = pH  
 NA = NOT ANALYZED

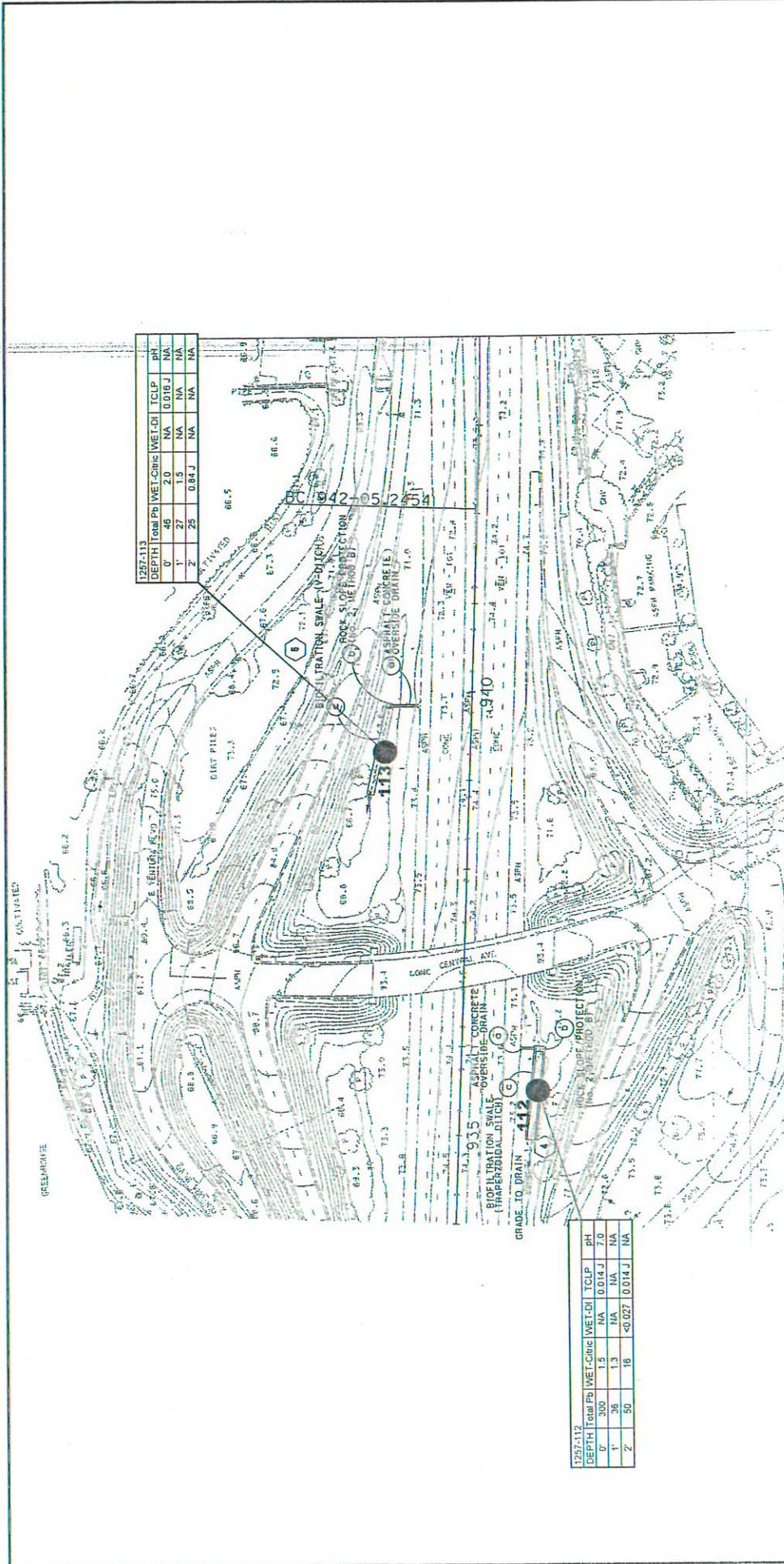


**Stantec**  
 230 Conroy Ridge Avenue  
 Thousand Oaks, CA 91320  
 PHONE: (805) 233-1228 FAX: (805) 233-1277

**FOR:** ADL Site Investigation  
 Agreement No. 07A3522  
 Task Order No. 19  
 VEN-101, PM 14.0/21.0  
 PNEFIS-07-12000100 EA Number: 276001  
**JOB NUMBER:** 18532019.200.0000  
**DRAWN BY:** RAR  
**CHECKED BY:** KE  
**APPROVED BY:** KE

**FIGURE:** 14  
**DATE:** 10/18/14

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DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	46	2.0	NA	0.016 J	NA
1'	27	1.5	NA	NA	NA
2'	25	0.84 J	NA	NA	NA

DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0'	300	1.5	NA	0.014 J	7.0
1'	36	1.3	NA	NA	NA
2'	50	16	<0.027	0.014 J	NA

**LEGEND**

**SAMPLE LOCATION**

SAMPLE ID	DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
# #	# #	# #	# #	# #	# #	# #

- TOTAL LEAD (mg/kg)
- SOLUBLE LEAD CAL WET-CITRIC (mg/L)
- SOLUBLE LEAD CAL WET-DI (mg/L)
- SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)
- pH
- NOT ANALYZED

**SAMPLE DEPTH IN FEET BGS AND ANALYTICAL CONCENTRATION**

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280 Connel Ridge Avenue  
Thousand Oaks, CA 91321  
PHONE: (805) 230-1266 FAX: (805) 230-1277

**FOR:** ADL Site Investigation  
Agreement No. 07A3322  
Task Order No. 19  
VEN-101, PM 14.0/21.0  
P/N/E FIS:07-12000100 EA Number:279001

**DRAWN BY:** RAR  
**CHECKED BY:** KE  
**APPROVED BY:** KE

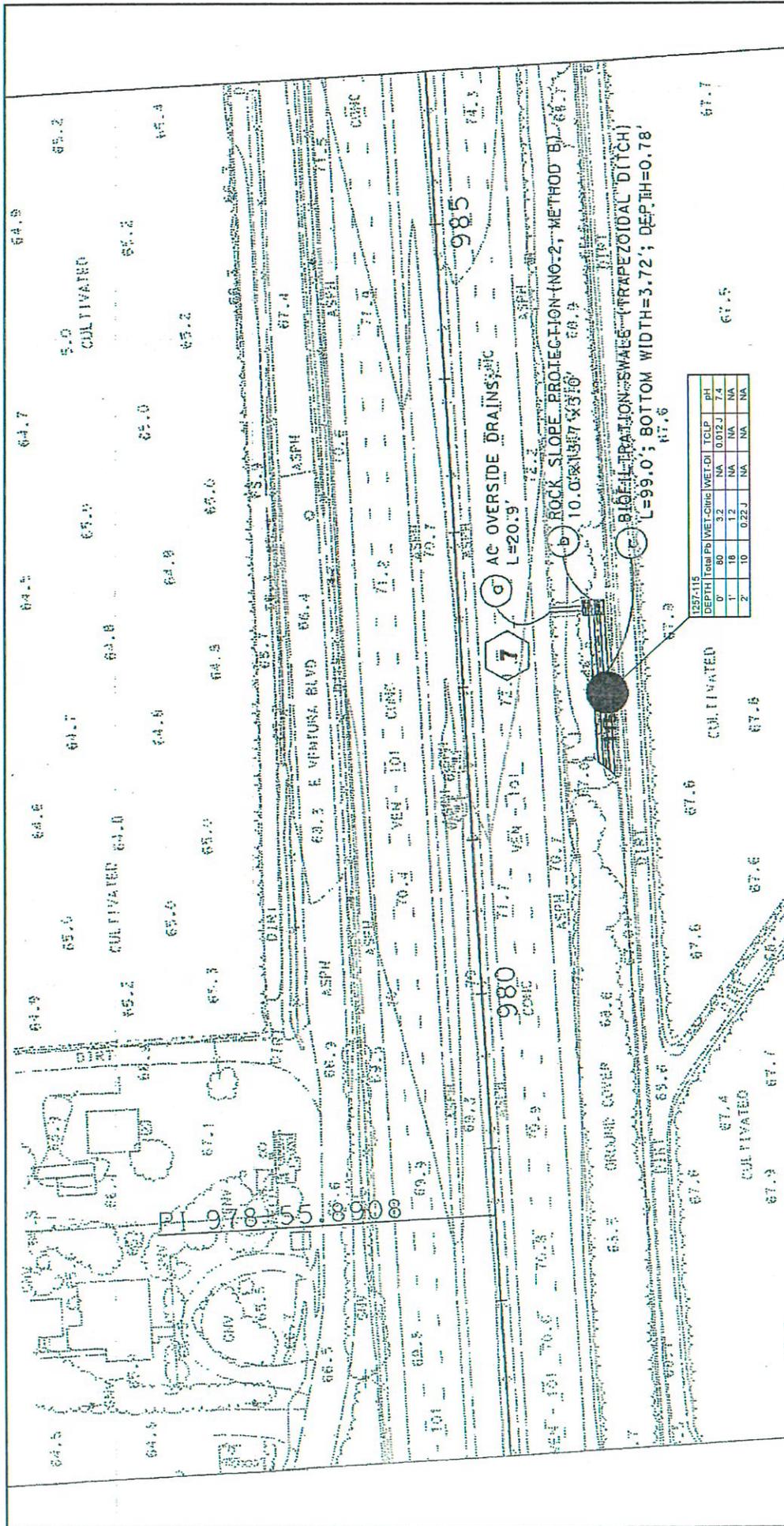
FIGURE: **15**

SITE PLAN  
D-4

DATE: 10/16/14

NOT TO SCALE





**LEGEND**

- SAMPLE LOCATION

SAMPLE ID	DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#	#	#	#	#	#

SAMPLE DEPTH IN FEET BGS AND ANALYTICAL CONCENTRATION

Total Pb = TOTAL LEAD (mg/kg)  
 WET-Citric = SOLUBLE LEAD CAL WET-CITRIC (mg/L)  
 WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)  
 TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)  
 pH = pH  
 NA = NOT ANALYZED

FOR: **Stantec**  
 290 Converse Ridge Avenue  
 Thousand Oaks, CA 91320  
 PHONE: (805) 230-1266 FAX: (805) 230-1277

ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.021.0  
 P/N/E-FIS:07-12000100 EA Number:276001  
 JOB NUMBER: 165332019.200.0000  
 DRAWN BY: RAR

SITE PLAN  
 D-6

FIGURE: 17

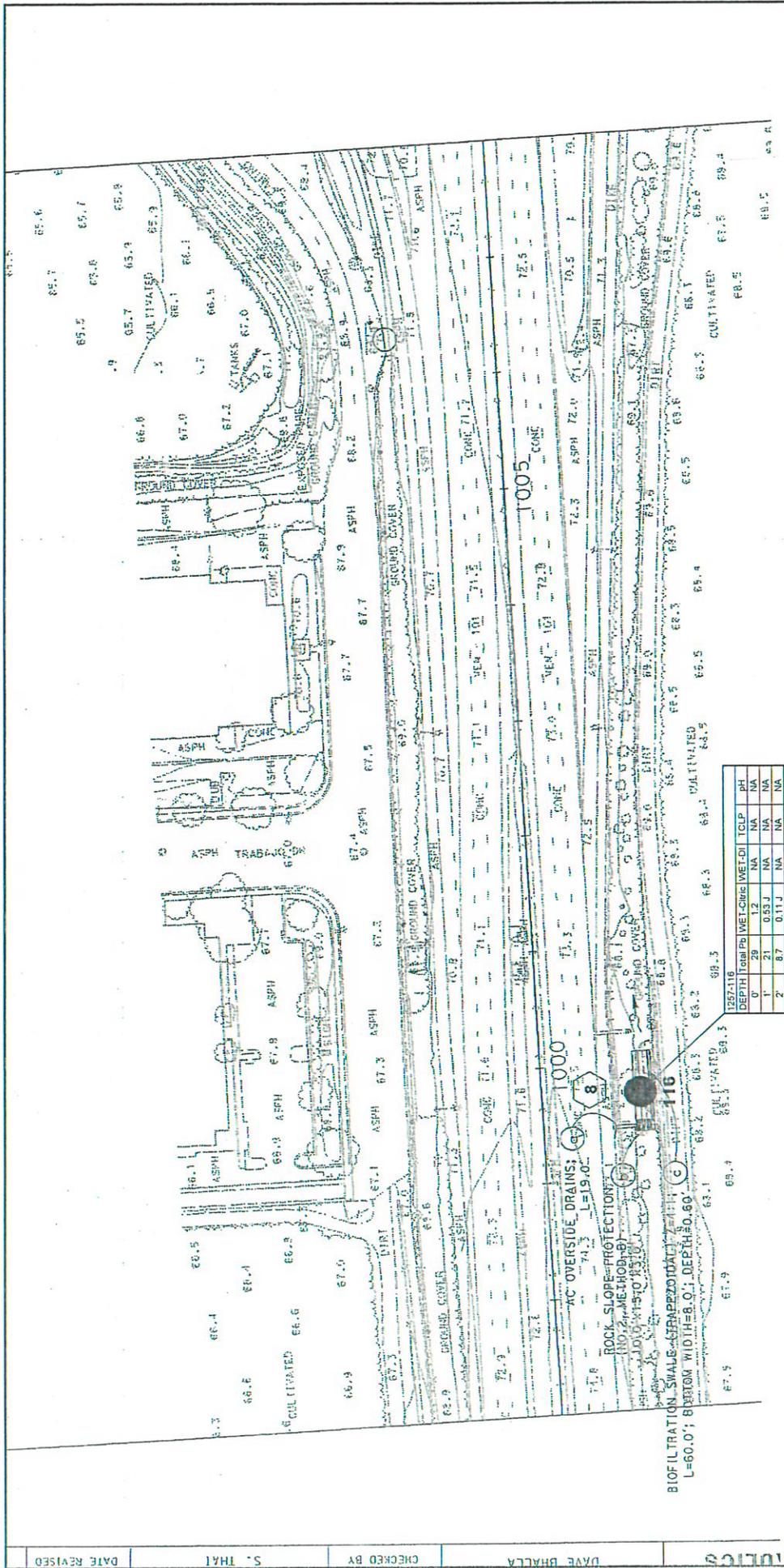
CHECKED BY: KE APPROVED BY: KE DATE: 10/16/14

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1267-115

DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
#	#	#	#	#	#
0'	80	3.2	NA	0.012J	7.4
1'	16	1.2	NA	NA	NA
2'	10	0.22J	NA	NA	NA



ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.021.0  
 PN/E-FIS:07-12000100 EA Number 276001

FOR: ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.021.0  
 PN/E-FIS:07-12000100 EA Number 276001

JOB NUMBER: 18532018200.0000  
 DRAWN BY: RAR  
 CHECKED BY: KE  
 APPROVED BY: KE  
 DATE: 10/16/14

FIGURE: 18  
 SITE PLAN D-7

Stantec  
 200 Conelo Ridge Avenue  
 Thousand Oaks, CA 91321  
 PHONE: (805) 230-1266 FAX: (805) 230-1277

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LEGEND

SAMPLE LOCATION		DEPTH IN FEET BGS		AND ANALYTICAL CONCENTRATION	
DEPTH	ANALYTICAL	DEPTH	ANALYTICAL	DEPTH	ANALYTICAL
0	WET-CITRIC	0	WET-CITRIC	0	WET-CITRIC
1	Pb	1	Pb	1	Pb
2	PH	2	PH	2	PH
3	TCLP	3	TCLP	3	TCLP
4	WET-CITRIC	4	WET-CITRIC	4	WET-CITRIC
5	WET-CITRIC	5	WET-CITRIC	5	WET-CITRIC
6	WET-CITRIC	6	WET-CITRIC	6	WET-CITRIC
7	WET-CITRIC	7	WET-CITRIC	7	WET-CITRIC
8	WET-CITRIC	8	WET-CITRIC	8	WET-CITRIC
9	WET-CITRIC	9	WET-CITRIC	9	WET-CITRIC
10	WET-CITRIC	10	WET-CITRIC	10	WET-CITRIC
11	WET-CITRIC	11	WET-CITRIC	11	WET-CITRIC
12	WET-CITRIC	12	WET-CITRIC	12	WET-CITRIC
13	WET-CITRIC	13	WET-CITRIC	13	WET-CITRIC
14	WET-CITRIC	14	WET-CITRIC	14	WET-CITRIC
15	WET-CITRIC	15	WET-CITRIC	15	WET-CITRIC
16	WET-CITRIC	16	WET-CITRIC	16	WET-CITRIC
17	WET-CITRIC	17	WET-CITRIC	17	WET-CITRIC
18	WET-CITRIC	18	WET-CITRIC	18	WET-CITRIC
19	WET-CITRIC	19	WET-CITRIC	19	WET-CITRIC
20	WET-CITRIC	20	WET-CITRIC	20	WET-CITRIC
21	WET-CITRIC	21	WET-CITRIC	21	WET-CITRIC
22	WET-CITRIC	22	WET-CITRIC	22	WET-CITRIC
23	WET-CITRIC	23	WET-CITRIC	23	WET-CITRIC
24	WET-CITRIC	24	WET-CITRIC	24	WET-CITRIC
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99	WET-CITRIC	99	WET-CITRIC	99	WET-CITRIC
100	WET-CITRIC	100	WET-CITRIC	100	WET-CITRIC

116  
 BIOFILTRATION SWALE (GRAPPEZOIDA) L=60.0'; BOTTOM WIDTH=8.0'; DEPTH=0.60'  
 115  
 AC OVERSIDE DRAINS L=19.0'  
 ROCK SLOPE PROTECTION (NO. 2 WEATHER-B) JOINT WIDTH=0.85'  
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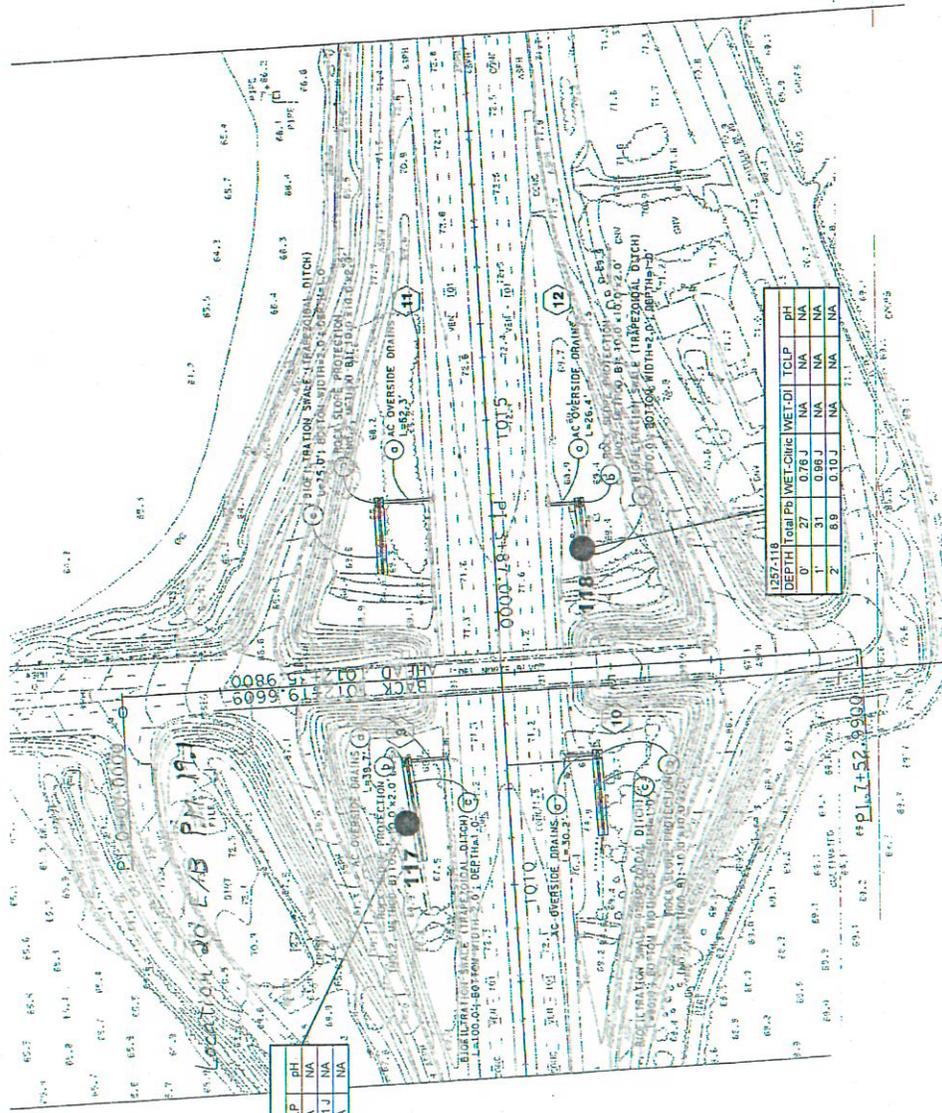
DATE REVISIONS

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DAVE BHALLA

DATE REVISIONS

FILEPATH: C:\ADP\376\amr\Caltres\Galtres (07B07A3322-10-19.dwg) Roman\Oct 16, 2014 at 16:13 | Layout: F18\_D-7



1255-117

DEPTH	Total Pb	WET-CITRIC	WET-DI	TCLP	pH
0'	36	1.0	NA	NA	NA
1'	50	3.2	NA	0.031 J	NA
2'	29	0.74 J	NA	NA	NA

1257-118

DEPTH	Total Pb	WET-CITRIC	WET-DI	TCLP	pH
0'	27	0.78 J	NA	NA	NA
1'	31	0.98 J	NA	NA	NA
2'	8.9	0.10 J	NA	NA	NA

**LEGEND**

**SAMPLE LOCATION**

SAMPLE ID	DEPTH	Total Pb	WET-CITRIC	WET-DI	TCLP	pH
#	#	#	#	#	#	#

Total Pb = TOTAL LEAD (mg/kg)  
 WET-CITRIC = SOLUBLE LEAD CAL WET-CITRIC (mg/L)  
 WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)  
 TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)  
 pH = pH  
 NA = NOT ANALYZED

**SAMPLE DEPTH IN FEET BGS AND ANALYTICAL CONCENTRATION**

**Stantec**  
 280 Connel Ridge Avenue  
 Thousand Oaks, CA 91320  
 PHONE: (805) 359-1848 FAX: (805) 339-1277

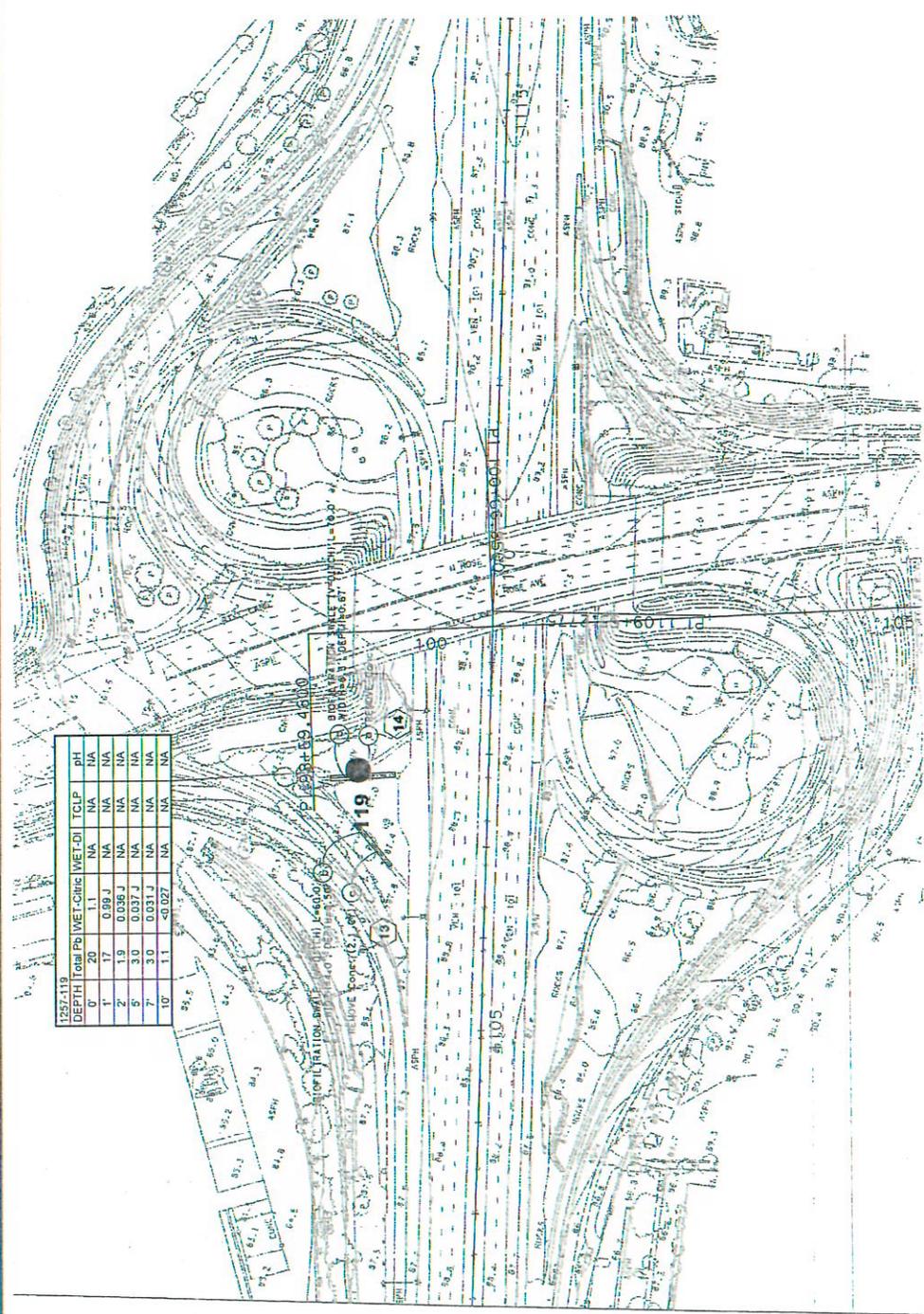
**FOR:** ADL Site Investigation  
 Agreement No. 07A3322  
 Task Order No. 19  
 VEN-101, PM 14.021.0  
 P/E-FIS-07-12000100 EA Number:276001  
 JOB NUMBER: 185932019-200-0000  
 DRAWN BY: RAR  
 CHECKED BY: KE  
 APPROVED BY: KE

**SITE PLAN D-8**

**FIGURE: 19**

**DATE: 10/16/14**

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DEPTH	Total Pb	WET-Citric	WET-DI	TCLP	pH
0"	1.1	NA	NA	NA	NA
1"	0.99 J	NA	NA	NA	NA
2"	1.9	0.99 J	NA	NA	NA
5"	3.0	0.37 J	NA	NA	NA
7"	3.0	0.31 J	NA	NA	NA
10"	1.1	<0.027	NA	NA	NA

**LEGEND**

SAMPLE LOCATION		SAMPLE DEPTH IN FEET BGS		AND ANALYTICAL CONCENTRATION	
DEPTH	ANALYTICAL	DEPTH	ANALYTICAL	DEPTH	ANALYTICAL
#	#	#	#	#	#

- Total Pb = TOTAL LEAD (mg/kg)
- WET-Citric = SOLUBLE LEAD CAL WET-CITRIC (mg/L)
- WET-DI = SOLUBLE LEAD CAL WET-DI (mg/L)
- TCLP = SOLUBLE LEAD TOXICITY CHARACTERISTIC LEACHING PROCEDURE (mg/L)
- pH = pH
- NA = NOT ANALYZED

200 Conch Ridge Avenue  
Thousand Oaks, CA 91320  
PHONE: (805) 230-1286 FAX: (805) 230-1277

FOR: ADL Site Investigation  
Agreement No. 07A3322  
Task Order No. 19  
VEN-101, PM 14.02/1.0  
PN/E-FIS-07-12000/100 EA Number: 276001

DRAWN BY: NAR  
JOB NUMBER: 16932019.200.0000

CHECKED BY: KE  
APPROVED BY: KE

SITE PLAN  
D-9

FIGURE  
20

DATE: 10/16/14

NOT TO SCALE

## SILICONE JOINT SEALANT APPROVED BY CALTRANS

The following silicone joint sealants have been tested and approved by the Transportation Laboratory. Silicone joint sealant must be a low modulus, one part silicone formulation. Typical uses are for sealing longitudinal and transverse joints in PCC pavement.

*Refer to Section 40-1.021(2) of the 2010 Standard Specifications*

Manufacturer	Product	
Crafco, Inc.	RoadSaver, part number 34902	(800) 528-8242
D.S. Brown Co.	DSB 800	(419) 257-3561
Dow Corning	888 Silicone Joint Sealant	(303) 980-9614
Sika Corporation	Sikasil-728 NS	(800) 933-7452

PHONE NUMBERS LISTED ARE FOR THE HEADQUARTERS OF EACH COMPANY. THEY WILL PROVIDE ORDERING INFORMATION OR LOCATION OF THE NEAREST SUPPLIER.

Last revised 12/6/2012

For more information about this site, please contact Lisa Dobeck at (916) 227-7291, or [lisa.dobeck@dot.ca.gov](mailto:lisa.dobeck@dot.ca.gov)

(Please be aware that this list is **not** for Type A joint seal, the two component silicone sealant specified in section 51-2.02B of the 2010 Standard Specifications. There is no list for Type A joint seal, it is tested on a batch by batch basis.)