

# INFORMATION HANDOUT

For Contract No. 10-0X2104

At 10-Alp,Ama,Cal-4,88-Var

Identified by

Project ID 1012000181

## MATERIALS INFORMATION

1. Limited Asbestos and Deteriorated Lead-Containing Paint Survey Report - Camp Connell, Peddler Hill and Woodfords Maintenance Stations
2. Asbestos and Lead-Containing Paint Survey Report - Pine Grove Maintenance Station
3. Initial Site Assessment (ISA) - Pine Grove Maintenance Station
4. Initial Site Assessment (ISA) - Woodfords Maintenance Station
5. Initial Site Assessment (ISA) - Camp Connell Maintenance Station
6. Initial Site Assessment (ISA) - Peddler Hill Maintenance Station
7. Foundation Report - Camp Connell Maintenance Station
8. Percolation Test - Camp Connell Maintenance Station
9. Foundation Report - Peddler Hill Maintenance Station
10. Percolation Test - Peddler Hill Maintenance Station
11. Foundation Report - Pine Grove Maintenance Station
12. Percolation Test - Pine Grove Maintenance Station
13. Foundation Report - Woodfords Maintenance Station
14. Percolation Test - Woodfords Maintenance Station

# LIMITED ASBESTOS AND DETERIORATED LEAD-CONTAINING PAINT SURVEY REPORT

District 10 Maintenance Stations  
Camp Connell, Peddler Hill,  
and Woodfords, California

**PREPARED FOR:**

CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 6  
ENVIRONMENTAL PLANNING/HAZARDOUS WASTE  
855 M STREET, SUITE 200  
FRESNO, CALIFORNIA 93721



**PREPARED BY:**

GEOCON CONSULTANTS, INC.  
3160 GOLD VALLEY DRIVE, SUITE 800  
RANCHO CORDOVA, CALIFORNIA 95742



GEOCON PROJECT NO. S9525-01-79  
TASK ORDER NO. 79  
E-FIS 10 1200 0181 (EA 10-0X2101)  
CONTRACT NO 06A1580

JUNE 2013



Project No. S9525-01-79  
June 28, 2013

Clemens Goewert, Task Order Manager  
Hazardous Waste and Paleontology Branch  
855 M Street, Suite 200  
Fresno, California 93721

Subject: LIMITED ASBESTOS AND DETERIORATED LEAD-CONTAINING  
PAINT SURVEY REPORT  
DISTRICT 10 MAINTENANCE STATIONS – WASH SYSTEM UPGRADES  
CALAVERAS, AMADOR, AND ALPINE COUNTIES, CALIFORNIA  
CONTRACT NO. 06A1580, TASK ORDER NO. 79, EA NO. 10-0X2101  
E-FIS 10 1200 0181

Dear Mr. Goewert:

In accordance with California Department of Transportation Contract No. 06A1580 and Task Order No. 79, we have performed a limited asbestos and deteriorated lead-containing paint (LCP) survey of the subject projects in Calaveras, Amador, and Alpine Counties, California. The scope of services included surveying specific areas of the Camp Connell, Peddler Hill, and Woodfords Maintenance Stations for suspect asbestos-containing materials and deteriorated LCP, collecting bulk samples, and submitting the samples to a laboratory for analysis.

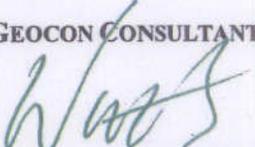
The accompanying report summarizes the services performed and laboratory analysis.

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

Please contact us if you have questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

  
David Watts, CAC No. 98-2404  
Senior Project Scientist

  
John E. Jurend, PE, CEG  
Principal/Senior Engineer

(2 + 2 electronic) Addressee



# LIMITED ASBESTOS AND DETERIORATED LEAD-CONTAINING PAINT SURVEY REPORT

## 1.0 INTRODUCTION

This limited asbestos and deteriorated lead-containing paint (LCP) survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 06A1580, Task Order No. 79 (TO-79).

### 1.1 Project Description

The Camp Connell Maintenance Station (MS) is located at Post Mile 49.6 on Highway 4 in Calaveras County, California. The Peddler Hill MS is located at Post Mile 54.0 on Highway 88 in Amador County, California. The Woodfords MS is located at Post Mile 18.9 on Highway 88 in Alpine County, California. We performed limited asbestos and deteriorated LCP survey activities of areas proposed for equipment wash system (equipment building and wash rack) improvements at the project locations. The project locations are depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

### 1.2 General Objectives

The purpose of the scope of services outlined in TO-79 was to determine the presence and quantity of asbestos construction materials and deteriorated LCP at the project locations prior to improvements. The information obtained from this investigation will be used by Caltrans for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos and LCP disturbance activities.

*It was not Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with U.S. Department of Housing and Urban Development (HUD) guidelines.*

## 2.0 BACKGROUND

### 2.1 Asbestos

The *Code of Federal Regulations* (CFR), 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains *greater than 1%* asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of nonfriable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a hazardous waste when friable, is classified as any manufactured material that contains *greater than* 1% asbestos by dry weight *and* is:

- Friable (can be crumbled, pulverized, or reduced to powder by hand pressure); or
- Category I material that has become friable; or
- Category I material that has been subjected to sanding grinding, cutting or abrading; or
- Category II nonfriable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard contained in Title 8, CCR §1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing greater than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that must be addressed. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains greater than 0.1% asbestos (Title 8, CCR 341.6).

## **2.2 Lead Paint**

Construction activities (including demolition) that disturb materials or paints containing *any* amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8, CCR §1532.1. Deteriorated paint is defined by Title 17, CCR, Division 1, Chapter 8, §35022 as a surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, failed, or otherwise separated from a component. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Intact LCP on a component is currently accepted by most landfills and recycling facilities; however, contractors are responsible for segregating and characterizing waste streams prior to disposal.

For a solid waste containing lead, the waste is classified as California hazardous when: 1) the representative total lead content equals or exceeds the respective Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the representative soluble lead content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter (mg/l) based on the standard Waste Extraction Test (WET). A waste has the potential for exceeding the lead STLC when the waste's total lead content is greater than or equal to ten times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when total lead is detected at a concentration greater than or equal to 50 mg/kg, and assuming that 100 percent of the total lead is soluble, soluble lead analysis is required. Lead-containing waste is classified as "Resource, Conservation, and Recovery Act" (RCRA) hazardous, or Federal hazardous, when the representative soluble lead content equals or exceeds the Federal regulatory level of 5 mg/l based on the Toxicity Characteristic Leaching Procedure (TCLP).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability; however, for the purposes of this investigation, toxicity (i.e., lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

Potential hazards exist to workers who remove or cut through LCP coatings during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or cutting materials coated with lead-containing paint. Torching of these materials may produce lead oxide fumes. Therefore, air monitoring and/or respiratory protection may be required during the demolition of materials coated with LCP. Guidelines regarding regulatory provisions for construction work where workers may be exposed to lead are presented in the Title 8, CCR, §1532.1.

### **2.3 As-Built Drawings and Previous Survey Activities**

As-built drawings were not available for our review. Geocon reviewed previous survey reports for the maintenance stations prior to fieldwork. Asbestos was identified in window putty (used at the Camp Connell MS) and in pipe insulation (used at the Peddler Hill and Woodfords MS) in previous reports. Lead at various concentrations was also detected in paints used at the project locations.

### 3.0 SCOPE OF SERVICES

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2013), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2013), performed the limited asbestos and deteriorated LCP survey activities at the project locations on June 13 and 14, 2013.

#### 3.1 Asbestos

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for friability. A total of twelve bulk asbestos samples representing six material types were collected.

Our procedures for inspection and sampling in accordance with TO-79 are discussed below:

- Collected bulk asbestos samples after first wetting friable suspect materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).
- Relinquished bulk asbestos samples under chain-of-custody protocol to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM). EMSL is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a turnaround period of five days.

Maintenance station and sample group identification information, material descriptions, approximate quantities, friability assessments, and photo references are summarized on Table 1. Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

#### 3.2 Lead Paint

We did not observe deteriorated paint during our survey. Consequently, we collected no LCP samples.

### 4.0 INVESTIGATIVE RESULTS

No asbestos was detected in samples of additional suspect materials collected during our limited survey. A summary of the analytical laboratory test results for asbestos is on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are in Appendix A.

## 5.0 RECOMMENDATIONS

Based on our findings, we recommend the following:

### 5.1 Asbestos

NESHAP regulations do not require that asbestos-containing window putty (a Category I nonfriable/nonhazardous material) identified at the Camp Connell MS be removed prior to renovation/demolition or be treated as hazardous waste. However, activities causing *disturbance* of the window putty (i.e., cutting, abrading, sanding, grinding, etc.) would require compliance with the Cal/OSHA asbestos standard (Title 8, CCR §1529).

NESHAP regulations require that asbestos pipe insulation (a friable RACM) identified at the Peddler Hill and Woodfords MS be removed and disposed of prior to activities that would disturb the material. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

We also recommend the notification of contractors (that will be conducting demolition, renovation, or related activities) of the presence of asbestos in their work areas (i.e., provide the contractor[s] with a copy of this report and a list of asbestos removed by contractor[s] during subsequent abatement activities). Personnel not trained for asbestos work should be instructed not to disturb asbestos.

For the Camp Connell and/or Peddler Hill MS, written notification to the U.S. EPA Region IX and the California Air Resources Board is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not), and for activities involving specified quantities of RACM.

For the Woodfords MS, written notification to the Great Basin Unified Air Pollution Control District is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not), and for activities involving specified quantities of RACM.

In accordance with Title 8, CCR 341.9, written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain asbestos-related work.

### 5.2 Lead Paint

We recommend that all paints at the project location be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. Compliance and training requirements regarding construction activities where workers may be exposed

to lead are presented in Title 8, CCR, §1532.1, subsections (e) and (l), respectively. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

## 6.0 REPORT LIMITATIONS

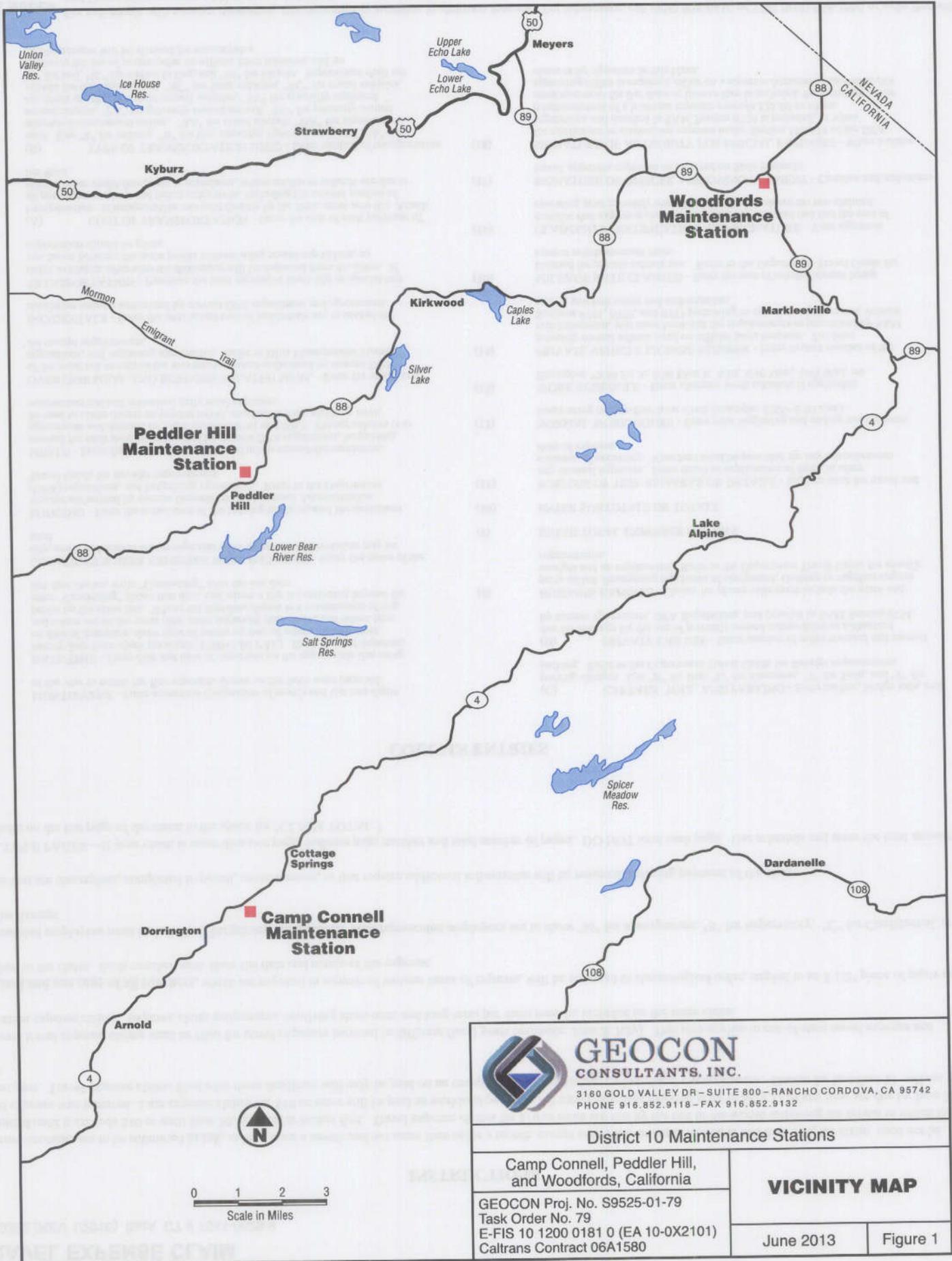
This limited asbestos and deteriorated LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only the structures identified in Section 1.1. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some ACM or LCP at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases may have been concealed to our investigator. Previous renovation work may have concealed or covered spaces or materials or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced ACM with indistinguishable non-ACM. Asbestos and/or LCP may exist in areas of the structures that were not accessible or sampled in conjunction with this TO.

During renovation or demolition operations, suspect materials may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect ACM and/or LCP are found, additional sampling and analysis should be performed to determine if the materials contain asbestos or lead.

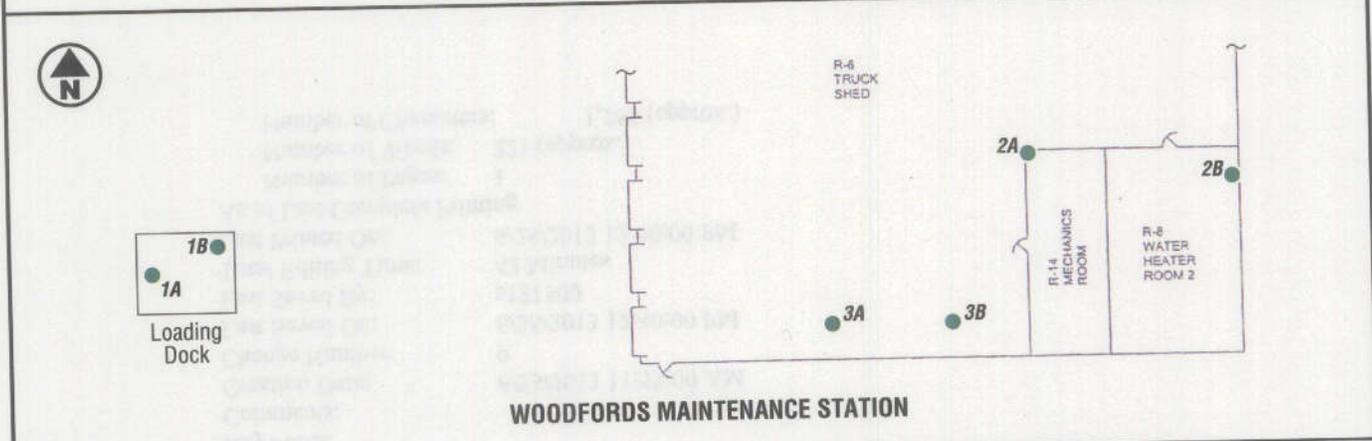
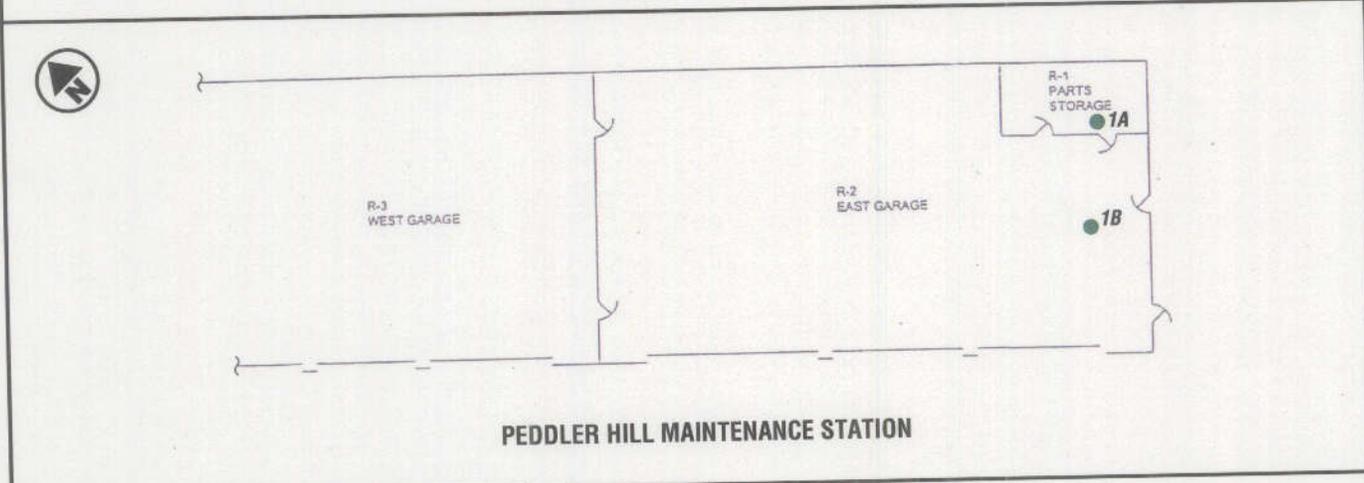
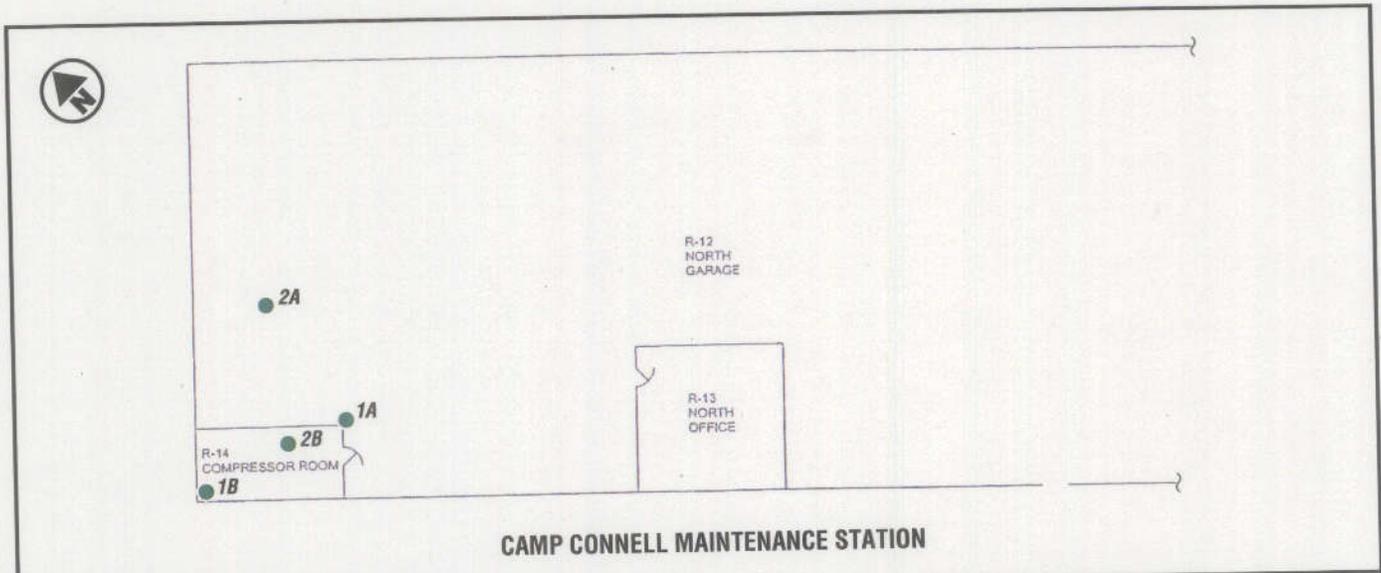
This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

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



 <b>GEOCON</b> CONSULTANTS, INC. <small>3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742          PHONE 916.852.9118 - FAX 916.852.9132</small>	
<b>District 10 Maintenance Stations</b>	
Camp Connell, Peddler Hill, and Woodfords, California	
GEOCON Proj. No. S9525-01-79 Task Order No. 79 E-FIS 10 1200 0181 0 (EA 10-0X2101) Caltrans Contract 06A1580	
<b>VICINITY MAP</b>	
June 2013	Figure 1



**LEGEND:**  
 ● Approximate Asbestos Sample Location

SCALE APPROXIMATE

**GEOCON CONSULTANTS, INC.**  
 3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742  
 PHONE 916.852.9118 - FAX 916.852.9132

<b>District 10 Maintenance Stations</b>	
Camp Connell, Peddler Hill, and Woodfords, California	
<b>SITE PLAN</b>	
GEOCON Proj. No. S9525-01-79 Task Order No. 79 E-FIS 10 1200 0181 0 (EA 10-0X2101) Caltrans Contract 06A1580	June 2013      Figure 2

TABLE 1

SUMMARY OF ASBESTOS ANALYTICAL RESULTS  
 CAMP CONNELL, PEDDLER HILL, AND WOODFORDS MAINTENANCE STATIONS - WASH SYSTEM UPGRADES  
 CALTRANS CONTRACT 06A1580, TASK ORDER NO. 79, EA 10-0X2101  
 CALAVERAS, AMADOR, AND ALPINE COUNTIES, CALIFORNIA  
 Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

Maintenance Station	Sample Group No.	Description of Material	Approximate Quantity	Friable	Site Photos	Asbestos Content
Camp Connell	CC-1	Block and mortar system (painted)	NA	NA	1, 2, and 5	ND
	CC-2	Concrete	NA	NA	2 and 6	ND
	<b>Not applicable</b>	<b>Window putty</b>	<b>5 square feet</b>	<b>No</b>	<b>2</b>	<b>assumed &gt;1%*</b>
Peddler Hill	PH-1	Concrete	NA	NA	7, 10 and 12	ND
	<b>Not applicable</b>	<b>Pipe insulation</b>	<b>60 square feet</b>	<b>Yes</b>	<b>10 and 11</b>	<b>18%*</b>
Woodfords	W-1	Concrete (loading dock, painted)	NA	NA	18	ND
	W-2	Block and mortar system	NA	NA	13, 14, and 15	ND
	W-3	Concrete (east bay)	NA	NA	14 and 17	ND
	<b>Not applicable</b>	<b>Pipe insulation</b>	<b>95 square feet</b>	<b>Yes</b>	<b>16 and 17</b>	<b>60%*</b>

Notes:  
 NA = Not applicable (no asbestos detected)  
 ND = Not detected  
 \* Previously identified at the site



Photo 1 – Site of proposed brine water treatment system at Camp Connell MS

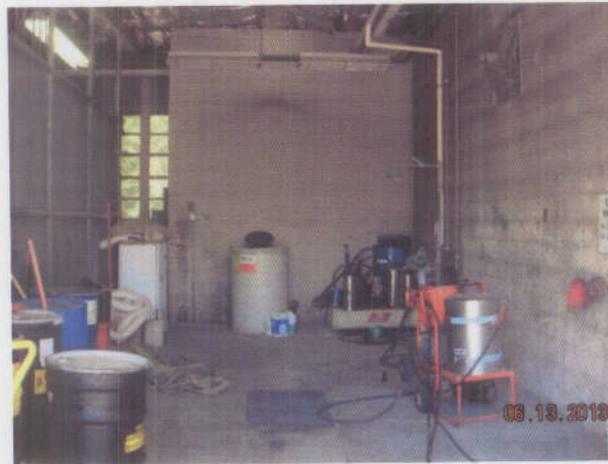


Photo 2 – North bay, site of proposed brine water treatment system at Camp Connell MS

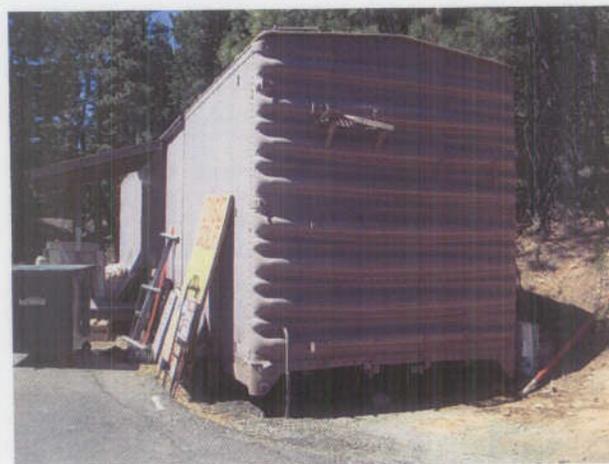


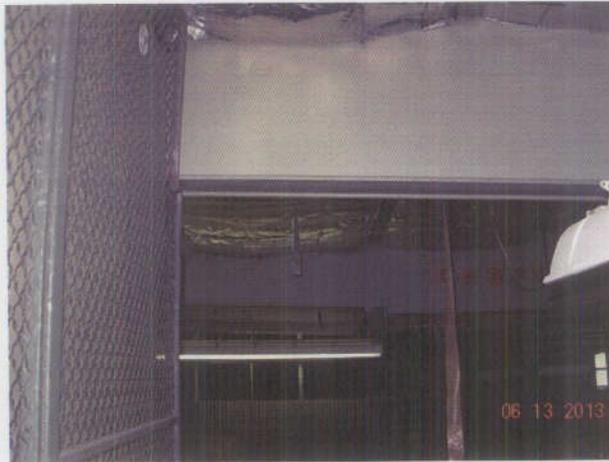
Photo 3 – Site of proposed wash building at Camp Connell MS



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 - FAX 916.852.9132

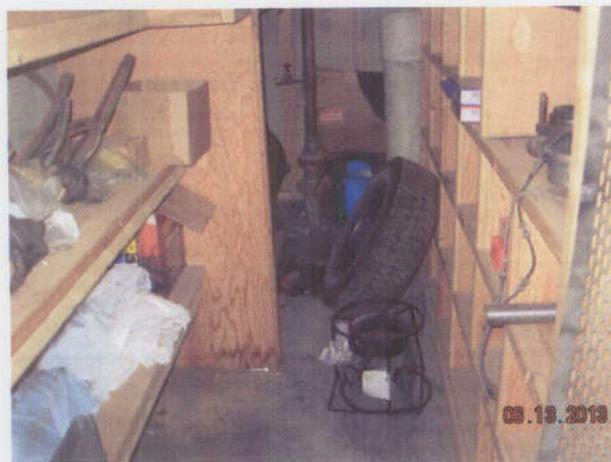
<b>PHOTOGRAPHS 1, 2, &amp; 3</b>		
District 10 Maintenance Stations		
Camp Connell, Peddler Hill, and Woodfords, CA		
S9525-01-79		June 2013



**Photo 4 – Site of proposed brine water treatment system at Camp Connell MS**



**Photo 5 – Fiberglass pipe insulation at site of proposed brine water treatment system, Camp Connell MS**



**Photo 6 – Compressor room at Camp Connell MS**



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 - FAX 916.852.9132

**PHOTOGRAPHS 4, 5, & 6**

District 10 Maintenance Stations  
Camp Connell, Peddler Hill, and Woodfords, CA

S9525-01-79

June 2013



Photo 7 – Site of proposed brine water treatment system at Peddler Hill MS

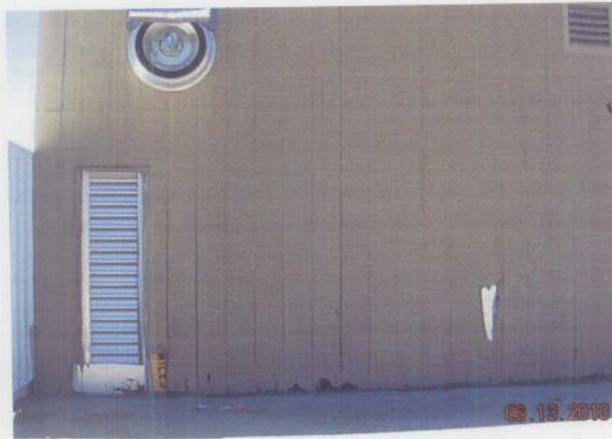


Photo 8 – Exterior wall, proposed brine water treatment system at Peddler Hill MS

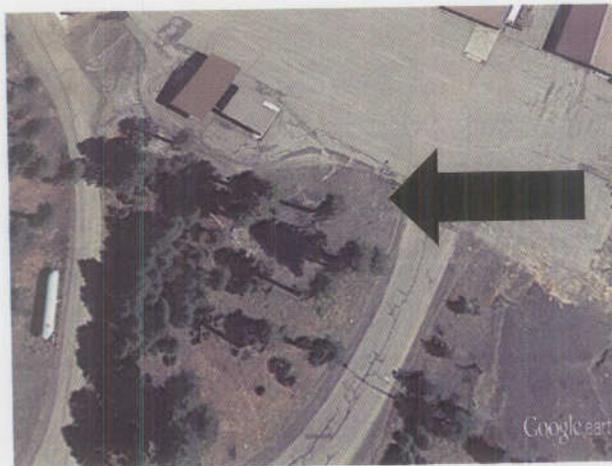
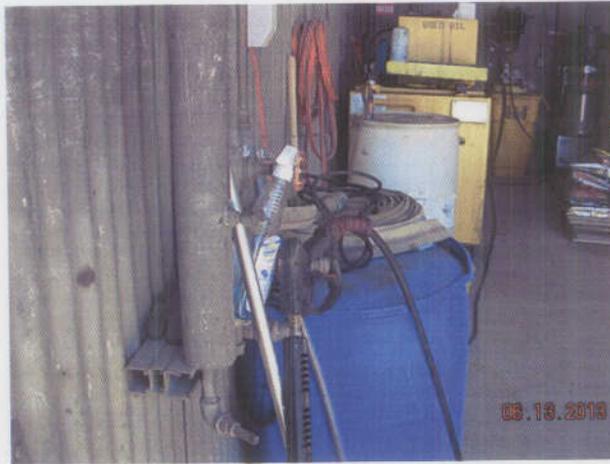


Photo 9 – Site of proposed wash building at Peddler Hill MS



**Photo 10 – Asbestos pipe insulation at site of proposed brine water treatment system, Peddler Hill MS**



**Photo 11 – Asbestos pipe insulation at site of proposed brine water treatment system, Peddler Hill MS**



**Photo 12 – Parts storage room at Peddler Hill MS**



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 - FAX 916.852.9132

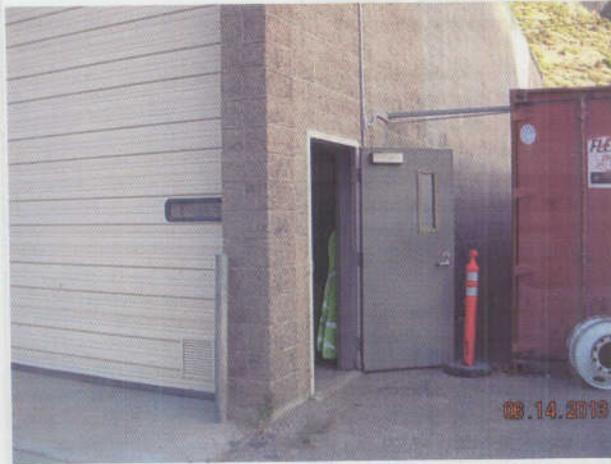
**PHOTOGRAPHS 10, 11, & 12**

District 10 Maintenance Stations

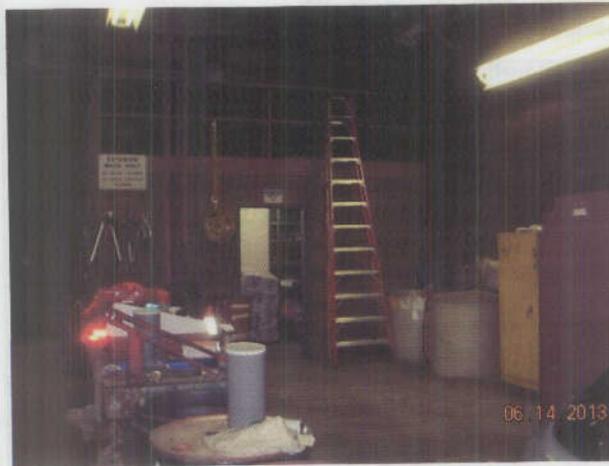
Camp Connell, Peddler Hill, and Woodfords, CA

S9525-01-79

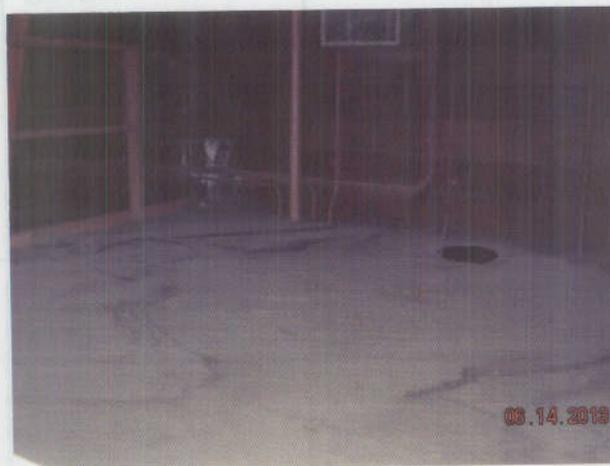
June 2013



**Photo 13 – Site of proposed brine water treatment system at Woodfords MS**



**Photo 14 – East bay, site of proposed brine water treatment system at Woodfords MS**



**Photo 15 – East bay, site of proposed brine water treatment system at Woodfords MS**



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 - FAX 916.852.9132

<b>PHOTOGRAPHS 13, 14, &amp; 15</b>		
District 10 Maintenance Stations		
Camp Connell, Peddler Hill, and Woodfords, CA		
S9525-01-79		June 2013



Photo 16 – Asbestos pipe insulation at site of proposed brine water treatment system, Woodfords MS

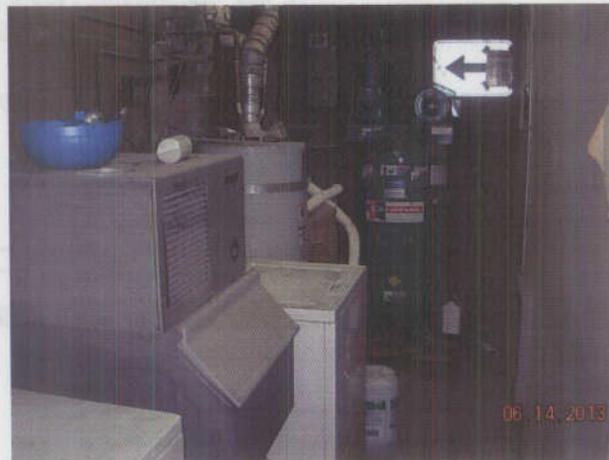


Photo 17 – Water heater room 2 (with asbestos pipe insulation), Woodfords MS

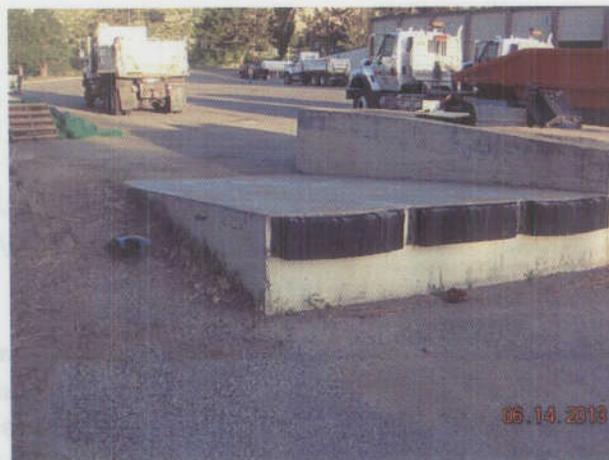


Photo 18 – Site of proposed wash building at Woodfords MS



**EMSL Analytical, Inc**

2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577

Phone/Fax: (510) 895-3675 / (510) 895-3680

<http://www.emsl.com>[sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order:	091309404
CustomerID:	GECN21
CustomerPO:	S9525-01-79
ProjectID:	

Attn: **Dave Watts**  
**Geocon Consultants, Inc.**  
**6671 Brisa Street**

**Livermore, CA 94550**Project: **S9525-01-79 / DISTRICT 10 MS**

Phone: (925) 371-5900  
 Fax: (925) 371-5915  
 Received: 06/17/13 9:00 AM  
 Analysis Date: 6/22/2013  
 Collected: 6/13/2013

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
CC-1A 091309404-0001	BLOCK & MORTAR SYSTEM (PAINTED)	Gray/Tan/White Non-Fibrous Heterogeneous		45% Quartz 20% Ca Carbonate 35% Non-fibrous (other)	None Detected
CC-1B 091309404-0002	BLOCK & MORTAR SYSTEM (PAINTED)	Gray/Tan/White Non-Fibrous Heterogeneous		35% Quartz 20% Ca Carbonate 45% Non-fibrous (other)	None Detected
CC-2A 091309404-0003	CONCRETE	Gray Non-Fibrous Homogeneous		65% Quartz 10% Ca Carbonate 25% Non-fibrous (other)	None Detected
CC-2B 091309404-0004	CONCRETE	Gray Non-Fibrous Homogeneous		70% Quartz 10% Ca Carbonate 20% Non-fibrous (other)	None Detected
PH-1A 091309404-0005	CONCRETE	Gray Non-Fibrous Homogeneous		70% Quartz 10% Ca Carbonate 20% Non-fibrous (other)	None Detected
PH-1B 091309404-0006	CONCRETE	Gray Non-Fibrous Homogeneous		65% Quartz 15% Ca Carbonate 20% Non-fibrous (other)	None Detected

Analyst(s)

Steve Juscuk (12)

Baojia Ke, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY

Initial report from 06/23/2013 09:20:40

**EMSL Analytical, Inc**

2235 Polvorosa Ave, Suite 230, San Leandro, CA 94577

Phone/Fax: (510) 895-3675 / (510) 895-3680

<http://www.emsl.com>[sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order:	091309404
CustomerID:	GECN21
CustomerPO:	S9525-01-79
ProjectID:	

Attn: **Dave Watts**  
**Geocon Consultants, Inc.**  
**6671 Brisa Street**  
  
**Livermore, CA 94550**

Phone: (925) 371-5900  
 Fax: (925) 371-5915  
 Received: 06/17/13 9:00 AM  
 Analysis Date: 6/22/2013  
 Collected: 6/13/2013

Project: S9525-01-79 / DISTRICT 10 MS

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
W-1A 091309404-0007	CONCRETE (DOCK-PAINTED)	Gray/White Non-Fibrous Heterogeneous		60% Quartz 15% Ca Carbonate 25% Non-fibrous (other)	None Detected
W-1B 091309404-0008	CONCRETE (DOCK-PAINTED)	Gray/White Non-Fibrous Heterogeneous		55% Quartz 15% Ca Carbonate 30% Non-fibrous (other)	None Detected
W-2A 091309404-0009	BLOCK & MORTAR SYSTEM	Brown/Gray Non-Fibrous Heterogeneous		65% Quartz 10% Ca Carbonate 25% Non-fibrous (other)	None Detected
W-2B 091309404-0010	BLOCK & MORTAR SYSTEM	Brown/Gray/Black Non-Fibrous Heterogeneous		50% Quartz 15% Ca Carbonate 35% Non-fibrous (other)	None Detected
W-3A 091309404-0011	CONCRETE	Gray Non-Fibrous Homogeneous		55% Quartz 15% Ca Carbonate 30% Non-fibrous (other)	None Detected
W-3B 091309404-0012	CONCRETE	Gray Non-Fibrous Homogeneous		55% Quartz 15% Ca Carbonate 30% Non-fibrous (other)	None Detected

Analyst(s)

Steve Juscuk (12)

Baojia Ke, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY

Initial report from 06/23/2013 09:20:40



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

### Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

#091309404

EMSL ANALYTICAL, INC.  
2235 POLVOROSA DR., STE. 230  
SAN LEANDRO, CA 94577  
PHONE: (510) 895-3675  
FAX: (510) 895-3680

Company: <u>Geocon</u>		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: <u>6671 BRISA ST.</u>		<i>Third Party Billing requires written authorization from third party</i>	
City: <u>LIVERMORE</u>	State/Province: <u>CA</u>	Zip/Postal Code: <u>94550</u>	Country: <u>USA</u>
Report To (Name): <u>D. WATTS</u>		Fax #: <u>925-371-5915</u>	
Telephone #: <u>925-371-5900</u>		Email Address: <u>WATTS@GEOCONINC.COM</u>	
Project Name/Number: <u>59525-01-79</u>		<u>DISTRICT 10 MS</u>	
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order: _____ U.S. State Samples Taken: <u>CA</u>	

**Turnaround Time (TAT) Options\* - Please Check**

3 Hour   
 6 Hour   
 24 Hour   
 48 Hour   
 72 Hour   
 96 Hour   
 1 Week   
 2 Week

\*For TEM Air 3 hours/6 hours, please call ahead to schedule. There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

<b>PCM - Air</b> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA <b>PLM - Bulk (reporting limit)</b> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)	<b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 <b>TEM - Bulk</b> <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 <b>TEM - Water:</b> EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	<b>TEM - Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) <b>Soil/Rock/Vermiculite</b> <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative) <b>Other:</b> <input type="checkbox"/>
---	--	---

Check For Positive Stop - Clearly Identify Homogenous Group

Samplers Name: D. WATTS      Samplers Signature: [Signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
CC - 1A/B	Block + Mortar System (Painted)	NA	6/13/13
↓ - 2A/B	CONCRETE	↓	↓
PH - 1A/B	↓		
W - 1A/B	CONCRETE (DOCK - PAINTED)		
↓ - 2A/B	Block + Mortar System		
↓ - 3A/B	CONCRETE		

Client Sample # (s): \_\_\_\_\_ Total # of Samples: 12

Relinquished (Client): [Signature] Date: 6/14/2013 Time: 1600

Received (Lab): [Signature] Date: 6/17/13 Time: 9am Fx

Comments/Special Instructions: \_\_\_\_\_

# ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT



**PREPARED FOR:**

**CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 6  
ENVIRONMENTAL PLANNING/HAZARDOUS WASTE  
855 M STREET, SUITE 200  
FRESNO, CALIFORNIA 93721**



**PREPARED BY:**

**GEOCON CONSULTANTS, INC.  
3160 GOLD VALLEY DRIVE, SUITE 800  
RANCHO CORDOVA, CALIFORNIA 95742**



**GEOCON PROJECT NO. S9525-01-60  
TASK ORDER NO. 60  
E-FIS 10 1200 0181 (EA 10-0X2100)  
CONTRACT NO 06A1580**

**FEBRUARY 2013**



Project No. S9525-01-60  
February 28, 2013

Clemens Goewert, Task Order Manager  
Hazardous Waste and Paleontology Branch  
855 M Street, Suite 200  
Fresno, California 93721

Subject: ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT  
PINE GROVE MAINTENANCE STATION – WASH SYSTEM UPGRADES  
AMADOR COUNTY, CALIFORNIA  
CONTRACT NO. 06A1580, TASK ORDER NO. 60, EA NO. 10-0X2100  
E-FIS PROJECT NO. 10 1200 0181

Dear Mr. Goewert:

In accordance with California Department of Transportation Contract No. 06A1580 and Task Order No. 60, we have performed an asbestos and lead-containing paint (LCP) survey of the subject project in Amador County, California. The scope of services included surveying the Pine Grove Maintenance Station (MS) equipment wash system on State Route 88 for suspect asbestos-containing materials and LCP, collecting bulk samples, and submitting the samples to laboratories for analysis.

The accompanying report summarizes the services performed and laboratory analysis.

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

Please contact us if you have questions concerning the contents of this report or if we may be of further service.

Sincerely,

**GEOCON CONSULTANTS, INC.**

  
David Watts, CAC  
Senior Project Scientist

  
John E. Juhrend, PE, CEG  
Principal/Senior Engineer

(2 + 1 electronic) Addressee

## TABLE OF CONTENTS

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT		PAGE
1.0	INTRODUCTION.....	1
1.1	Project Description.....	1
1.2	General Objectives.....	1
2.0	BACKGROUND.....	1
2.1	Asbestos.....	1
2.2	Lead Paint.....	2
2.3	Architectural Drawings and Previous Survey Activities.....	3
3.0	SCOPE OF SERVICES.....	3
3.1	Asbestos.....	4
3.2	Lead Paint.....	4
4.0	INVESTIGATIVE RESULTS.....	5
4.1	Asbestos Analytical Results.....	5
4.2	Paint Analytical Results.....	5
5.0	RECOMMENDATIONS.....	5
5.1	Asbestos.....	5
5.2	Lead Paint.....	5
6.0	REPORT LIMITATIONS.....	6

### FIGURES

1. Vicinity Map
2. Site Plan

### TABLES

1. Summary of Asbestos Analytical Results
2. Summary of Paint Analytical Results – Total Lead

### PHOTOGRAPHS (1 through 6)

### APPENDIX

- A. Analytical Laboratory Reports and Chain-of-custody Documentation

# ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

## 1.0 INTRODUCTION

This asbestos and lead-containing paint (LCP) survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 06A1580, Task Order No. 60 (TO-60).

### 1.1 Project Description

The Pine Grove Maintenance Station (MS) EA 10-0X2100, E-FIS Project No. 10 1200 0181, is located at Post Mile 22.9 on State Route 88 in Amador County, California. We performed asbestos and LCP survey activities of the Pine Grove MS equipment wash system (equipment building and wash rack) at the project location. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

### 1.2 General Objectives

The purpose of the scope of services outlined in TO-60 was to determine the presence and quantity of asbestos construction materials and LCP at the project location prior to various improvements. The information obtained from this investigation will be used by Caltrans for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos and LCP disturbance activities.

*It was not Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with U.S. Department of Housing and Urban Development (HUD) guidelines.*

## 2.0 BACKGROUND

### 2.1 Asbestos

The *Code of Federal Regulations* (CFR), 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains *greater than* 1% asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of nonfriable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a hazardous waste when friable, is classified as any manufactured material that contains *greater than 1%* asbestos by dry weight *and* is:

- Friable (can be crumbled, pulverized, or reduced to powder by hand pressure); or
- Category I material that has become friable; or
- Category I material that has been subjected to sanding grinding, cutting or abrading; or
- Category II nonfriable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard contained in Title 8, CCR § 1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing greater than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that must be addressed. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains greater than 0.1% asbestos (Title 8, CCR 341.6).

## **2.2 Lead Paint**

Construction activities (including demolition) that disturb materials or paints containing *any* amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8, CCR, §1532.1. Deteriorated paint is defined by Title 17, CCR, Division 1, Chapter 8, §35022 as a surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, failed, or otherwise separated from a component. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Intact LCP on a component is currently accepted by most landfills and recycling facilities; however, contractors are responsible for segregating and characterizing waste streams prior to disposal.

For a solid waste containing lead, the waste is classified as California hazardous when: 1) the total lead content equals or exceeds the respective Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the representative soluble lead content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter (mg/l) based on the standard Waste Extraction Test (WET). A waste has the potential for exceeding the lead STLC when the waste's total lead content is greater than or equal to ten times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when total lead is detected at a concentration greater than or equal to 50 mg/kg, and assuming that 100 percent of the total lead is soluble, soluble lead analysis is required. Lead-containing waste is classified as "Resource, Conservation, and Recovery Act" (RCRA) hazardous, or Federal hazardous, when the representative soluble lead content equals or exceeds the Federal regulatory level of 5 mg/l based on the Toxicity Characteristic Leaching Procedure (TCLP).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability; however, for the purposes of this investigation, toxicity (i.e., lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

Potential hazards exist to workers who remove or cut through LCP coatings during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or cutting materials coated with lead-containing paint. Torching of these materials may produce lead oxide fumes. Therefore, air monitoring and/or respiratory protection may be required during the demolition of materials coated with LCP. Guidelines regarding regulatory provisions for construction work where workers may be exposed to lead are presented in the Title 8, CCR, §1532.1.

### **2.3 Architectural Drawings and Previous Survey Activities**

Architectural drawings or previous survey reports for the project were not available for our review.

## **3.0 SCOPE OF SERVICES**

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2013), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2013), performed the asbestos and LCP survey activities at the project location on January 7, 2013.

### **3.1 Asbestos**

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for friability. A total of eleven bulk asbestos samples representing five material types were collected.

Our procedures for inspection and sampling in accordance with TO-60 are discussed below:

- Collected bulk asbestos samples after first wetting friable suspect materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).
- Relinquished bulk asbestos samples under chain-of-custody protocol to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM). EMSL is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a five-day turnaround time.

Sample group identification numbers, material descriptions, approximate quantities, friability assessments, and photo references are summarized on Table 1. Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

### **3.2 Lead Paint**

A total of three bulk paint samples were collected from suspect LCP observed at the project location. We did not observe deteriorated paint during our survey. Our sampling procedures in accordance with TO-60 are discussed below:

- Collected bulk samples of suspect LCP using techniques presented in HUD guidelines. In addition, the painted areas were evaluated for evidence of deterioration such as flaking or cracking.
- Relinquished bulk LCP samples under chain-of-custody protocol to Advanced Technology Laboratories, a California-licensed and Caltrans-approved subcontractor, for total lead analysis in accordance with EPA Test Method 6010B. Advanced Technology Laboratories is accredited by the DPH for lead analysis. The laboratory analyses were requested on a five-day turnaround time.

Paint sample identification numbers, descriptions, peeling and flaking quantities, and photo references are summarized on Table 2. Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

## 4.0 INVESTIGATIVE RESULTS

### 4.1 Asbestos Analytical Results

No asbestos was detected in samples of the suspect materials collected during our survey. A summary of the analytical laboratory test results for asbestos is presented on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

### 4.2 Paint Analytical Results

A summary of the analytical laboratory test results for paint is presented on Table 2. Reproductions of the laboratory reports and chain-of-custody documentation are presented in Appendix A.

Sample P1, representing intact paints, exhibited a total lead concentration of 45 mg/kg. Two of the three samples did not contain total lead greater than reporting limits.

## 5.0 RECOMMENDATIONS

Based on our findings, we recommend the following:

### 5.1 Asbestos

Since no asbestos was detected in samples collected during our survey, the Cal/OSHA asbestos standard does not apply for planned activities. In addition, demolition debris would not be considered a California hazardous waste based on asbestos content. However, written notification to the U.S. EPA Region IX and the California Air Resources Board is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

### 5.2 Lead Paint

LCP identified during our survey would not be considered a California or Federal hazardous waste based on lead content.

We recommend that all paints at the project location be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, CCR, § 1532.1, subsections (e) and (l), respectively. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

## 6.0 REPORT LIMITATIONS

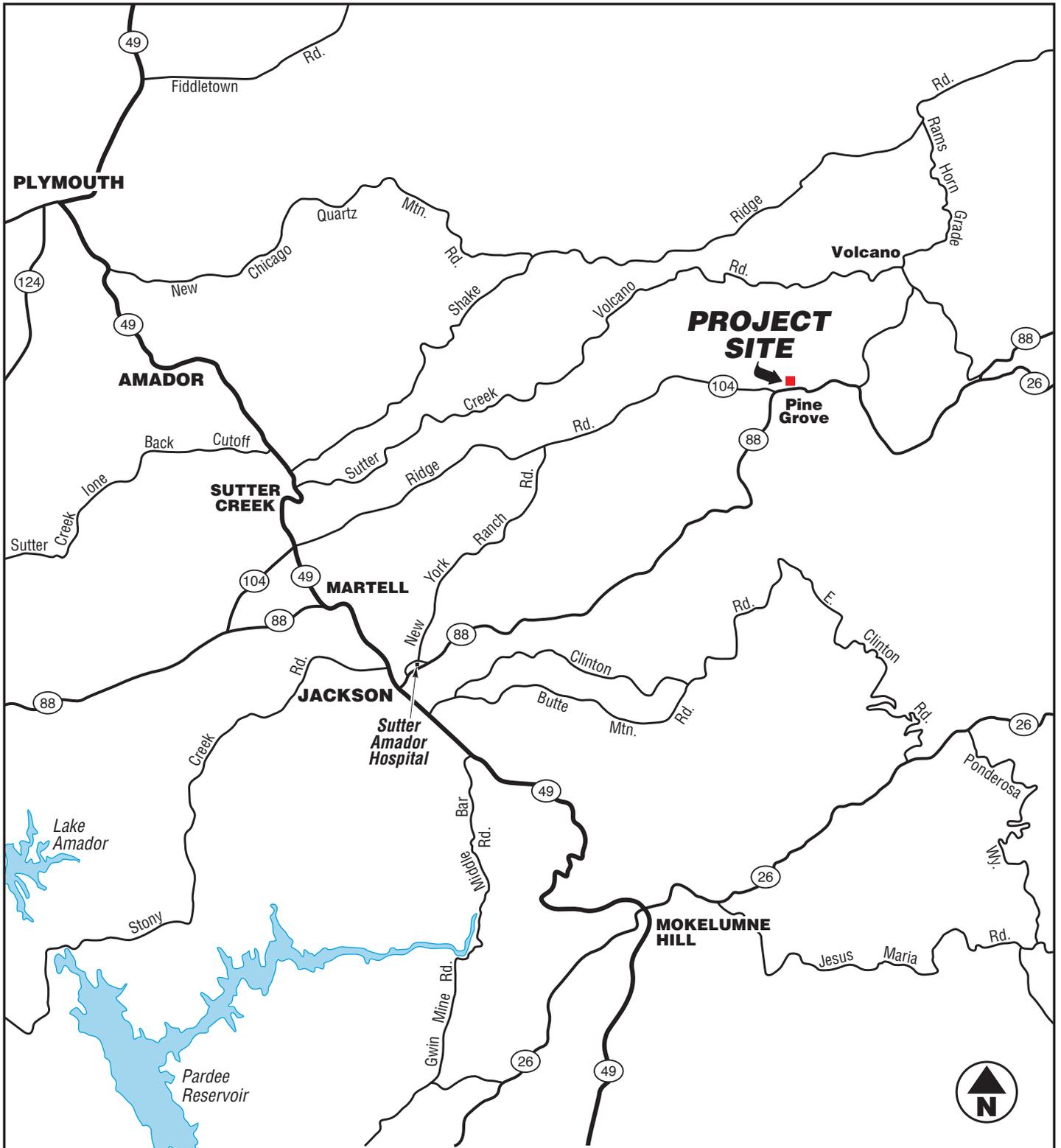
This asbestos and LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only the structures identified in Section 1.1. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some ACM or LCP at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases may have been concealed to our investigator. Previous renovation work may have concealed or covered spaces or materials or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced ACM with indistinguishable non-ACM. Asbestos and/or LCP may exist in areas of the structures that were not accessible or sampled in conjunction with this TO.

During renovation or demolition operations, suspect materials may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect ACM and/or LCP are found, additional sampling and analysis should be performed to determine if the materials contain asbestos or lead.

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

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



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 - FAX 916.852.9132

Pine Grove Maintenance Station – Wash System Upgrades

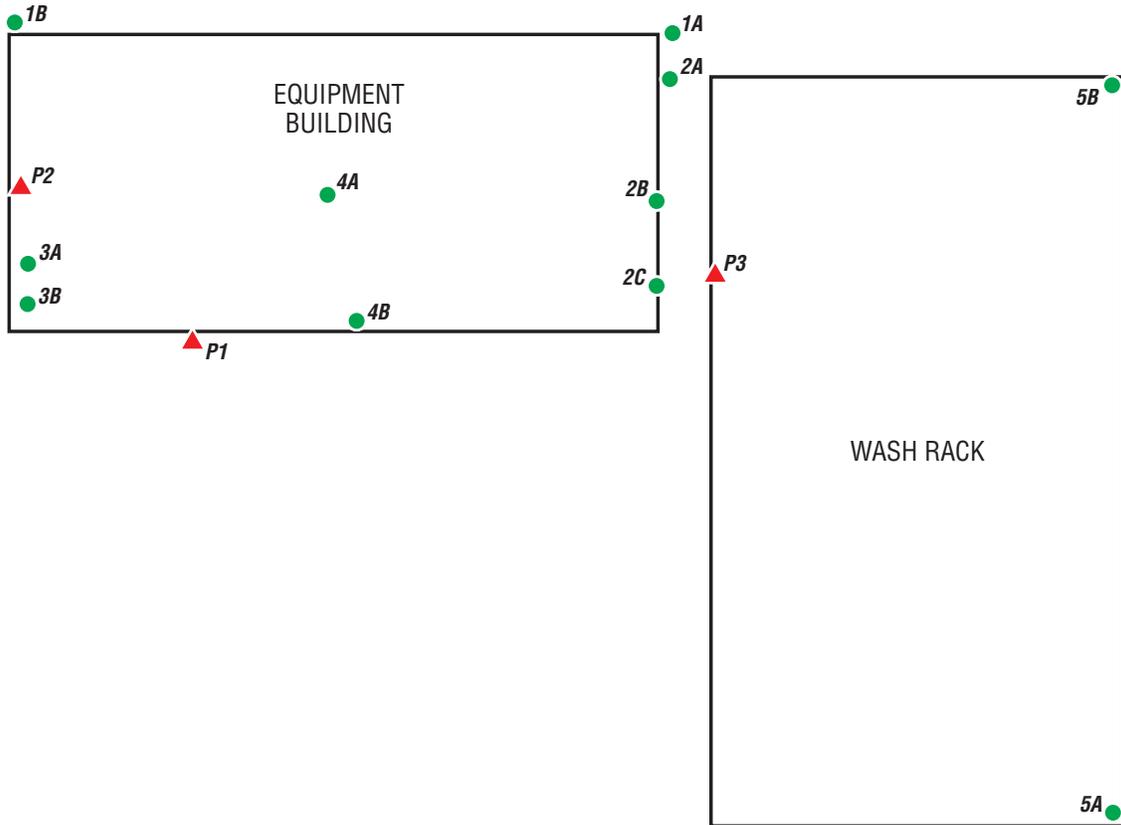
Amador County,  
California

**VICINITY MAP**

GEOCON Proj. No. S9525-01-60  
Task Order No. 60  
E-FIS 10 1200 0181 (EA 10-0X2100)  
Caltrans Contract 06A1580

February 2013

Figure 1



NO SCALE

LEGEND:

- Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 – FAX 916.852.9132

Pine Grove Maintenance Station – Wash System Upgrades

Amador County,  
California

**SITE PLAN**

GEOCON Proj. No. S9525-01-60  
Task Order No. 60  
E-FIS 10 1200 0181 (EA 10-0X2100)  
Caltrans Contract 06A1580

February 2013

Figure 2

---

---

TABLE 1  
SUMMARY OF ASBESTOS ANALYTICAL RESULTS  
PINE GROVE MAINTENANCE STATION - WASH SYSTEM UPGRADES  
CALTRANS CONTRACT 06A1580, TASK ORDER NO. 60, EA 10-0X2100  
AMADOR COUNTY, CALIFORNIA

---

---

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

---

---

Sample Group No.	Description of Material	Approximate Quantity	Friable	Site Photos	Asbestos Content
1	Block and mortar system (equipment building)	NA	NA	1	ND
2	Thermal system pipe insulation (equipment building)	NA	NA	2	ND
3	Gypsum board system (equipment building)	NA	NA	3	ND
4	Concrete (equipment building)	NA	NA	4	ND
5	Concrete (wash rack)	NA	NA	5	ND

---

---

Notes:

NA = Not applicable (no asbestos detected)

ND = Not detected

---

TABLE 2  
SUMMARY OF PAINT ANALYTICAL RESULTS - TOTAL LEAD  
PINE GROVE MAINTENANCE STATION - WASH SYSTEM UPGRADES  
CALTRANS CONTRACT 06A1580, TASK ORDER NO. 60, EA 10-0X2100  
AMADOR COUNTY, CALIFORNIA

---

Paint Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Site Photos	Total Lead (mg/kg)
P1	Beige exterior paint (equipment building)	Intact	1	45
P2	White interior (equipment building)	Intact	3	<20
P3	Gray paint (wash rack)	Intact	5	<2.9

---

Notes:

mg/kg = milligrams per kilogram (EPA Test Method 6010B)

< = Not detected at or above the indicated method detection limit



**Photo 1 – Pine Grove Maintenance Station (Wash System Equipment Building)**



**Photo 2 – Pipe insulation**



**Photo 3 – Equipment Building interior**



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 – FAX 916.852.9132

**PHOTOGRAPHS 1, 2, & 3**

Pine Grove Maintenance Station (Wash System)  
Amador County, California

S9525-01-60

February 2013



**Photo 4 – Equipment Building interior**



**Photo 5 – Wash Rack**



**Photo 6 – Corrugated metal roofing (non-suspect)**



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 – FAX 916.852.9132

**PHOTOGRAPHS 4, 5, & 6**

Pine Grove Maintenance Station (Wash System)  
Amador County, California

S9525-01-60

February 2013

APPENDIX

A



# EMSL Analytical, Inc

2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577

Phone/Fax: (510) 895-3675 / (510) 895-3680

<http://www.emsl.com>

[sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order:	091300343
CustomerID:	GECN21
CustomerPO:	S9525-01-60
ProjectID:	

Attn: **Dave Watts**  
**Geocon Consultants, Inc.**  
**6671 Brisa Street**

**Livermore, CA 94550**

Project: **S9525-01-60 / PINE GROVE**

Phone: (925) 371-5900  
 Fax: (925) 371-5915  
 Received: 01/09/13 9:00 AM  
 Analysis Date: 1/14/2013  
 Collected: 1/7/2013

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1A-Block & Mortar <i>091300343-0001</i>		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
1B-Block & Mortar <i>091300343-0002</i>		Brown/Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
2A-TSI <i>091300343-0003</i>		Gray/White Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (other)	None Detected
2B-TSI <i>091300343-0004</i>		Gray/White Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (other)	None Detected
2C-TSI <i>091300343-0005</i>		Gray/White/Blue Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (other)	None Detected
3A-Gypsum Board <i>091300343-0006</i>		White Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected
3B-Gypsum Board <i>091300343-0007</i>		White Fibrous Homogeneous	10% Cellulose 2% Glass	88% Non-fibrous (other)	None Detected
4A-Concrete <i>091300343-0008</i>		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)

*Jorge Leon (6)*

*Matthew Batongbacal (5)*

Baojia Ke, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from 01/15/2013 08:43:38



# EMSL Analytical, Inc

2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577

Phone/Fax: (510) 895-3675 / (510) 895-3680

<http://www.emsl.com>

[sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order: 091300343

CustomerID: GECN21

CustomerPO: S9525-01-60

ProjectID:

Attn: **Dave Watts**  
**Geocon Consultants, Inc.**  
**6671 Brisa Street**

**Livermore, CA 94550**

Project: **S9525-01-60 / PINE GROVE**

Phone: (925) 371-5900

Fax: (925) 371-5915

Received: 01/09/13 9:00 AM

Analysis Date: 1/14/2013

Collected: 1/7/2013

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
4B-Concrete <i>091300343-0009</i>		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
5A-Concrete <i>091300343-0010</i>		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
5B-Concrete <i>091300343-0011</i>		Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) \_\_\_\_\_

Jorge Leon (6)

Matthew Batongbacal (5)

Baojia Ke, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from 01/15/2013 08:43:38



EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

# Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

**091300343**

EMSL ANALYTICAL, INC.  
2235 POLVOROSA DR., STE. 230  
SAN LEANDRO, CA 94577  
PHONE: (510) 895-3675  
FAX: (510) 895-3680

Company: <b>GECON</b>		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: <b>6671 BRISA ST</b>		Third Party Billing requires written authorization from third party	
City: <b>LIVERMORE</b>	State/Province: <b>CA</b>	Zip/Postal Code: <b>94550</b>	Country: <b>USA</b>
Report To (Name): <b>D. WATT</b>		Fax #: <b>925-371-5915</b>	
Telephone #: <b>925-371-5900</b>		Email Address: <b>WATTS@GECONINC.COM</b>	
Project Name/Number: <b>39525-01-60 (PINE GROVE)</b>			
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order:	U.S. State Samples Taken: <b>CA</b>

**Turnaround Time (TAT) Options\* - Please Check**

3 Hour  
  6 Hour  
  24 Hour  
  48 Hour  
  72 Hour  
  96 Hour  
  1 Week  
  2 Week

\*For TEM Air 3 hours/6 hours, please call ahead to schedule. \*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

<b>PCM - Air</b> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA	<b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312	<b>TEM - Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)
<b>PLM - Bulk (reporting limit)</b> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)	<b>TEM - Bulk</b> <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5	<b>Soil/Rock/Vermiculite</b> <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative)
<input type="checkbox"/> TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking		<b>Other:</b> <input type="checkbox"/>

Check For Positive Stop - Clearly Identify Homogenous Group

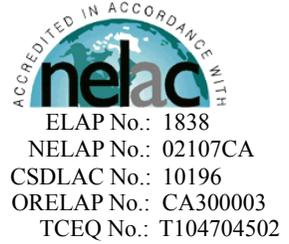
Samplers Name: **D. WATT**      Samplers Signature: *[Signature]*

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1A/B	Block + mortar System	NA	1/7/2013
2A-C	T&I	↓	↓
3A/B	Gypsum Board System		
4A/B	CONCRETE (BLOCK)		
5A/B	" (WASH RACK)		

Client Sample # (s): <b>1A - 5B</b>	Total # of Samples: <b>11</b>
Relinquished (Client): <i>[Signature]</i> Date: <b>1/7/13</b>	Time: <b>1630</b>
Received (Lab): <i>[Signature]</i> Date: <b>1/9/13</b>	Time: <b>1630</b>
Comments/Special Instructions:	<b>RECEIVED JAN 09 2013</b> <b>Fx</b>

January 15, 2013

Dave Watts  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915



Re: ATL Work Order Number : 1300058  
Client Reference : PINE GROVE MS, S9525-01-60

Enclosed are the results for sample(s) received on January 08, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

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

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : PINE GROVE MS, S9525-01-60  
Report To : Dave Watts  
Reported : 01/15/2013

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P1	1300058-01	Paint	1/07/13 0:00	1/08/13 9:09
P2	1300058-02	Paint	1/07/13 0:00	1/08/13 9:09
P3	1300058-03	Paint	1/07/13 0:00	1/08/13 9:09



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore , CA 94550

Project Number : PINE GROVE MS, S9525-01-60  
Report To : Dave Watts  
Reported : 01/15/2013

### Total Metals by ICP-AES EPA 6010B

Analyte: Lead

Analyst: SB

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1300058-01	P1	45	mg/kg	17	NA	1	B3A0312	01/14/2013	01/14/13 15:55	
1300058-02	P2	ND	mg/kg	20	NA	1	B3A0312	01/14/2013	01/14/13 15:57	
1300058-03	P3	ND	mg/kg	2.9	NA	1	B3A0312	01/14/2013	01/14/13 15:59	



## Certificate of Analysis

Geocon Consultants, Inc.  
 6671 Brisa Street  
 Livermore, CA 94550

Project Number : PINE GROVE MS, S9525-01-60  
 Report To : Dave Watts  
 Reported : 01/15/2013

### QUALITY CONTROL SECTION

#### Total Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
<b>Batch B3A0312 - EPA 3050B</b>									
<b>Blank (B3A0312-BLK1)</b>									
Lead	ND	1.0							Prepared: 1/14/2013 Analyzed: 1/14/2013 NR
<b>LCS (B3A0312-BS1)</b>									
Lead	49.2837	1.0	50.0000		98.6	80 - 120			Prepared: 1/14/2013 Analyzed: 1/14/2013
<b>Duplicate (B3A0312-DUP1)</b>									
Lead	7.06404	1.0		7.01984	NR		0.628	20	Source: 1300062-02 Prepared: 1/14/2013 Analyzed: 1/14/2013
<b>Matrix Spike (B3A0312-MS1)</b>									
Lead	108.288	0.99	123.762	7.01984	81.8	45 - 111			Source: 1300062-02 Prepared: 1/14/2013 Analyzed: 1/14/2013
<b>Matrix Spike Dup (B3A0312-MSD1)</b>									
Lead	107.308	0.99	123.153	7.01984	81.4	45 - 111	0.908	20	Source: 1300062-02 Prepared: 1/14/2013 Analyzed: 1/14/2013



## Certificate of Analysis

Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550

Project Number : PINE GROVE MS, S9525-01-60  
Report To : Dave Watts  
Reported : 01/15/2013

### Notes and Definitions

ND Analyte not detected at or above reporting limit  
PQL Practical Quantitation Limit  
MDL Method Detection Limit  
NR Not Reported  
RPD Relative Percent Difference  
CA1 CA-NELAP (CDPH)  
CA2 CA-ELAP (CDPH)  
OR1 OR-NELAP (OSPHL)  
TX1 TX-NELAP (TCEQ)

Notes:  
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.  
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.

# CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY:

**Advanced Technology Laboratories**  
 3275 Walnut Avenue  
 Signal Hill, CA 90755  
 (562) 989-4045 • Fax (562) 989-4040

P.O.#: \_\_\_\_\_ Date: \_\_\_\_\_  
 Logged By: \_\_\_\_\_

Method of Transport  
 Client  ATL  CA OverN  FEDEX  Other: CJS

Sample Condition Upon Receipt  
 1. CHILLED  N  4. SEALED  Y  N   
 2. HEADSPACE (VOA)  N  5. # OF SPLS MATCH COC  Y  N   
 3. CONTAINER INTACT  N  6. PRESERVED  Y  N

Client: **GEOCON CONSULTANTS, INC.**  
 Address: 6671 Brisa Street  
 City: Livemore State: CA Zip Code: 94550  
 TEL: (925) 371-5900 FAX: (925) 371-5915

Project Name: LINE GROVE MTS Sampler: D. WATTS  
 Relinquished by: (Signature and Printed Name) [Signature] Date: 1/7/13 Time: 1600  
 Relinquished by: (Signature and Printed Name) [Signature] Date: 1/8/13 Time: 0909  
 Relinquished by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

I hereby authorize ATL to perform the work indicated below:  
 Project Mgr / Submitter: D. WATTS 1/7/13  
 Print Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Signature: [Signature]

Send Report To:  
 Attn: \_\_\_\_\_  
 Co: SAME AS ABOVE  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Bill To:  
 Attn: \_\_\_\_\_  
 Co: SAME AS ABOVE  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Special Instructions/Comments:  
Paint CH. 15-Anticipate Solubles

LAB USE ONLY: Batch #:	Sample I.D. / Location	Sample Description	Date	Time	SPECIFY APPROPRIATE MATRIX		Q / Q C
					Container(s)	Type	
130081 - 1	P1		1/7/13	VAR		SOIL	RTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/>
	P2					GROUND WATER	SWRCB <input type="checkbox"/> Logcode <input type="checkbox"/>
	P3					WATER	OTHER _____
						WASTEWATER	REMARKS
						WATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	
						WASTEWATER	
						SOIL	
						GROUND WATER	

Project No. S8225-06-146  
June 29, 2001

Mr. Saiyed S. Ali  
California Department of Transportation  
Central Sierra Environmental Services Branch  
Post Office Box 2048  
Stockton, California 95201

Subject: PINE GROVE MAINTENANCE STATION  
AMADOR COUNTY, CALIFORNIA  
CONTRACT NO. 43A0012  
TASK ORDER NO. 10-0E790K-7B  
INITIAL SITE ASSESSMENT

Dear Mr. Ali:

In accordance with Caltrans Contract No. 43A0012 and Task Order No. 10-0E790K-7B, Geocon Consultants, Inc. has performed an Initial Site Assessment (ISA) of the subject site. The Site consists of the Caltrans Pine Grove Maintenance Station located at 19587 Highway 88 in Amador County, California.

The accompanying report presents the details of the ISA conducted at the request of Caltrans. The report summarizes the services performed, including a summary of recognized environmental conditions associated with the former and current operations at the Site and adjacent facilities. An electronic copy of the ISA report is presented on the attached compact disc.

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

Sincerely,

**GEOCON CONSULTANTS, INC.**

John E. Juhrend, PE, CEG  
Project Manager

Amy L. Hester  
Senior Staff Environmental Scientist

ALH:JEJ:sld

(6) Addressee

TBALE OF CONTENTS

INITIAL SITE ASSESSMENT

EXECUTIVE SUMMARY ..... i

1.0 INTRODUCTION ..... 1

    1.1 Background ..... 1

    1.2 Purpose ..... 1

    1.3 Scope of Work ..... 2

2.0 EXISTING SITE, GEOLOGIC AND GROUNDWATER CONDITIONS ..... 5

    2.1 Existing Site Conditions and Improvements ..... 5

    2.2 Soil and Geologic Conditions ..... 5

    2.3 Groundwater Conditions ..... 6

3.0 SITE HISTORY ..... 7

    3.1 Historical Research Report ..... 7

    3.2 Previous Environmental Investigations ..... 7

    3.3 Caltrans Site Permits ..... 8

    3.4 Aerial Photographs ..... 9

    3.5 Historical Site Development ..... 10

    3.6 Historical Site Photographs ..... 11

    3.7 U.S. Geological Survey (USGS) Topographic Map ..... 11

    3.8 Title Report and Right-of-Way Plans ..... 12

    3.9 Flood Control & Oil Survey Maps ..... 12

4.0 SITE RECONNAISSANCE ..... 13

    4.1 Onsite Survey ..... 13

        4.1.1 Buildings ..... 13

        4.1.2 Chemical Materials/Wastes ..... 15

        4.1.3 Refuse & Debris ..... 16

        4.1.4 Site Drainage ..... 17

        4.1.5 Surface Vegetation and Soil Conditions ..... 17

        4.1.6 Water Wells ..... 17

        4.1.7 Utilities ..... 17

        4.1.8 Transformers ..... 17

        4.1.9 Storage Tanks ..... 18

        4.1.10 GPS Data Collection ..... 18

    4.2 Offsite Survey ..... 18

    4.3 Interviews ..... 19

5.0 GOVERNMENTAL AGENCIES - RECORDS REVIEW ..... 21

    5.1 EPA NPL and CORRACTS Listings ..... 21

    5.2 DTSC SPL/SCL Listings ..... 21

    5.3 EPA CERCLIS/NFRAP and TSD Listings ..... 21

    5.4 LUST Listing ..... 21

    5.5 SWLF Listing ..... 21

    5.6 Deed Restriction Properties Report ..... 22

    5.7 CORTESE Listing ..... 22

    5.8 Toxic Pits Listing ..... 22

    5.9 USGS Water Well Listing ..... 22

    5.10 RCRA Violation Listing ..... 22

    5.11 TRIS Listing ..... 22

    5.12 SWRCB UST/AST Listings ..... 22

    5.13 EPA ERNS Listing ..... 22

    5.14 EPA Generator Listing ..... 22

TABLE OF CONTENTS (cont.)

5.15 SPILLS Listing .....23

6.0 RECORDS REVIEW .....24

6.1 CVRWQCB Leaking Underground Storage Tank Information System .....24

6.2 ACEHD .....24

6.3 PG&E .....25

6.4 Amador County Air Pollution Control District.....25

6.5 Amador County Department of Agriculture .....25

6.6 Amador County Building Department .....26

7.0 LIMITED LEAD AND ASBESTOS SURVEYS .....27

7.1 Review of Previous Building Surveys and As-Built Plans .....27

7.2 Limited Asbestos Survey .....27

7.3 Limited Lead-Based Paint Survey .....28

8.0 CONCLUSIONS AND RECOMMENDATIONS .....30

9.0 REPORT LIMITATIONS .....33

FIGURES

1. Vicinity Map
2. Site Plan
3. Equipment Building Detail
4. Geologic Map
5. UST Excavation and Soil Boring Sample Locations Map
6. Hydrocarbon Concentrations in Groundwater-February 2001
7. 1944 Aerial Photo
8. 1964 Aerial Photo
9. 1997 Aerial Photo
- 10a-10c. Historical Site Photos
11. Topographic Map
12. Site Characterization Map
- 13a-13n. Site Photos
14. Utilities Map
15. Potential Hazardous Facilities Map
- 16a-16f. Offsite Photos
17. Lead and Asbestos Sample Locations Map

TABLES

1. UST Excavation Soil and Groundwater Sample Analytical Data
2. Summary of Soil Analytical Data
3. Summary of Soil Analytical Data, CAM 17 Metals
4. Summary of Groundwater Analytical Data
5. Summary of Recognized Environmental Conditions
6. Potential Hazardous Waste Facilities
7. Summary of Asbestos Analytical Data
8. Summary of Lead-Based Paint Analytical Data

APPENDICES

- A. Historical Research Report
- B. Site Information from Previous Environmental Documents
- C. Site Regulatory Permit Information
- D. GPS Data
- E. Interview Transcripts
- F. Vista Recovery Database Report
- G. Offsite Regulatory Information
- H. Asbestos and Lead Survey and Laboratory Analytical Reports

TABLE OF CONTENTS (cont.)

ELECTRONIC MEDIA  
Attached Compact Disc

## LIST OF ACRONYMS

ACAPCD	Amador County Air Pollution Control District
ACBM	Asbestos-Containing Building Materials
ASHERA	Asbestos Hazard Emergency Response Act
ACEHD	Amador County Environmental Health Department
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Total Xylenes
Caltrans	California Department of Transportation
CDF	California Department of Forestry
CDMG	California Division of Mines and Geology
Cal/OSHA	California Occupational Safety and Health Administration
cm	Centimeter
CORRACTS	RCRIS Corrective Action Sites
CVRWQCB	Central Valley Regional Water Quality Control Board
CEG	Certified Engineering Geologist
DHS	Department of Health Services
HUD	Department of Housing and Urban Development
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
FOC	Fuel Oxygenate Compound
GIS	Geographic Information System
GPS	Global Positioning System
Hwy	Highway
ICP	Inductively Coupled Plasma
ISA	Initial Site Assessment
kg	Kilogram
km	Kilometer
LCP	Lead-Containing Paint
LUST	Leaking Underground Storage Tank
LPG	Liquid Propane Gas
MSL	Mean Sea Level
MTBE	Methyl tert-butyl ether
m	Meter
µg/l	Micrograms per liter
mg/kg	Milligrams per kilogram
NIST-NVLAP	National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
PG&E	Pacific Gas & Electric
PLM	Polarized Light Microscopy
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
RCRA	Resource Conservation and Recovery Act
SCL	DTSC Calsites Database
SPL	State Equivalent to NPL
SWIS	Solid Waste Inventory System
SWLF	Solid Waste Landfills
SCDER	Stanislaus County Department of Environmental Resources
TO	Task Order

TPHd	Total Petroleum Hydrocarbons as Diesel
TPHg	Total Petroleum Hydrocarbons as Gasoline
TRIS	Toxic Release Inventory System
TSD	Treatment, Storage and Disposal
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UCD	University of California, Davis
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WMUDS	Waste Management Unit Data System

## **INITIAL SITE ASSESSMENT**

### **EXECUTIVE SUMMARY**

The California Department of Transportation (Caltrans) District 10 - Environmental Engineering Branch retained Geocon Consultants, Inc. to perform an Initial Site Assessment (ISA) of the Pine Grove Maintenance Station. The objective of the ISA was to provide a summary of recognized environmental conditions associated with the former and current facility operations. Caltrans requested the ISA to identify potential onsite and adjacent property environmental impairments that may impact land use planning, the health and safety of onsite personnel, and/or the construction of future onsite improvements. The scope of the ISA included a site reconnaissance, an offsite survey, a review of historical records and environmental documents, asbestos and lead-based paint building surveys, data evaluation and the preparation of this report.

The Site was leased by the State Highway Department possibly as early as 1930 and utilized as a maintenance yard. Improvements included a gas station, a garage and several small buildings prior to purchase by the State and redevelopment as a Caltrans maintenance station in 1959. The Site was later developed in 1981 as a joint use facility with the California Department of Forestry (CDF). Current facility operations generally include the storage and repair of Caltrans vehicles and equipment used for the maintenance of California highways.

The 1959 construction activities included demolition of the existing gas station and garage structures (no information was discovered regarding underground storage tank [UST] removal), asphalt paving, septic tank and leach field installation, the construction of the office and equipment building, the relocation of an office building onto the northern central portion of the Site, a sand bunker built into the slope northeast of the equipment building, wash rack, hydraulic lift, gas house and installation of two 3,800-liter (1,000-gallon) USTs. Subsequent onsite improvements constructed at the Site include a chemical storage building, sand house, material storage bins, domestic well, meteorological shed, hazardous material storage containers, asphalt emulsion aboveground storage tank (AST), resident engineers trailer, replacement of the two 3,800-liter (1,000-gallon) USTs near the southern gas house and installation of covered fuel ASTs near the northern gas house.

Based on interview information obtained from Caltrans, 3,800-liter (1,000-gallon) diesel and gasoline USTs were removed from the north side of the southern gas house in 1983 and replaced with one steel 11,400-liter (3,000-gallon) unleaded gasoline UST on the north side of the gas house, and one fiberglass 37,800-liter (10,000-gallon) diesel UST on the south side of the gas house. Information regarding the 1983 UST removal activities were not available from Caltrans and/or local and state regulatory agencies.

On February 6, 1997 the replacement gasoline and diesel USTs, two dispensers, and associated product piping were removed under the supervision of the Amador County Environmental Health

Department (ACEHD). Upon removal, the tanks were inspected and no evidence of leaks or breaching was reported.

Analytical results of soil samples collected from the gasoline UST excavation indicated maximum concentrations of toluene at 0.057 milligrams per kilogram (mg/kg), ethylbenzene at 0.012 mg/kg, total xylenes at 0.078 mg/kg, and methyl tert-butyl ether (MTBE) at 0.16 mg/kg. Petroleum hydrocarbons were not detected in the soil samples collected from the former diesel UST excavation. Total petroleum hydrocarbons as diesel (TPHd) were detected at a concentration of 50 mg/kg in the soil sample collected beneath the former diesel dispenser. A grab groundwater sample collected from the gasoline UST excavation contained total petroleum hydrocarbons as gasoline (TPHg) at a concentration of 4,800 micrograms per liter ( $\mu\text{g/l}$ ), benzene, toluene, ethylbenzene, and total xylenes (BTEX) at concentrations ranging from 62 to 700  $\mu\text{g/l}$ , and MTBE at a concentration of 1,600  $\mu\text{g/l}$ . Grab groundwater samples collected from the diesel UST excavation contained toluene, total xylenes, and MTBE at concentrations of 0.3, 0.7 and 20  $\mu\text{g/l}$ , respectively.

In accordance with a December 8, 2000 written directive from the Central Valley Regional Water Quality Control Board (CVRWQCB), four groundwater monitoring wells were installed at the Site by Geocon in January, 2001. The wells were advanced to depths of 8.2 to 9.15 meters (m) (27 to 30 feet) below ground surface (bgs). TPHd was reported in one of soil samples analyzed at a concentration of 19 mg/kg. TPHg, BTEX, fuel oxygenate compounds (FOCs), and volatile organic compounds (VOCs) were not reported above their respective method detection limits for any of the soil samples submitted for analysis. CAM 17 Metals were not detected above assumed naturally occurring background levels. TPHg, BTEX, FOCs, and VOCs were not detected in any of the four groundwater samples submitted for analysis with the exception of MTBE detected at concentrations of 18  $\mu\text{g/l}$  in MW-1, 8  $\mu\text{g/l}$  in MW-3, and 94  $\mu\text{g/l}$  in MW-4.

Depth to groundwater measurements obtained from the monitoring wells in February 2001 ranged from 6.55 to 6.96 m (21.50 to 22.85 feet) with flow direction to the south at a gradient of 0.017. The Site is currently subject to CVRWQCB quarterly groundwater monitoring requirements.

Adjacent properties include the CDF facility to the east, Berry Street to the north, Berry Street Auto Dismantlers to the northeast, residential development to the west and Highway (Hwy) 88 and commercial development to the south.

Based on the information presented in this ISA, the following recognized environmental conditions exist at the Site:

- The septic tank and leach field south of the office building.
- The unlined ditches on the eastern and western portions of the Site and drain inlets.

- Waste oil, hydraulic oil, crankcase oil and asphalt emulsion ASTs.
- A 91-centimeter (36-inch) diameter dry well shown on undated as-built plans for the Site beneath the north end of the equipment building. The dry well received discharge from the floor drain in the fourth equipment bay. The dry well was reportedly filled with pea gravel and cement in accordance with county requirements during construction of an addition on the north end of the equipment building.
- The hydraulic lift located in the first bay of the equipment building.
- Wash rack located north of the equipment building.
- Surface soil staining at the end of the hose extending from the 15,200-liter (4,000-gallon) asphalt crack sealer trailer.
- Surface staining observed in the vicinity of the asphalt emulsion cleaning area.
- Four former gasoline and diesel USTs located adjacent to the southern gas house.
- USTs noted on the 1952 site plan and potential soil and/or groundwater impacts associated with the former gas station and garage located at the Site prior to Caltrans purchase of the property.
- Adjacent Pine Grove Auto Dismantlers.

The abandoned in-place dry well beneath the northern end of the equipment building should be properly closed in accordance with Environmental Protection Agency (EPA) and ACEHD requirements.

Groundwater samples should be collected from the out of service onsite domestic well to determine if contamination exists in the well. Based on the analytical results, the well should be properly closed in accordance with ACEHD requirements.

A determination of the extent of potential soil impacts and an assessment of groundwater occurrence and quality associated with the recognized environmental conditions will be necessary prior to evaluating remedial response actions for specific future land use options. Targeted site investigations should be designed to evaluate potential soil and groundwater impacts with respect to specific project requirements prior to design and construction of any proposed onsite improvements. Soil and groundwater generated from excavations at the Site may require treatment and/or disposal.

Pine Grove Auto Dismantlers, located adjacent and northeast of the Site, and the CDF facility, located adjacent and east of the Site, may contribute to contaminated surface water runoff onto the Site during rain events.

A review of previous surveys and the as-built plans, and the results of the building surveys performed at the Site by Geocon, indicate the presence of asbestos-containing building materials (ACBMs) in the office and equipment building. Lead-containing paints (LCPs) were further identified on the sand house, the canopy over the ASTs, the resident engineers trailer and the office and equipment building. Based on our findings, Geocon recommends the following:

- Retain a registered asbestos abatement contractor to remove and dispose of ACBM identified during this survey that will be impacted by renovation or demolition activities.
- Notify contractor(s) that will be conducting renovation work and related activities of the presence of ACBM and LCP in their work areas and instruct the contractor(s) not to disturb ACBM or LCP during their work (i.e., provide the contractor[s] with a copy of this report and a list of ACBM removed by the asbestos abatement contractor during any abatement activities).
- Treat all paints at the Site as lead-containing for purposes of determining the applicability of the California Occupational Safety and Health Administration lead standard during any future maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results, the age of the buildings, and the fact that lead was a common ingredient of paints manufactured before 1978.

Typically, only paints that are peeling, flaking, or have otherwise become separated from their substrate are of concern from a hazardous waste standpoint. The California Department of Toxic Substances Control “does not generally expect intact painted building materials to exhibit a characteristic of hazardous waste when disposed of.” However, construction activities (including demolition) which disturb materials containing any amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8 California Code of Regulations Section 1532.1. Intact lead-painted building materials that are removed/demolished should not require disposal as hazardous waste; however, contractor(s) should characterize painted waste materials prior to disposal.

- Implement interim controls to maintain identified ACBMs and LCPs.

# INITIAL SITE ASSESSMENT

## 1.0 INTRODUCTION

### 1.1 Background

This report presents the results of an Initial Site Assessment (ISA) performed under the California Department of Transportation (Caltrans) Contract No. 43A0012 and Task Order (TO) No. 10-0E790K-7B. The Site consists of the Caltrans Pine Grove Maintenance Station located at 19587 Highway (Hwy) 88 in Amador County, California (see Vicinity Map, Figure 1).

Caltrans District 10 requested this ISA to identify potential onsite and adjacent property environmental impairments that may impact land use planning, the health and safety of onsite personnel, and/or the construction of future onsite improvements.

### 1.2 Purpose

The purpose of the ISA was to provide a summary of recognized environmental conditions associated with the former and current site and adjacent property operations. According to the American Society of Testing and Materials (ASTM) Practice E 1527-00, Section 1.1.1, *the term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.*

Specifically, the objectives of this ISA were to:

- Document the existing site conditions.
- Document the development and historical facility operations at the Site and adjacent facilities.
- Summarize available information and analytical data generated from previous environmental site investigations and remediation activities performed at the Site and adjacent facilities.
- Perform updated asbestos and lead-based paint surveys of the onsite structures.
- Summarize the extent of soil and groundwater impacts at adjacent facilities to evaluate the potential for these facilities to impact the Site.
- Provide recommendations for onsite areas of concern requiring additional site characterization and/or remediation and cleanup activities.

### **1.3    Scope of Work**

Geocon has performed preliminary research and a site reconnaissance to estimate the potential for existing environmental impacts to the Site from the presence of hazardous materials/wastes on or adjacent to the Site. The guidelines used for the definition of hazardous materials/wastes are presented in the California Code of Regulations Title 22.

The ISA services performed are presented as follows:

- Conducted a pre-work meeting on December 15, 2000, attended by Mr. Saiyed Ali with Caltrans and Mr. John Juhrend, Mrs. Rebecca Silva and Ms. Amy Hester of Geocon, to review the subject TO.
- Reviewed the following documents to obtain information regarding the prevailing soil, geologic and groundwater conditions at the Site:
  - *Geologic Map of the Sacramento Quadrangle*, prepared by the California Division of Mines and Geology (CDMG), dated 1981.
  - *Soil Survey of Amador County, California*, prepared by the United States Department of Agriculture (USDA) Soil Conservation Service, dated September 1965.
  - *The Water Quality Control Basin Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region*, third edition 1994.
- Geocon personnel performed an onsite reconnaissance on May 22, 2001 to attempt to identify visual indicators suggestive of the potential presence, as of the date of the site reconnaissance, of hazardous materials/wastes at the Site. These indicators typically include the presence of chemical containers and drums, waste disposal storage areas, industrial facilities, discolored surficial soils, electrical transformers that may contain polychlorinated biphenyls (PCBs), underground/aboveground storage tanks (USTs/ASTs), and areas conspicuously absent of vegetation. Global Positioning System (GPS) data was collected to document the locations of observed site features with the information provided herein in Caltrans compatible Geographic Information System (GIS) format.
- Surveyed adjacent properties from public thoroughfares on May 22, 2001 to attempt to evaluate if adjacent properties possess facilities or structures that were likely to be occupied by entities that potentially use, store, generate, or dispose of hazardous materials/wastes.
- Conducted a personal taped interview with Gary Timmons and a telephone interview with Earl Williams of Caltrans to determine the operational history of the Site.
- Reviewed aerial photographs for the years 1944, 1960, 1971, 1981, 1993 and 1997 available from the USDA Soil Conservation Service in Jackson, California, and Caltrans.
- Reviewed Sanborn Maps for the City of Pine Grove for the years 1911 and 1920. Coverage was not available for the Site.
- Reviewed the United States Geological Survey (USGS) topographic map for the Pine Grove, California, Quadrangle dated 1948 (photoinspected 1973) to obtain topographic information and information relative to previous development of the Site and facilities in the vicinity of the Site.
- Reviewed the following environmental reports prepared for the Site:

- *Final Report, Underground Storage Tank Removal, Pine Grove Maintenance Facility, 19587 Highway 88, Pine Grove California, Amador County*, prepared by Professional Service Industries (PSI), dated June 19, 1997.
- *Site Investigation Report, Pine Grove Maintenance Station, 10-AMA-88-PM 23.15, Amador County, California*, prepared by Geocon, dated March 22, 2001.
- Reviewed a *Site Assessment Plus Report* prepared for Caltrans by Vista Information Systems dated November 20, 2000. The Vista regulatory database search included the following information sources at a search distance of 1.6 kilometers (km) (1 mile):
  - NPL - Environmental Protection Agency (EPA) National Priorities List dated April 2000.
  - CORRACTS - EPA Resource Conservation and Recovery Act (RCRA) Corrective Action Sites List dated March 2000.
  - SPL & SCL - California Department of Toxic Substances Control (DTSC) Calsites Databases dated July 2000.
  - CERCLIS/NFRAP - EPA Databases dated April 2000.
  - RCRIS - TSDC - TSD - EPA Treatment, Storage and Disposal Facilities subject to Corrective Action and Treatment, Storage and Disposal Facilities Lists dated March 2000.
  - LUST - California Regional Water Quality Control Databases dated February 2000 for Region 6 and April 2000 for Region 5 and California EPA Listing dated July 2000.
  - SWLF - California Solid Waste Information System (SWIS) Database dated March 2000, City of Los Angeles Landfills Transfer Stations Database dated April 1999, and State Water Resources Control Board Waste Management Unit Data System (WMUDS) listing dated February 1999.
  - DEED RSTR - California Department of Health Services (DHS) Database dated April 1994.
  - CORTESE - California EPA Database dated April 1998.
  - TOXIC PITS - SWRCB Database dated February 1995.
  - WATER WELLS - USGS Water Wells Database dated March 1998.
  - RCRIS VIOL - EPA Database dated March 2000.
  - TRIS - EPA Database dated January 1998.
  - UST/AST - SWRCB Database dated January 1994/December 1999.
  - ERNS - EPA Database dated August 1999.
  - RCRA - LQG/RCRIS - SQG - EPA Database dated March 2000.
  - SPILLS - Database dated September 1999.
- Reviewed regulatory files and environmental reports available at the Amador County Environmental Health Department (ACEHD) pertaining to UST facilities, and hazardous material/waste storage and waste generation facilities located within the site vicinity. ACEHD files were reviewed to obtain information regarding the nature and extent of potential reported hazardous material/waste releases, and to estimate the potential for the reported releases to impact the Site.
- Reviewed the following as-built plans provided by Caltrans to determine structural features at the Site:
  - *Location of Proposed Pine Grove Maintenance Site to be Acquired from Harold L. Sturr, Road X-AMA 34-C*, dated March 1952.
  - *Master Site Plan, Site #1 at Caltrans Pine Grove Maintenance Station*, dated September 1977.
  - *Project Plans for Construction of Sand Storage Building Adjacent to State Highway in*

*Amador County at the Pine Grove Maintenance Station*, dated July 4, 1979.

- *Project Plan for Installation of 1,500 Gallons Emulsion Tank, Pine Grove Maintenance Station on Highway 88*, dated May 10, 1985.
  - *Emulsion Tank – 1,500 Gallons*, dated June 6, 1985.
  - *Project Development Pine Grove Maintenance Station, Layout L-1*, dated February 26, 1994.
  - *Plan for Pine Grove Maintenance Station*, undated.
  - *Plot Plan for Existing Maintenance Yard, Pine Grove Maintenance Station* undated.
  - *Plan of Pipe Lines & Electrical Lines, Pine grove Maintenance Station*, undated.
- Reviewed the "1993 Munger Map Book" to obtain information regarding the locations of potential oil and gas wells in the site vicinity.
  - Contacted the following public agencies to obtain information regarding the site history and potential and/or existing presence of hazardous materials/wastes at the Site at levels likely to warrant current regulatory mitigation action:
    - California State University, Stanislaus, Library
    - Central Valley Regional Water Quality Control Board (CVRWQCB)
    - Amador County Water Agency
    - Department of Water Resources
    - Pine Grove Volunteer Fire Department
    - ACEHD
    - Amador County Assessors Office
    - Amador County Building Department
    - Amador County Department of Agriculture
    - Amador County Public Library
    - Amador County Records Office
    - Pacific Gas & Electric (PG&E)
    - Amador County Air Pollution Control District (ACAPCD)
  - Reviewed previous building surveys performed at the Site and the as-built plans provided by Caltrans to evaluate the general presence of asbestos containing materials and lead-based paint within the onsite structures. Based on the review, a Geocon Asbestos Hazard Emergency Response Act Certified Asbestos Consultant and California Department of Health Services certified lead-based paint sampler performed updated asbestos and lead-based paint building surveys on June 21, 2001.
  - Reviewed a *Historical Research Report, Pine Grove Maintenance Station*, prepared by Sarah Lim, MS Historian, dated June 18, 2001, to determine the history of the Site and the site vicinity. The Historical Research Report is presented in Appendix A.
  - Prepared this ISA report to summarize the information sources reviewed and to present recommendations regarding additional site characterization.

## **2.0 EXISTING SITE, GEOLOGIC AND GROUNDWATER CONDITIONS**

### **2.1 Existing Site Conditions and Improvements**

The Caltrans Pine Grove Maintenance Station is located at 19587 Hwy 88 in Pine Grove, California. The roughly 2.4-hectare (6-acre) parcel is bounded by the CDF facility to the east, Berry Street to the north, Berry Street Auto Dismantlers to the northeast, residential development to the west and Hwy 88 and commercial development to the south.

The Site consists of an active maintenance facility for the storage and repair of vehicles and equipment used for the maintenance of California highways. Existing improvements include the office and equipment building, a wash rack, sand house, material storage bins, hazardous material storage containers, asphalt emulsion AST, fuel ASTs, gas house, meteorological shed and resident engineers trailer. Portions of the Site to the northeast, north and northwest are unpaved and contain trees and brush. The existing site improvements are depicted on the Site Plan, Figure 2 and Equipment Building Detail, Figure 3.

### **2.2 Soil and Geologic Conditions**

Information concerning the general soil and geologic conditions beneath the Site was obtained from a review of previous reports prepared for the Site and the previously referenced CDMG, USDA and CVRWQCB documents.

The Site is located within the western portion of the Sierra Nevada Mountains, approximately 77 km (48 miles) southwest of Lake Tahoe and approximately 77 km (48 miles) southeast of Sacramento and approximately 67 km (42 miles) northeast of Stockton. The Site is located approximately 9.6 km (6 miles) east of the Melones fault and approximately 5 km (3 miles) west of the Shoo Fly Thrust. Based on drilling activities conducted at the Site, soil and geologic conditions beneath the Site generally consists of fill material overlying bedrock material of the Paleozoic-aged Calaveras Complex. Fill was encountered from the surface to depths ranging from 1.2 to 2.0 m (4 to 6.5 feet) below the ground surface (bgs) in the locations of the former fuel island and former garage. The fill generally consisted of black to red-brown, silty sands to clayey silts, with fine sands and gravels. Underlying the fill was a gray-brown, clayey silt, with some fine sand, resulting from weathering of the underlying bedrock. Soils encountered in the former tank pit consisted of 1.8 centimeter (cm) (0.75 inch) crushed rock to 3.0 m (10 feet) bgs. The bedrock consisted of very hard, blue to black, shale and schist, and was encountered underlying the fill to the maximum depth explored of 9.15 m (30 feet) bgs. A portion of the CDMG geologic map depicting the Site is presented on Figure 4.

Review of the USDA Soil Conservation Service report indicates that the Site is underlain by very rocky loam (Src) and Loamy alluvial Land (Lo). These materials have slow to medium runoff, erosion is slight to moderate and the permeability is variable but moderate in most places.

### **2.3 Groundwater Conditions**

Information sources prepared by the Amador County Water Agency, California Department of Water Resources (DWR) and Geocon were reviewed for information pertaining to groundwater quality and occurrence in the vicinity of the Site.

Groundwater was encountered at depths ranging from 6.5 to 7 m (21.5 to 23 feet) below the top of casing during monitoring well sampling activities performed in January 2001. Groundwater flow was directed to the south at an approximate gradient of 0.017. Copies of the monitoring well logs are presented in Appendix B.

Well completion reports for Amador County were reviewed at the DWR, however, reports for the Site or the adjacent CDF facility were not noted. Public drinking water wells are not reported by the Amador County Water Agency within 0.8 km (0.5 mile) of the Site. Based on the results of a site investigation performed for the Site by Geocon in March 2001, one well is located 175 m (574 feet) north of the Site. The well is owned by A.C.E.S., Inc., a residential and commercial collection and recycling facility. The well is not in use and the type of well is unknown.

The CVRWQCB Basin Plan indicates that the Site is located in the Middle Sierra Hydrologic Unit, Sutter Creek Hydrologic Area of the San Joaquin Hydrogeologic Basin. The Basin Plan further indicates that groundwater occurring within the Sutter Creek Hydrologic Area has “designated beneficial” uses for municipal and domestic supply, agricultural supply, and industrial service and supply purposes.

### **3.0 SITE HISTORY**

#### **3.1 Historical Research Report**

A *Historical Land Use Research Report, Pine Grove Maintenance Station*, prepared by Sarah Lim, MS Historian, dated June 18, 2001 is presented in Appendix A. Review of the report indicates that the Site was owned by Harold L. and Rebecca M. Sturr prior to 1952. In April of 1952, the Sturrs sold approximately 2.3 hectares (5.68 acres) to the State of California. In January 1958, W.D. and Hildred A. Ladd sold 0.05 hectares (0.126 acres) east of the Site to the State of California. In July 1959 the State of California granted the Ladds 0.6 hectares (1.46 acres) as an easement. According to the assessor's map dated 1996, the State of California owns approximately 2.4 hectares (5.9 acres), however, the map does not identify the boundaries of the Site or the adjacent joint use CDF facility. Copies of grant deeds, parcel and right-of-way maps, topographic maps, survey reports and a site plan are presented in Appendix A.

#### **3.2 Previous Environmental Investigations**

Information regarding the use, storage and disposal of hazardous material/waste and previous environmental investigations performed at the Site was obtained from a review of onsite records and information obtained from the Caltrans District 10 office in Stockton, California, and the ACEHD in Jackson, California. Copies of pertinent site-specific information are presented in Appendix B.

On February 6, 1997 one steel 11,400-liter (3,000-gallon) unleaded gasoline UST, one fiberglass 37,800-liter (10,000-gallon) diesel UST, two dispensers, and associated product piping were removed from near the southern gas house under the supervision of the ACEHD. Upon removal, the tanks were inspected and no evidence of leaks or breaching was reported.

Soil samples were collected at the Site under the direction of an ACEHD representative from the bucket of the backhoe. Three soil samples were collected from the south, west, and east sidewalls of the diesel UST excavation (T1-1S, T1-2W, and T1-3E) at approximately 2 m (6.6 feet) bgs. Three soil samples were collected east, west, and north sidewalls of the gasoline UST excavation (T2-1E, T2-2W, and T2-3NB) at approximately 2 m (6.5 feet) bgs. The six soil samples collected from the tank excavations were taken approximately 1 m (3.3 feet) above groundwater, which was encountered approximately 2.9 m (9.6 feet) bgs. One sample was further collected beneath each of the fuel dispensers, gasoline (T2-Disp.) and diesel (T1-Disp.), and one sample was collected from the stockpiled soil (SP-Composite).

Soil samples collected from the gasoline UST excavation contained maximum concentrations of toluene at 0.057 milligrams per kilogram (mg/kg), ethylbenzene at 0.012 mg/kg, total xylenes at 0.078 mg/kg, and methyl tert-butyl ether (MTBE) at 0.16 mg/kg. Soil samples collected from the

former diesel UST did not contain total petroleum hydrocarbons as gasoline (TPHg); total petroleum hydrocarbons as diesel (TPHd); benzene, toluene, ethylbenzene, or total xylenes (BTEX); or MTBE above method detection limits for the respective analytes. TPHd was reported at 50 mg/kg in the soil sample collected beneath the former diesel dispenser.

Three grab groundwater samples were collected under the direction of the ACEHD representative, two from the diesel UST excavation [T1-2(W) and T1-3(W)] and one from the gasoline UST excavation [T2-2(W)]. The groundwater sample collected from the gasoline UST excavation contained TPHg at 4,800 micrograms per liter ( $\mu\text{g/l}$ ), BTEX ranging from 62 to 700  $\mu\text{g/l}$ , and MTBE at 1,600  $\mu\text{g/l}$ . Groundwater samples collected from the diesel UST excavation contained toluene at 0.3  $\mu\text{g/l}$ , total xylenes at 0.7  $\mu\text{g/l}$ , and MTBE at 20  $\mu\text{g/l}$ . UST sample locations are presented on Figure 4. A summary of the tank removal soil and groundwater analytical data is presented in Table 1.

The UST excavations were backfilled with approximately 156,400 kilograms (kg) (172.36 tons) of 1.8 cm (3/4 inch) crushed rock and covered with 10 cm (4 in) thick asphalt. The soil generated during the excavations was subsequently removed from the Site by Wayne Perry Incorporated in July 1997.

In accordance with a December 8, 2000 written directive from the CVRWQCB, four groundwater monitoring wells were installed at the Site by Geocon in January, 2001. The wells were advanced to depths of 8.2 to 9.15 m (27 to 30 feet) bgs. TPHd was reported in one of soil samples analyzed at a concentration of 19 mg/kg. TPHg, BTEX, fuel oxygenate compounds (FOCs), and volatile organic compounds (VOCs) were not reported above their respective method detection limits for any of the soil samples submitted for analysis. CAM 17 Metals were not detected in soil above assumed naturally occurring background levels. The wells were sampled in February 2001. TPHg, BTEX, FOCs, and VOCs were not detected in any of the four groundwater samples submitted for analysis with the exception of MTBE detected at concentrations of 18  $\mu\text{g/l}$  in MW-1, 8.0  $\mu\text{g/l}$  in MW-3 and 94  $\mu\text{g/l}$  in MW-4. Soil boring locations and concentrations are presented on Figure 5. Groundwater concentrations and elevations for the February 2001 sampling event are presented on Figure 6. Cumulative soil and groundwater data generated for the Site are presented on Tables 1 through 4.

### **3.3 Caltrans Site Permits**

In December 1993, the EPA issued Caltrans an Environmental Compliance Agreement Regarding Industrial Injection Wells at Caltrans Maintenance Stations. The agreement outlines Federal Safe Drinking Water Act compliance requirements for facilities that emplace fluids to injection wells. Injection wells regulated by the EPA include bored, drilled or driven shafts or dug holes whose depth is greater than the largest surface dimension and whose principal function is the emplacement of fluids. Three drain inlets (DIs) and one abandoned in-place dry well are located at the Site and are considered injection wells by the EPA as discussed hereinafter in Section 4.1.4 "Site Drainage." The

EPA has required Caltrans to close all Class V industrial injection wells in accordance with the *EPA Region 9 Guidelines for Closure of Shallow Disposal Wells* and applicable state and local regulatory requirements. Use of injection wells is prohibited unless the wells are permitted or authorized by rule. Because none of the Caltrans DIs and dry wells were previously inventoried with the EPA, they were not authorized by rule and violate the Safe Drinking Water Act.

Copies of the EPA Industrial Injection Well Agreement, Underground Storage Tank Permit Applications, a Permit to Operate, Radio Station License, Amador County Air Pollution Control District Authority to Construct Approval Temporary Permit to Operate, a Permit to Operate a Gasoline Dispensing Facility, A Gasoline Dispensing Facility Inspection Report, National Pollution Discharge Elimination System information and a surface water sheet flow map are presented in Appendix C.

### **3.4 Aerial Photographs**

Aerial photographs taken between 1944 through 1993 were reviewed at the USDA Soil Conservation Service office in Jackson, California, and a 1997 photograph was provided by Caltrans. The review was performed to obtain information concerning the history of development on and in the vicinity of the Site. The following observations were noted during the review of the aerial photographs.

**1944 Aerial Photograph.** A review of the monoscopic 1944 aerial photograph indicated that one structure existed in the central portion of the Site. Four structures are located to the east of the structure. A structure, possibly the former gas station and/or the former garage, is located on the southwest portion of the Site. Two structures are located adjacent and west of the Site. Undeveloped land exists to the east and north of the Site. Rural residential is present to the west and Hwy 88 and residential development are present to the south. A copy of the 1944 photograph is presented on Figure 7.

**1960 and 1964 Aerial Photographs.** A review of the 1960 stereoscopic aerial photographs indicated that the structure in the central portion of the Site noted in the 1944 photograph had been removed. The office and equipment building is visible on the eastern portion of the Site. A gas house is present within the southwest portion of the Site, and a drive slab is visible immediately east of the gas house. A graded access road leading to a graded pad was noted east of the equipment building. The former sand bunker was noted north of the office and equipment building. Hwy 88 appeared to be widened and/or repaved. Review of the 1964 photograph indicates that two fuel dispensers were located east of the gas house. Materials were stored in the southwest corner and along the unlined ditch in the western portion of the Site. A stockpile of material, possibly asphalt, was noted south of the equipment building. A fence was noted along the southern and western site boundaries and power lines were noted along the eastern site boundary and across the northern portion of the Site. Additional rural residential development was noted in the site vicinity. A copy of the 1964 photograph is presented on Figure 8.

**1971 Aerial Photographs.** A review of the 1971 stereoscopic aerial photographs indicated similar observations noted in the 1964 photograph. A material stockpile was noted on the southeastern portion of the graded pad.

**1981 Aerial Photographs.** A review of the 1981 stereoscopic aerial photographs indicated similar observations noted in the 1971 photographs. The sand shed was noted north of the equipment building. Two busses are visible near the west property boundary. Structures were noted at the CDF facility adjacent and east of the Site. A graded area and materials/debris indicative of a salvage yard was noted adjacent and north of the Site.

**1993 Aerial Photograph.** Review of the monoscopic 1993 photograph indicated similar observations as noted in the 1981 photographs. Two structures, possibly the meteorologic shed and the asphalt emulsion AST, were noted in the northwest corner of the Site.

**1997 Aerial Photograph.** A review of the 1997 photograph indicates the presence of material storage bins within the northern central portion of the Site and asphalt patches at the former UST locations. The wash rack and chemical storage building were noted north of the equipment building. A copy of the 1997 photograph is presented on Figure 9.

### **3.5 Historical Site Development**

The following information was obtained from review of an Inspection of Maintenance Stations District X dated July 1950, a map of the Location of Proposed Pine Grove Maintenance Site dated 1952, an undated plot plan and a 1977 Master Site Plan. Copies of these documents are presented in Appendix A.

According to the Inspection of Maintenance Stations District X dated July 1950, an area measuring approximately 27 meters by 45 meters (90 feet by 150 feet) was leased by the State for use as a maintenance yard. The improvements consisted of a small frame building used as an office, a small unpainted tool shed, a two car garage with State furnished tank and gas pump (installed approximately 1930) and a small gas and oil house with fuel USTs and two pumps installed by the State in 1943 and 1949.

The 1952 site plan shows a garage and service station in the southern central portion of the Site with associated fuel pumps and two USTs, an “old well” shed located west and adjacent to the Site, and a well and a frame house (former office building) in the northern portion of the Site.

According to the undated plot plan, a house (former house) and shed (former storage shed) were noted in the northern portion of the Site. The plot plan indicates that a fence (current site boundary)

existed between the garage and the house northwest of the garage. A well house was noted in the northeast corner of the plot plan (current CDF facility).

According to the 1977 Master Site Plan, the southern gas house and two 3,800-liter (1,000-gallon) USTs (one gasoline and one diesel) and fuel dispensers were located adjacent and north of the gas house. The equipment building was noted on the eastern portion of the Site. Loading ramps were noted west of the gas house and in the northern portion of the Site. The meteorological shed was noted in the northwest corner of the Site.

### **3.6 Historical Site Photographs**

Photographs dated 1953 indicate that a service station with two fuel dispensers and detached garage occupied the southern portion of the Site. A sign in front of the facility indicates “Pine Grove Maintenance Station.” A single-family residence was located adjacent and west of the current site boundary. The Site was not paved. Photographs dated 1957 indicated the presence of the former office at the southeast corner of the Site. Photographs dated 1959 indicate that the former service station and former garage were not present at the Site. The 1959 photographs further depict construction activities of the equipment building and the southern gas house with two fuel dispensers at the Site. Structures and a water well and tank were noted at the current CDF facility in the 1959 photographs. Undated photographs depict the southern gas house and equipment building at the Site and the former sand bunker located on the current CDF facility. A 1982 photograph depicts the southern gas house and fuel dispensers. Copies of the historical site photos are presented on Figures 10a through 10c.

### **3.7 U.S. Geological Survey (USGS) Topographic Map**

A USGS topographic map dated 1948 (photoinspected 1973) for the Pine Grove, California, Quadrangle was reviewed to obtain information relative to the topography, previous development, and uses of the Site and properties located in the site vicinity. Information obtained from the review of the USGS topographic map is presented hereinafter.

**Site Topography.** A review of the USGS map indicates that the southern portion of the Site is relatively flat at an elevation of approximately 738 m (2,460 feet) above Mean Sea Level (MSL). The eastern and northern portions of the Site increase in elevation to approximately 744 m (2,480 feet) MSL.

**Site Development.** A review of the USGS map indicates that five structures were constructed on or adjacent to the Site, two of these were the former garage and former gas station located near the southern Site boundary. Hwy 88 and residential development was noted adjacent and south of the Site. Residential development was noted along Hwy 88 within the site vicinity. Jackson Creek was noted

approximately 0.16 km (0.1 mile) south of the Site. A copy of the USGS topographic map is presented on Figure 11.

### **3.8 Title Report and Right-of-Way Plans**

As indicated in the Historical Report presented in Appendix A, the Site was owned by Harold L. and Rebecca M. Sturr prior to 1952. In April of 1952, the Sturrs sold approximately 2.3 hectares (5.68 acres) to the State of California. In January 1958, W.D. and Hildred A. Ladd sold 0.05 hectare (0.126 acre) east of the Site to the State of California. In July 1959 the State of California granted the Ladds 0.6 hectare (1.46 acres) as an easement. Review of a 1977 site plan indicates that 0.16 hectare (0.4 acre) of the southwest corner of the Site was granted to James Hanson by the State of California. Copies of title documents obtained from Caltrans are presented in Appendix A.

### **3.9 Flood Control & Oil Survey Maps**

Information obtained from the DWR indicates that the Site is located within Flood Zone X located outside the 500-year flood plain. Flood management regulations or requirements are not mandated for development in this flood zone. A review of the 1993 Munger Map Book indicates that oil or gas wells are not located near the Site.

## 4.0 SITE RECONNAISSANCE

### 4.1 Onsite Survey

Representatives of Geocon performed a site reconnaissance and personnel interview with Mr. Gary Timmons (Lead Worker since 1987) on May 22, 2001. The purpose of the reconnaissance was to survey the existing site conditions to attempt to identify visual indicators of potential hazardous material/waste impacts to the Site. A Site Characterization Map depicting current hazardous material locations and recognized environmental conditions is presented on Figure 12. A summary of the recognized environmental conditions observed and/or documented at the Site is presented on Table 5.

Building locations and existing site conditions are depicted on Figures 2 and 3. Site photographs obtained during the site reconnaissance are presented on Figures 13a through 13n. Information obtained from Caltrans personnel and observations noted during the site reconnaissance are summarized hereinafter.

#### 4.1.1 Buildings

The interiors and exteriors of the following onsite building improvements were observed during the site reconnaissance:

**Office and Equipment Building.** The office and equipment building was built in 1959 and currently includes city water service, electrical service, natural gas, septic, telephone and radio services. Rooms include the supervisor's office and crew room. The wood frame steel wall and roof structure is founded on perimeter concrete footings and slab-on-grade flooring. The office is located on the south end of a five-bay equipment building. A septic tank, leach field and 950- and 3,800-liter (250- and 1,000-gallon) propane ASTs are located south of the office. Rooms include two restrooms, a loft, five equipment bays and a small equipment storage area and mechanics office at the south end of the building. Roll-up steel doors are used at the service vehicle bays. The loft contains file storage and a 228-liter (60-gallon) air compressor. Bay 1 contains an oil collection drum with pump, a 760-liter (200-gallon) waste oil AST, a 570-liter (150-gallon) antifreeze AST installed about 1997, overhead hose reel with drip drain and a hydraulic lift. Bay 2 contains a 380-liter (100-gallon) hydraulic oil AST, two automatic transmission fluid drums on spill scooters, four drums on containment pallets connected to the hose reel in Bay 1 and an absorbent drum and a spill kit. A 760-liter (200-gallon) waste oil AST is located on the exterior wall between Bay 2 and Bay 3. Some spillage is evident on the surface of the asphalt concrete around the waste oil AST. Bay 3 contains an oxy/acetylene flame cutting torch, a flammable storage locker, parts cleaners, parts, gasoline and oil cans, spray paint, a spill kit and a Safety Kleen carburetor cleaner AST. Bay 3 contains a floor drain and grease trap which are reportedly plugged. According to the as-built plans, the contents of the grease trap were transported through a 10-cm (4-inch) pipe to a dry well located approximately 1.5 m (5 feet) north of the equipment building. Bay 4 contains a 114-liter (30-gallon) Safety Kleen parts cleaner unit and a

flammable storage locker. Bay 5 contains parts storage and tools, a large propane cylinder, a room containing tools and parts, and a propane cylinder. In 1989, a mechanics office and parts storage room was added on to the north end of Bay 5. The addition is a slab-on-grade, steel frame and roof, plywood interior building with wall and ceiling insulation. Details of the equipment building are presented on Figure 3. Photographs of the equipment building are presented on Figures 13a and 13b.

**Wash Rack with Canopy.** The wash rack was originally constructed in 1959 and is located north of the equipment building. The washrack canopy, which was constructed in 2000, is of steel construction and supported by six columns and rests on a concrete pad. A 91-cm (36-inch) diameter grate is present in the center of the concrete pad. A 91-cm (36-inch) diameter manhole cover is located east of the grate. Wash water flows from the wash rack to an oil/water separator east of the equipment building. Fluid is then pumped to a water clarifier which was installed in 1995 in the chemical storage building and then is discharged into an unlined ditch to east of the equipment building. Water in the ditch flows south and discharges into a culvert leading to the headwaters of Jackson Creek. A photograph of the wash rack is presented on Figure 13c, Photo No. 5.

**Chemical Storage Building.** This building was constructed around 1998 and is concrete slab-on-grade with cinder block walls and a corrugated steel roof. The building contains a Delta 1000 water maze water clarifier, a Hotsy pressure washer, a spill kit, one 209-liter (55-gallon) and one-76 liter (20-gallon) herbicide spray tanks, one 570-liter (150-gallon) antifreeze AST, 209-liter (55-gallon) drum of ATTACK for asphalt emulsion cleanup, two propane cylinders, one chemical storage locker for pesticide storage, three 19-liter (5-gallon) cans of latex paint and three 19-liter (5-gallon) containers of degreaser. The containers are on spill scooters. Photographs of the chemical storage building are presented on Figures 13c and 13d.

**Sand House.** The sand house was constructed in approximately 1979 and consists of a reinforced concrete wall and foundation asphalt shingle roofed 20 m (66 foot) diameter conical shaped building used to store sand. A photograph of the sand house is presented on Figure 13e, Photo No. 9.

**Resident Engineer Trailer.** The resident engineer trailer was placed at the Site in 1956 and is a mobile trailer utilized as an onsite soils laboratory and nuclear gauge storage. A large delivery van is parked immediately south of the trailer and is also used for nuclear gage storage. A photograph of the resident engineer trailer is presented on Figure 13e, Photo No. 10.

**Material Storage Bins.** This structure was constructed in about 1995 and is comprised of four three-sided concrete material storage bins. The four bins are not covered with a canopy, and have a southerly open front. The storage bins contain aggregate, sand, asphalt, gravel and Crafcoc sealer. Three sand sprayers suspended from steel racks are located immediately east of the material storage bins. A photograph of the material storage bins is presented on Figure 13f, Photo No. 11.

**Southern Gas House.** The southern gas house, constructed in 1959, is a concrete slab-on-grade wood frame steel wall and roof building. The building contains petroleum drums and containers, sign storage and flagging materials. A former fuel island and drive slab are located east of the southern gas house. Asphalt patches from former USTs were noted north of the building. Four groundwater monitoring wells are positioned around the southern gas house. Photographs of the southern gas house are presented on Figures 13f and 13g.

**Meteorological Shed.** The meteorological shed was constructed around 1959 and consists of a steel walled and roofed building operated by the CVRWQCB to monitor weather information. A photograph of the meteorological shed is presented on Figure 13g, Photo No. 14.

**Northern Gas House.** The northern gas house was constructed around 1996 and consists of a slab-on-grade, steel-framing. Kerosene sprayers, two 19-liter (5-gallon) jerry cans, two 10 liter (2.5-gallon) jerry cans, one 209-liter (55-gallon) diesel drum and one 114-liter (30-gallon) crank case oil AST are stored in the building. A photograph of the northern gas house is presented on Figure 13h, Photo No. 15.

#### **4.1.2 Chemical Materials/Wastes**

The wash rack is located north of the equipment building. The wash rack uses a pressure washer to remove dirt and grime material. Sediment is collected in sedimentation barrels beneath the wash rack grate and fluid is transferred to an oil/water separator system which discharges to a water clarifier and then into a unlined ditch east of the equipment building. The oil/water separator is located east of the equipment building and the water clarifier is located in the chemical storage building. The wash rack and oil water separator were constructed in 1959 and the water clarifier was installed in 1998. A photograph of the wash rack is presented on Figure 13c, Photo No. 5. A photograph of the water clarifier is presented on Figure 13d, Photo No. 8. A photograph of the oil/water separator and unlined ditch is presented on Figure 13h, Photo No. 16.

The third bay of the equipment building contains a floor drain and grease trap which are reportedly plugged. According to the as-built plans, the contents of the grease trap were transported through a 10-cm (4-inch) pipe to a dry well located approximately 1.5 m (5 feet) north of the equipment building. A hydraulic lift system is located in the first bay of the equipment building. Spill kits, petroleum drums and ASTs and an overhead oil drip drain are located in the equipment building. Photographs of the hydraulic lift and overhead oil drip drain are presented on Figures 13a. A photograph of the reportedly plugged drain is presented on Figure 13b, Photo No. 3.

A septic tank and accompanying leach field located south of the office are currently in use. The septic system was installed around 1959.

Hazardous materials storage containers used to store self-generated waste and highway refuse are

located on the northern portion of the Site near the material storage bins. Two flammable storage lockers located in the equipment building and one located in the chemical storage building contain parts cleaner, gas and oil cans, and spray paint. A battery storage container is located on the exterior northern wall of the chemical storage building. A photograph of the hazardous material storage containers is presented on Figure 13i, Photo No. 17. A photograph of the battery storage box is presented on Figure 13i, Photo No. 18.

An asphalt-cleaning trough is located in the north central portion of the Site. Asphalt kettles are stored and cleaned in this area. The kettles are cleaned over the trough, and the rinseate is transferred by a drain line extending down slope approximately 6 m (20 feet) into a 209-liter (55-gallon) drum. The asphalt-cleaning drum is reportedly disposed of as hazardous waste. A steel grate and surface staining was noted in this area during the site reconnaissance. A photograph of the asphalt cleaning area is presented on Figure 13j, Photo No. 19.

An empty 15,200 liter (4,000-gallon) asphalt crack sealer trailer from Petroleum Tank Lines is located southeast of the material storage bins. The trailer was reportedly cleaned before being parked at the Site. A hose connected to the bottom of the trailer was noted laying on the unpaved ground surface next to the trailer and stained soil was noted at the end of a hose issuing from the trailer. A photograph of the asphalt trailer and hose is presented on Figure 13j, Photo No. 20.

Two 19-liter (5-gallon) jerry cans, two 10-liter (2.5-gallon) jerry cans and one 209-liter (55-gallon) diesel drum are located within the northern gas house. Petroleum drums and containers are located within the southern gas house. Nuclear gauges are stored in the van parked to the southwest of the resident engineer trailer. A spill kit, one 209-liter (55-gallon) and one-76 liter (20-gallon) herbicide spray tanks, 209-liter (55-gallon) drum of ATTACK for asphalt emulsion cleanup, two propane cylinders, one chemical storage locker for pesticide storage, three 19-liter (5-gallon) cans of latex paint and three 19-liter (5-gallon) containers of degreaser are located in the chemical storage building.

Chemicals contained in the onsite ASTs are discussed hereinafter in Section 4.1.9 “Storage Tanks.”

#### **4.1.3 Refuse & Debris**

A metal trash bin containing scrap steel, an abandoned generator and surplus wood bridging shores from the Loma Prieta earthquake are located on the northern portion of the Site west of the resident engineers trailer. Treated wood is stored under a canopy west of the material storage bins. Empty drums and pipe are stored south of the meteorological shed. Vehicles and unused scrapers and trailers are stored along the unlined ditch on the western portion of the Site. Photographs of the materials stored at the Site are presented on Figures 13k and 13l.

#### **4.1.4 Site Drainage**

Surface water collects in unlined ditches on the western and eastern site boundaries and leaves the Site as sheet flow to the south. The western ditch has several silt bags to filter transported materials and reduce water flow speed. Three DIs are located on the southern portion of the Site, two on the southern site boundary and one northwest of the southern gas house. Two corrugated metal pipelines extending from the CDF facility transport surface water from the CDF facility into the unlined ditch on the eastern site boundary. All surface water flow leaving the site flows into the headwaters of Jackson Creek. A photograph of the eastern unlined ditch can be viewed in Figure 13h, Photo No. 16. A photograph of the western unlined ditch is presented on Figure 13m, Photo No. 25.

A 91-centimeter (36-inch) diameter dry well shown on undated as-built plans for the Site beneath the north end of the equipment building. The dry well received discharge from the floor drain in the fourth equipment bay. The dry well was reportedly abandoned in-place in accordance with the county with pea gravel and concrete during construction of the equipment building addition at the north end of the equipment building. The depth of the dry well is unknown.

#### **4.1.5 Surface Vegetation and Soil Conditions**

Onsite vegetation includes several trees, brush and weeds along the eastern, northern and western portions of the Site. Onsite vegetation appeared healthy and did not display evidence of stress. Discolored or stained soils were noted at the end of the hose leading from the 15,200-liter (4,000-gallon) asphalt crack sealer trailer. A small amount of stained soil was observed near the asphalt emulsion AST.

#### **4.1.6 Water Wells**

One water well is located at the Site north of the western unlined ditch. The well has visible casing protruding from the ground and is reportedly capable of operation, however, the well is no longer used. Details regarding the well construction and/or related groundwater analytical data were not available from Caltrans, the ACEHD or the DWR.

#### **4.1.7 Utilities**

The Site is equipped with city water service provided by the Amador County Water Agency, electrical service provided by Pacific Gas & Electric (PG&E), natural gas, radio, and telephone services. DIs located at the Site transport storm water to Jackson Creek. A septic tank and associated leach field located south of the office are currently in use. No problems were noted nor reported for the septic system. A radio tower is located at the southeast corner of the office and equipment building. A Utilities Map is presented on Figure 14.

#### **4.1.8 Transformers**

One pole-mounted transformer is located near the western site boundary near the debris storage area. Leakage and surface stains beneath the transformer were not noted. A photograph of the transformer is

presented on Figure 13m, Photo No. 26.

#### **4.1.9 Storage Tanks**

One 3,800-liter (1,000-gallon) gasoline AST and one 38,000-liter (10,000-gallon) diesel AST are located on the northern site boundary. The ASTs were installed in 1996 and are covered by a canopy. A 5,700-liter (1,500-gallon) asphalt emulsion AST is located west of the fuel ASTs. The asphalt emulsion AST was built in 1985 and is placed on a concrete slab and is surrounded by a 0.6 m (2 feet) high cinderblock wall that was constructed in 2000. A 1,520-liter (400-gallon) fiberglass United States Marine Corps water tank, a 1,900-liter (500-gallon) unused diesel AST and a 380-liter (100-gallon) hydraulic oil AST are located to the south of the asphalt crack sealer trailer. Two (950 and 3,800-liter, [250 and 1,000-gallon]) liquid propane gas (LPG) ASTs are located south of the office building. A 760-liter (200-gallon) waste oil AST, a 570-liter (150-gallon) antifreeze AST and a 380-liter (100-gallon) hydraulic oil AST are located in the equipment building. A 760-liter (200-gallon) waste oil AST is located on the exterior eastern wall of the equipment building. A 570-liter (150-gallon) antifreeze AST is located in the chemical storage building. A photograph of the asphalt emulsion AST is presented on Figure 13f, Photo No. 11. A photograph of the fuel ASTs is presented on Figure 13h, Photo No. 15. A photograph of the water, hydraulic oil and diesel ASTs south of the asphalt trailer is presented on Figure 13n, Photo No. 27. A photograph of the waste oil AST east of the equipment building is presented on Figure 13n, Photo No. 28.

#### **4.1.10 GPS Data Collection**

The location of hazardous materials located at the Site was recorded utilizing GPS technology. Geocon utilized a Trimble® Pathfinder Pro XRS™ portable GPS data collection unit to locate the coordinates of areas of concern. The system utilizes signals from up to eight available satellites to locate points with sub-meter (less than one meter) accuracy. A summary of the GPS information is presented in Appendix D.

#### **4.2 Offsite Survey**

In addition to the onsite reconnaissance, a representative of Geocon performed a survey of properties within the site vicinity from public thoroughfares to assess if facilities and/or structures located on these properties are operated by entities that potentially (as of February 15, 2001) use, store, generate, or dispose of hazardous materials/wastes. Locations of facilities with map identification numbers (Map ID Nos.) are depicted on Figure 15. Offsite photographs obtained during the offsite reconnaissance are presented on Figures 16a through 16f.

The CDF facility (Map ID No. 2), located adjacent and east of the Site, was used as a joint use facility with Caltrans. A structure, water well and water tank were noted at the CDF facility in 1959 photographs, however, it is unknown when the facility was used by Caltrans. The two-story CDF facility has a wash rack that drains to a leach field on the southern portion of the CDF facility. The facility has a 4,750-liter (1,250-gallon) diesel AST, a 950-liter (250-gallon) gasoline AST and a

3,800-liter (1,000-gallon) LPG AST. A corrugated metal pipe catches sheet flow from the upper paved area of the facility and discharges into the unlined ditch on the eastern part of the Site. A reportedly capped water well is located at the northeast corner of the facility. The facility has a hose cleaning rack that drains onto the pavement surface, a 120x120x120 cm (4x4x4 feet) deep water filled crew training tank and a septic tank and leach field north of the wash rack that drains to the northwest. One pole-mounted transformer is located in the northeast corner of the CDF facility and one pole-mounted transformer is located north of the former Caltrans sand bunker. An additional transformer is located south of the CDF and Caltrans boundary. Photographs of the CDF facility are presented on Figures 16a through 16c.

Pine Grove Auto Dismantlers (Map ID No. 1) is located adjacent and northeast of the Site. Bales of hay are located on the boundary between the facility and the Site to retard surface drainage onto the Site. Light industrial development was noted north of Berry Street and residential development was noted west of the Site. Residential and commercial development was noted along Hwy 88. Two pole-mounted transformers were noted adjacent and south of the Site boundary. Photographs of the referenced facilities are presented of Figures 16d and 16f.

### **4.3 Interviews**

Geocon performed a taped interview with Gary Timmons on May 22, 2001. Mr. Timmons is a Caltrans lead worker and has worked at the Site since 1987. A telephone interview was conducted with Earl Williams, former site superintendent, on September 5, 2001. A transcript of the taped interview is presented in Appendix E.

Based on the information obtained from Mr. Timmons, the Site is utilized for routine maintenance and storage for vehicles and equipment. Mr. Timmons indicated that he thought the Site was constructed in the early 1950s. A canopy was built over the wash rack last year. Mr. Timmons believes the oil and water separator was constructed with the original building. One diesel UST and one gasoline UST were replaced around 1987 and removed about eight years ago. There have been some emulsion spills in the range of 38 to 76 liters (10 to 20 gallons), and these were soaked up with sand and spread onto road shoulders. The sand house was built in the late 1970s or early 1980s. They used to burn wood debris in the back part of the yard, but that area has since been excavated and removed during construction. Their batteries are kept in a container, and they have a hazardous materials storage area. There is an auto storage wrecking yard to the northeast of the Site. The old office building, which was located on the north central portion of the Site, was burned down in 1989 or 1990, and the original sand bunker was removed. The CDF next door has ASTs. There is one drain in the equipment building that has been plugged since 1987. They sometimes spray with roundup in the spring for weed control. There have been no major petroleum spills. They are on city water with the Amador County Water Agency since the late 1970s. A septic tank and leach field are present south of the office. An unlined ditch to the east of the equipment building collects clarified water and DI water, and there are silt bags in the ditch. There is a transformer on a pole by Hwy 88 and a hydraulic lift in the first truck bay. There have been no

previous environmental studies except for when the monitoring wells were installed. Prior to the installation of the waste oil AST, oil was stored in 209-liter (55-gallon) drums.

Based on the information obtained from Mr. Williams, the dry well located beneath the parts storage room in the north end of the equipment building was filled with pea gravel and concrete in accordance with county requirements during construction activities in approximately 1990. Mr. Williams did not recall any soil or groundwater samples collected during the closure activities. Mr. Williams has knowledge of the former gas station at the Site prior to the development as a Caltrans station; however, Mr. Williams did not recall details of the facility. Mr. Williams indicated that, to his knowledge, no spills occurred at the adjacent CDF and auto dismantlers that may have impacted the Site.

## **5.0 GOVERNMENTAL AGENCIES - RECORDS REVIEW**

A Vista regulatory database report provided by Caltrans, and previously referenced in the "Scope of Work" section of this report, was reviewed for information regarding the potential existing presence of hazardous materials/wastes at the Site or adjacent facilities at levels likely to warrant current regulatory mitigation action. The Vista regulatory database search included information sources at a search distance of 1.6 km (1 mile) from the Site. However, several discrepancies regarding facility locations were identified during the offsite reconnaissance. Therefore, for the purposes of this report, information summarized hereinafter references facilities located within 0.4 km (0.25 mile) of the Site as noted during the offsite reconnaissance. Additional information regarding facilities with map identification numbers (Map ID Nos.) is discussed hereinafter in Section 6.0 "Records Review" unless otherwise noted. The potentially hazardous waste facilities located within the site vicinity are summarized on Table 6, Potential Hazardous Waste Facilities. A copy of the Vista report is presented in Appendix F.

### **5.1 EPA NPL and CORRACTS Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the EPA National Priority Listing (NPL) or the RCRA Corrective Actions (CORRACTS) Listings for required financial responsibility for treatment, storage, and disposal of hazardous wastes.

### **5.2 DTSC SPL/SCL Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the DTSC State Priority List (SPL). Two facilities, the Site and the Pine Grove Stage Stop (76 Station) (Map ID No. 3), located approximately 0.4 km (0.25 mile) east of the Site, are referenced on the State CERCLIS (SCL) listing.

### **5.3 EPA CERCLIS/NFRAP and TSD Listings**

Review of the Vista report indicates that no facilities are referenced on the EPA CERCLIS/NFRAP or TSD Listings within 1.6 km (1 mile) of the Site.

### **5.4 LUST Listing**

Review of the Vista report indicates that the Site is referenced on the LUST Listing, and no facilities are referenced within 1.6 km (1 mile) of the Site.

### **5.5 SWLF Listing**

Review of the Vista report indicates that two facilities, the Amador County Environmental, Pine Grove Public Refuse Transfer Station facility (Map ID No. 5) located approximately 0.4 km (0.25 mile) northeast of the Site, and the Petersen Ranch Subdivision located approximately 0.6 km (0.4 mile) south of the Site are referenced on the Solid Waste Landfill Facility (SWLF) Listing within 1.6 km (1 mile) of the Site.

## **5.6 Deed Restriction Properties Report**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Deed Restriction Properties Report.

## **5.7 CORTESE Listing**

Review of the Vista report indicates that the Site and the Former We Serve Gas Station (Beacon) (Map ID No. 4), approximately 0.4 km (0.25 mile) west of the Site, are referenced on the CORTESE Listing.

## **5.8 Toxic Pits Listing**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Toxic Pits Listing.

## **5.9 USGS Water Well Listing**

Review of the Vista report indicates that no water wells are referenced within 1.6 km (1 mile) of the Site on the USGS Water Well Listing.

## **5.10 RCRA Violation Listing**

Review of the Vista report indicates no facilities located within 1.6 km (1 mile) of the Site are referenced on the RCRA Violation Listing for treatment, storage and disposal of hazardous wastes.

## **5.11 TRIS Listing**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Toxic Release Inventory System (TRIS) Listing.

## **5.12 SWRCB UST/AST Listings**

Review of the Vista report indicates that the Site, the Amador County Environmental, Pine Grove Public Refuse Transfer Station facility (Map ID No. 5), located at 14390 Walnut Street, approximately 0.32 km (0.2 mile) northeast of the Site, the Former We Serve (Beacon) Gas Station (Map ID No. 4) located approximately 0.4 km (0.25 mile) west of the Site, the Pine Grove Stage Stop 76 Station (Map ID No. 3) located approximately 0.4 km (0.25 mile) east of the Site, the Pine Grove Elementary School located approximately 0.6 km (0.4 miles) east of the Site, and the Pine Grove Station located approximately 0.8 km (0.5 mile) east of the Site are referenced on the SWRCB UST/AST Listings.

## **5.13 EPA ERNS Listing**

Review of the Vista report indicates no incidents were referenced within 1.6 km (1 mile) of the Site on the EPA Emergency Response and Notification System (ERNS) Listing.

## **5.14 EPA Generator Listing**

Review of the Vista report indicates that the Site is referenced as a small quantity generator.

### **5.15   SPILLS Listing**

Review of the Vista report indicates that no facilities are referenced within 0.4 km (0.25 mile) of the Site and one facility located within 1.6 km (1 mile) of the Site is referenced on the SPILLS Listing.

## 6.0 RECORDS REVIEW

Public agencies previously specified in the "Scope of Work" section of this report were contacted to obtain information regarding the potential existing presence of hazardous materials/wastes at the Site at levels likely to warrant current regulatory mitigation action. Unless otherwise noted, information was obtained for the Site and adjacent facilities. The information obtained from public agencies is summarized hereinafter.

### 6.1 CVRWQCB Leaking Underground Storage Tank Information System

A review of the CVRWQCB Leaking Underground Storage Tank Information System dated April 2001 indicates that the Site is referenced for the release of gasoline to an aquifer used for drinking water. Quarterly monitoring is currently underway at the Site. The following UST cases are referenced within 0.8 km (0.5 mile) of the Site:

- Pine Grove Station, located at 20080 Hwy 88, approximately 0.8 km (0.5 mile) west of the Site, is referenced for the release of gasoline. A site assessment is currently underway. Based on the distance of this facility from the Site, this facility has a low potential of impacting the Site.
- Former We Serve Gas Station (Beacon) (Map ID No. 4), located at 19444 Hwy 88, approximately 0.4 km (0.25 mile) west of the Site, is referenced for the release of gasoline to an aquifer used for drinking water. The case is closed. Based on the distance and closure status of this facility, this facility has a low potential of impacting the Site.

### 6.2 ACEHD

Regulatory file information obtained from the ACEHD is summarized in this section. Locations of the referenced facilities are presented on Figure 15. Photographs of offsite facilities are presented in Figures 16a through 16f. Facilities referenced in this section are presented on Table 6, Potential Hazardous Waste Facilities. Copies of the offsite regulatory file information obtained during review are presented in Appendix G.

**Pine Grove Auto Dismantlers, 19601 Berry Street (Map ID No. 1)**. A review of the case file information indicates that a Hazardous Materials Permit Application dated November 9, 1995 and a Hazardous Materials Release Response Plan was submitted for this facility located adjacent and northeast of the Site. A hazardous materials inventory form indicates that waste fluid storage of petroleum hydrocarbons is stored in drums in the northern corner of the facility. A site plan indicates that this facility has a septic tank and leach field. Based on the adjacent and uphill location, and historical and current dismantling operations, this facility has a moderate to high potential of impacting the surface water and soil at the Site.

**CDF Facility, 19597 Hwy 88 (Map ID No. 2)**. A case file for this facility located adjacent and east of the Site was not available at the ACEHD. USTs have reportedly not been located at this facility; however, a gasoline/diesel split AST is currently located at the facility. Based on the lack of reported groundwater or soil contamination at this facility, this facility has a low potential of impacting the soil and groundwater beneath the Site.

**Pine Grove Stage Stop (76 Station), 19766 Hwy 88 (Map ID No 3).** A review of the case file information indicates that a UST Inspection Report dated November 1, 2000 indicated that two USTs in compliance with the State and Federal 1998 tank upgrade requirements are located at this facility, approximately 0.4 km (0.25 mile) east of the Site. Based on the lack of reported groundwater or soil contamination at this facility, this facility has a low potential of impacting the Site.

**Former We Serve Gas Station (Beacon), 19444 Hwy 88 (Map ID No. 4).** A review of the case file information indicated that a Quarterly Monitoring Report Second Quarter 1999 and Request for Closure report from Applied Engineering Geology, Inc., dated July 15, 1999, was submitted for this facility located approximately 0.4 km (0.25 mile) west of the Site. The report indicated that trace concentrations of TPHg and MTBE detected in the groundwater at the facility is no longer a threat to human health and the environment. On December 7, 1999, the CVRWQCB issued a No Further Action regarding the Former We Serve Gas Station. Based on the distance and the closure status of the facility, this facility has a low potential of impacting the Site.

**Amador County Environmental (Pine Grove Public Refuse Transfer Station), 14390 Walnut Street (Map ID No. 5).** A review of the case file information indicates that a Hazardous Materials Business Plan Inspection Report dated December 2000 was submitted for this facility located approximately 0.32 km (0.2 mile) northeast of the Site. Violations for the facility noted by the ACEHD during the inspection included the lack of monitoring and inspection of the diesel AST, inadequate number of spill kits and poor condition of battery storage units. Hazardous materials inventory forms indicated the storage of a 11,400-liter (3,000-gallon) diesel AST, one 3,800-liter (1,000-gallon) waste oil AST, drums of motor oil and a Safety Kleen container. Based on the distance and the lack of reported groundwater or soil contamination at this facility, this facility has a low potential of impacting the Site.

### **6.3 PG&E**

Information obtained from PG&E indicates that three transformers were identified on or adjacent to the Site. One pole-mounted transformer that serves Caltrans was installed in 1961, one pole-mounted transformer was installed in 1959 and one pole-mounted transformer that serves the CDF facility was installed in 1980. PG&E did not indicate the exact locations of the transformers. Based on the installation dates, each of the three transformers may potentially contain PCBs; however, it is least likely that the transformer installed in 1980 contains PCBs. PG&E further indicated that PCBs were not suspected to be found in the transformers; however, the contents of the transformers can be tested upon request for a nominal fee.

### **6.4 Amador County Air Pollution Control District**

Information obtained from the ACAPCD indicates that the Site is permitted to operate as a gasoline dispensing facility with a phase I and II vapor recovery system. A copy of the permit is presented in Appendix C.

### **6.5 Amador County Department of Agriculture**

Information received from the Amador County Department of Agriculture indicates that the Site may have consisted of forested land. Apple or peach orchards were probably located on the hillside approximately 4 km (0.25 mile) east of the Site.

## **6.6 Amador County Building Department**

Information obtained from the Amador County Building Department indicates that a permit to install two fuel ASTs was submitted in September 1996. A copy of the building application is presented in Appendix C.

## **7.0 LIMITED LEAD AND ASBESTOS SURVEYS**

Geocon performed a limited survey of suspect asbestos-containing building materials (ACBMs) and lead-containing paints (LCP) at the Site to evaluate the potential disturbance of these materials during renovation or demolition activities at the facility. Suspect ACBM and LCP sample locations are illustrated in Figure 17. ACBM and LCP bulk sample results are presented in Tables 7 and 8, respectively. Laboratory analytical data are included as Appendix H.

### **7.1 Review of Previous Building Surveys and As-Built Plans**

Geocon performed a review of previous surveys conducted at the Pine Grove Maintenance Station prior to the site visit. Assumed ACBM and LCP quantities and locations were reviewed and compared with onsite conditions at the time of the Geocon building surveys. The following materials were assumed to be asbestos-containing in previous surveys:

- Gypsum board walls;
- Resilient floor sheeting;
- Window putty;
- Asphalt roofing tiles;
- Resilient floor tiles; and
- Wall base coving.

### **7.2 Limited Asbestos Survey**

Geocon's procedures for the building inspection and bulk asbestos sampling are discussed below:

- Conducted a walkthrough inspection of building interiors and exteriors to identify suspect ACBMs that were visually apparent at the time of our survey.
- Recorded the location of and quantified each type of suspect ACBM identified during the building survey. Suspect ACBM were inventoried and quantified by building location.
- Collected representative bulk samples of suspect ACBM using the EPA Asbestos Hazard Emergency Response Act (AHERA) protocol as follows:
  - One to three samples per miscellaneous material
  - Three samples of each type of thermal system insulation
  - Samples of *friable surfacing* materials according to the 3/5/7 rule based on quantity of material [3 samples of each material comprising less than 90 square meters (1,000 square feet), 5 samples of each material comprising 90 to 450 square meter (1,000 to 5,000 square feet), and 7 samples of each material comprising more than 450 square meters (5,000 square feet)]
  - Samples of nonfriable surfacing materials as deemed appropriate by the inspector
- Collected bulk samples after first wetting the material with a light mist of water. The samples were then cut from the substrate and transferred to a labeled container. The presence of resilient

flooring materials concealed under carpeting was checked in several representative locations. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).

- Relinquished the bulk samples to a laboratory accredited by the CDHS and the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis.

Polarized light microscopy (PLM) analysis of bulk asbestos samples collected from the building interiors and exteriors by Geocon revealed the presence of asbestos in concentrations greater than 1% in mastic associated with cream colored, 30 by 30-cm floor tile used in the office and equipment building.

In addition, Marlite™ wall panels and associated mastic used in the office and equipment building restrooms were not sampled and are *assumed* to contain asbestos. Sampling activities would have significantly damaged the materials in question and would likely have contributed to the potential release of asbestos fibers into occupied areas of the building.

The approximate sampling locations are depicted in Figure 17. ACBM identified during previous surveys were observed to be in good condition. Table 7 includes the following information, which is presented for each suspect ACBM type:

- Approximate quantity of material
- Physical assessment of the material, including friability and existing condition
- Locations where materials are located
- Asbestos content (% and type)

### **7.3 Limited Lead-Based Paint Survey**

Geocon's procedures for the suspect LCP sampling are discussed below:

- Conducted a walkthrough inspection of building interiors and exteriors to identify suspect LCP that were visually apparent at the time of our assessment.
- Recorded the location of each type of suspect LCP identified during the building inspection.
- Collected representative bulk samples of suspect LCP using techniques presented in the United States Department of Housing and Urban Development (HUD) guidelines.
- Relinquished the bulk samples to a laboratory accredited by the CDHS and the NIST-NVLAP for lead analysis.

Atomic absorption analysis of bulk paint samples revealed the presence of lead at concentrations ranging from less than 100 to 18,000 mg/kg in buildings at the Site.

The approximate sampling locations are depicted in Figure 17. LCP at the Site were observed to be in good condition during the survey. Table 8 includes the following information, which is presented for each suspect LCP type:

- Paint color,
- Buildings where LCP is located,
- Approximate quantity of each LCP,
- Lead content (% weight).

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

The Site was leased by the State Highway Department possibly as early as 1930 and utilized as a maintenance yard. Improvements included a gas station, a garage and several small buildings prior to purchase by the State and redevelopment as a Caltrans maintenance station in 1959. The Site was later developed in 1981 as a joint use facility with the CDF. Current facility operations generally include the storage and repair of Caltrans vehicles and equipment used for the maintenance of California highways.

The 1959 construction activities included demolition of the existing gas station and garage structures (no information was discovered regarding UST removal), asphalt paving, septic tank and leach field installation, the construction of the office and equipment building, the relocation of an office building onto the northern central portion of the Site, a sand bunker built into the slope northeast of the equipment building, wash rack, hydraulic lift, gas house and installation of USTs. Subsequent onsite improvements constructed at the Site include a chemical storage building, sand house, material storage bins, domestic well, meteorological shed, hazardous material storage containers, asphalt emulsion AST, resident engineers trailer, replacement of the two 3,800-liter (1,000-gallon) USTs near the southern gas house and installation of covered fuel ASTs near the northern gas house.

Based on interview information obtained from Caltrans, 3,800-liter (1,000-gallon) diesel and gasoline USTs were removed from the north side of the southern gas house in 1983 and replaced with one steel 11,400-liter (3,000-gallon) unleaded gasoline UST on the north side of the gas house, and one fiberglass 37,800-liter (10,000-gallon) diesel UST on the south side of the gas house. Information regarding the 1983 UST removal activities were not available from Caltrans and/or local and state regulatory agencies.

On February 6, 1997 the replacement gasoline and diesel USTs, two dispensers, and associated product piping were removed under the supervision of the ACEHD. Upon removal, the tanks were inspected and no evidence of leaks or breaching was reported.

Analytical results of soil samples collected from the gasoline UST excavation indicated maximum concentrations of toluene at 0.057 mg/kg, ethylbenzene at 0.012 mg/kg, total xylenes at 0.078 mg/kg, and MTBE at 0.16 mg/kg. Petroleum hydrocarbons were not detected in the soil samples collected from the former diesel UST excavation. TPHd were detected at a concentration of 50 mg/kg in the soil sample collected beneath the former diesel dispenser. A grab groundwater sample collected from the gasoline UST excavation contained TPHg at a concentration of 4,800 µg/l, BTEX at concentrations ranging from 62 to 700 µg/l, and MTBE at a concentration of 1,600 µg/l. Grab groundwater samples collected from the diesel UST excavation contained toluene, total xylenes and MTBE at concentrations of 0.3, 0.7 and 20 µg/l, respectively.

In accordance with a December 8, 2000 written directive from the CVRWQCB, four groundwater monitoring wells were installed at the Site by Geocon in January, 2001. The wells were advanced to depths of 8.2 to 9.15 m (27 to 30 feet) bgs. TPHd was reported in one of soil samples analyzed at a concentration of 19 mg/kg. TPHg, BTEX, FOCs, and VOCs were not reported above their respective method detection limits for any of the soil samples submitted for analysis. CAM 17 Metals were not detected above assumed naturally occurring background levels. TPHg, BTEX, FOCs, and VOCs were not detected in any of the four groundwater samples submitted for analysis with the exception of MTBE detected at concentrations of 18 µg/l in MW-1, 8.0 µg/l in MW-3 and 94 µg/l in MW-4.

Depth to groundwater measurements obtained from the monitoring wells in February 2001 ranged from 6.55 to 6.96 m (21.50 to 22.85 feet) with flow direction to the south at a gradient of 0.017. The Site is currently subject to CVRWQCB quarterly groundwater monitoring requirements.

Adjacent properties include the CDF facility to the east, Berry Street to the north, Berry Street Auto Dismantlers to the northeast, residential development to the west and Hwy 88 and commercial development to the south.

Based on the information presented in this ISA, the following recognized environmental conditions exist at the Site:

- The septic tank and leach field south of the office building.
- The unlined ditches on the eastern and western portions of the Site and DIs.
- Waste oil, hydraulic oil, crankcase oil and asphalt emulsion ASTs.
- A 91-centimeter (36-inch) diameter dry well shown on undated as-built plans for the Site beneath the north end of the equipment building. The dry well received discharge from the floor drain in the fourth equipment bay. The dry well was reportedly abandoned in-place with pea gravel and cement in accordance with county requirements during construction of an addition at the north end of the equipment building.
- The hydraulic lift located in the first bay of the equipment building.
- Wash rack located north of the equipment building.
- Surface soil staining at the end of the hose extending from the 15,200-liter (4,000-gallon) asphalt crack sealer trailer.
- Surface staining observed in the vicinity of the asphalt emulsion cleaning area.
- Four former gasoline and diesel USTs located adjacent to the southern gas house.
- USTs noted on the 1952 site plan and potential soil and/or groundwater impacts associated with the former gas station and garage located at the Site prior to Caltrans purchase of the property.
- Adjacent Pine Grove Auto Dismantlers.

The abandoned in-place dry well beneath the northern end of the equipment building should be properly closed in accordance with Environmental Protection Agency (EPA) and ACEHD requirements.

Groundwater samples should be collected from the out of service onsite domestic well to determine if contamination exists in the well. Based on the analytical results, the well should be properly closed in accordance with ACEHD requirements.

A determination of the extent of potential soil impacts and an assessment of groundwater occurrence and quality associated with the recognized environmental conditions will be necessary prior to evaluating remedial response actions for specific future land use options. Targeted site investigations should be designed to evaluate potential soil and groundwater impacts with respect to specific project requirements prior to design and construction of any proposed onsite improvements. Soil and groundwater generated from excavations at the Site may require treatment and/or disposal.

Pine Grove Auto Dismantlers, located adjacent and northeast of the Site, and the CDF facility, located adjacent and east of the Site, may contribute to contaminated surface water runoff onto the Site during rain events.

A review of previous surveys and the results of the building surveys performed at the Site by Geocon, indicate the presence of ACBMs in the office and equipment building. LCPs were identified in the office and equipment building, the resident engineers trailer and the canopy over the gasoline and diesel ASTs. Based on our findings, Geocon recommends the following:

- Retain a registered asbestos abatement contractor to remove and dispose of ACBM identified during this survey that will be impacted by renovation or demolition activities.
- Notify contractor(s) that will be conducting renovation work and related activities of the presence of ACBM and LCP in their work areas and instruct the contractor(s) not to disturb ACBM or LCP during their work (i.e., provide the contractor[s] with a copy of this report and a list of ACBM removed by the asbestos abatement contractor during any abatement activities).
- Treat all paints at the Site as lead-containing for purposes of determining the applicability of the California Occupational Safety and Health Administration (Cal/OSHA) lead standard during any future maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results, the age of the buildings, and the fact that lead was a common ingredient of paints manufactured before 1978.

Typically, only paints that are peeling, flaking, or have otherwise become separated from their substrate are of concern from a hazardous waste standpoint. The California Department of Toxic Substances Control (DTSC) “does not generally expect intact painted building materials to exhibit a characteristic of hazardous waste when disposed of.” However, construction activities (including demolition) which disturb materials containing any amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8 California Code of Regulations (CCR) Section 1532.1. Intact lead-painted building materials that are removed/demolished should not require disposal as hazardous waste; however, contractor(s) should characterize painted waste materials prior to disposal.

- Implement interim controls to maintain identified ACBMs and LCPs.

## **9.0 REPORT LIMITATIONS**

This initial site assessment report has been prepared for Caltrans in accordance with Task Order No. 10-0E790K-7B. The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Therefore, the information contained herein is only valid as of the date of the report, and will require an update to reflect recent records/site visits.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions presented in this report are predicated on the site reconnaissance and building surveys, a review of the specified regulatory records, and a review of the historical usage of the Site, as presented in this report. The Client should also understand that lead in drinking water, radon and methane gas surveys were not included in the scope of services for this report. The scope of the lead-based building surveys did not include sampling frequencies in accordance with HUD guidelines.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warrantee of the results of the ISA is implied within the intent of this report or any subsequent reports, correspondence or consultation, either expressed or implied. Geocon strived to conduct the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

TABLE 1  
 UST EXCAVATION SOIL AND GROUNDWATER SAMPLE ANALYTICAL DATA  
 PINE GROVE MAINTENANCE STATION  
 AMADOR COUNTY, CALIFORNIA

SAMPLE I.D.	DATE	TPHg	TPHd	B	T	E	X	MTBE	LEAD
<b>SOIL SAMPLE ANALYTICAL DATA (mg/kg)</b>									
T1-1W	2/6/97	<0.5	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<1.0
T1-2S	2/6/97	---	<10	---	---	---	---	---	---
T1-3E	2/6/97	<0.5	<10	<0.005	<0.005	<0.005	<0.010	<0.005	<1.0
T1-DISP	2/6/97	---	50	---	---	---	---	---	---
T2-1E	2/6/97	<0.5	---	<0.005	0.057	0.012	0.078	0.16	---
T2-2W	2/6/97	<0.5	---	<0.005	<0.005	<0.005	<0.010	<0.005	---
T2-3NB	2/6/97	<0.5	---	<0.005	<0.005	<0.005	<0.010	<0.005	---
T2-DISP	2/6/97	<0.5	---	<0.005	<0.005	0.0062	0.029	0.12	---
SP-Composite	2/6/97	<0.5	---	<0.005	<0.005	<0.005	<0.010	0.008	---
<b>GROUNDWATER SAMPLE ANALYTICAL DATA (µg/l)</b>									
T1-2(W)	2/6/97	---	<500	---	---	---	---	---	---
T1-3(W)	2/6/97	<500	---	<0.3	0.3	<0.3	0.7	20	---
T2-2(W)	2/6/97	4,800	---	62	700	110	700	1,600	---

Notes: TPHg = Total petroleum hydrocarbons as gasoline  
 TPHd = Total petroleum hydrocarbons as diesel  
 BTEX = Benzene, toluene, ethylbenzene, and total xylenes  
 MTBE = Methyl tert-butyl ether  
 mg/kg = Milligrams per kilogram  
 µg/l = Micrograms per liter  
 < = Less than laboratory test method detection limits  
 --- = Not Analyzed

TABLE 2  
SUMMARY OF SOIL ANALYTICAL DATA  
PINE GROVE MAINTENANCE STATION  
AMADOR COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DEPTH (meters)	TPHg (mg/kg)	TPHd (mg/kg)	B (µg/kg)	T (µg/kg)	E (µg/kg)	X (µg/kg)	MTBE (µg/kg)	FOCs (µg/kg)	VOCs (µg/kg)
MW1-1.5	1.5	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	ND
MW1-3.0	3.0	<1.0	19	<5	<5	<5	<5	<2.0	ND	ND
MW1-4.5	4.5	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	ND
MW1-6.0	6.0	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	ND
MW1-7.5	7.5	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	ND
MW2-1.5	1.5	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	ND
MW2-3.0	3.0	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	ND
MW2-6.0	6.0	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	2.3 <sup>1</sup>
MW2-8.3	8.3	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	4.3 <sup>2</sup>
MW3-1.5	1.5	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	ND
MW4-1.5	1.5	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	ND
MW4-4.6	4.6	<1.0	<1.0	<5	<5	<5	<5	<2.0	ND	ND

Notes: TPHg = Total petroleum hydrocarbons as gasoline

TPHd = Total petroleum hydrocarbons as diesel

BTEX = Benzene, toluene, ethylbenzene, total xylenes

MTBE = Methyl tert butyl ether

FOCs = Fuel oxygenate compounds: Ethyl tert-butyl ether (ETBE), Tert-amyl methyl ether (TAME), Tert-butanol (TBA), Di-isopropyl ether (DIPE)

VOCs = Volatile Organic Compounds

mg/kg = Milligrams per kilogram

µg/kg = Micrograms per kilogram

< = Less than laboratory test method reporting limits

ND = Below method reporting limits for tested analytes

<sup>1</sup> = Chloromethane

<sup>2</sup> = Carbon tetrachloride

TABLE 3  
 SUMMARY OF SOIL ANALYTICAL DATA, CAM 17 METALS  
 PINE GROVE MAINTENANCE STATION  
 AMADOR COUNTY, CALIFORNIA

SAMPLE I.D.	MW1-6.0	MW1-7.5	MW2-6.0	MW2-8.3	TTLIC	10 x STLC
ANALYTE	Results in milligrams per kilogram					
Antimony	<6.0	<6.0	<6.0	<6.0	500	150
Arsenic	<10	<10	<10	<10	500	50
Barium	42	25	87	22	10,000	1,000
Beryllium	<0.30	<0.30	<0.30	<0.30	75	7.5
Cadmium	<0.50	<0.50	<0.50	<0.50	100	10
Chromium	16	7.2	34	32	2,500	5,600
Cobalt	24	13	43	26	8,000	800
Copper	60	58	70	60	2,500	250
Lead	6.8	1.1	5.0	4.3	1,000	50
Mercury	<0.010	<0.010	<0.010	<0.010	20	2
Molybdenum	<5.0	<5.0	48	39	3,500	3,500
Nickel	18	8.4	32	8.2	2,000	200
Selenium	<10	<10	<10	<10	100	10
Silver	<1.0	<1.0	<1.0	<1.0	500	50
Thallium	<10	<10	<10	<10	700	70
Vanadium	14	6.2	<5.0	26	2,400	240
Zinc	64	45	51	24	5,000	2,500

Notes: B1-0.3  
 |     └── Sample depth in meters below surface grade  
 └── Boring Identification

< = Less than laboratory detection limits  
 TTLIC = Total Threshold Limit Concentration  
 STLC = Soluble Threshold Limit Concentration

TABLE 4  
 SUMMARY OF GROUNDWATER ANALYTICAL DATA  
 PINE GROVE MAINTENANCE STATION  
 AMADOR COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DATE	TOP OF CASING (meters)	DEPTH TO WATER (meters)	GROUND-WATER ELEVATION (meters)	TPHg (µg/l)	TPHd (µg/l)	B (µg/l)	T (µg/l)	E (µg/l)	X (µg/l)	MTBE (µg/l)	FOCs (µg/l)	VOCs (µg/l)
MW-1	2/5/01	750.86	6.84	744.02	<50	<50	<0.5	<0.5	<0.5	<0.5	18	ND	ND
MW-2	2/5/01	751.22	6.96	744.26	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.0	ND	ND
MW-3	2/5/01	750.37	6.55	743.82	<50	<50	<0.5	<0.5	<0.5	<0.5	8.0	ND	ND
MW-4	2/5/01	750.81	6.69	744.12	<50	<50	<0.5	<0.5	<0.5	<0.5	94	ND	ND

Notes: TPHg = Total petroleum hydrocarbons as gasoline  
 BTEX = Benzene, toluene, ethylbenzene, total xylenes  
 FOCs = Fuel oxygenate compounds: Ethyl tert-butyl ether (ETBE), Tert-amyl methyl ether (TAME), Tert-butanol (TBA), Di-isopropyl ether (DIPE)  
 VOCs = Volatile Organic Compounds  
 µg/l = Micrograms per liter  
 < = Less than laboratory test method reporting limits  
 ND = Below method reporting limits for tested analyte

TABLE 5  
 SUMMARY OF RECOGNIZED ENVIRONMENTAL CONDITIONS  
 PINE GROVE MAINTENANCE STATION  
 AMADOR COUNTY, CALIFORNIA

AREA OF CONCERN	SUBSTANCE/CHEMICAL	RECOMMENDED RESPONSE/REMEDIAL ACTION
Septic Tank and Leach Field South of Office	Sewage	Soil Sampling and Analytical Testing
Unlined Ditches on Eastern and Western Portions of the Site and DIs	Petroleum Hydrocarbons/Heavy Metals	Soil and Groundwater Sampling and Analytical Testing
Waste Oil, Hydraulic Oil, Crankcase Oil and Asphalt Emulsion ASTs	Petroleum Hydrocarbons/Heavy Metals	Soil Sampling and Analytical Testing
Abandoned In-Place Dry Well and Drain Line at North End of Equipment Building	Petroleum Hydrocarbons/Heavy Metals	Soil and Groundwater Sampling and Analytical Testing in Accordance With EPA and County Requirements
Hydraulic Lift in Equipment Building	Petroleum Hydrocarbons	Soil Sampling, Analytical Testing and Routine Maintenance
Wash Rack	Petroleum Hydrocarbons, Volatile and Semi-Volatile Organic Compounds, Heavy Metals	Soil and Groundwater Sampling and Analytical Testing
Asphalt Crack Sealer Trailer Hose	Petroleum Hydrocarbons	Soil Sampling and Analytical Testing
Asphalt Emulsion Cleaning Area	Petroleum Hydrocarbons/Heavy Metals	Soil Sampling and Analytical Testing
Four Former USTs Adjacent to the Southern Gas House	Petroleum Hydrocarbons, Volatile and Semi-Volatile Organic Compounds, Heavy Metals	Soil and Groundwater Sampling and Analytical Testing
USTs and Potential Impacts Associated with the Former Gas Station and Garage	Petroleum Hydrocarbons, Volatile and Semi-Volatile Organic Compounds, Heavy Metals	Soil and Groundwater Sampling and Analytical Testing
Adjacent and Uphill Pine Grove Auto Dismantlers	Petroleum Hydrocarbons, Volatile and Semi-Volatile Organic Compounds, Heavy Metals	Surface Soil Sampling and Analytical Testing

TABLE 6  
 POTENTIAL HAZARDOUS WASTE FACILITIES  
 PINE GROVE MAINTENANCE STATION  
 AMADOR COUNTY, CALIFORNIA

Map ID No.	FACILITY NAME	SITE ADDRESS	DISTANCE AND DIRECTION FROM SITE	CHEMICAL OF CONCERN	CHEMICAL SOURCE	RISK OF IMPACT
1	Pine Grove Auto Dismantlers	19601 Berry Street	Adjacent and Northwest	Petroleum Hydrocarbons	Surface Runoff	Moderate to High
2	CDF	19597 Hwy 88	Adjacent and East	Petroleum Hydrocarbons, Metals	Surface Runoff, AST	Low
3	Pine Grove Stage Stop (76 Station)	19766 Hwy 88	0.4 km (0.25 mile) East of the Site	Petroleum Hydrocarbons	UST	Low
4	Former We Serve Gas Station (Beacon)	19444 Hwy 88	0.4 km (0.25 mile) West of the Site	Petroleum Hydrocarbons	UST	Low
5	Amador County Environmental (Pine Grove Public Refuse Transfer Station)	14390 Walnut Street	0.32 (0.2 mile) Northeast of the Site	Petroleum Hydrocarbons	AST	Low

Notes: UST = Underground storage tank  
 AST = Aboveground storage tank

TABLE 7  
 SUMMARY OF ASBESTOS ANALYTICAL DATA  
 PINE GROVE MAINTENANCE STATION  
 AMADOR COUNTY, CALIFORNIA

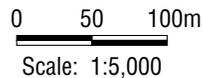
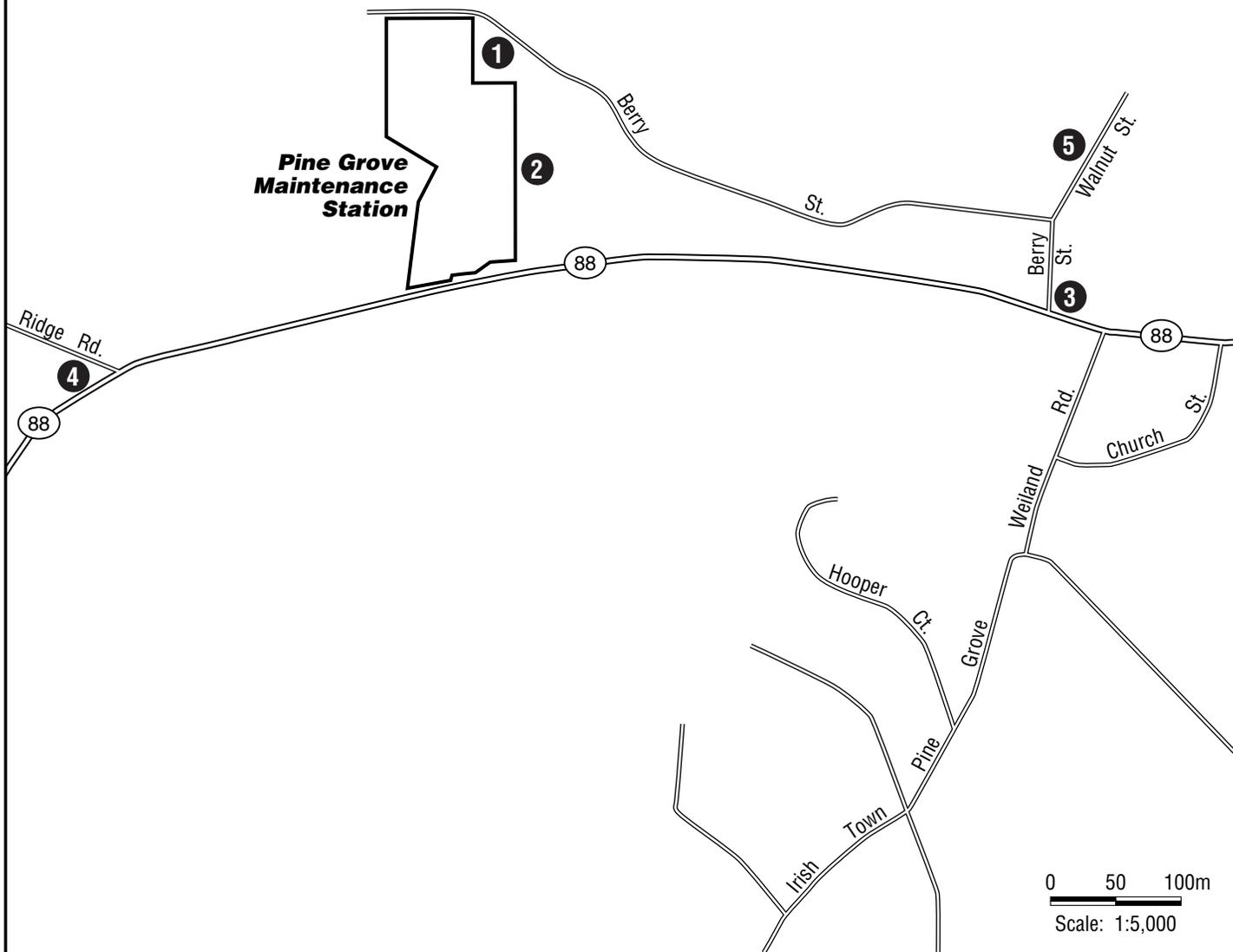
SAMPLE I.D.	BUILDING LOCATION	FRIABILITY	MATERIAL DESCRIPTION/CONDITION	APPROXIMATE QUANTITY (SQUARE METER OR LINEAR METER)	ASBESTOS EPA 600/M4-82-020 (TYPE AND % BY WEIGHT)
PG-MS-1A	OFFICE AND EQUIPMENT BUILDING AND SOUTHERN GAS HOUSE	NONFRIABLE	WINDOW PUTTY/GOOD	40 LINEAR METERS	ND
PG-MS-1B					ND
PG-MS-1C					ND
PG-MS-2A	SAND HOUSE	NONFRIABLE	ASPHALT ROOFING TILES/GOOD	500 SQUARE METERS	ND
PG-MS-2B					ND
PG-MS-2C					ND
PG-MS-3A	RESIDENT ENGINEER TRAILER	NONFRIABLE	BLUE, RESILIENT FLOOR SHEETING AND ASSOCIATED MASTIC /GOOD	28 SQUARE METERS	ND
PG-MS-3B					ND
PG-MS-3C					ND
PG-MS-4A	OFFICE AND EQUIPMENT BUILDING	NONFRIABLE	GYPSUM BOARD WALLS/GOOD	330 SQUARE METERS	ND
PG-MS-4B					ND
PG-MS-4C					ND
PG-MS-5A	OFFICE AND EQUIPMENT BUILDING	NONFRIABLE	TAN, RESILIENT FLOOR SHEETING AND ASSOCIATED MASTIC/GOOD	6 SQUARE METERS	ND
PG-MS-5B					ND
PG-MS-5C					ND
PG-MS-6A	OFFICE AND EQUIPMENT BUILDING (South Office Areas)	NONFRIABLE	CREAM, 30 BY 30-CENTIMETER FLOOR TILE AND ASSOCIATED MASTIC/GOOD	50 SQUARE METERS	CHRYBOTILE (MASTIC 20%) (TILE ND)
PG-MS-6B					ND
PG-MS-6C					CHRYBOTILE (MASTIC 10%) (TILE ND)
PG-MS-7A	OFFICE AND EQUIPMENT BUILDING	NONFRIABLE	WALL BASE COVING AND MASTIC/GOOD	50 LINEAR METERS	ND
PG-MS-7B					ND
PG-MS-7C					ND

TABLE 7 SUMMARY OF ASBESTOS ANALYTICAL DATA PINE GROVE MAINTENANCE STATION AMADOR COUNTY, CALIFORNIA					
SAMPLE I.D.	BUILDING LOCATION	FRIABILITY	MATERIAL DESCRIPTION/CONDITION	APPROXIMATE QUANTITY (SQUARE METER OR LINEAR METER)	ASBESTOS EPA 600/M4-82-020 (TYPE AND % BY WEIGHT)
NS	OFFICE AND EQUIPMENT BUILDING (Restrooms)	NONFRIABLE	MARLITE™ WALL PANELS AND MASTIC/GOOD	10 SQUARE METERS	ASSUMED TO CONTAIN ASBESTOS

Notes: ND = Not detected  
 NA = Not applicable (materials sampled during previous surveys)

TABLE 8 SUMMARY OF LEAD-BASED PAINT ANALYTICAL DATA PINE GROVE MAINTENANCE STATION AMADOR COUNTY, CALIFORNIA				
SAMPLE I.D.	PAINT COLOR	BUILDING LOCATION	APPROXIMATE QUANTITY (SQURE METERS)	TOTAL LEAD (mg/kg)
LCP-1	RED	SAND HOUSE (Exterior)	30	<100
LCP-2	BROWN	FUEL AST CANOPY (Exterior)	45	<100
LCP-3	WHITE	FUEL AST CANOPY (Exterior)	300	260
LCP-4	BEIGE	RESIDENT ENGINEERS TRAILER (Interior/Exterior)	250	18,000
LCP-5	WHITE	OFFICE AND EQUIPMENT BUILDING (Interior – office and restroom areas)	375	3,600

Notes: < = Less than laboratory reporting limits  
mg/kg = Milligrams per kilogram



- 1 Pine Grove Auto Dismantlers - 19601 Berry Street
- 2 California Department of Forestry - 19597 Highway 88
- 3 Pine Grove Stage Stop (76 Station) - 19766 Highway 88
- 4 Former We Serve Gas Station (Beacon) - 19444 Highway 88
- 5 Pine Grove Public Refuse Transfer Station - 14390 Walnut Street

## GEOCON

CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



### Pine Grove Maintenance Station

19587 Highway 88  
Amador County, California

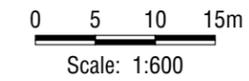
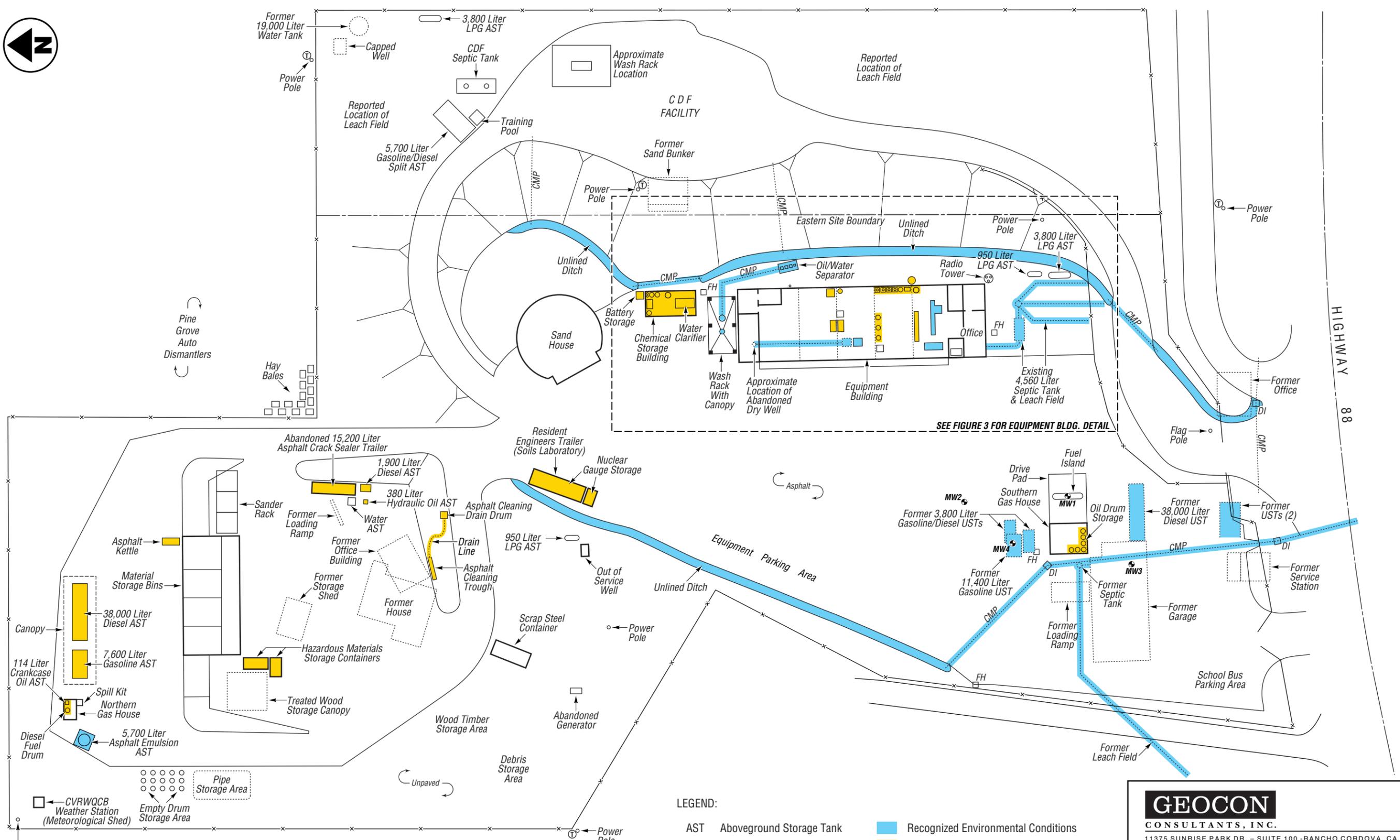
GEOCON Proj. No. S8225-06-146

Task Order No. 10-0E790K-7B

**POTENTIAL  
HAZARDOUS  
FACILITES MAP**

June 2001

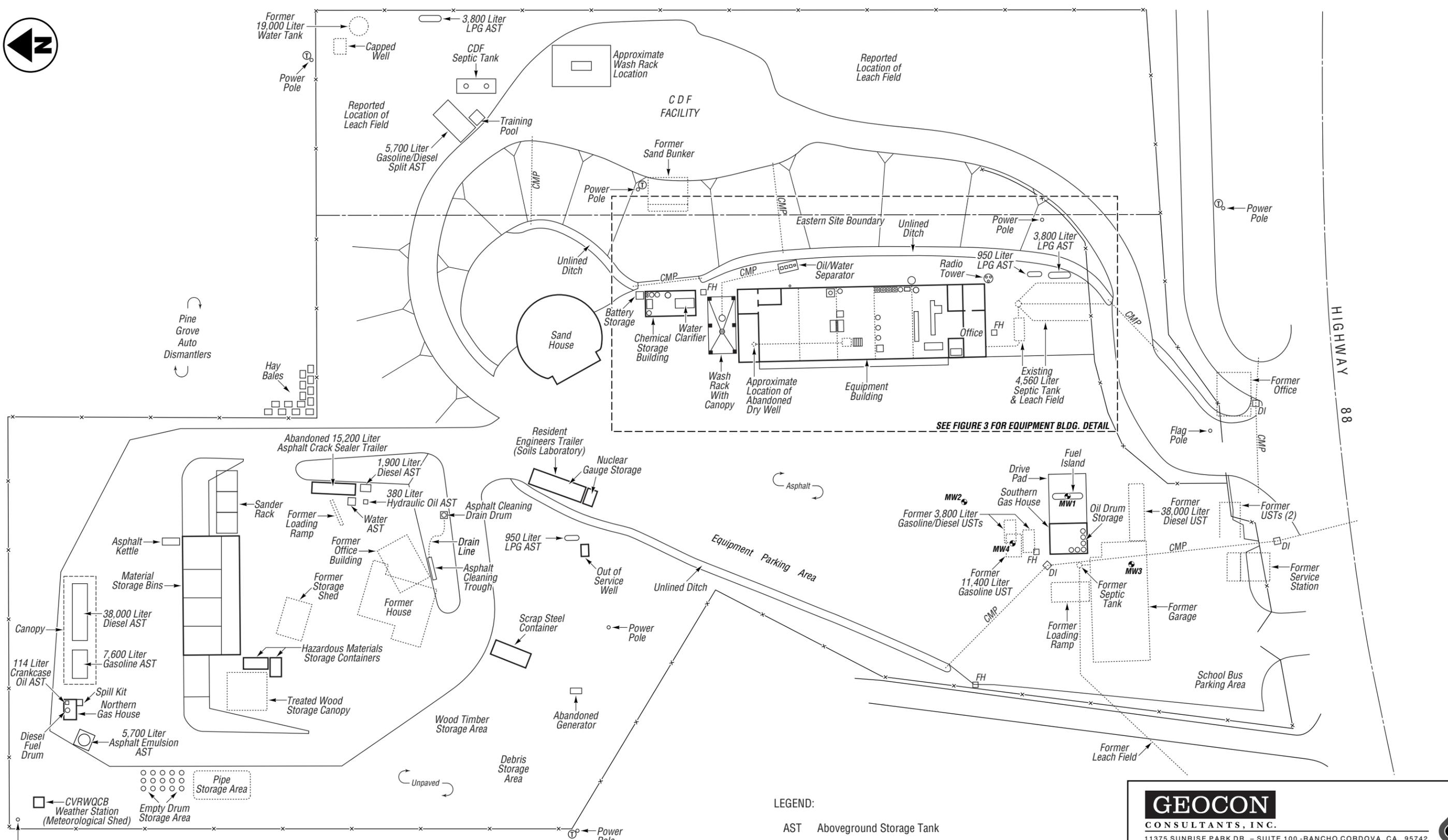
Figure 15



**LEGEND:**

- AST Aboveground Storage Tank
- UST Underground Storage Tank
- DI Drop Inlet
- CMP Corrugated Metal Pipe
- FH Fire Hydrant
- LPG Liquid Propane Gas
- ⊕ Transformer
- Recognized Environmental Conditions
- Current Hazardous Material Storage Locations

<p><b>GEOCON</b> CONSULTANTS, INC.</p> <p>11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742 PHONE 916 852-9118 - FAX 916 852-9132</p>	
<p><b>Pine Grove Maintenance Station</b></p>	
<p>19587 Highway 88 Amador County, California</p>	
<p><b>SITE CHARACTERIZATION MAP</b></p>	
<p>GEOCON Proj. No. S8225-06-146</p>	
<p>Task Order No. 10-0E790K-7B</p>	<p>June 2001</p>
<p>Figure 12</p>	



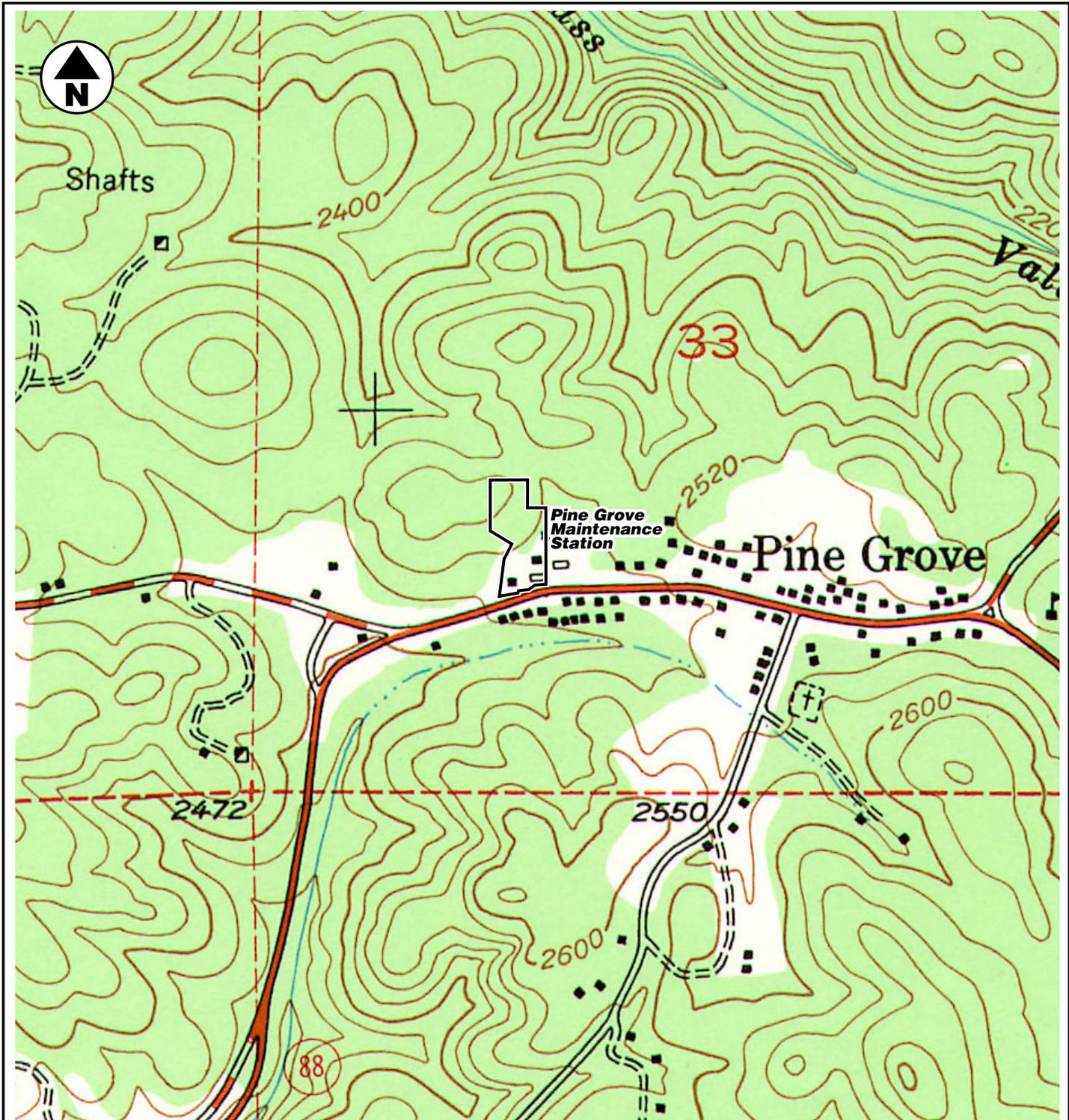
SEE FIGURE 3 FOR EQUIPMENT BLDG. DETAIL

- LEGEND:
- AST Aboveground Storage Tank
  - UST Underground Storage Tank
  - DI Drop Inlet
  - CMP Corrugated Metal Pipe
  - FH Fire Hydrant
  - LPG Liquid Propane Gas
  - Ⓢ Transformer

0 5 10 15m  
Scale: 1:600

<b>GEOCON</b> CONSULTANTS, INC. 11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742 PHONE 916 852-9118 - FAX 916 852-9132	
Pine Grove Maintenance Station	
19587 Highway 88 Amador County, California	
<b>SITE PLAN</b>	
GEOCON Proj. No. S8225-06-146	Task Order No. 10-0E790K-7B
June 2001	Figure 2





Pine Grove, Calif. Quadrangle, Dated 1948 (Photoinspected 1973)

0 100 200m  
 Scale: 1:10,000

## GEOCON

CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
 PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

19587 Highway 88  
 Amador County, California

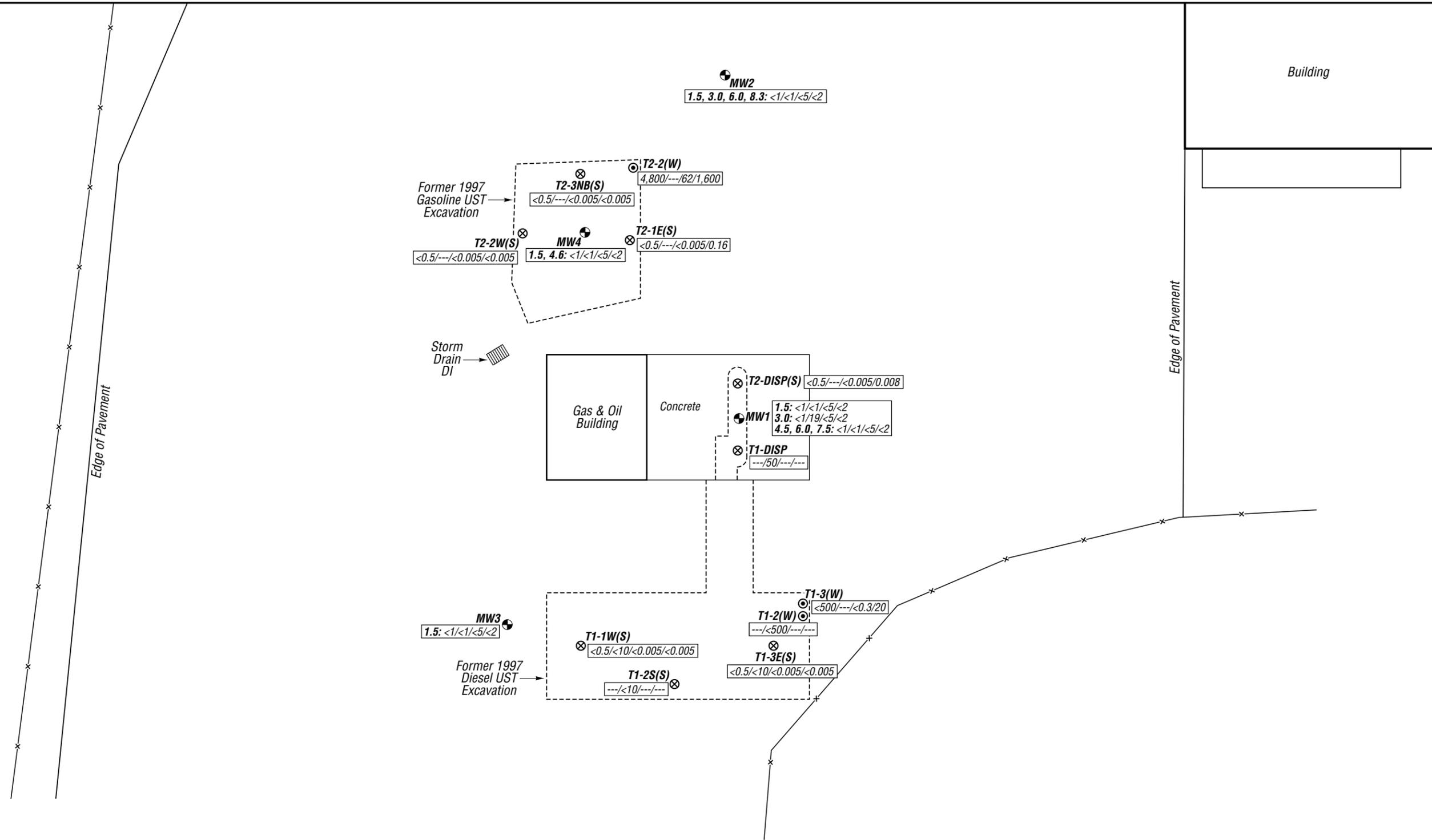
**TOPOGRAPHIC  
 MAP**

GEOCON Proj. No. S8225-06-146

Task Order No. 10-0E790K-7B

June 2001

Figure 11



LEGEND:

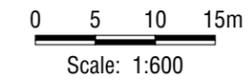
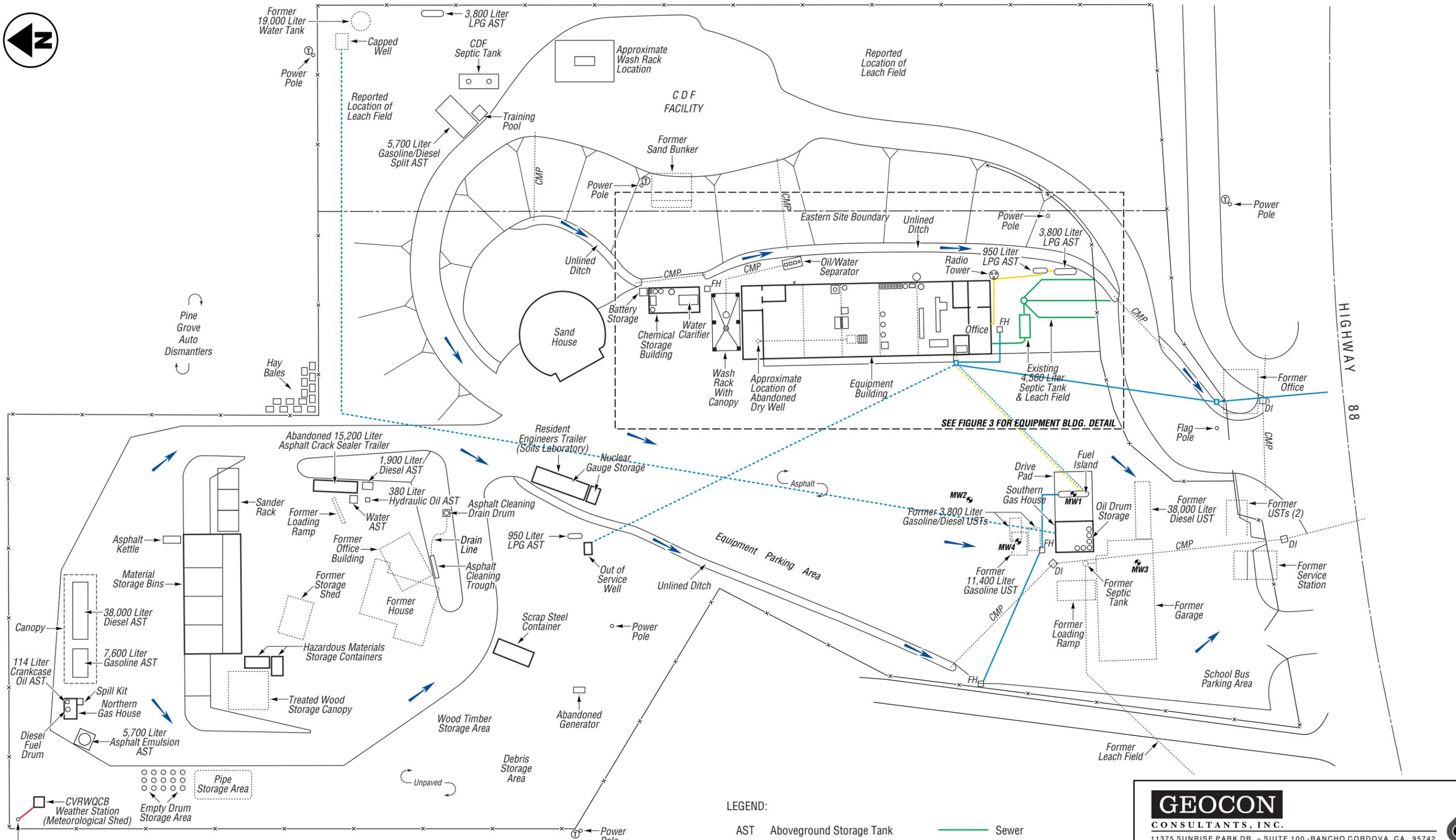
- T1-1W(S) ⊗ Approximate UST Excavation Soil Sample Location
- T1-2(W) ⊙ Approximate UST Water Sample
- MW1 ⊕ Approximate Monitoring Well Location

**1.5: <1/<1/<5/<2** Sample Depth (m): TPHg/TPHd/B/MTBE Concentrations (Soil - mg/kg, Water - ug/l)

--- Not Analyzed



<b>GEOCON</b> CONSULTANTS, INC.		
11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742 PHONE 916 852-9118 - FAX 916 852-9132		
Pine Grove Maintenance Station		
19587 Highway 88 Amador County, California		<b>UST EXCAVATION AND SOIL BORING SAMPLE LOCATIONS MAP</b>
GEOCON Proj. No. S8225-06-146		
Task Order No. 10-0E790K-7B	June 2001	Figure 5



- LEGEND:**
- AST Aboveground Storage Tank
  - UST Underground Storage Tank
  - DI Drop Inlet
  - CMP Corrugated Metal Pipe
  - FH Fire Hydrant
  - LPG Liquid Propane Gas
  - Ⓢ Transformer
  - Sewer
  - Electric
  - Water
  - Abandoned Water Line
  - Gas
  - Air
  - Surface Water Flow

**GEOCON**  
CONSULTANTS, INC.  
11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132

---

**Pine Grove Maintenance Station**

19587 Highway 88  
Amador County, California

**UTILITIES MAP**

---

GEOCON Proj. No. S8225-06-146

---

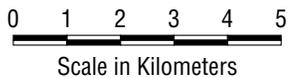
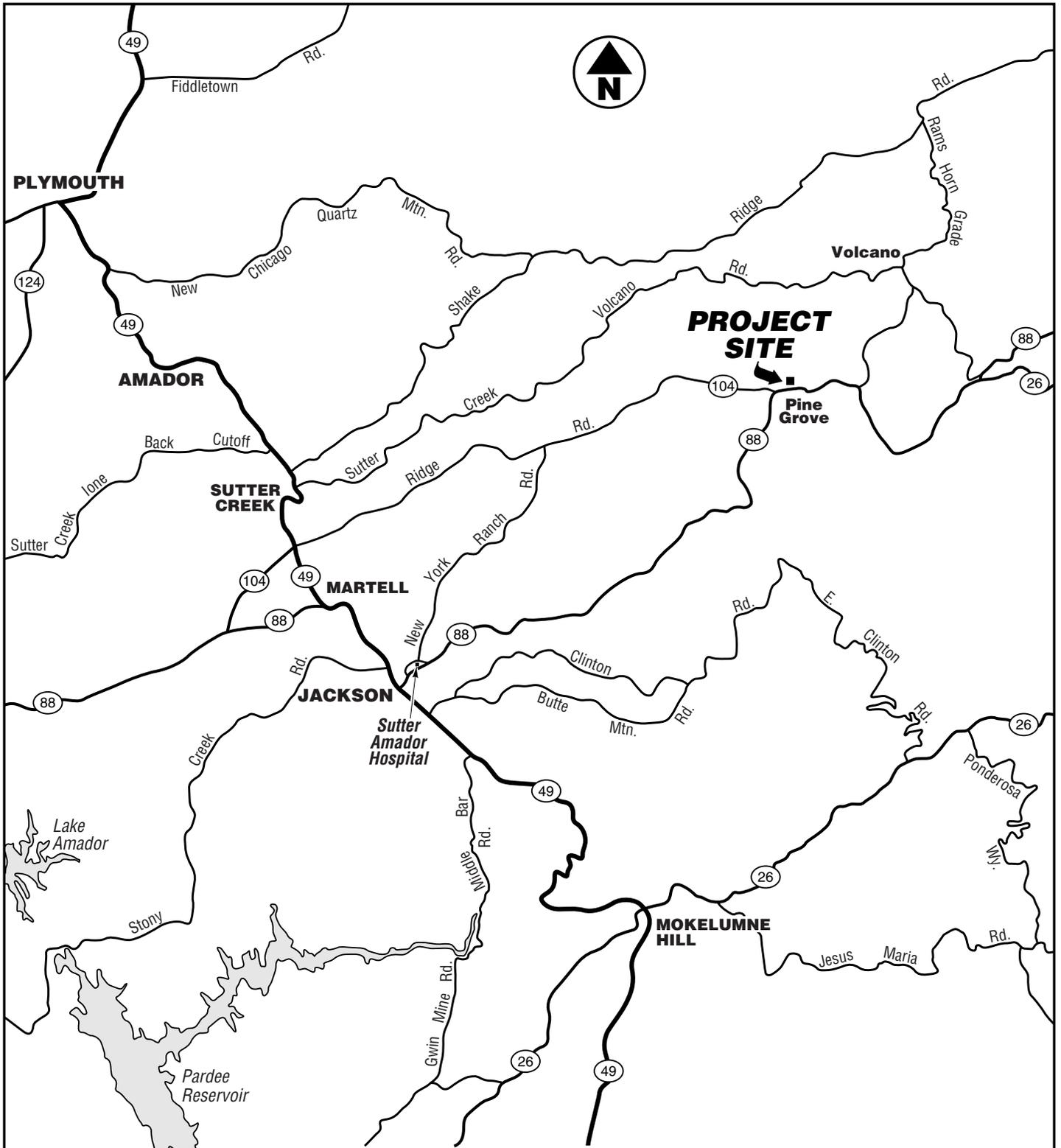
Task Order No. 10-0E790K-7B

---

June 2001

---

Figure 14



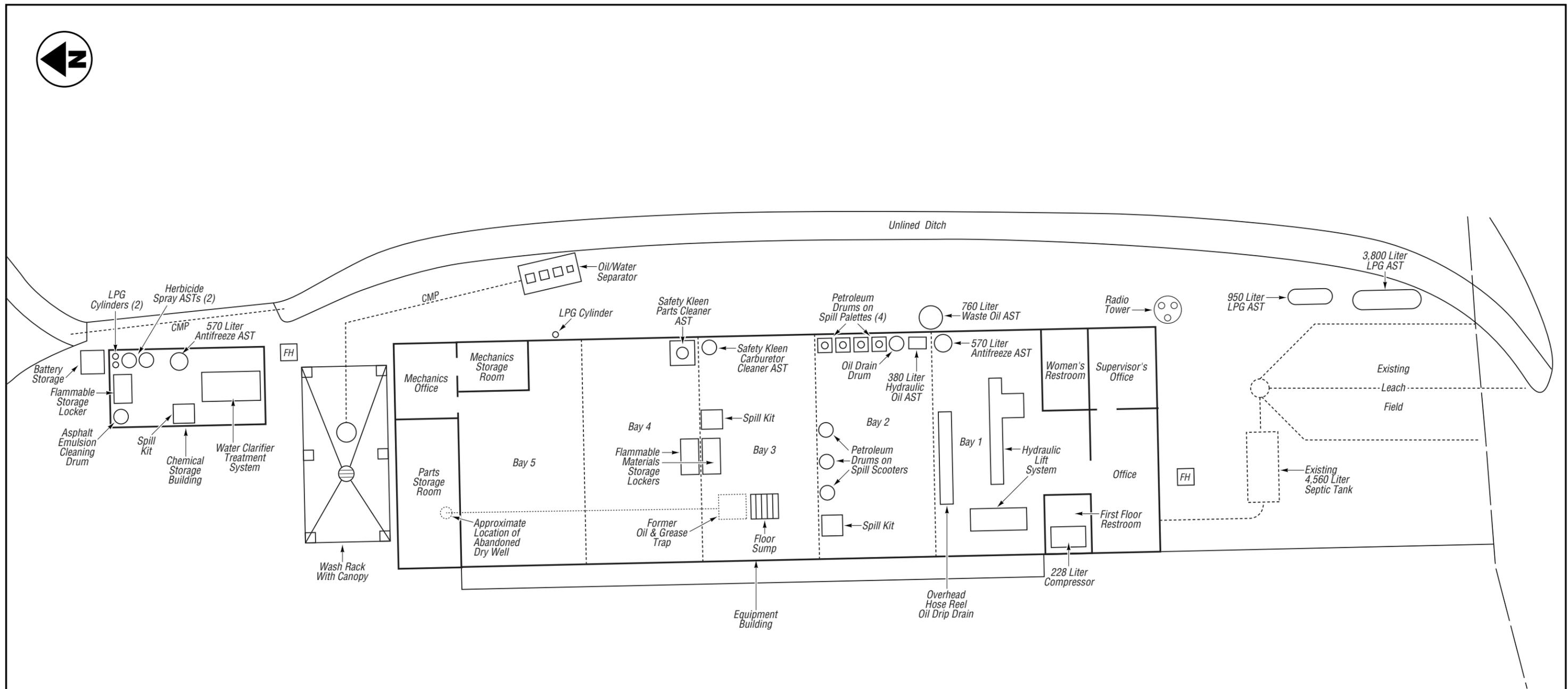
# GEOCON

CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132

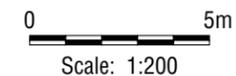


Pine Grove Maintenance Station	
19587 Highway 88 Amador County, California	
GEOCON Proj. No. S8225-06-146	
Task Order No. 10-0E790K-7B	<b>VICINITY MAP</b> June 2001
	Figure 1



**LEGEND:**

- AST Aboveground Storage Tank
- CMP Corrugated Metal Pipe
- FH Fire Hydrant
- LPG Liquid Propane Gas



**GEOCON**

CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



**Pine Grove Maintenance Station**

19587 Highway 88  
Amador County, California

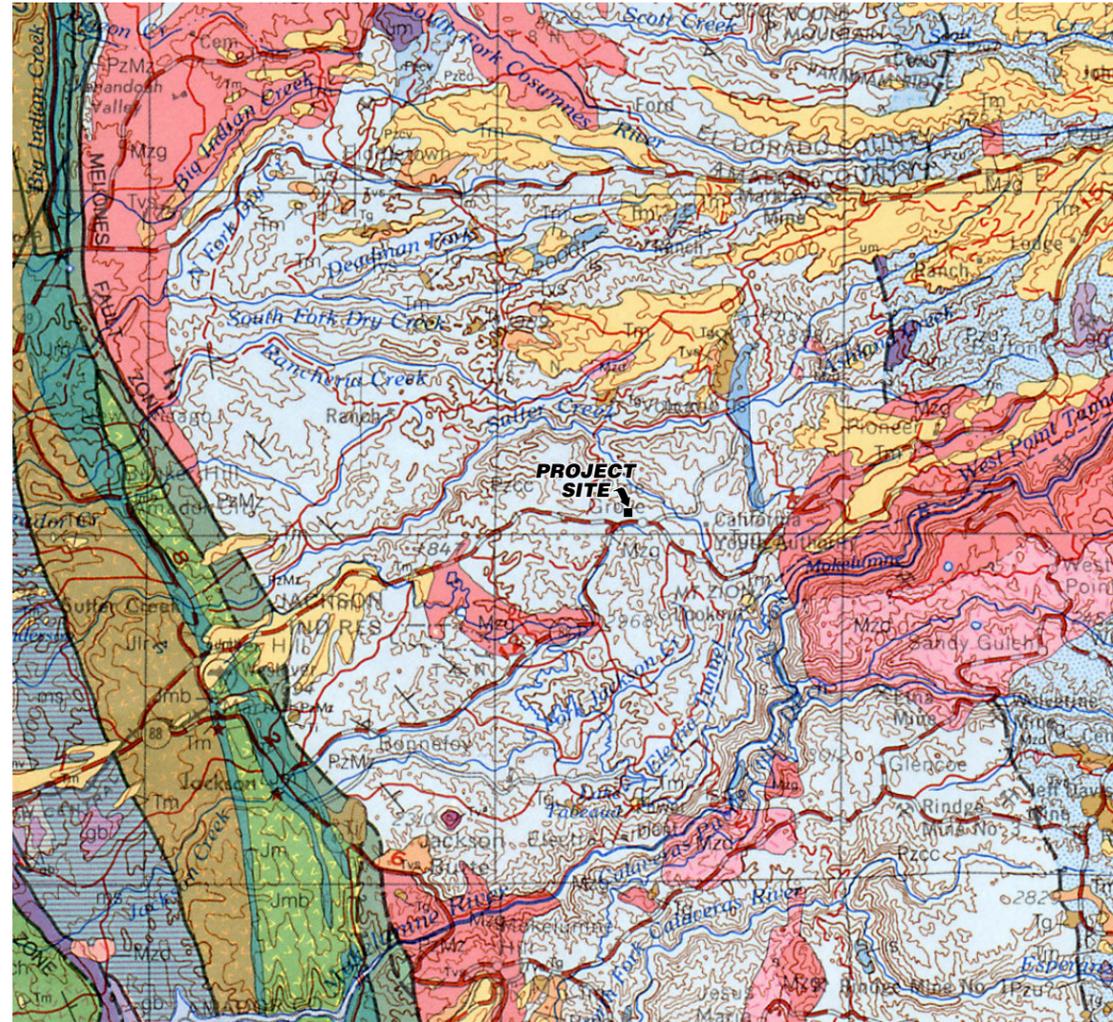
GEOCON Proj. No. S8225-06-146

Task Order No. 10-0E790K-7B

**EQUIPMENT  
BUILDING  
DETAIL**

June 2001

Figure 3



Ref: Geologic Map of the Sacramento Quadrangle, California 1981

LEGEND:

- Tm Mehrten Formation (*Andesitic conglomerate, sandstone, and breccia*)
- Tvs Valley Springs Formation (*Rhyolitic tuff and sedimentary rocks*)
- Tg “Auriferous” Gravels
- Ti Ione Formation (*Quartzose sandstone and kaolinitic clay*)
- Jm Mariposa Formation (*Slate, graywacke, and conglomerate*)
- Jch Copper Hill Volcanics
- Jmb Brower Creek Volcanics
- Jmv Jurassic metavolcanic rocks
- ms Metasedimentary rocks
- Pzcc Calaveras Complex (*Metasedimentary rocks*)
- PzMz Paleozoic-Mesozoic metamorphic rocks
- Pzu? Undifferentiated Paleozoic(?) rocks
- mv Metavolcanic rocks
- Pzcν Calaveras Complex volcanic rocks
- Mzg Mesozoic granitic rocks
- Mzd Mesozoic dioritic rocks
- um Ultramafic rocks

0 2000 4000 6000m  
Scale: 1:200,000

<b>GEOCON</b>		
CONSULTANTS, INC. 11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742 PHONE 916 852-9118 - FAX 916 852-9132		
Pine Grove Maintenance Station		
19587 Highway 88 Amador County, California		<b>GEOLOGIC MAP</b>
GEOCON Proj. No. S8225-06-146		
Task Order No. 10-0E790K-7B	June 2001	Figure 4



Photo No. 1 Former Garage and Service Station - 1953



Photo No. 2 Former Service Station and Former Office on the Southern Site Boundary - 1957

**HISTORICAL SITE PHOTOS NO. 1 & 2**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 10a



Photo No. 3 Southern Gas House and Equipment Building



Photo No. 4 Former Sand Bunker Located Northeast of the Equipment Building

**HISTORICAL SITE PHOTOS NO. 3 & 4**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 10b



Photo No. 5 Well House and Water Tank Noted at the CDF Facility - 1959



Photo No. 6 Southern Gas House - 1982

### HISTORICAL SITE PHOTOS NO. 5 & 6

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

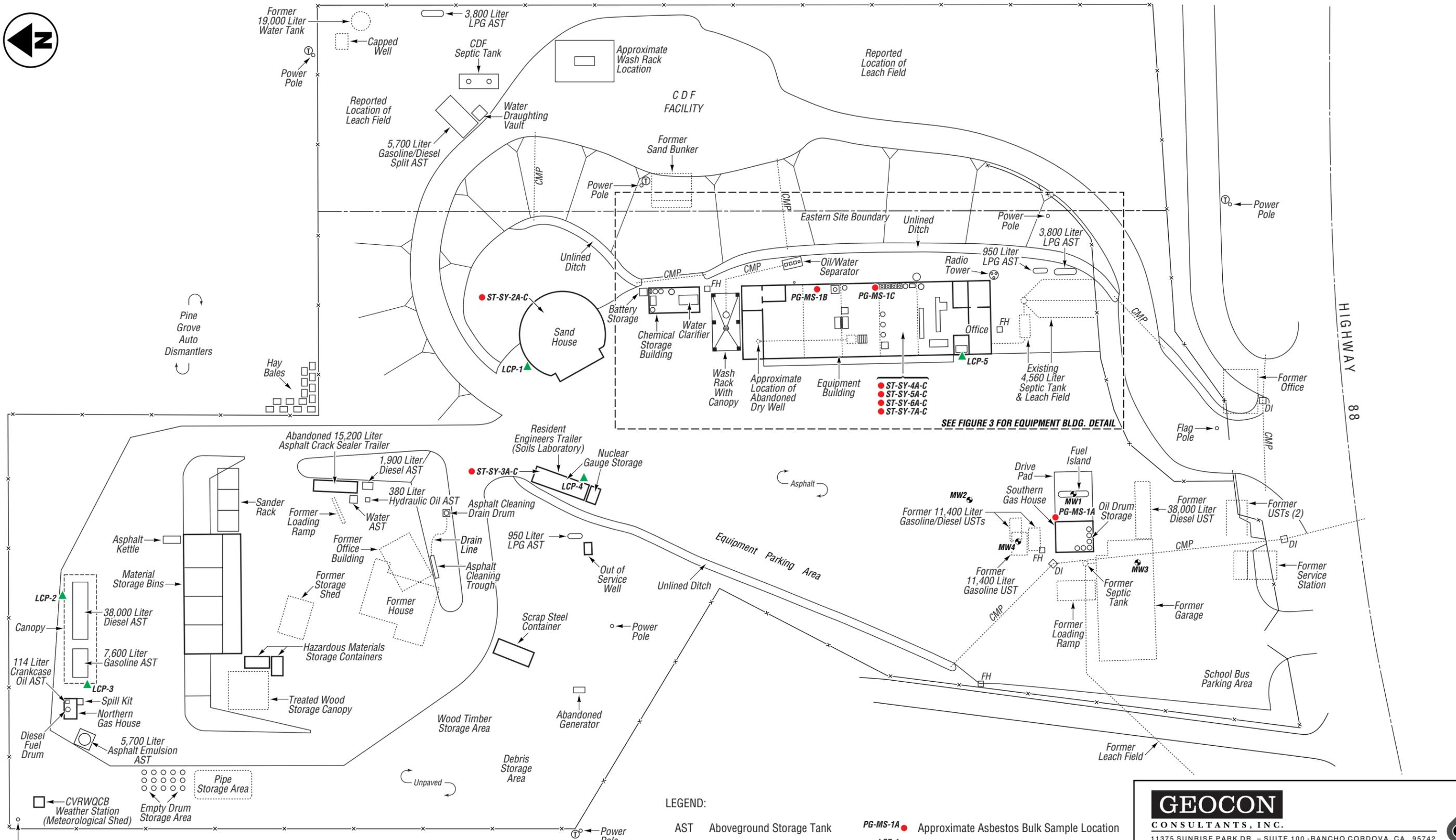
GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

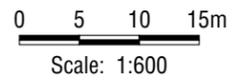
Figure 10c



SEE FIGURE 3 FOR EQUIPMENT BLDG. DETAIL

LEGEND:

- AST Aboveground Storage Tank
- UST Underground Storage Tank
- DI Drop Inlet
- CMP Corrugated Metal Pipe
- FH Fire Hydrant
- LPG Liquid Propane Gas
- ⊕ Transformer
- PG-MS-1A ● Approximate Asbestos Bulk Sample Location
- LCP-1 ▲ Approximate Paint Sample Location



**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132

---

Pine Grove Maintenance Station

19587 Highway 88 Amador County, California	<b>LEAD AND ASBESTOS SAMPLE LOCATIONS MAP</b>
GEOCON Proj. No. S8225-06-146	Task Order No. 10-0E790K-7B
June 2001	Figure 17



Photo No. 1 Wash Rack at the Adjacent CDF Facility (Map ID No. 2)



Photo No. 2 Gasoline/Diesel Split AST Located at the CDF Facility (Map ID No. 2)

**OFFSITE PHOTOS NO. 1 & 2**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 16a



Photo No. 3 Reportedly Capped Water Well in the Northeast Corner of the CDF Facility (Map ID No. 2)



Photo No. 4 Septic Tank Vent and LPG AST at the CDF Facility (Map ID No. 2)

**OFFSITE PHOTOS NO. 3 & 4**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 16b



Photo No. 5 Pole-Mounted Transformer Located in the Northeast Corner of the CDF Facility



Photo No. 6 Pole-Mounted Transformer Located North of the Former Sand Bunker at the CDF Facility (Map ID No. 2)

**OFFSITE PHOTOS NO. 5 & 6**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 16c



Photo No. 11 ASTs Located at Amador County Environmental (Pine Grove Public Refuse Transfer Station) (Map ID No. 5)



Photo No. 12 Two Pole-Mounted Transformers Located South of the Site

**OFFSITE PHOTOS NO. 11 & 12**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

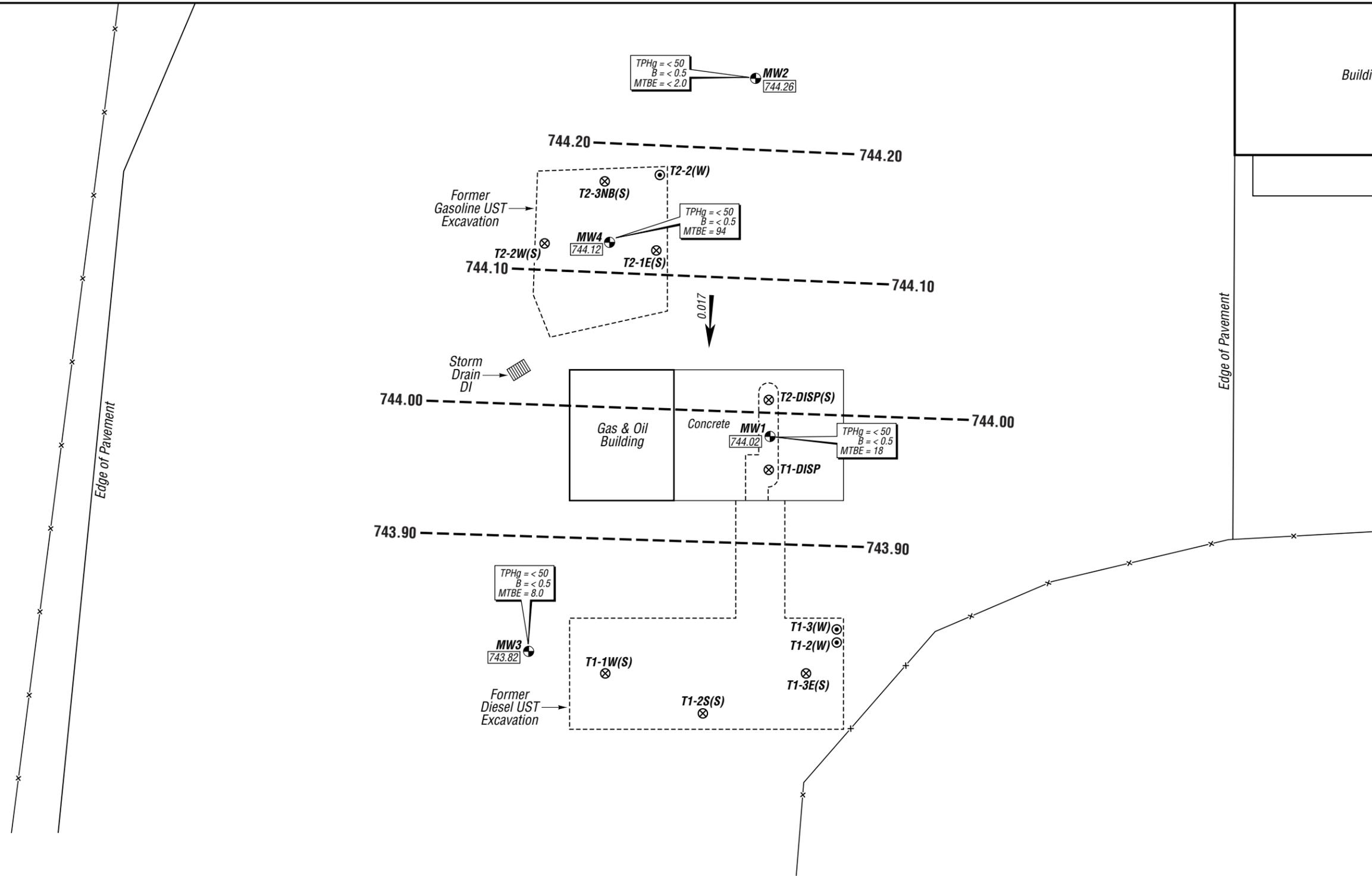
GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

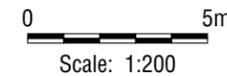
Figure 16f



LEGEND:

- T1-1W(S) ⊗ Approximate UST Excavation Soil Sample Location
- T1-2(W) ⊙ Approximate UST Water Sample
- MW1 ⊕ Approximate Monitoring Well Location
- Groundwater Elevation Contour (Interval = 0.10m)
- 0.017 → Approximate Groundwater Gradient
- 743.82 MSL Elevation of Groundwater

TPHg = Total Petroleum Hydrocarbons as Gasoline (ug/l)  
B = Benzene (ug/l)  
MTBE = Methyl tert-butyl ether (ug/l)



**GEOCON**

CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

19587 Highway 88  
Amador County, California

GEOCON Proj. No. S8225-06-146

Task Order No. 10-0E790K-7B

**HYDROCARBON  
CONCENTRATIONS  
IN GROUNDWATER-  
FEBRUARY 2001**

June 2001

Figure 6



Photo No. 1 South Wall of Bay 1 and Hydraulic Lift in the Equipment Building



Photo No. 2 North Wall of the Equipment Building, Antifreeze and Hydraulic Oil ASTs, Oil Drip Drain and Oil Drain Drum, Petroleum Drums with Overhead Hose Reels

**SITE PHOTOS NO. 1 & 2**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13a



Photo No. 3 Floor Drain in Bay 3 of the Equipment Building



Photo No. 4 Safety Kleen Parts Cleaner Unit (Left) and Carburetor Cleaner AST (Right)

**SITE PHOTOS NO. 3 & 4**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13b



Photo No. 5 Wash Rack and Floor Drain Located North of the Equipment Building



Photo No. 6 Chemical Storage Building Located North of the Wash Rack

**SITE PHOTOS NO. 5 & 6**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13c



Photo No. 7 Herbicide ASTs, Propane, Antifreeze AST and Flammable Storage Locker in the Chemical Storage Building

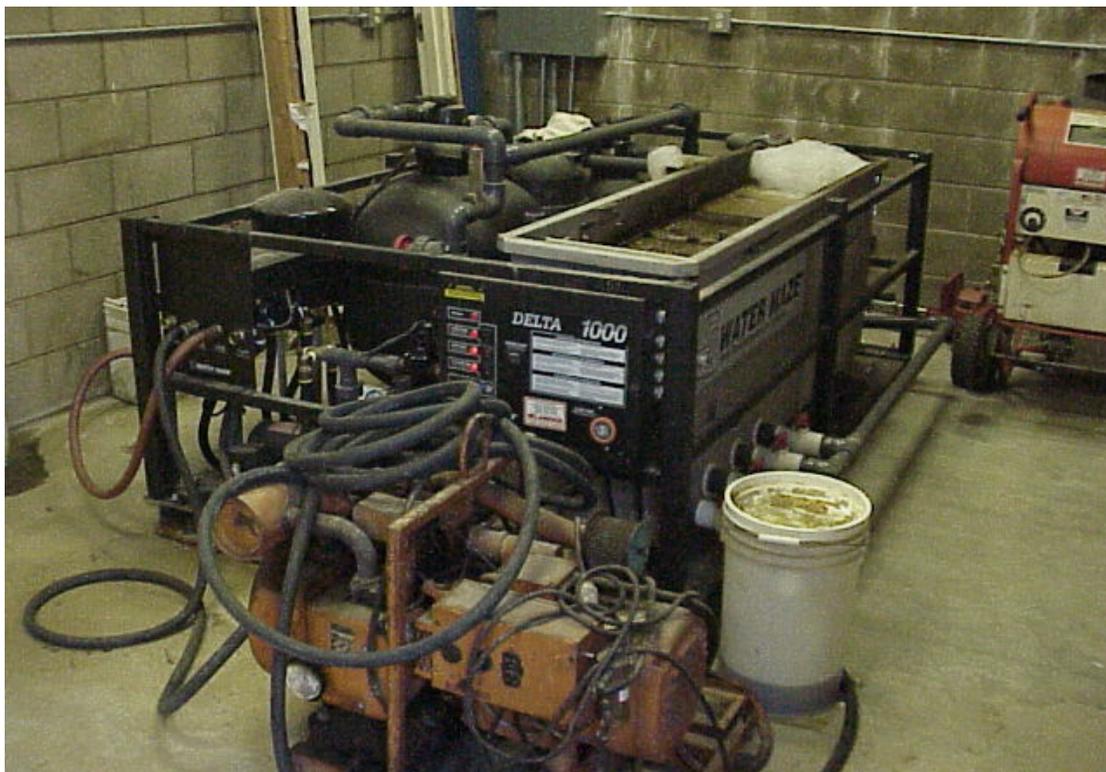


Photo No. 8 Water Clarifier Located in the Chemical Storage Building

**SITE PHOTOS NO. 7 & 8**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13d



Photo No. 9 Sand House



Photo No. 10 Resident Engineer Trailer and Van Used for Soils Laboratory and Nuclear Gauge Storage

**SITE PHOTOS NO. 9 & 10**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13e



Photo No. 11 Looking Northwest at Material Storage Bins



Photo No. 12 Looking Southwest at the Southern Gas House and School Bus Parking Area

**SITE PHOTOS NO. 11 & 12**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13f



Photo No. 13 Materials Stored Inside the Southern Gas House



Photo No. 14 Meteorological Shed Located in the Northwest Corner of the Site

**SITE PHOTOS NO. 13 & 14**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13g



Photo No. 15 (Left to Right) Northern Gas House, Gasoline AST and Diesel AST



Photo No. 16 Oil/Water Separator, Unlined Ditch and Corrugated Metal Pipe on Slope from the CDF Facility

**SITE PHOTOS NO. 15 & 16**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13h



Photo No. 17 Looking Northwest at the Hazardous Material Storage Containers



Photo No. 18 Battery Storage Box Located North of the Chemical Storage Building

**SITE PHOTOS NO. 17 & 18**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13i



Photo No. 19 Asphalt Cleaning Trough, Drain Line and Drum



Photo No. 20 Asphalt Crack Sealer Trailer and Hose

**SITE PHOTOS NO. 19 & 20**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13j



**1944 AERIAL PHOTO**

**GEOCON**

CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

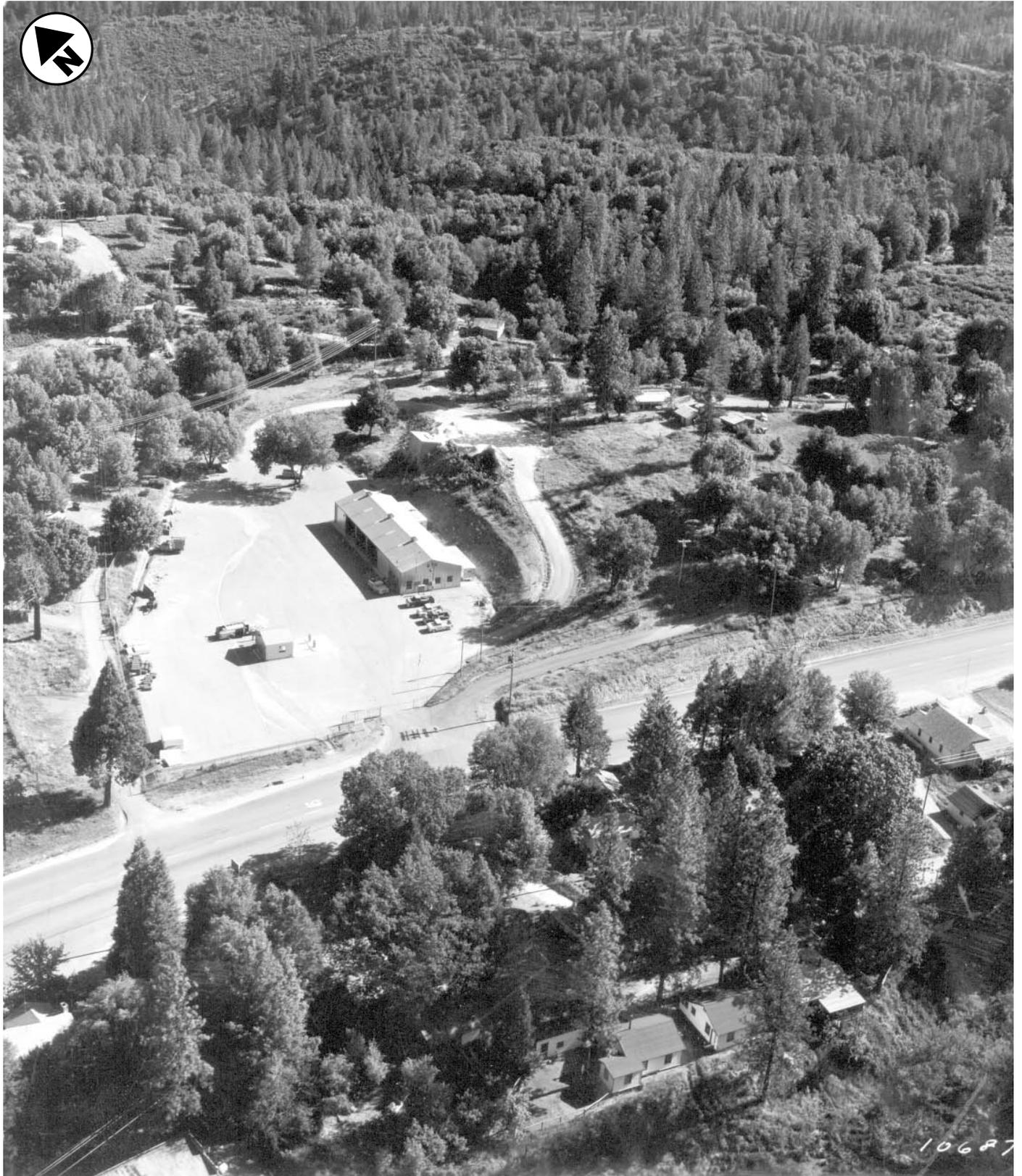
GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 7



**1964 AERIAL PHOTO**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 8



**1997 AERIAL PHOTO**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 9



Photo No. 21 Looking East at the Scrap Steel Trash Bin and Wood Timber Storage Area



Photo No. 22 Treated Wood Storage Canopy

**SITE PHOTOS NO. 21 & 22**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13k



Photo No. 23 Looking West at Vehicle Parking and Material Storage Area



Photo No. 24 Empty Drum and Pipe Storage Areas in the Northwest Corner of the Site

**SITE PHOTOS NO. 23 & 24**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13I



Photo No. 25 Looking South at the Unlined Ditch Located on the Western Site Boundary



Photo No. 26 Pole-Mounted Transformer Located on the Western Site Boundary

**SITE PHOTOS NO. 25 & 26**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13m



Photo No. 27 Water AST, Hydraulic Oil AST and Diesel AST Located South of the Asphalt Crack Sealer Trailer



Photo No. 28 Waste Oil AST Located on the Eastern Exterior Wall of the Equipment Building

**SITE PHOTOS NO. 27 & 28**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Pine Grove Maintenance Station

GEOCON Proj. No. S8225-06-146

19587 Highway 88  
Amador County, California

Task Order No. 10-0E790K-7B

June 2001

Figure 13n

Project No. S8225-06-146  
September 28, 2001

Mr. Saiyed S. Ali  
California Department of Transportation  
Central Sierra Environmental Services Branch  
Post Office Box 2048  
Stockton, California 95201

Subject: WOODFORDS MAINTENANCE STATION  
ALPINE COUNTY, CALIFORNIA  
CONTRACT NO. 43A0012  
TASK ORDER NO. 10-0E790K-7B  
INITIAL SITE ASSESSMENT

Dear Mr. Ali:

In accordance with Caltrans Contract No. 43A0012 and Task Order No. 10-0E790K-7B, Geocon Consultants, Inc. has performed an Initial Site Assessment (ISA) of the subject site. The Site consists of the Caltrans Woodfords Maintenance Station located at 18935 Highway 88, in Woodfords, Alpine County, California.

The accompanying report presents the details of the ISA conducted at the request of Caltrans. The report summarizes the services performed, including a summary of recognized environmental conditions associated with the former and current operations at the Site and adjacent facilities. An electronic copy of the ISA report is presented on the attached compact disc.

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

Sincerely,

**GEOCON CONSULTANTS, INC.**

John E. Juhrend, PE, CEG  
Project Manager

Amy L. Hester  
Senior Staff Environmental Scientist

ALH:JEJ:krc

(6) Addressee

## TABLE OF CONTENTS

### INITIAL SITE ASSESSMENT

EXECUTIVE SUMMARY .....	i
1.0 INTRODUCTION .....	1
1.1 Background .....	1
1.2 Purpose .....	1
1.3 Scope of Work .....	2
2.0 EXISTING SITE, GEOLOGIC AND GROUNDWATER CONDITIONS .....	5
2.1 Existing Site Conditions and Improvements .....	5
2.2 Soil and Geologic Conditions .....	5
2.3 Groundwater Conditions .....	5
3.0 SITE HISTORY .....	7
3.1 Historical Research Report .....	7
3.2 Previous Environmental Investigations .....	7
3.3 Caltrans Site Permits .....	10
3.4 Aerial Photographs .....	10
3.5 Historical Site Photographs .....	11
3.6 U.S. Geological Survey (USGS) Topographic Map .....	11
3.7 Title Report and Right-of-Way Plans .....	12
3.8 Flood Control & Oil Survey Maps .....	12
4.0 SITE RECONNAISSANCE .....	13
4.1 Onsite Survey .....	13
4.1.1 Buildings .....	13
4.1.2 Chemical Materials/Wastes .....	15
4.1.3 Refuse & Debris .....	17
4.1.4 Site Drainage .....	17
4.1.5 Surface Vegetation and Soil Conditions .....	17
4.1.6 Water Wells .....	18
4.1.7 Utilities .....	18
4.1.8 Transformers .....	18
4.1.9 Storage Tanks .....	18
4.1.10 GPS Data Collection .....	19
4.2 Offsite Survey .....	19
4.3 Interviews .....	19
5.0 GOVERNMENTAL AGENCIES - RECORDS REVIEW .....	21
5.1 EPA NPL and CORRACTS Listings .....	21
5.2 DTSC SPL/SCL Listings .....	21
5.3 EPA CERCLIS/NFRAP and TSD Listings .....	21
5.4 Leaking Underground Storage Tank (LUST) Listing .....	21
5.5 SWLF Listing .....	22
5.6 Deed Restriction Properties Report .....	22
5.7 CORTESE Listing .....	22
5.8 Toxic Pits Listing .....	22
5.9 USGS Water Well Listing .....	22
5.10 RCRA Violation Listing .....	22
5.11 TRIS Listing .....	22
5.12 SWRCB UST/AST Listings .....	22
5.13 EPA ERNS Listing .....	22
5.14 EPA Generator Listing .....	23
5.15 SPILLS Listing .....	23
6.0 RECORDS REVIEW .....	24

## TABLE OF CONTENTS

(Continued)

6.1	Central Valley Regional Water Quality Control Board (CVRWQCB) Leaking Underground Storage Tank Information System.....	24
6.2	ACHD and LRWQCB .....	24
6.3	GBAPCD .....	25
6.4	Sierra Pacific Power Company .....	25
7.0	LIMITED LEAD AND ASBESTOS SURVEYS .....	26
7.1	Review of Previous Building Surveys and As-Built Plans .....	26
7.2	Limited Asbestos Survey .....	26
7.3	Limited Lead-Based Paint Survey .....	27
8.0	CONCLUSIONS AND RECOMMENDATIONS .....	29
9.0	REPORT LIMITATIONS .....	32

### FIGURES

1. Vicinity Map
2. Site Plan
3. Equipment Building Detail
4. Soil Boring and Sample Location Map
5. Geologic Map
6. 1940 Aerial Photo
7. 1987 Aerial Photo
8. 1999 Aerial Photo
9. Historical Site Photos No. 1 & 2
10. Topographic Map
11. Site Characterization Map
- 12a-12p. Site Photos
13. Utilities Map
14. Potential Hazardous Facilities Map
- 15a-15c. Offsite Photos
16. Lead and Asbestos Sample Locations Map

### TABLES

1. Summary of Soil Sample Analytical Data
2. Summary of Groundwater Elevation and Sample Analytical Data
3. Summary of Recognized Environmental Conditions
4. Potential Hazardous Waste Facilities
5. Summary of Asbestos Analytical Data
6. Summary of Lead-Containing Paint Analytical Data

### APPENDICES

- A. Historical Research Report and Information
- B. Site Information from Previous Environmental Documents
- C. Site Regulatory Permit Information
- D. GPS Data
- E. Interview Transcript
- F. Vista Recovery Database Report
- G. Offsite Regulatory Information
- H. Asbestos and Lead Survey and Laboratory Analytical Reports

### ELECTRONIC MEDIA

Attached Compact Disc

## LIST OF ACRONYMS

AHERA	Asbestos Hazard Emergency Response Act
ACHD	Alpine County Health Department
ACBM	Asbestos-Containing Building Materials
AST	Aboveground Storage Tank
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Total Xylenes
CCR	California Code of Regulations
Caltrans	California Department of Transportation
CDMG	California Division of Mines and Geology
Cal/OSHA	California Occupational Safety and Health Administration
cm	Centimeter
CORRACTS	RCRIS Corrective Action Sites
CVRWQCB	Central Valley Regional Water Quality Control Board
CEG	Certified Engineering Geologist
DHS	California Department of Health Services
HUD	Department of Housing and Urban Development
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
DI	Drain Inlet
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
GIS	Geographic Information System
GPS	Global Positioning System
GBAPCD	Great Basin Air Pollution Control District
Hwy	Highway
ISA	Initial Site Assessment
km	Kilometer
LRWQCB	Lahontan Regional Water Quality Control Board
LCP	Lead-Containing Paint
LUST	Leaking Underground Storage Tank
LPG	Liquid Petroleum Gas
m	Meter
MTBE	Methyl tert-butyl ether
MBAS	Methylene blue active substances
mg/kg	Milligrams per kilogram
µg/l	Micrograms per liter
mg/l	Milligrams per liter
NIST-NVLAP	National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program
NPL	National Priorities List
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
RCRA	Resource Conservation and Recovery Act
SCL	DTSC Calsites Database
SPL	State Equivalent to NPL
SWIS	Solid Waste Inventory System
SWLF	Solid Waste Landfills
TO	Task Order
PCE	Tetrachloroethylene
TPH	Total Petroleum Hydrocarbons
TPHd	Total Petroleum Hydrocarbons as Diesel
TPHg	Total Petroleum Hydrocarbons as Gasoline
TRIS	Toxic Release Inventory System

TSD	Treatment, Storage and Disposal
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	Underground Storage Tank
WMUDS	Waste Management Unit Data System

## **INITIAL SITE ASSESSMENT**

### **EXECUTIVE SUMMARY**

The California Department of Transportation (Caltrans) District 10 - Environmental Engineering Branch retained Geocon Consultants, Inc. to perform an Initial Site Assessment (ISA) of the Woodfords Maintenance Station (Site). The objective of the ISA was to provide a summary of recognized environmental conditions associated with the former and current facility operations. Caltrans requested the ISA to identify potential onsite and adjacent property environmental impairments that may impact land use planning, the health and safety of onsite personnel, and/or the construction of future onsite improvements. The scope of the ISA included a site reconnaissance, an offsite survey, a review of historical records and environmental documents, asbestos and lead-containing paint building surveys, data evaluation and the preparation of this report.

The Site was unoccupied prior to development as a Caltrans maintenance station in 1971-1972. The 1971-1972 construction activities included asphalt paving, septic tank and leach field installations, domestic well installation, the construction of the office and equipment building, one 7,600-liter (2,000-gallon) waste oil underground storage tank (UST), wash rack, concrete loading dock, sand storage building, hydraulic lift, water storage tank, liquid propane gas (LPG) aboveground storage tank (AST), gas house with one 15,200-liter (4,000-gallon) gasoline UST and one 15,200-liter (4,000-gallon) diesel UST, pump house, sign house, water storage tank and asphalt emulsion AST. Subsequent onsite improvements constructed at the Site include the installation of a salt storage building, water pressure building, water treatment system, mud rinse slab, engineers shed, one 38,000-liter (10,000-gallon) diesel AST and one 7,600-liter (2,000-gallon) gasoline AST. Facility operations generally include the storage and repair of Caltrans vehicles and equipment used for the maintenance of California highways.

An Unauthorized Release Report was submitted for the Site in August 1989 for the release of gasoline and diesel to the soil detected during a tank test. In November 1989, one 15,200-liter (4,000-gallon) gasoline UST was removed from the Site. In May 1991, a temporary gasoline AST was installed at the Site and a work plan to advance four soil borings at the Site was proposed. In June 1991, eight exploratory soil borings were drilled at the Site and petroleum hydrocarbons were detected in two of the soil borings located southeast (downgradient) of the UST locations. In July 1991, one 15,200-liter (4,000-gallon) diesel UST and the concrete slabs associated with the former gasoline UST were removed from the Site. Analytical results of soil samples collected from the UST excavation indicated the presence of total petroleum hydrocarbons and gasoline and diesel (TPHg and TPHd).

A water treatment system was installed at the Site in 1990. The treatment system discharges vehicle wash water to an onsite leach field. Annual sampling of the treated effluent that is discharged from the

treatment system has been conducted since 1991 in accordance with the permit requirements set by the Lahontan Regional Water Quality Control Board (LRWQCB). TPHd, oil and grease and methylene blue active substances (MBAS) have not been detected above their respective laboratory detection limits in any of the effluent samples collected and total dissolved solids have not been detected above the maximum allowable limit in any of the effluent samples collected at the Site.

In accordance with LRWQCB requirements, three groundwater wells were installed at the Site in 1995 to monitor the treatment system discharge. A quarterly groundwater monitoring program commenced in May 1995. Analytical results of soil samples collected from the soil borings indicated the presence of TPHg in one soil sample and oil and grease in two soil samples. TPHd and oil and grease were detected in the groundwater samples collected from each well. During the most recent groundwater monitoring event performed at the Site in September 2001, TPHd and oil and grease were not detected above their respective laboratory detection limits and total dissolved solids were not detected above the maximum allowable limit. MBAS was detected at a concentration of 0.06 milligrams per liter (mg/l).

Tetrachlorethylene (PCE) was detected in the water extracted from the onsite domestic well at a maximum concentration of 11 µg/l in September 2001. Caltrans should report the findings to the appropriate regulatory agency and determine the source of the PCE.

Based on the information presented in this ISA, the following recognized environmental conditions exist at the Site:

- Confirmed soil and groundwater impacts associated with the former fuel USTs.
- Confirmed soil and groundwater impacts associated with the wash rack and mud rinse leach field.
- The hydraulic lift in the second bay of the equipment building.
- Two drain inlets that discharge surface water runoff to the southern portion of the Site.
- Septic tank and leach field associated with the office and equipment building.
- Fill material originating from snow removal activities and bank failures beyond the eastern paved portion of the Site and in the southwest corner of the Site.
- PCE detected in water extracted from the onsite domestic well.

A determination of the lateral extent of the soil impacts and an assessment of groundwater occurrence and quality associated with the recognized environmental conditions will be necessary prior to evaluating remedial response actions for specific future land use options. Targeted site investigations should be designed to evaluate potential soil and groundwater impacts with respect to specific project requirements prior to design and construction of any proposed onsite improvements. Soil and groundwater generated from excavations at the Site may require treatment and/or disposal.

The Site is referenced on the Vista report as a closed case regarding a release of diesel to the soil

from a leaking UST. One facility within the site vicinity, Woodfords Station, located at 290 Pony Express Road, approximately 0.4 kilometer (km) (0.25 mile) northeast of the Site, is referenced as an open case regarding a leaking UST. Based on the distance and the crossgradient location of the facility from the Site, this facility has a low potential of impacting the Site.

A review of previous surveys and the results of the building surveys performed at the Site by Geocon, indicate the presence of asbestos-containing building materials (ACBMs) in the equipment building. Lead-containing paints (LCPs) were identified at the water storage tank, water pressure building, sealand storage container, sand storage building, sign house, metal storage container and the equipment building. Based on our findings, Geocon recommends the following:

- Retain a registered asbestos abatement contractor to remove and dispose of ACBM identified during this survey that will be impacted by renovation or demolition activities.
- Notify contractor(s) that will be conducting renovation work and related activities of the presence of ACBM and LCP in their work areas and instruct the contractor(s) not to disturb ACBM or LCP during their work (i.e., provide the contractor[s] with a copy of this report and a list of ACBM removed by the asbestos abatement contractor during any abatement activities).
- Treat all paints at the Site as lead-containing for purposes of determining the applicability of the California Occupational Safety and Health Administration (Cal/OSHA) lead standard during any future maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results, the age of the buildings, and the fact that lead was a common ingredient of paints manufactured before 1978.
- Implement interim controls to maintain identified ACBMs and LCPs.

# INITIAL SITE ASSESSMENT

## 1.0 INTRODUCTION

### 1.1 Background

This report presents the results of an Initial Site Assessment (ISA) performed under the California Department of Transportation (Caltrans) Contract No. 43A0012 and Task Order (TO) No. 10-0E790K-7B. The Site consists of the Caltrans Woodfords Maintenance Station located at 18935 Highway (Hwy) 88 in Woodfords, Alpine County, California (see Vicinity Map, Figure 1).

Caltrans District 10 requested this ISA to identify potential onsite and adjacent property environmental impairments that may impact land use planning, the health and safety of onsite personnel, and/or the construction of future onsite improvements.

### 1.2 Purpose

The purpose of the ISA was to provide a summary of recognized environmental conditions associated with the former and current site and adjacent property operations. According to the American Society of Testing and Materials Practice E 1527-00, Section 1.1.1, *the term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.*

Specifically, the objectives of this ISA were to:

- Document the existing site conditions.
- Document the development and historical facility operations at the Site and adjacent facilities.
- Summarize available information and analytical data generated from previous environmental site investigations and remediation activities performed at the Site and adjacent facilities.
- Perform updated asbestos and lead-based paint surveys of the onsite structures.
- Summarize the extent of soil and groundwater impacts at adjacent facilities to evaluate the potential for these facilities to impact the Site.
- Provide recommendations for onsite areas of concern requiring additional site characterization and/or remediation and cleanup activities.

### **1.3    Scope of Work**

Geocon has performed preliminary research and a site reconnaissance to estimate the potential for existing environmental impacts to the Site from the presence of hazardous materials/wastes on or adjacent to the Site. The guidelines used for the definition of hazardous materials/wastes are presented in the California Code of Regulations (CCR) Title 22.

The ISA services performed are presented as follows:

- Conducted a pre-work meeting on December 15, 2000, attended by Mr. Saiyed Ali with Caltrans and Mr. John Juhrend, Mrs. Rebecca Silva and Ms. Amy Hester of Geocon, to review the subject TO.
- Reviewed the following documents to obtain information regarding the prevailing soil, geologic and groundwater conditions at the Site:
  - *Mines and Mineral Resources of Alpine County, California*, prepared by the California Division of Mines and Geology (CDMG), dated 1977.
  - *Bouguer Gravity Map of California, Walker Lake Sheet*, prepared by the CDMG, dated 1982.
  - *Fault Activity Map of California and Adjacent Areas*, prepared by the CDMG, dated 1994.
  - *The Water Quality Control Basin Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region*, third edition 1994.
- Geocon personnel performed an onsite reconnaissance on August 1, 2001 to attempt to identify visual indicators suggestive of the potential presence, as of the date of the site reconnaissance, of hazardous materials/wastes at the Site. These indicators typically include the presence of chemical containers and drums, waste disposal storage areas, industrial facilities, discolored surficial soils, electrical transformers that may contain polychlorinated biphenyls (PCBs), underground/aboveground storage tanks (USTs/ASTs), and areas conspicuously absent of vegetation. Global Positioning System (GPS) data was collected to document the locations of observed site features with the information provided herein in Caltrans compatible Geographic Information System (GIS) format.
- Surveyed adjacent properties from public thoroughfares on August 1, 2001 to attempt to evaluate if adjacent properties possess facilities or structures that were likely to be occupied by entities that potentially use, store, generate, or dispose of hazardous materials/wastes.
- Conducted a personal taped interview with Mr. Neil Nyswonger of Caltrans to determine the history of the Site.
- Reviewed aerial photographs taken in 1940, 1976, 1986, 1987, 1988, 1999 and 2000 at the Alpine County Library in Markleeville, the El Dorado National Forest Station in Pioneer, California and from Caltrans, to obtain information concerning the history of the Site.
- Reviewed the United States Geological Survey (USGS) topographic map for the Woodfords, California, Quadrangle dated 1979 to obtain topographic information and information relative to previous development of the Site and facilities in the vicinity of the Site.

- Reviewed the following environmental reports:
  - *Preliminary Soil Investigation, Woodfords Maintenance Station*, prepared by Alton Geoscience, dated July 19, 1991.
  - *Analytical Data for Soil Samples from the Woodfords Maintenance Station Tank Excavation*, prepared by TPE Environmental, dated August 7, 1991.
  - *Soil Sampling and Testing Report, Woodfords Maintenance Station*, prepared by Wallace Kuhl & Associates Inc., dated October 29, 1992.
  - *Monitoring Well Installation and Soil and Groundwater Sampling Report for Woodfords Maintenance Station, Woodfords, California*, prepared by Geocon dated June 13, 1995.
  - *Final Report for Above Ground Storage Tank Installation At: Woodfords Maintenance Station*, prepared by A.E. Schmidt Environmental, dated March 4, 1997.
- Reviewed a *Site Assessment Plus Report* prepared for Caltrans by Vista Information Systems dated July 23, 2001. The Vista regulatory database search included the following information sources at a search distance of 1.6 kilometers (km) (1 mile):

NPL - Environmental Protection Agency (EPA) National Priorities List dated March 2001.  
 CORRACTS - EPA Resource Conservation and Recovery Act (RCRA) Corrective Action Sites List dated June 2000.  
 SPL & SCL - California Department of Toxic Substances Control (DTSC) Calsites Databases dated October 2000.  
 CERCLIS/NFRAP - EPA Databases dated March 2001.  
 RCRIS - TSDC - TSD - EPA Treatment, Storage and Disposal Facilities subject to Corrective Action and Treatment, Storage and Disposal Facilities Lists dated June 2000.  
 LUST - California Regional Water Quality Control Databases dated February 2000 for Region 6 and January 2001 for Region 5 and California EPA Listing dated March 2001.  
 SWLF - California Solid Waste Information System (SWIS) Database dated January 2001, City of Los Angeles Landfills Transfer Stations Database dated April 1999, and State Water Resources Control Board Waste Management Unit Data System (WMUDS) listing dated February 1999.  
 DEED RSTR - California Department of Health Services (DHS) Database dated April 2001.  
 CORTESE - California EPA Database dated April 1998.  
 TOXIC PITS - SWRCB Database dated February 1995.  
 WATER WELLS - USGS Water Wells Database dated March 1998.  
 RCRIS VIOL - EPA Database dated June 2000.  
 TRIS - EPA Database dated January 1998.  
 UST/AST - SWRCB Database dated January 1994/January 2001.  
 ERNS - EPA Database dated December 2000.  
 RCRA - LQG/RCRIS - SQG - EPA Database dated June 2000.  
 SPILLS - Database dated January 2001.

- Reviewed regulatory files and environmental reports available at the Alpine County Health Department (ACHD) pertaining to UST facilities, and hazardous material/waste storage and waste generation facilities located within the site vicinity. ACHD files were reviewed to obtain information regarding the nature and extent of potential reported hazardous material/waste releases, and to estimate the potential for the reported releases to impact the Site.
- Reviewed the following as-built plans provided by Caltrans to determine structural features at the Site:

- *Plot Plan and, Maintenance Station, Woodfords*, Office of Architecture and Construction, dated July 19, 1971
  - *Plot Plan and, Maintenance Station, Woodfords*, Office of Architecture and Construction, dated July 28, 1971.
  - *Woodfords Maintenance Station, Declassify/New Salt Storage Site Plan*, dated May 11, 1993.
  - *Project Plans for Building Construction, Woodfords Maintenance Station*, State of California Department of Transportation, dated September 13, 1993.
  - *Existing Floor Plan, Woodfords Maintenance Station*, State of California Department of Transportation, dated July 12, 1994.
  - *Caples Lake & Woodfords M.S. Vehicle Wash Area Upgrade, Partial Site Plan*, State of California Department of Transportation, dated November 4, 1997.
- Reviewed the "1993 Munger Map Book" to obtain information regarding the locations of potential oil and gas wells in the site vicinity.
  - Contacted the following public agencies to obtain information regarding the site history and potential and/or existing presence of hazardous materials/wastes at the Site at levels likely to warrant current regulatory mitigation action:
    - California State University, Stanislaus, Library
    - Lahontan Regional Water Quality Control Board (LRWQCB)
    - Department of Water Resources (DWR)
    - South Tahoe Public Utility District
    - Markleeville Fire Department
    - United States Department of Agriculture (USDA)
    - ACHD
    - Alpine County Archive/Library
    - Alpine County Assessors Office
    - Alpine County Records Office
    - Alpine County Public Works Department
    - Alpine County Building and Planning Department
    - Great Basin Air Pollution Control District (GBAPCD)
    - Sierra Pacific Power Company
  - Reviewed previous building surveys performed at the Site and the as-built plans provided by Caltrans to evaluate the general presence of asbestos containing materials and lead-based paint within the onsite structures. Based on the review, a Geocon Asbestos Hazard Emergency Response Act Certified Asbestos Consultant and California Department of Health Services certified lead-based paint sampler performed updated asbestos and lead-based paint building surveys on August 9, 2001.
  - Reviewed a *Historical Land Use Research Report, Woodfords Maintenance Station*, prepared by Sarah Lim, MS Historian, dated July 24, 2001, to determine the history of the Site and the site vicinity. The Historical Research Report is presented in Appendix A.
  - Prepared this ISA report to summarize the information sources reviewed and to present recommendations regarding additional site characterization.

## **2.0 EXISTING SITE, GEOLOGIC AND GROUNDWATER CONDITIONS**

### **2.1 Existing Site Conditions and Improvements**

The Caltrans Woodfords Maintenance Station is located at 18935 Hwy 88 in Woodfords, Alpine County, California. The roughly 2.6-hectare (6.6-acre) parcel is bounded to the west by a meadow and naturally occurring drainage basin, to the south by forested land and the West Fork Carson River, to the east by rural residential development and to the north by Hwy 88. The junction of Hwy 88/89 is approximately 0.32 km (0.2 mile) east of the Site.

The Site consists of an active maintenance facility for the storage and repair of vehicles and equipment used for the maintenance of California highways. Existing improvements include the office and equipment building with two wash racks, a mud rinse, gas house, sign house, sand and storage buildings, engineers shed, one 38,000-liter (10,000-gallon) diesel AST, one 7,600-liter (2,000-gallon) gasoline AST, water pressure building, water pressure and storage ASTs, domestic water well and one 11,400-liter (3,000-gallon) liquid propane gas (LPG) AST. The existing site improvements are depicted on Figures 2 and 3.

### **2.2 Soil and Geologic Conditions**

Information concerning the general soil and geologic conditions beneath the Site was obtained from a review of previous reports prepared for the Site and the previously referenced CDMG documents.

The Site is located within the Sierra Nevada Mountains, approximately 148 km (92 miles) east of Sacramento, California and approximately 43 km (27 miles) south-southwest of Carson City, Nevada. The potentially active West Tahoe Fault is located approximately 15 km (10 miles) east of the Site and the active Genoa Fault is located immediately to the west of the Site. Surficial soils are generally comprised of Holocene age colluvium overlying Mesozoic age granitic rocks of the Sierra Nevada Batholith. A portion of the CDMG geologic map depicting the Site is presented on Figure 5.

Soil and geologic conditions encountered beneath the Site during monitoring well installation activities generally consisted of colluvium overlying decomposed granitic bedrock. Colluvium was encountered from the ground surface to depths ranging from approximately 1.7 to 2.1 meters (m) (5.5 to 7 feet) below ground surface (bgs) and consisted of tan to dark brown silty sand. Underlying the colluvium was a tan to brown to gray, micaceous sand with some gravel resulting from weathering of the underlying granitic bedrock encountered to the maximum depth explored of 6 m (20 feet) bgs.

### **2.3 Groundwater Conditions**

Information sources prepared by the DWR and the LRWQCB were reviewed for information pertaining to groundwater quality and occurrence in the vicinity of the Site.

A Water Well Drillers Report for the onsite domestic well was not available at the DWR. DWR water wells were not reported within 1.6 km (1 mile) of the Site. During the 1995 groundwater monitoring well installation drilling activities, groundwater was encountered beneath the Site at depths ranging from approximately 1.21 to 2.12 m (4 to 7 feet) bgs with a flow direction to the southeast.

Bob Hargis, former Caltrans District Hazardous Waste Coordinator, informed Geocon that tetrachloroethylene (PCE) was detected in the water extracted from the onsite domestic well on April 5, 2001. Due to the inability to collect a sample from the well head, water samples are collected between the storage water tank and the pressure tank. A confirmatory water sample collected from a drinking faucet in the equipment building on June 13, 2001 also indicated the presence of PCE at a concentration of 0.89 micrograms per liter ( $\mu\text{g/l}$ ). A sampling point at the domestic well head is reportedly scheduled to be installed. A copy of the analytical results for the confirmatory water sample is presented in Appendix B.

## **3.0 SITE HISTORY**

### **3.1 Historical Research Report**

Review of the *Historic Land Use Research Report* presented in Appendix A indicates that the Site was purchased in 1963 from the Sierra Pacific Power Company by the State of California. The Site was previously owned by the Truckee River and General Electric Company. The most current assessor's map from Alpine County identifies the Site as parcel number 001-080-023. Copies of the deed, a site plan, right of way map, assessor's maps, aerial photographs and a survey report are presented in Appendix A.

### **3.2 Previous Environmental Investigations**

Information regarding the use, storage and disposal of hazardous material/waste and previous environmental investigations performed at the Site was obtained from a review of onsite records, information obtained from the Caltrans District 10 office in Stockton, California, and the ACHD in Woodfords, California. Copies of pertinent site-specific information are presented in Appendix B.

Analytical data for five soil samples collected at the Site in August 1993 were noted in the case file; however, no indication of the sample locations was noted. Total petroleum hydrocarbons (TPH) were detected in one soil sample at a concentration of 12,900 mg/kg and were further noted in the oil range.

An undated, hand-drawn site plan obtained from TRC (former Alton Geoscience) indicates that three groundwater monitoring wells and one extraction well were located at the Site in the vicinity of the UST locations. A notation for one of the monitoring wells located northeast of the diesel UST indicated a TPHg concentration of 1,700 parts per million at a depth of 6 m (10 feet); however, the notation did not indicate the matrix of the sample. Additional information regarding the August 1993 data and the site plan was not available from TRC or Caltrans.

### **UST Removals and AST Installations**

An Unauthorized Release Report was submitted for the Site in August 1989 for the release of gasoline and diesel to the soil detected during a tank test. In November 1989, one 15,200-liter (4,000-gallon) gasoline UST (installed in 1971) was removed from the Site. Due to weather conditions, a membrane was placed in the excavation and the soil removed during the UST removal was placed back in the excavation. In May 1991, a temporary gasoline AST was installed at the Site and a work plan to advance soil borings at the Site was prepared. In June 1991, eight exploratory soil borings (B-1 through B-8) were drilled at the Site to a maximum depth of 3.5 m (11.5 feet) bgs in the vicinity of the UST locations. Groundwater was encountered during drilling activities between 2.4 and 3 m (8 and 10 feet) bgs. Total petroleum hydrocarbons as gasoline and diesel (TPHg and TPHd) and benzene were detected in two of the eight soil borings located southeast of the UST locations (downgradient) at maximum concentrations of 10,000, 220 and 2.6 milligrams per kilogram (mg/kg), respectively.

Soil boring and sample locations are presented on Figure 4. Soil analytical results are presented on Table 1.

In July 1991, one 15,200-liter (4,000-gallon) diesel UST (installed in 1971) and the concrete slabs associated with the former gasoline UST were removed from the Site. Two 7,600-liter (2,000-gallon) gasoline ASTs were subsequently installed at the Site for fueling purposes. Analytical results of soil samples collected from the diesel UST excavation extending to an average depth of 3 m (10 feet) bgs indicated maximum TPHg and TPHd concentrations of 397 and 120 mg/kg, respectively, were detected north of the concrete slab located north of the gas house. Maximum TPHg and TPHd concentrations of 213 and 110 mg/kg, respectively, were reported for soil samples collected from the stockpiled soil generated from the excavation. Representatives of the ACHD obtained approval from the LRWQCB to dispose approximately 382 cubic m (500 cubic yards) of contaminated soil generated from the UST removal activities at the north end of the Alpine County Airport runway. In September 1992, two composite soil samples were collected from the stockpiled soil at the airport. Analytical results indicated that TPHg and TPHd were not detected in the composite soil samples, meeting the ACHD requirements.

In 1996, one of the 7,600-liter (2,000-gallon) gasoline ASTs was replaced with a 38,000-liter (10,000-gallon) diesel AST and one 7,600-liter (2,000-gallon) gasoline AST was retrofitted.

#### **Water Treatment System and Groundwater Monitoring Well Installation and Sampling**

In 1990, a water treatment system was installed south of the loading dock including a three-cell clarifier, a polypropylene geotextile pre-filter and a granulated activated carbon filter. The wash water from the wash rack in the equipment building and from the mud rinse slab (installed in 1998) is treated and then discharged to a leach field. The LRWQCB issued Board Order No. 6-91-839 on July 17, 1991 to prescribe waste discharge requirements for the equipment wash water discharges at the Site. The Board Order prescribes annual sampling of the treated waste water effluent before entering the leach field for two years followed by annual sampling, and the establishment of a quarterly groundwater monitoring program consisting of a minimum of three wells. The waste water effluent was sampled annually as required between 1991 and 2001 and analyzed for TPHd, oil and grease, total dissolved solids and methylene blue active substances (MBAS). Between 1991 and 2000, TPHd, oil and grease and MBAS were not detected above their respective laboratory detection limits in any of the effluent samples collected and total dissolved solids were not detected above the maximum allowable limit in any of the effluent samples collected. In September 2000, chlorides were detected in the effluent water sample at a concentration of 167 mg/l. Results of a confirmatory sample collected in December 2000 indicated that chlorides were detected in the effluent at a concentration of 137 mg/l, below the maximum allowable limit of 150 mg/l. During the most recent effluent sample collected in September 2001, MBAS was detected at a concentration of 0.15 milligrams per liter (mg/l), which is below the maximum allowable limit of 10 mg/l. The December 2000 confirmatory effluent results and September 2001 results are presented in Appendix B.

In May 1995, one monitoring well was installed northeast of the equipment building and two monitoring wells were installed downgradient of the leach field that receives the waste water effluent to a maximum depth of 6 m (20 feet) bgs. Groundwater was encountered beneath the Site at depths ranging from approximately 1.21 to 2.12 m (4 to 7 feet) bgs with a flow direction to the southeast. Analytical results of soil samples collected from the soil borings indicated the presence of TPHg in one sample and oil and grease in two samples at maximum concentrations of 1.2 and 34 mg/kg, respectively. TPHd was not detected above the laboratory detection limit for each soil sample tested. Groundwater samples were collected from each well subsequent to development. Maximum TPHd and oil and grease were detected in the groundwater samples collected from each well at concentrations of 0.52 and 0.50 mg/l, respectively. TPHg and MBAS were not detected above their respective laboratory detection limits for each groundwater sample tested. During the most recent groundwater monitoring event performed in September 2001, groundwater was encountered at depths between 2.07 and 3.76 m (6.79 and 12.34 feet) bgs. TPHd and oil and grease were not detected above their respective laboratory detection limits and total dissolved solids were not detected above the maximum allowable limit. MBAS was detected at a concentration of 0.06 mg/l. Monitoring well locations are presented on Figure 4. A summary of soil information collected during onsite drilling activities and groundwater sampling data is presented on Tables 1 and 2, respectively.

In June 2000, the LRWQCB issued a letter summarizing corrective actions required at the Site for surface water discharges including placing a containment tray beneath the fuel nozzle to control potential leaks, preventing the discharge of sand and sediment to surface waters and updating the storm water pollution prevention plan for the Site. In March 2001, the ACHD conducted an inspection of the Site and identified violations including unlabeled drums, incorrect accumulation start date observed on a waste oil drum, inaccurate employee training records and no record of a spill prevention plan for the fuel ASTs.

### **Domestic Well Sampling**

The Site is neither listed on the DHS drinking water supply inventory nor required to monitor the onsite domestic well for MTBE; however, in March 2001, Caltrans began a quarterly MTBE domestic well sampling program as outlined in the DHS monitoring guidance. Due to the inability to collect a water sample from the well head, the sample was collected from between the storage water tank and pressure tank. MTBE was not detected above the laboratory detection limit; however, the laboratory verbally contacted Caltrans regarding a trace concentration of PCE detected in the domestic well water sample. Confirmatory water samples were collected in April 2001. Results of the confirmatory water sample collected from between the storage water tank and pressure tank indicated the presence of PCE at a concentration of 1.5 µg/l. Results of the confirmatory water sample collected from the drinking fountain in the equipment building also indicated the presence of PCE at a concentration of 1 µg/l. Results of water samples collected from between the storage water tank and pressure tank in June and September 2001 indicated the presence of PCE at concentrations of 0.89 and 11 µg/l, respectively. MTBE was not detected in the June and September 2001 water samples. The domestic well has not been used for

consumption since September 2001. A sampling point at the well head is reportedly scheduled to be installed.

### **3.3 Caltrans Site Permits**

The LRWQCB issued Board Order No. 6-91-839 on July 17, 1991 to prescribe waste discharge requirements for the equipment wash water discharges at the Site.

In December 1993, EPA issued Caltrans an Environmental Compliance Agreement Regarding Industrial Injection Wells at Caltrans Maintenance Stations. The agreement outlines Federal Safe Drinking Water Act compliance requirements for maintenance wash rack facilities that discharge to septic/leach field systems. EPA defines wash rack/septic systems as Class V industrial injection wells. EPA has required Caltrans to close all Class V industrial injection wells in accordance with the *EPA Region 9 Guidelines for Closure of Shallow Disposal Wells* and applicable state and local regulatory requirements. The septic system can continue to be used for disposal of sanitary waste if the system is in good working condition, the soil is not severely contaminated, all industrial fluids are removed from the tank, and the industrial discharge is discontinued.

EPA Industrial Injection Well Agreement, Hazardous Waste Transporter Registration, Hazardous Materials Management Plan, Hazardous Materials Inventory Forms, Monthly Inspection Forms, LRWQCB Board Order No. 6-89-188, LRWQCB Board Order No. 6-91-839, Emergency Action Plan and the Statewide Storm Water Management Plan are presented in Appendix C.

### **3.4 Aerial Photographs**

Reviews of aerial photographs dated 1940, 1976, 1986, 1987, 1988 and 1999 were performed at the Alpine County Archive/Library in Markleeville, the University of California at Berkeley and Caltrans District Office in Stockton. The reviews were performed to obtain information concerning the history of development on and in the vicinity of the Site. The following observations were noted during the review of the aerial photographs.

**1940 Aerial Photograph.** A review of the 1940 aerial photograph indicated that the town of Woodfords was established approximately 0.4 km (0.25 mile) east of the Site. Hwys 88 and 89 were noted east of the Site. Open unforested land was noted adjacent and west of the Site. West Fork Carson River was noted adjacent and south of the Site. Due to the scale of the photograph, a detailed analysis of the Site was not possible; however, the Site was likely undeveloped. A copy of the 1940 photograph is presented on Figure 6.

**1976 Aerial Photograph.** A review of the 1976 aerial photograph indicated that the equipment building and sand storage building were noted at the Site. Due to the scale of the photograph, other structures

including the gas house, which was built in 1971-72, were not noted at the Site. Structures were noted along Old Pony Express Road northeast of the Site and southeast of Hwys 88 and 89 east of the Site. A borrow pit was noted northwest of the Site and north of Hwy 88.

**1986, 1987 and 1988 Aerial Photographs.** A review of the 1986, 1987 and 1988 aerial photographs indicated similar observations as in the 1976 photograph. The gas house was further noted in the 1986, 1987 and 1988 aerial photographs. A copy of the 1987 photograph is presented on Figure 7.

**1999 Aerial Photograph.** A review of the 1999 photograph indicated the sign house, loading dock and engineers shed were noted at the Site. Vehicles were noted on the southern portion of the Site. Additional residential structures were noted northeast and southeast of the Site. A copy of the 1999 photograph is presented on Figure 8.

### **3.5 Historical Site Photographs**

Ground level photographs obtained from Caltrans were reviewed to determine historical uses of the Site and locations of hazardous material/waste storage at the Site. Undated photos indicate that the sand storage building, the asphalt emulsion AST, water pressure and water storage ASTs were in their current configurations. The water pressure building and the salt storage building were not noted in the photographs. Asphalt and/or gravel stockpiles were noted adjacent and west of the sand storage building. Copies of the undated historical site photographs are presented on Figure 9.

### **3.6 U.S. Geological Survey (USGS) Topographic Map**

A USGS topographic map dated 1979 for the Woodfords, California, Quadrangle was reviewed to obtain information relative to the topography, previous development, and uses of the Site and properties located in the site vicinity. Information obtained from the review of the USGS topographic map is presented hereinafter.

**Site Topography.** A review of the USGS map indicates that the Site is situated near the base of a northerly trending ridge within the West Fork of the Carson River drainage. The Site elevation is approximately 1,707 m (5,690 feet) above Mean Sea Level.

**Site Development.** A review of the USGS map indicates that the equipment building, gas house, sand storage building and an access road were constructed at the Site prior to 1979. Vegetated land was noted surrounding the Site. A gravel pit was noted north of Hwy 88. Three naturally occurring springs were noted adjacent and west of the Site. The West Fork Carson River is located adjacent and south of the Site. The Cary Canyon drainage was noted east of the Site. Residential development and a cemetery were noted along Old Pony Express Road northeast of the Site. Additional residential

development was noted along Hwy 89 and unimproved roads southeast of the Site. A copy of the USGS topographic map is presented on Figure 10.

### **3.7 Title Report and Right-of-Way Plans**

Title reports and right-of-way plans were not available at the Alpine County Records Office or the Caltrans District 10 Right-of-Way Office.

### **3.8 Flood Control & Oil Survey Maps**

A review of the 1993 Munger Map Book indicates that there are no oil or gas wells near the Site. The Site is located in Flood Zone D. Flood Zone D includes sparsely populated areas where the flood hazards are undetermined. The Site is situated approximately 14 m (45 feet) above the bank of the West Fork Carson River.

## 4.0 SITE RECONNAISSANCE

### 4.1 Onsite Survey

Representatives of Geocon performed a site reconnaissance and personnel interviews with Neil E. Nyswonger on August 1, 2001. Mr. Nyswonger (Maintenance Supervisor) has been at the Site since 1988. Mr. Nyswonger accompanied Geocon personnel during the site visit on August 1, 2001. The purpose of the reconnaissance was to survey the existing site conditions to attempt to identify visual indicators of potential hazardous material/waste impacts to the Site. A Site Characterization Map depicting current hazardous material locations and recognized environmental conditions is presented on Figure 11. A summary of the recognized environmental conditions observed and/or documented at the Site is presented on Table 3.

Building locations and existing site conditions are depicted on Figures 2 and 3. Site photographs obtained during the site reconnaissance are presented on Figures 12a through 12p. Information obtained from Caltrans personnel and observations noted during the site reconnaissance are summarized below.

#### 4.1.1 Buildings

The interiors and exteriors of the following onsite building improvements were observed during the site reconnaissance:

**Office and Equipment Building.** The equipment building was constructed in 1971-72 and the office was added to the southwest end of the equipment building in 1986. The office is founded on perimeter concrete footings and slab-on-grade flooring, and is comprised of reinforced structural steel, insulated metal siding, and a sloping built-up and insulated steel roof. The interior partition walls are wood-framed, and sheet-rocked with paint. The ceilings are wood-framed construction with plywood sheeting material and paint. Rooms in the office include the supervisor's office, radio room, crew room, men's and women's rest rooms, shower, locker room, tool storage area and two parts storage rooms. Services utilized in the office include well water, septic tank and leach field, generated electric power, propane gas, telephone, microwave and radio. The equipment building is constructed similar to the office with all structural steel supports, insulated steel siding and roofing and insulated galvanized steel roll-up doors at each of the nine service vehicle bays. The equipment building is equipped with electrical, telephone, water, septic, microwave radio and propane gas services. Rooms include warehouse storage, welding area, mechanic storage room, and combined nine equipment vehicle storage bays. A 950-liter (250-gallon) waste antifreeze AST, a 950-liter (250-gallon) new antifreeze AST and a flammable storage container are located along the southwest wall of bay 1. An electrical panel is located against the northwest wall of bay 1 for the storage of hoses, fittings, new and used filters and used 6 volt batteries. An air operated overhead hose reel dispensing system for air and water is located between bays 1 and 2. Bay 2 contains an electric hydraulic lift with underground

pipng. The hoist is fully operational with no reported problems. A 380-liter (100-gallon) hydraulic oil AST, four portable hoists and jacks, nuts and bolt storage, a Safety-Kleen parts cleaner, lathe, drill presses and a new 840-liter (220-gallon) Lube-Cube portable AST utilized for waste oil storage are located in bay 3. Two 209-liter (55-gallon) drums of motor oil and hydraulic fluid, a drill press and a welding machine are located in bay 4. Two welding machines, one oxygen cylinder and one argon/carbon dioxide cylinder are located in bay 5. An electrode stabilizer for welding and two oxygen and one acetylene cylinders are stored along the northwest wall of bay 6. Bay 7 is utilized for chain storage and a spill kit. A solids collection (grease/sand trap) floor drain used to capture materials from steam cleaning operations is located in bay 8. A hot water pressure washer with a solids collection (grease/sand trap) floor drain and a chain repair table are located in bay 9. The mechanic storage room is located in the northern portion of bay 9 and is constructed of cinder blocks. A laundry area, hot water heater and an air compressor are located adjacent and north of the mechanic storage room. Water from the steam cleaning activities that occur in bays 8 and 9 discharge into a drain that flows southeast of the equipment building to the edge of the paved portion of the Site and connects to a set of baffels that lead to a sand filter, a carbon filter and finally into a leach field. The filter system was reportedly installed in 1990. The leach field is located in the southeastern downslope portion of the Site. Photographs of the office and equipment building are presented on Figures 12a through 12e.

**Salt Storage Building.** The salt storage building was constructed in 1993 and is comprised of four concrete walls with a south entrance. The top two-thirds of the walls and the roofing are comprised of plywood siding braced by 5 by 15 centimeter (cm) (2 by 6 inch) studs on 41 cm (16 inch) centers. The building has metal roofing over plywood sheathing and is supplied with electricity and lighting. The salt storage building is used for the bulk storage of de-icing salt utilized for the winter snow and ice conditions experienced on Hwy 88. A photograph of the salt storage building is presented on Figure 12f, Photo No. 11.

**Sand Storage Building.** The sand storage building was constructed in 1971-72 and is comprised of four concrete walls with a south entrance. The top two thirds of the walls and the roofing are comprised of rigid structural steel. The building is supplied with electricity and lighting. The sand storage building is used for the bulk storage of de-icing sand utilized for the winter snow and ice conditions experienced on Hwy 88. A photograph of the sand storage building is presented on Figure 12f, Photo No. 12.

**Gas House.** The gas house was built 1971-72, and currently includes electric power services. The structure is founded on slab-on-grade flooring with cinder block walls and sloped steel roofing. The building currently is utilized for warehouse storage of 209-liter (55-gallon), 114-liter (30-gallon) and 19-liter (5-gallon) drums of new petroleum products stored on containment pallets, materials and supplies for equipment, vehicles and maintenance personnel. One emergency spill kit and one fire extinguisher are located in the gas house. A wooden spill kit container, four empty drums and an

empty metal container are located on the exterior northern wall. One new 38,000-liter (10,000-gallon) diesel AST and one dispenser and one new 7,600-liter (2,000-gallon) gasoline AST and dispenser are located on the southwest side of the gas house. Photographs of the gas house are presented on Figure 12g.

**Engineers Shed.** The engineers shed was reportedly brought onsite in the 1970s and was utilized by the resident engineer. This structure is wood framed with wood sides, floor and roof and is currently utilized to store signs and reflective glass bead barrels. A photograph of the engineers shed is presented on Figure 12h, Photo No. 15.

**Sign House.** The sign house is wood framed with corrugated steel walls and roofing. It is currently utilized for sign and cement mix storage. A 114-liter (30-gallon) propane AST is located against the northeast wall and a flammable storage container is located against the northwest wall. This building was formerly a blacksmith shop that was brought onsite in approximately 1972 from the original Woodfords Caltrans maintenance station, currently Woodfords Auto Service & Towing located at 130 Pony Express Road. A photograph of the sign house is presented on Figure 12h, Photo No. 16.

**Wood Storage Shed.** The wood storage shed is an open wooden beam corrugated steel roofed shed utilized to store treated wood and signs. A photograph of the wood storage shed is presented on Figure 12i, Photo No. 17.

**Water Pressure Building.** The water pressure building is of slab-on-grade construction with steel siding and roofing. The water pressure building was built in to enclose the 3,800-liter (1,000-liter) water pressure AST. A photograph of the water pressure building is presented on Figure 12f, Photo No. 12.

**Portable Storage Containers.** One sealand storage container utilized for tire storage, one self-generated hazardous waste container and one steel sign storage container are located adjacent and northeast of the equipment building. A photograph of the containers is presented on Figure 12i, Photo No. 18.

**Loading Dock.** A concrete loading dock was constructed in 1971-72 south of the salt storage building. The loading dock is flanged with rubber bumpers and ramped on its southwestern end for vehicle access. Empty drums, piping, wood and miscellaneous materials are stored on the loading dock. A photograph of the loading dock is presented on Figure 12j, Photo No. 19.

#### **4.1.2 Chemical Materials/Wastes**

The steam cleaner/mud rinse system consists of two wash rack slab areas with solids collection interceptor trench (grease/sand trap) floor drains and a steam cleaning unit located in bays 8 and 9 of

the equipment building, a mud rinse pad and grate located southeast of bay 9, a water treatment system and a leach field. Water flows from the steel grated drain boxes through a corrugated metal pipe into a three-cell clarifier, a polypropylene geotextile pre-filter and a granulated activated carbon filter before discharging to a 30 m (100 foot) leach field. A 60 m (200 foot) leach field, located south of the gas house, provides service to the office and equipment building. The septic system is active, and pumped out annually. There are no reported problems with the system. Photographs of the steam cleaning drains in the equipment building are presented on Figure 12c, Photo No. 5 and Figure 12d, Photo No. 7. A photograph of the mud rinse pad is presented on Figure 12j, Photo No. 20. A photograph of the water treatment system location is presented on Figure 12k, Photo No. 21.

The self-generated waste at the Site is temporarily contained in one 209-liter (55-gallon) drum in the hazardous materials storage container. Drums of floor sweep, six-volt batteries and used filters are located in the equipment building. Self-generated wastes are transported to the Pine Grove Maintenance Station by Caltrans. Shop 10 personnel pick up items such as tires and batteries, and treated wood is sent to the Ione Maintenance Station. The used oil and antifreeze, Safety-Kleen parts cleaner solution and septic waste is handled by outside contractors.

Drums of motor oil, hydraulic fluid and automatic transmission fluid, lube and gear grease are located in service bays 3 and 4 of the equipment building. All of the drums are contained on spill scooters. An oxygen and acetylene cylinder for portable flame cutting is located in bay 6. One oxygen cylinder and one argon/carbon dioxide cylinder are located in bay 5. A plastic automotive battery storage container utilized for the storage of lead-acid batteries is located on the exterior southeast wall of the sign shed. One flammable storage container is located in bay 1. An air compressor located in the mechanics storage area of the equipment building. One 114-liter (30-gallon) Safety-Kleen parts cleaner basin is located in bay number 3. The parts storage areas have products stored on shelves such as small propane torch cylinders, aerosol paints, diesel treatment, brake fluid and other typical petroleum based products that are used in a mechanics shop. One 209-liter (55-gallon) drum of kerosene, one 114-liter (30-gallon) drum of steam cleaning soap and a "Hotsy" hot water pressure washer are located in bay 8.

The gas house currently is utilized for the storage of 209-liter (55-gallon) and 19-liter (5-gallon) drums of new petroleum oils and products, materials and supplies for equipment, vehicles and maintenance personnel. All of the containers are stored on spill scooters and containment pallets. The storage shelves contain small containers of new petroleum products, oils and oil filters.

A flammable storage container is located in the sign house. A plastic battery storage container is located on the exterior southwest wall of the sign house. A photograph of the battery storage container is presented on Figure 12k, Photo No. 22.

Chemicals contained in the onsite ASTs are discussed in Section 4.1.9 "Storage Tanks."

#### **4.1.3 Refuse & Debris**

Stockpiled materials noted during the site reconnaissance included sand and salt stockpiled inside the onsite storage buildings. Corrugated plastic pipe and wood debris were noted between the salt and sand storage buildings. Metal and plastic pipe debris was noted scattered within the wooded area on the southern portion of the Site. Wood and used tires were noted south and west of the sign house and steel pipe and wood debris were noted in the vicinity of the concrete loading dock. A trash container is located southwest of the sign building. A photograph of the loading dock is presented on Figure 12j, Photo No. 19. A photograph of the materials located near the sign house is presented on Figure 12k, Photo No. 22. Photographs of the materials located between the sand and salt storage buildings and on the southern portion of the Site are presented on Figure 12l.

#### **4.1.4 Site Drainage**

The majority of surface water leaves the Site as sheet flow to the southwest and south toward the South Fork Carson River. Corrugated metal pipe extends beneath the asphalt beginning near the LPG AST and discharges southwest of the gas house and west of the LPG AST into a drainage basin with three natural springs located adjacent and west of the Site. During the site reconnaissance, the pipe was filled with leaves and debris. Surface water on the eastern portion of the Site drains into a drain inlet (DI) discharging to the toe of the slope on the southeast portion of the Site. A perforated metal pipe and a drainage ditch was reportedly installed west of the gas house in order to reduce soil erosion during scheduled construction activities of a covered storage building. A photograph of the DI located in the eastern portion of the Site is presented on Figure 12m, Photo No. 25.

#### **4.1.5 Surface Vegetation and Soil Conditions**

Onsite vegetation includes Ponderosa and Jeffery pine trees, indigenous weeds, grasses and shrubs along the entire perimeter of the site. Onsite vegetation appeared healthy and did not display evidence of stress. Discolored or stained soils were not noted during the onsite reconnaissance. Construction of the Site required cut-fill grading activities. The limit of grading is depicted on Figure 2. Areas of fill extension and/or debris filling were reported and observed during the site reconnaissance southeast of the sand storage building and southwest of the LPG AST. Bank material from the Monitor Pass on Hwy 4 was reportedly brought onto the Site and placed in the southwest portion of the Site for scheduled construction activities of a covered storage building.

#### **4.1.6 Water Wells**

One 45,600-liter (10,000-gallon) steel water storage AST with an associated 7,600-liter (2,000-gallon) water pressure tank and a domestic water well are located east of the sand storage building. The water storage AST and the domestic well were installed in 1972. The depth of the domestic well is unknown. The domestic well is reportedly sampled for general mineral, physical and organic compounds two to three times a year. A photograph of the pressure tank building is presented on Figure 12f, Photo No. 12. A photograph of the domestic water well is presented on Figure 12m, Photo 26.

#### **4.1.7 Utilities**

The Site is equipped with domestic water well service, propane gas, microwave, radio, and telephone services. One septic tank and associated leach field is located south of the paved portion of the Site. A water treatment system and leach field associated with the two wash/steam cleaning drains and the mud rinse drain are also located south of the unpaved portion of the Site. A radio tower is located at the northwest corner of the equipment building. A photograph of the radio tower is presented on Figure 12n, Photo No. 27. A Utilities Map is presented on Figure 13.

#### **4.1.8 Transformers**

One onsite pole-mounted transformer was noted northwest of the equipment building. Indication of leakage was not noted on the transformer, pole or ground surface beneath the transformer. Information obtained from Sierra Pacific Electric is presented in Section 6.4 "Sierra Pacific Power Company." A photograph of the transformer is presented on Figure 12n, Photo No. 27.

#### **4.1.9 Storage Tanks**

An 11,400-liter (3,000-gallon) LPG AST is situated within concrete saddles southwest of the office building and provides heating fuel for the Site. The LPG AST is equipped with a pressure relief vent and burner unit located to the north of the AST. An out-of-service, 1,900-liter (500-gallon), double-walled, polyethylene, waste oil AST is located north of the equipment building between bays 1 and 2. A 7,600-liter (2,000-gallon) asphalt emulsion AST is located east of the sand storage building. A 3,800-liter (1,000-gallon) water pressure AST is located in the water pressure building. A 45,600-liter (12,000-gallon) steel water storage AST and enclosed domestic water well are located north of the water pressure building. One 7,600-liter (2,000-gallon) gasoline and one 38,000-liter (10,000-gallon) diesel fuel AST are located adjacent and west of the gas house. The gasoline fuel AST was installed in 1991 and the diesel fuel AST was installed in 1996. A 380-liter (100-gallon) hydraulic oil AST that services an electric hydraulic lift is located inside the northwestern wall of bay 3 of the equipment building. A 950-liter (250-gallon) waste antifreeze AST and a 950-liter (250-gallon) new antifreeze AST are located against the southwest wall of bay 1. One new 840-liter (220-gallon) Lube-Cube portable AST utilized for waste oil storage is located in bay 3. An air compressor is located in bay 9. A photograph of the asphalt emulsion AST is presented on Figure 12f, Photo No. 12. A

photograph of the water storage tank is presented on Figure 12m, Photo 26. A photograph of the LPG AST is presented on Figure 12n, Photo 28. A photograph of the pressure relief vent and burner unit associated with the LPG AST is presented on Figure 12o, Photo No. 29. A photograph of the waste oil AST is presented on Figure 12p, Photo No. 31.

#### **4.1.10 GPS Data Collection**

The location of hazardous materials located at the Site was recorded utilizing GPS technology. Geocon utilized a Trimble® Pathfinder Pro XRS™ portable GPS data collection unit to locate the coordinates of areas of concern. The system utilizes signals from up to eight available satellites to locate points with sub-meter (less than one meter) accuracy. A summary of the GPS information is presented in Appendix D.

#### **4.2 Offsite Survey**

In addition to the onsite reconnaissance, a representative of Geocon performed a survey of properties within the site vicinity from public thoroughfares to assess if facilities and/or structures located on these properties are operated by entities that potentially (as of August 1, 2001) use, store, generate, or dispose of hazardous materials/wastes. Locations of facilities with map identification numbers (Map ID Nos.) are depicted on Figure 14. Offsite photographs obtained during the offsite reconnaissance are presented on Figures 15a through 15c.

The Site is bounded to the west by a lightly forested meadow, to the south by forested land and the West Fork Carson River, to the east by rural residential development and to the north by Hwy 88. The junction of Hwy 88/89 is approximately 0.32 km (0.2 mile) east of the Site. Woodfords Station, located at 290 Pony Express Road (Map ID No. 1), was noted approximately 0.4 km (0.25 mile) northeast of the Site. The former Caltrans maintenance station located on Pony Express Road approximately 0.24 km (0.15 mile) northeast of the Site is currently occupied by Woodfords Auto Service & Towing, located at 130 Pony Express Road (Map ID No. 2), Alpine Christian Community Church, located at 150 Pony Express Road and a residence located at 120 Pony Express Road. A United States Forestry Service guard station was noted west of the Woodfords Auto Service & Towing facility. Photographs of offsite facilities are presented on Figures 14a through 14c.

#### **4.3 Interviews**

Representatives of Geocon performed a site reconnaissance and taped personnel interview with Neil Nyswonger on August 1, 2001. Mr. Nyswonger (Maintenance Supervisor) has been at the facility since 1988. The purpose of the reconnaissance and interviews was to survey the existing and historical Site conditions to attempt to identify visual indicators of potential hazardous material/waste impacts to the Site. A transcript of the interview is presented in Appendix E.

Based on the information obtained from Mr. Nyswonger, the Site is utilized for the routine maintenance and storage for vehicles and equipment. Mr. Nyswonger indicated that two 10,000-gallon fuel USTs, one gasoline and one diesel, and a waste oil UST were removed from the Site around 1989. The fuel USTs were north of the gas house and the waste oil UST was north of the truck shed. Mr. Nyswonger indicated that currently there are two fuel ASTs, an unused waste oil AST, and new and used antifreeze ASTs. A portable tank in the truck shed is used for waste oil. A retaining wall is scheduled to be installed around the asphalt emulsion AST. Mr. Nyswonger indicated that bank material from Monitor Pass was brought onto the southwest portion of the Site for the construction of a covered storage shed. Batteries are stored at the Site in a plastic box west of the sign house. Mr. Nyswonger indicated that batteries used to be picked up by Shop 10 on a regular basis. Mr. Nyswonger recalled that the Woodfords Station used to have fuel tanks in addition to another facility greater than 0.8 km (0.5 mile) from the Site. Mr. Nyswonger informed Geocon that Caltrans created a filtration pond and culvert near where the imported material was placed on the southwestern portion of the Site. A storm drain is located south of the sand shed. Mr. Nyswonger recalled that the wash rack used to be connected directly to the leach field, but now there is a different water clarifier system. Since the Site is located in a national forest, no pesticides are used. Sand was pushed off the edge of the asphalt near the sand shed for the last 30 years, creating a buildup of sand and materials brought onsite from snow removal activities. Last year a retaining wall was built along the eastern paved boundary to stop the sand from being pushed down the hill. Mr. Nyswonger indicated that there is a domestic well at the Site along with a pressure and storage tank. Mr. Nyswonger was not aware of any transformers at the Site or of any distressed vegetation. Self-generated hazardous waste and materials brought onsite from vehicle accidents are stored in the hazardous materials storage container.

## **5.0 GOVERNMENTAL AGENCIES - RECORDS REVIEW**

A Vista regulatory database report provided by Caltrans and previously referenced in the "Scope of Work" section of this report was reviewed for information regarding the potential existing presence of hazardous materials/wastes at the Site or adjacent facilities at levels likely to warrant current regulatory mitigation action. The Vista regulatory database search included information sources at a search distance of 1.6 km (1 mile) from the Site. However, several discrepancies regarding facility locations were identified during the offsite reconnaissance. Therefore, for the purposes of this report, information summarized hereinafter references facilities located within 0.4 km (0.25 mile) of the Site as noted during the offsite reconnaissance. Additional information regarding facilities with map identification numbers (Map ID Nos.) are presented in Section 6.0 "Records Review." Locations of facilities with map ID numbers are depicted on Figure 14. The potentially hazardous waste facilities located within the site vicinity are summarized on Table 4. A copy of the Vista report is presented in Appendix F.

### **5.1 EPA NPL and CORRACTS Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the EPA National Priority Listing (NPL) or the RCRA Corrective Actions (CORRACTS) Listings for required financial responsibility for treatment, storage and disposal of hazardous wastes.

### **5.2 DTSC SPL/SCL Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the DTSC State Priority List (SPL) or the State CERCLIS (SCL) listing.

### **5.3 EPA CERCLIS/NFRAP and TSD Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the EPA CERCLIS/NFRAP Listings or the Treatment Storage and Disposal (TSD) Listing.

### **5.4 Leaking Underground Storage Tank (LUST) Listing**

Review of the Vista report indicates that the Site and one facility within the site vicinity, Woodfords Station, located at 290 Pony Express Road, approximately 0.4 km (0.25 mile) northeast of the Site (Map ID No. 1), is referenced on the LUST Listing for the release of gasoline to an aquifer used for drinking water. The Site is referenced for the release of diesel to the soil and the case is closed. Diamond Valley School, located at 35 Hawkside, approximately 1.6 km (1 mile) southeast of the Site, is referenced for the release of diesel to the soil and the case is closed.

### **5.5 SWLF Listing**

Review of the Vista report indicates no facilities located within 1.6 km (1 mile) of the Site are referenced on the Solid Waste Landfill Facility (SWLF) Listing.

### **5.6 Deed Restriction Properties Report**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Deed Restriction Properties Report.

### **5.7 CORTESE Listing**

Review of the Vista report indicates that the Site and Woodfords Station, located approximately 0.4 km (0.25 mile) northeast of the Site (Map ID No. 1), are referenced within the site vicinity on the CORTESE Listing. Diamond Valley School, located at 35 Hawkside, approximately 1.6 km (1 mile) southeast of the Site, is referenced on the CORTESE Listing.

### **5.8 Toxic Pits Listing**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Toxic Pits Listing.

### **5.9 USGS Water Well Listing**

Review of the Vista report indicates that two water wells, one domestic well located approximately 1.4 km (0.9 mile) southeast of the Site and one commercial well located approximately 1.4 km (0.9 mile) south of the Site, are referenced on the USGS Water Well Listing.

### **5.10 RCRA Violation Listing**

Review of the Vista report indicates no facilities located within 1.6 km (1 mile) of the Site are referenced on the RCRA Violation Listing for treatment, storage and disposal of hazardous wastes.

### **5.11 TRIS Listing**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Toxic Release Inventory System (TRIS) Listing.

### **5.12 SWRCB UST/AST Listings**

Review of the Vista report indicates that no facilities within the site vicinity and two facilities, John Darlene Bennett, located at 11 Pine Street, approximately 0.8 km (0.5 mile) southeast of the Site, and Diamond Valley School, located at 35 Hawkside, approximately 1.6 km (1 mile) southeast of the Site, are referenced on the SWRCB UST/AST Listings.

### **5.13 EPA ERNS Listing**

Review of the Vista report indicates no incidents were referenced within 1.6 km (1 mile) of the Site on the EPA Emergency Response and Notification System (ERNS) Listing.

#### **5.14 EPA Generator Listing**

Review of the Vista report indicates that no facilities within 1.6 km (1 mile) of the Site are referenced as a small quantity generator.

#### **5.15 SPILLS Listing**

Review of the Vista report indicates that no facilities are referenced within 1.6 km (1 mile) of the Site on the Spills Listing.

## **6.0 RECORDS REVIEW**

Public agencies previously specified in the "Scope of Work" section of this report were contacted to obtain information regarding the potential existing presence of hazardous materials/wastes at the Site at levels likely to warrant current regulatory mitigation action. Unless otherwise noted, information was obtained for the Site and adjacent facilities. The information obtained from public agencies is summarized hereinafter.

### **6.1 Central Valley Regional Water Quality Control Board (CVRWQCB) Leaking Underground Storage Tank Information System**

A review of the CVRWQCB Leaking Underground Storage Tank Information System dated July 26, 2001 indicates that no facilities are referenced within 1.6 km (1 mile) of the Site.

### **6.2 ACHD and LRWQCB**

Regulatory file information obtained from the ACHD and LRWQCB is summarized in this section. Locations of the referenced facilities are presented on Figure 14. Photographs of offsite facilities are presented in Figures 14a through 14c. Facilities referenced in this section are presented on Table 4, Potential Hazardous Waste Facilities. Copies of regulatory file information obtained during review are presented in Appendix G.

**Woodfords Maintenance Station, 18935 Hwy 88, Site.** Regulatory file information obtained from the ACHD and the LRWQCB was reviewed regarding the Site and is summarized in Section 3.2 "Previous Environmental Conditions."

**Woodfords Station, 290 Pony Express Road, Map ID No. 1.** A review of the case file information indicates that two 7,600-liter (2,000-gallon) fuel USTs were removed from this facility in April 1995, approximately 0.4 km (0.25 mile) northeast of the Site. During the UST removals, one grab groundwater sample and two soil samples were collected from beneath the dispenser and fuel lines. Soil samples were not collected from beneath the USTs due to high groundwater levels encountered. A TPHg concentration of 180 mg/l was detected in the grab groundwater sample. TPHg and benzene were not detected above the laboratory detection limits in the soil samples. In July 1995, the ACHD granted closure for the two fuel USTs. Between October 1995 and March 1996, five groundwater monitoring wells were installed at the facility. During the installation of the monitoring wells, petroleum hydrocarbons were encountered in the soil and groundwater that did not appear to be related to the former USTs. In August 1996, direct push soil borings were advanced at the facility and a second groundwater plume was detected. Two additional USTs were discovered at the facility beneath the existing structure. The USTs had previously been filled in place with concrete slurry in 1979. In May 1998, four additional groundwater monitoring wells were installed at the facility. In December 1997, a corrective action plan was submitted for the facility including the installation and operation of a soil and groundwater remediation system. In November 1998, the LRWQCB

temporarily suspended the requirements for implementing the corrective action plan based on the second and third quarter 1998 groundwater monitoring reports. In July 1999, a domestic well was installed in the former UST excavation to a maximum depth of approximately 49 m (160 feet) bgs with a screened interval between 43 and 49 m (140 and 160) bgs. The most recent groundwater monitoring event performed at the facility in June 2001 indicates that groundwater was encountered at depths between 0.73 and 3.4 m (2.42 and 11.10 feet) bgs and was directed southeast toward the West Fork Carson River. Maximum TPHg and benzene, toluene, ethylbenzene and total xylenes (BTEX) concentrations of 7,000 and 1,500 µg/l, respectively, were detected in the groundwater samples collected from downgradient wells from the closed in place USTs. Methyl tert-butyl ether (MTBE) was not detected above the laboratory detection limit in the groundwater samples collected from the monitoring wells; however, an MTBE concentration of 14 µg/l was detected in the water sample collected from the new domestic well. Due to MTBE detected in the domestic well, the LRWQCB requested that a confirmatory water sample be collected from the well and analyzed for MTBE. The petroleum hydrocarbon plume does not extend west of the former UST basin or south of the West Fork Carson River. The petroleum hydrocarbon plume is not defined to the north or the east of the facility. Based on the distance and the crossgradient location of the facility from the Site, this facility has a low potential of impacting the Site.

**Woodfords Auto Service & Towing (Former Caltrans Maintenance Station), 130 Pony Express Road, Map ID No. 2.**

A review of the case file information indicates that five fuel USTs (one kerosene, two gasoline and two diesel) were removed from three separate excavations at this facility at unknown dates, approximately 0.24 km (0.15 mile) northeast of the Site. Soil testing was not required at the time of the UST removals and the excavations were subsequently backfilled. In June 1993, four soil borings were drilled at the facility to a depth of 3 m (10 feet) bgs. TPHg, TPHd, BTEX, and total lead were not detected above their respective laboratory detection limits in the soil samples collected from the soil borings. No additional information was available in the case file at the ACHED. A case file does not exist at the LRWQCB for the facility. Based on the distance from the Site and the lack of detected petroleum hydrocarbons at this facility, this facility has a low potential of impacting the Site.

**6.3 GBAPCD**

Information obtained from the GBAPCD indicates that the Site is permitted to operate a 7,600-liter (2,000-gallon) gasoline AST with a vapor recovery system.

**6.4 Sierra Pacific Power Company**

Information was requested from Sierra Pacific Power Company; however a response was not received regarding one onsite pole-mounted transformer noted northwest of the equipment building. Indication of leakage was not noted on the transformer, pole or ground surface beneath the transformer. There is a potential presence of PCBs in the transformer; however, it appears that the transformer is in good condition and has not impacted the Site.

## **7.0 LIMITED LEAD AND ASBESTOS SURVEYS**

Geocon performed a limited survey of suspect asbestos-containing building materials (ACBMs) and lead-containing paints (LCP) at the Site to evaluate the potential disturbance of these materials during renovation or demolition activities at the facility. Suspect ACBM and LCP sample locations are illustrated in Figure 16. ACBM and LCP bulk sample results are presented in Tables 5 and 6, respectively. Laboratory analytical data are included as Appendix H.

### **7.1 Review of Previous Building Surveys and As-Built Plans**

Geocon performed a review of previous surveys conducted at the Woodfords Maintenance Station prior to the site visit. Assumed ACBM and LCP quantities and locations were reviewed and compared with onsite conditions at the time of the Geocon building surveys. Small diameter (2.5 and 5.0-centimeter outside diameter) thermal system pipe insulation used in the equipment building had been sampled and determined to be asbestos-containing material (ACM - greater than 1% asbestos) during a previous survey. The following materials were assumed to be asbestos-containing during a previous survey:

- Gypsum board walls;
- Transite™ sheeting;  
*Note: Transite™ sheeting had been removed from the Site prior to Geocon's visit.*
- Marlite™ wall panels and mastic; and
- Wall base coving.

The following materials had been sampled and determined not to contain asbestos during a previous survey:

- Roofing materials;
- Mudded pipe fittings;
- Resilient floor sheeting; and
- Resilient floor tiles.

ACBMs were not identified in the as-built plans reviewed for the Woodfords Maintenance Station.

### **7.2 Limited Asbestos Survey**

Geocon's procedures for the building inspection and bulk asbestos sampling are discussed below:

- Conducted a walkthrough inspection of building interiors and exteriors to identify suspect ACBMs that were visually apparent at the time of our survey.
- Recorded the location of and quantified each type of suspect ACBM identified during the building survey. Suspect ACBM were inventoried and quantified by building location.
- Collected representative bulk samples of suspect ACBM using the EPA Asbestos Hazard Emergency Response Act (AHERA) protocol as follows:

- One to three samples per miscellaneous material
  - Three samples of each type of thermal system insulation
  - Samples of *friable surfacing* materials according to the 3/5/7 rule based on quantity of material [3 samples of each material comprising less than 90 square meters (1,000 square feet), 5 samples of each material comprising 90 to 450 square meter (1,000 to 5,000 square feet), and 7 samples of each material comprising more than 450 square meters (5,000 square feet)]
  - Samples of nonfriable surfacing materials as deemed appropriate by the inspector
- Collected bulk samples after first wetting the material with a light mist of water. The samples were then cut from the substrate and transferred to a labeled container. The presence of resilient flooring materials concealed under carpeting was checked in several representative locations. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).
  - Relinquished the bulk samples to a laboratory accredited by the DHS and the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis.

Polarized light microscopy analysis of bulk asbestos samples collected from building interiors and exteriors during Geocon's Site visit did not reveal the presence of asbestos.

Marlite™ wall panels and associated mastic used in the equipment building restrooms were not sampled and are *assumed* to contain asbestos. Sampling activities would have significantly damaged the materials in question and would likely have contributed to the potential release of asbestos fibers into occupied areas of the building.

The approximate building material sample locations are depicted on the attached Figure 16. A copy of the laboratory analytical data is presented in Appendix H. ACBMs identified during this survey were observed to be in good condition. Table 6 includes the following information, which is presented for each suspect ACBM type:

- Approximate quantity of material;
- Physical assessment of the material, including friability and existing condition;
- Locations where samples were collected; and
- Asbestos content (% and type).

### **7.3 Limited Lead-Based Paint Survey**

Geocon's procedures for the suspect LCP sampling are discussed below:

- Conducted a walkthrough inspection of building interiors and exteriors to identify suspect LCP that were visually apparent at the time of our assessment.
- Recorded the location of each type of suspect LCP identified during the building inspection.

- Collected representative bulk samples of suspect LCP using techniques presented in the United States Department of Housing and Urban Development (HUD) guidelines:

*It was not Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with HUD guidelines. HUD protocol generally requires a very extensive sampling strategy that includes sampling of paint on each surface type (wall, ceiling, window sill, window frame, door frame, molding, etc.) in each room.*

- Relinquished the bulk samples to a laboratory accredited by the DHS and the NIST-NVLAP for lead analysis.

Analysis of bulk paint samples revealed the presence of lead at concentrations ranging from less than 26 to 13,000 mg/kg in buildings at the Site.

Approximate sample locations of suspect lead-containing paints are depicted on the attached Figure 16. A copy of the laboratory analytical report is presented in Appendix H. The following peeling or flaking LCP were observed during Geocon' site visit:

- Tan paint used on lower exterior walls of the sand storage building;
- Red paint used on the sealand storage container;
- Beige paint used on the metal storage container; and
- Beige paint used on the exterior of the sign house.

The remaining paints at the Site were observed by Geocon to be intact. Table 6 includes the following information, which is presented for each suspect LCP type:

- Paint color
- Buildings where LCP is located
- Approximate quantity of each LCP
- Lead content (% weight)

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

The Site was constructed in 1971-72 including the office and equipment building, wash rack, gas house, sand storage building, sign house, engineers shed, two fuel USTs, water pressure and storage ASTs, domestic water well and one 11,400-liter (3,000-gallon) LPG AST. Additional improvements constructed at the Site include the mud rinse, water treatment system, water pressure building, one 38,000-liter (10,000-gallon) diesel AST and one 7,600-liter (2,000-gallon) gasoline AST.

An Unauthorized Release Report was submitted for the Site in August 1989 for the release of gasoline and diesel to the soil detected during a tank test. In November 1989, one 15,200-liter (4,000-gallon) gasoline UST was removed from the Site. In May 1991, a temporary gasoline AST was installed at the Site and a work plan to advance four soil borings at the Site was proposed. In June 1991, eight exploratory soil borings were drilled at the Site and petroleum hydrocarbons were detected in two of the soil borings located southeast (downgradient) of the UST locations. In July 1991, one 15,200-liter (4,000-gallon) diesel UST and the concrete slabs associated with the former gasoline UST were removed from the Site. Analytical results of soil samples collected from the UST excavation indicated the presence of TPHg and TPHd.

A water treatment system was installed at the Site in 1990. The treatment system discharges vehicle wash water to an onsite leach field. Annual sampling of the treated effluent that is discharged from the treatment system has been conducted since 1991 in accordance with the permit requirements set by the LRWQCB. TPHd, oil and grease and MBAS have not been detected above their respective laboratory detection limits in any of the effluent samples collected and total dissolved solids have not been detected above the maximum allowable limit in any of the effluent samples collected at the Site.

In accordance with LRWQCB requirements, three groundwater wells were installed at the Site and a quarterly groundwater monitoring program commenced in May 1995. Analytical results of soil samples collected from the soil borings indicated the presence of TPHg in one soil sample and oil and grease in two soil samples. TPHd and oil and grease were detected in the groundwater samples collected from each well. During the most recent groundwater monitoring event performed at the Site in September 2001, TPHd and oil and grease were not detected above their respective laboratory detection limits and total dissolved solids were not detected above the maximum allowable limit. MBAS was detected at a concentration of 0.06 mg/l.

Tetrachlorethylene (PCE) was detected in the water extracted from the onsite domestic well at a maximum concentration of 11 µg/l in September 2001. Caltrans should report the findings to the appropriate regulatory agency and determine the source of the PCE.

Based on the information presented in this ISA, the following recognized environmental conditions exist at the Site:

- Confirmed soil and groundwater impacts associated with the former fuel USTs.
- Confirmed soil and groundwater impacts associated with the wash rack and mud rinse leach field.
- The hydraulic lift in the second bay of the equipment building.
- Two drain inlets that discharge surface water runoff to the southern portion of the Site.
- Septic tank and leach field associated with the office and equipment building.
- Fill material originating from snow removal activities and bank failures beyond the eastern paved portion of the Site and in the southwest corner of the Site.
- PCE detected in water extracted from the onsite domestic well.

A determination of the lateral extent of the soil impacts and an assessment of groundwater occurrence and quality associated with the recognized environmental conditions will be necessary prior to evaluating remedial response actions for specific future land use options. Targeted site investigations should be designed to evaluate potential soil and groundwater impacts with respect to specific project requirements prior to design and construction of any proposed onsite improvements. Soil and groundwater generated from excavations at the Site may require treatment and/or disposal.

The Site is referenced on the Vista report as a closed case regarding a release of diesel to the soil from a leaking UST. One facility within the site vicinity, Woodfords Station, located at 290 Pony Express Road, approximately 0.4 km (0.25 mile) northeast of the Site, is referenced as an open case regarding a leaking UST. Based on the distance and the crossgradient location of the facility from the Site, this facility has a low potential of impacting the Site.

A review of previous surveys and the results of the building surveys performed at the Site by Geocon, indicate the presence of ACBMs in the equipment building. LCPs were identified at the water storage tank, water pressure building, sealand storage container, sand storage building, sign house, metal storage container and the equipment building. Based on our findings, Geocon recommends the following:

- Retain a registered asbestos abatement contractor to remove and dispose of ACBM identified during this survey that will be impacted by renovation or demolition activities.
- Notify contractor(s) that will be conducting renovation work and related activities of the presence of ACBM and LCP in their work areas and instruct the contractor(s) not to disturb ACBM or LCP during their work (i.e., provide the contractor[s] with a copy of this report and a list of ACBM removed by the asbestos abatement contractor during any abatement activities).
- Treat all paints at the Site as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during any future maintenance, renovation, and demolition activities.

This recommendation is based on LCP sample results, the age of the buildings, and the fact that lead was a common ingredient of paints manufactured before 1978.

- Implement interim controls to maintain identified ACBMs and LCPs.

## **9.0 REPORT LIMITATIONS**

This initial site assessment report has been prepared for Caltrans in accordance with TO No. 10-0E790K-7B. The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Therefore, the information contained herein is only valid as of the date of the report, and will require an update to reflect recent records/site visits.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions presented in this report are predicated on the site reconnaissance and building surveys, a review of the specified regulatory records, and a review of the historical usage of the Site, as presented in this report. The Client should also understand that lead in drinking water, radon and methane gas surveys were not included in the scope of services for this report. The scope of the lead-based building surveys did not include sampling frequencies in accordance with HUD guidelines.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the ISA is implied within the intent of this report or any subsequent reports, correspondence or consultation, either expressed or implied. Geocon strived to conduct the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

{PRIVATE }TABLE 1  
 SUMMARY OF SOIL SAMPLE ANALYTICAL DATA  
 WOODFORDS MAINTENANCE STATION  
 ALPINE COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DATE	SAMPLE DEPTH (feet)	TPHg (mg/kg)	TPHd (mg/kg)	O&G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
<b>SOIL BORINGS</b>									
B1-A	06/13/91	3.5	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B1-A	06/13/91	7.5	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B-2	06/13/91	6	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B-2	06/13/91	8	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B-3	06/13/91	4	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B-3	06/13/91	7	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B-4	06/13/91	5	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B-4	06/13/91	8	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B-5	06/13/91	5	16	<1	---	0.09	0.035	0.21	1.5
B-5	06/13/91	8	2.6	<1	---	0.011	0.006	0.027	0.31
B-6	06/13/91	5	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B-6	06/13/91	8	10,000	220	---	2.6	45	44	120
B-7	06/13/91	5	<1	<1	---	<0.005	<0.005	<0.005	<0.005
B-7	06/13/91	8	<1	<1	---	<0.005	<0.005	<0.005	<0.005
<b>EXCAVATION SOIL SAMPLES</b>									
SPL-1	07/31/91	NA	20	<1	---	0.09	0.02	0.22	2.1
SPL-2	07/31/91	NA	5	<1	---	<0.005	<0.005	<0.005	0.22
SPL-3	07/31/91	NA	7	<1	---	0.03	<0.005	0.05	0.61
SPL-4	07/31/91	NA	<1	<1	---	<0.005	<0.005	<0.005	0.02
SPL-5	07/31/91	NA	<1	<1	---	<0.005	<0.005	<0.005	<0.015
SPL-6	07/31/91	NA	397	120	---	0.19	6.5	3.8	23
SPL-7	08/01/91	NA	5	<1	---	<0.005	0.05	0.03	0.21
SPL-8	08/01/91	NA	<1	<1	---	<0.005	<0.005	<0.005	<0.015
SP1-1,2	07/31/91	NA	5	85	---	<0.005	<0.005	<0.005	0.27
SP2-1,2	07/31/91	NA	210	100	---	<0.005	0.63	0.59	13
SP3-1,2	07/31/91	NA	20	110	---	<0.005	0.16	0.20	3.0
SP4-1,2,3	08/01/91	NA	213	84	---	<0.05	9.1	8.1	73
STK-1 (A-D)	09/22/92	NA	<1.0	<1.0	---	0.02	<0.005	<0.005	<0.005
STK-2 (A-D)	09/22/92	NA	<1.0	<1.0	---	0.039	<0.005	<0.005	0.01

{PRIVATE }TABLE 1  
 SUMMARY OF SOIL SAMPLE ANALYTICAL DATA  
 WOODFORDS MAINTENANCE STATION  
 ALPINE COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DATE	SAMPLE DEPTH (feet)	TPHg (mg/kg)	TPHd (mg/kg)	O&G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
<b>MONITORING WELLS</b>									
MW1-01	05/02/95	5	<1	<10	<4	---	---	---	---
MW1-02	05/02/95	10	<1	<10	<4	---	---	---	---
MW1-03	05/02/95	15	<1	<10	<4	---	---	---	---
MW1-04	05/02/95	20	<1	<10	<4	---	---	---	---
MW2-01	05/02/95	5	<1	<10	<4	---	---	---	---
MW2-02	05/02/95	10	<1	<10	<4	---	---	---	---
MW2-03	05/02/95	15	<1	<10	34	---	---	---	---
MW2-04	05/02/95	20	1.2	<10	<4	---	---	---	---
MW3-01	05/02/95	5	<1	<10	12	---	---	---	---
MW3-02	05/02/95	10	<1	<10	<4	---	---	---	---

{PRIVATE }Notes: mg/kg = milligrams per kilogram  
 TPHg = total petroleum hydrocarbons as gasoline  
 TPHd = total petroleum hydrocarbons as diesel  
 O&G = oil and grease  
 < = less than laboratory test method detection limit  
 --- = not tested

{PRIVATE }TABLE 2  
SUMMARY OF GROUNDWATER ELEVATION AND SAMPLE ANALYTICAL DATA  
WOODFORDS MAINTENANCE STATION  
ALPINE COUNTY, CALIFORNIA

SAMPLE I.D	SAMPLE DATE	TOC ELEVATION (feet)	DEPTH TO GROUNDWATER (feet)	GROUNDWATER ELEVATION (feet)	TPHg (mg/l)	TPHd (mg/l)	O&G (mg/l)	TDS (mg/l)	MBAS (mg/l)
MW-1	05/04/95	5702.82	7.23	5695.59	<0.3	0.52	0.07	198	<0.10
MW-2	05/04/95	5684.66	4.68	5679.98	<0.3	0.097	0.22	271	<0.10
MW-3	05/04/95	5688.49	3.75	5684.74	<0.3	0.051	0.50	359	<0.10
MW-1	09/20/95	5702.82	11.96	5690.86	---	<0.05	<5	---	<0.10
MW-2	09/20/95	5684.66	7.66	5677.00	---	<0.05	<5	---	<0.10
MW-3	09/20/95	5688.49	6.97	5681.52	---	<0.05	<5	---	<0.10
MW-1	12/07/95	5702.82	12.66	5690.16	---	<0.05	<5	120	<0.5
MW-2	12/07/95	5684.66	6.73	5677.93	---	<0.05	<5	190	<0.5
MW-3	12/07/95	5688.49	6.24	5682.25	---	<0.05	<5	190	<0.5
MW-1	03/19/96	5702.82	10.53	5692.29	---	<0.05	<5	100	<0.05
MW-2	03/19/96	5684.66	6.12	5678.54	---	<0.05	<5	260	<0.05
MW-3	03/19/96	5688.49	4.95	5683.54	---	<0.05	<5	400	<0.05
MW-1	06/17/96	5702.82	11.47	5691.35	---	<0.05	<5	130	<0.05
MW-2	06/17/96	5684.66	7.18	5677.48	---	<0.05	<5	350	<0.05
MW-3	06/17/96	5688.49	6.42	5682.07	---	<0.05	<5	280	<0.05
MW-1	09/18/96	5702.82	12.86	5689.96	---	<0.05	<5	1,110	<0.05
MW-2	09/18/96	5684.66	7.04	5677.62	---	<0.05	<5	200	<0.05
MW-3	09/18/96	5688.49	6.93	5681.56	---	<0.05	<5	190	<0.05
MW-1	12/19/96	5702.82	11.23	5691.59	---	<0.05	<5	120	<0.05
MW-2	12/19/96	5684.66	6.35	5678.31	---	<0.05	<5	270	<0.05
MW-3	12/19/96	5688.49	5.33	5683.16	---	<0.05	<5	250	<0.05
MW-1	03/24/97	5702.82	8.72	5694.10	---	<0.05	<5	100	<0.05
MW-2	03/24/97	5684.66	5.98	5678.68	---	<0.05	<5	220	<0.05
MW-3	03/24/97	5688.49	4.73	5683.76	---	<0.05	<5	220	<0.05

{PRIVATE }TABLE 2  
 SUMMARY OF GROUNDWATER ELEVATION AND SAMPLE ANALYTICAL DATA  
 WOODFORDS MAINTENANCE STATION  
 ALPINE COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOC ELEVATION (feet)	DEPTH TO GROUNDWATER (feet)	GROUNDWATER ELEVATION (feet)	TPHg (mg/l)	TPHd (mg/l)	O&G (mg/l)	TDS (mg/l)	MBAS (mg/l)
MW-1	06/17/97	5702.82	11.02	5691.80	---	<0.05	<5	90	<0.05
MW-2	06/17/97	5684.66	6.09	5678.57	---	<0.05	<5	190	<0.05
MW-3	06/17/97	5688.49	5.37	5683.12	---	<0.05	<5	320	<0.05
MW-1	08/06/98	5702.82	12.32	5690.50	---	<0.05	<5	100	<0.05
MW-2	08/06/98	5684.66	6.77	5677.89	---	<0.05	<5	220	<0.05
MW-3	08/06/98	5688.49	7.16	5681.33	---	<0.05	<5	240	<0.05
MW-1	08/12/99	5702.82	12.55	5690.27	---	<0.05	<5	120	<0.05
MW-2	08/12/99	5684.66	6.70	5677.96	---	<0.05	<5	200	<0.05
MW-3	08/12/99	5688.49	7.01	5681.48	---	<0.05	<5	210	<0.05
MW-1	09/14/00	5702.82	12.34	5690.48	---	<0.05	<5	80	<0.05
MW-2	09/14/00	5684.66	6.79	5677.87	---	0.11	<5	210	<0.05
MW-3	09/14/00	5688.49	7.18	5681.31	---	<0.05	<5	250	<0.05
MW-2	12/18/00	---	---	---	---	<0.05	---	---	---
MW-1	09/12/01	5702.82	12.34	5690.48	---	<0.05	<5	50	<0.05
MW-2	09/12/01	5684.66	6.79	5677.87	---	<0.05	<5	150	<0.05
MW-3	09/12/01	5688.49	7.18	5681.31	---	<0.05	<5	280	0.06

{PRIVATE }Notes: mg/l = milligrams per liter  
 --- = not analyzed/ not tested  
 ND = not detected above the laboratory detection limit  
 TPHg = total petroleum hydrocarbons as gasoline  
 TPHd = total petroleum hydrocarbons as diesel  
 O&G = oil and grease  
 TDS = total dissolved solids  
 MBAS = methylene blue active substances  
 TOC = top of casing< = less than laboratory test method detection limit

TABLE 3  
 SUMMARY OF RECOGNIZED ENVIRONMENTAL CONDITIONS  
 WOODFORDS MAINTENANCE STATION  
 ALPINE COUNTY, CALIFORNIA

AREA OF CONCERN	SUBSTANCE/CHEMICAL	RECOMMENDED RESPONSE/REMEDIAL ACTION
Confirmed Soil and Groundwater Impacts Associated With the Former Fuel USTs	Petroleum Hydrocarbons	Soil and Groundwater Sampling; Analytical Testing
Confirmed Soil and Groundwater Impacts Associated With the Wash Rack and Mud Rinse Leach Field	Petroleum Hydrocarbons, Heavy Metals	Continue Water Monitoring in Accordance With LRWQCB Requirements
Hydraulic Lift in Second Bay of Equipment Building	Petroleum Hydrocarbons	Soil Sampling and Analytical Testing
Two Drain Inlets That Discharge Surface Water Runoff to the Southern Portion of the Site	Petroleum Hydrocarbons, Heavy Metals	Soil Sampling and Analytical Testing
Septic Tank and Leach Field Associated With the Office and Equipment Building	Sewage	Soil Sampling and Analytical Testing; Routine Maintenance
Fill Material Located in the Eastern and Southwester Portions of the Site	Petroleum Hydrocarbons/Heavy Metals	Soil Sampling and Analytical Testing
Water Extracted from the Onsite Domestic Well	PCE	Direct Sampling From Well Head and Analytical Testing

TABLE 4  
POTENTIAL HAZARDOUS WASTE FACILITIES  
PEDDLER HILL MAINTENANCE STATION  
AMADOR COUNTY, CALIFORNIA

Map ID No.	FACILITY NAME	SITE ADDRESS	DISTANCE AND DIRECTION FROM SITE	CHEMICAL OF CONCERN	CHEMICAL SOURCE	RISK OF IMPACT
1	Woodfords Station	290 Pony Express Road	0.4 km (0.25 mile) northeast of the Site	Petroleum Hydrocarbons	UST	Low
2	Woodfords Auto Service & Towing (Former Caltrans Maintenance Station)	130 Pony Express Road	0.24 km (0.15 mile) northeast of the Site	Petroleum Hydrocarbons	UST	Low

Notes: UST = Underground storage tank

TABLE 5 SUMMARY OF ASBESTOS ANALYTICAL DATA WOODFORDS MAINTENANCE STATION ALPINE COUNTY, CALIFORNIA					
SAMPLE I.D.	BUILDING LOCATION	FRIABILITY	MATERIAL DESCRIPTION/CONDITION	APPROXIMATE QUANTITY (SQUARE METER OR LINEAR METER)	ASBESTOS EPA 600/M4-82-020 (TYPE AND % BY WEIGHT)
W-MS-1A	Gas House	NONFRIABLE	ASPHALT ROOFING ROLL/GOOD	30 SQUARE METERS	ND
NA					ND
NA					ND
W-MS-2A	Engineers Shed	NONFRIABLE	ASPHALT ROOFING ROLL/GOOD	3 SQUARE METERS	ND
W-MS-2B					ND
NA					ND
W-MS-3A	Equipment Building	NONFRIABLE	BUILT-UP ROOFING ROLL/GOOD	55 SQUARE METERS	ND
NA					ND
NA					ND
W-MS-4A	Equipment Building (Office Areas)	NONFRIABLE	WALL BASE COVING AND MASTIC/GOOD	25 LINEAR METERS	ND
W-MS-4B					ND
W-MS-4C					ND
W-MS-5A	Equipment Building (Office Areas)	NONFRIABLE	GYPSUM BOARD WALLS/GOOD	250 SQUARE METERS	ND
W-MS-5B					ND
W-MS-5C					ND
NS	Equipment Building (Restrooms)	NONFRIABLE	MARLITE™ WALL PANELS AND MASTIC/GOOD	30 SQUARE METERS	ASSUMED TO CONTAIN ASBESTOS
NA	Equipment Building (Office Areas)	NONFRIABLE	30 by 30-CENTIMETER RESILIENT FLOOR TILES AND MASTIC/GOOD	50 SQUARE METERS	ND
NA					ND
NA					ND
NA	Equipment Building (Office Areas)	NONFRIABLE	RESILIENT FLOOR SHEETING AND MASTIC/GOOD	20 SQUARE METERS	ND
NA					ND
NA					ND
NA					ND

TABLE 5 SUMMARY OF ASBESTOS ANALYTICAL DATA WOODFORDS MAINTENANCE STATION ALPINE COUNTY, CALIFORNIA					
SAMPLE I.D.	BUILDING LOCATION	FRIABILITY	MATERIAL DESCRIPTION/CONDITION	APPROXIMATE QUANTITY (SQUARE METER OR LINEAR METER)	ASBESTOS EPA 600/M4-82-020 (TYPE AND % BY WEIGHT)
NA	Equipment Building	FRIABLE	2.5 AND 5.0-CENTIMETER THERMAL SYSTEM PIPE INSULATION/GOOD	75 LINEAR METERS	CHRYSOTILE 60 %
NA					CHRYSOTILE 60 %
NA					CHRYSOTILE 60 %
NA	Equipment Building	FRIABLE	2.5 AND 5.0-CENTIMETER MUDDDED FITTINGS/GOOD	80 EACH	ND
NA					ND
NA					ND
NA					ND

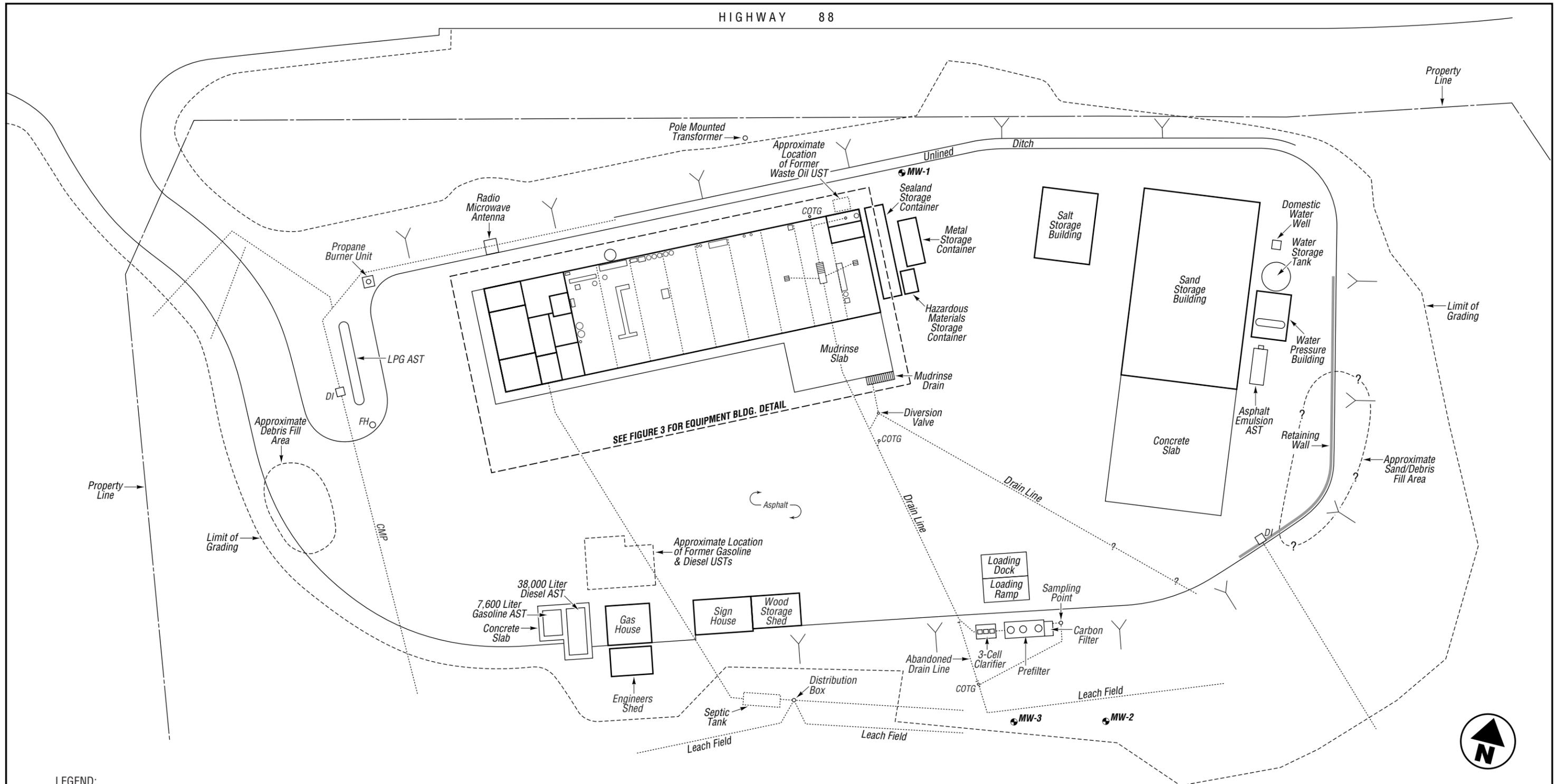
Notes: ND = Not detected  
 NS= Not sampled (assumed)  
 NA = Not applicable (materials sampled during previous surveys)

TABLE 6  
 SUMMARY OF LEAD-CONTAINING PAINT ANALYTICAL DATA  
 WOODFORDS MAINTENANCE STATION  
 ALPINE COUNTY, CALIFORNIA

SAMPLE I.D.	PAINT COLOR	BUILDING LOCATION	APPROXIMATE QUANTITY (SQUARE METERS)	TOTAL LEAD (mg/kg)
LCP-1	BEIGE	Water Storage Tank and Water Pressure Building (Interior)	340	5,700
LCP-2	YELLOW	Water Pressure Building, Sand Storage Building, and Salt Storage Building Exteriors	500	<96
LCP-3	WHITE	Water Pressure Building, Sand Storage Building, and Salt Storage Building Interiors/Roofs and Water Pressure Tank	1,500	<360
LCP-4	TAN	Sand Storage Building Lower Exterior Walls	130	210
LCP-5	RED	Sealand Storage Container	150	130
LCP-6	BEIGE	Metal Storage Container	90	100
LCP-7	BEIGE	Sign House Exterior	100	13,000
LCP-8	BEIGE	Hazardous Materials Storage Container	50	<30
LCP-9	BEIGE	Equipment Building Exterior	250	<26
LCP-10	WHITE	Equipment Building Interior (Office Area)	250	180
LCP-11	WHITE	Picketts Sand Storage Interior	1,200	210
LCP-12	GREEN	Picketts Sand Storage Exterior	250	<360

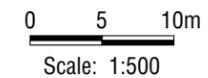
Notes: mg/kg = Milligrams per kilogram  
 < = Less than laboratory reporting limits

<b>LOCATION</b>	<b>LATITUDE</b>	<b>LONGITUDE</b>	<b>ELEV. IN METERS (MSL)</b>
equipment building	38.77354852	-119.8277084	1738.37
Equipment Building	38.77363241	-119.8277647	1739.548
Former Waste Oil UST	38.77373341	-119.8276819	1739.586
Equipment Building	38.7738067	-119.8272025	1740.254
Haz Mat Storage	38.77380828	-119.8271618	1739.127
Equipment Building	38.77372817	-119.8271558	1740.414
Mud Rinse Grate	38.77367627	-119.8271566	1739.079
Salt Shed	38.77376214	-119.8270811	1742.617
Salt Shed	38.7738381	-119.8269772	1741.315
Salt Shed	38.77393112	-119.8269398	1740.623
Salt Shed	38.77390266	-119.8269165	1739.49
Sand Shed	38.77377329	-119.8268427	1741.577
Shed Shed	38.77371057	-119.8267285	1741.416
Emulsion AST	38.77375757	-119.8265936	1735.925
Domestic Well	38.77385477	-119.8265469	1738.472
Sand Shed	38.77396288	-119.8266373	1739.215
Sand Shed	38.77397627	-119.8266217	1737.635
Monitoring Well	38.77390142	-119.827	1742.487
Loading Dock/Debris	38.77370339	-119.8270547	1740.947
Water Clarifier System	38.77345581	-119.8269434	1739.635
Monitoring Well	38.77337431	-119.8268634	1738.97
Monitoring Well	38.77327886	-119.8269089	1732.936
Gasoline AST	38.77322514	-119.8274173	1737.045
Diesel AST	38.77328001	-119.8275262	1740.588
Gas House	38.77329448	-119.8274808	1739.261
Gas House	38.77328903	-119.8274775	1739.234
Gas House	38.77329618	-119.8274751	1741.686
Gas House	38.77330233	-119.8274066	1740.152
Eng. Shack	38.77326153	-119.8273769	1742.086
Eng. Shack	38.77324675	-119.8273777	1740.691
Eng. Shack	38.77321402	-119.8273976	1741.012
Eng. Shack	38.77321632	-119.8274484	1739.002
Sign Shed	38.77331247	-119.8273743	1741.38
Battery Storage Box	38.77327719	-119.8273776	1742.576
Sign Shed	38.77326752	-119.8273582	1740.075
Sign Shed	38.77327145	-119.8273316	1738.731
Covered Storage	38.77330644	-119.8271763	1739.154
Covered Storage	38.77332555	-119.8271836	1739.235
Sign Shed	38.77333945	-119.8272547	1739.241
Former Fuel USTs	38.77333019	-119.8273545	1740.295
LPG AST	38.773398	-119.8276213	1737.059



LEGEND:

- AST Aboveground Storage Tank
- UST Underground Storage Tank
- LPG Liquid Petroleum Gas
- DI Drain Inlet
- CMP Corrugated Metal Pipe
- FH Fire Hydrant
- MW-1 Approximate Monitoring Well Location
- Slope



**GEOCON**

CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

18935 Highway 88  
Alpine County, California

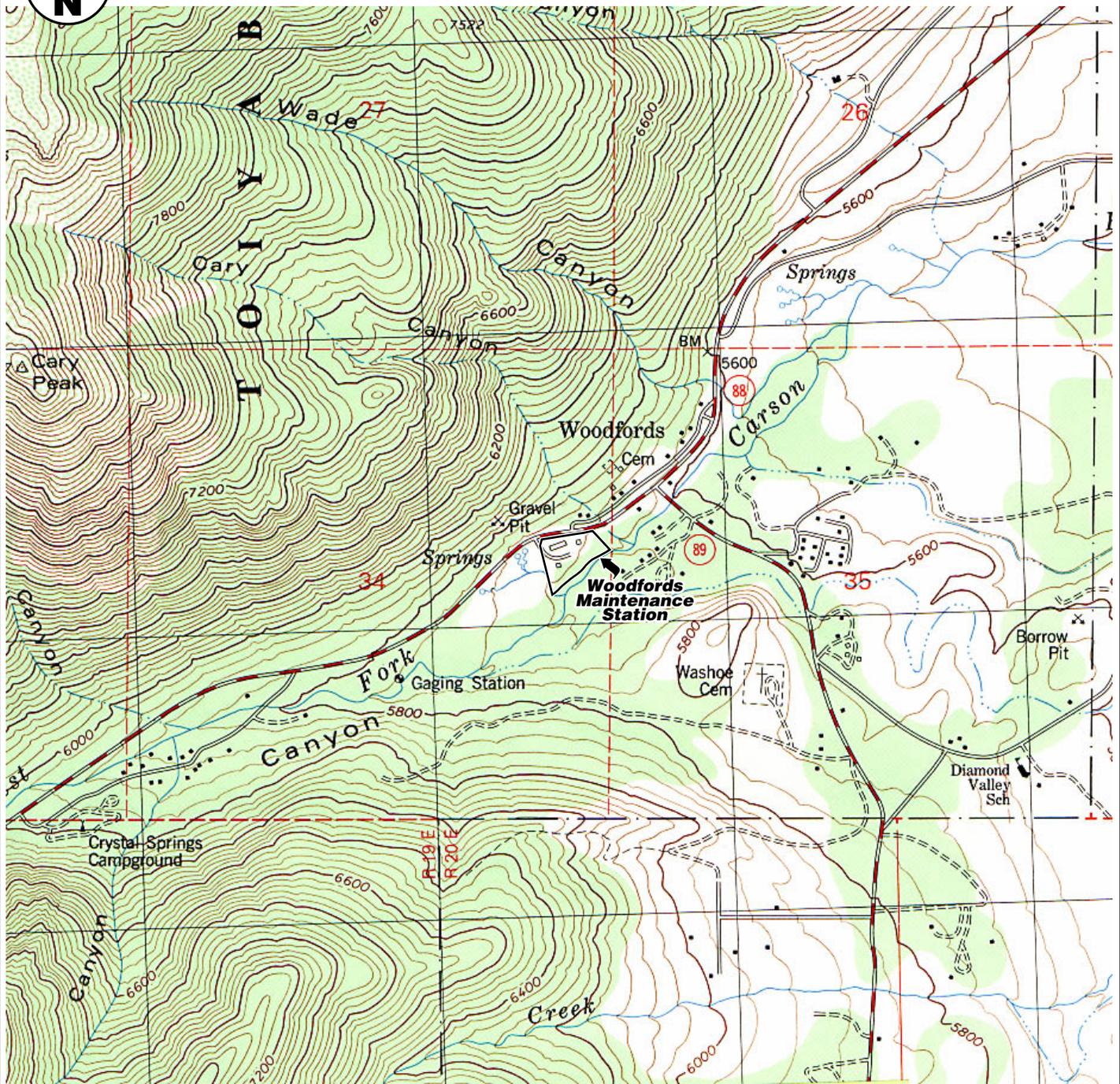
**SITE PLAN**

GEOCON Proj. No. S8225-06-146

Task Order No. 10-0E790K-7B

September 2001

Figure 2



Woodfords, Calif.-Nev. Quadrangle, Dated 1979

0 200 400m  
Scale: 1:20,000

# GEOCON

CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



## Woodfords Maintenance Station

18935 Highway 88  
Alpine County, California

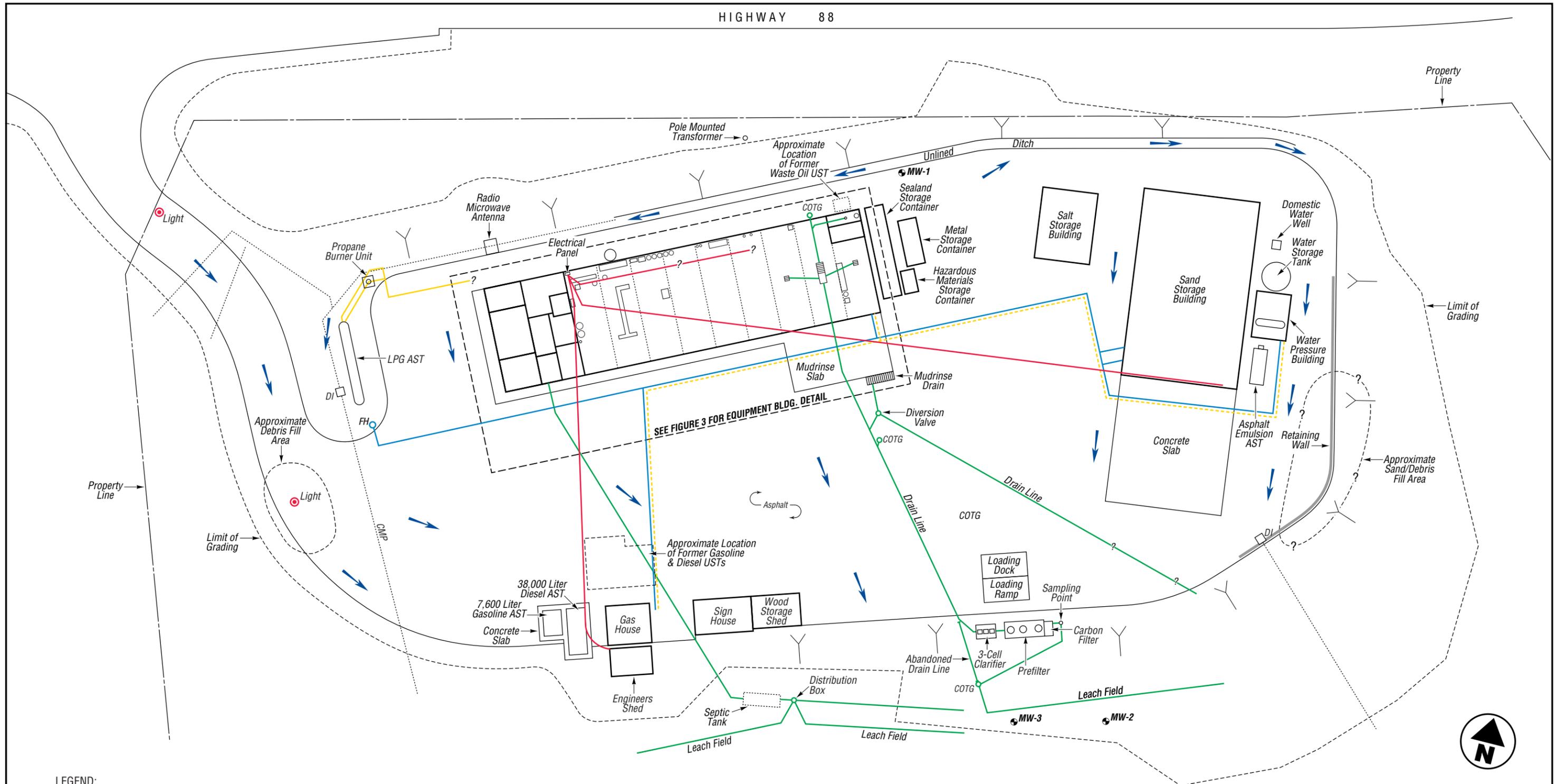
## TOPOGRAPHIC MAP

GEOCON Proj. No. S8225-06-146

Task Order No. 10-0E790K-7B

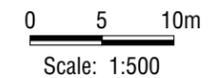
September 2001

Figure 10

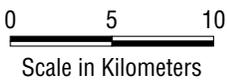
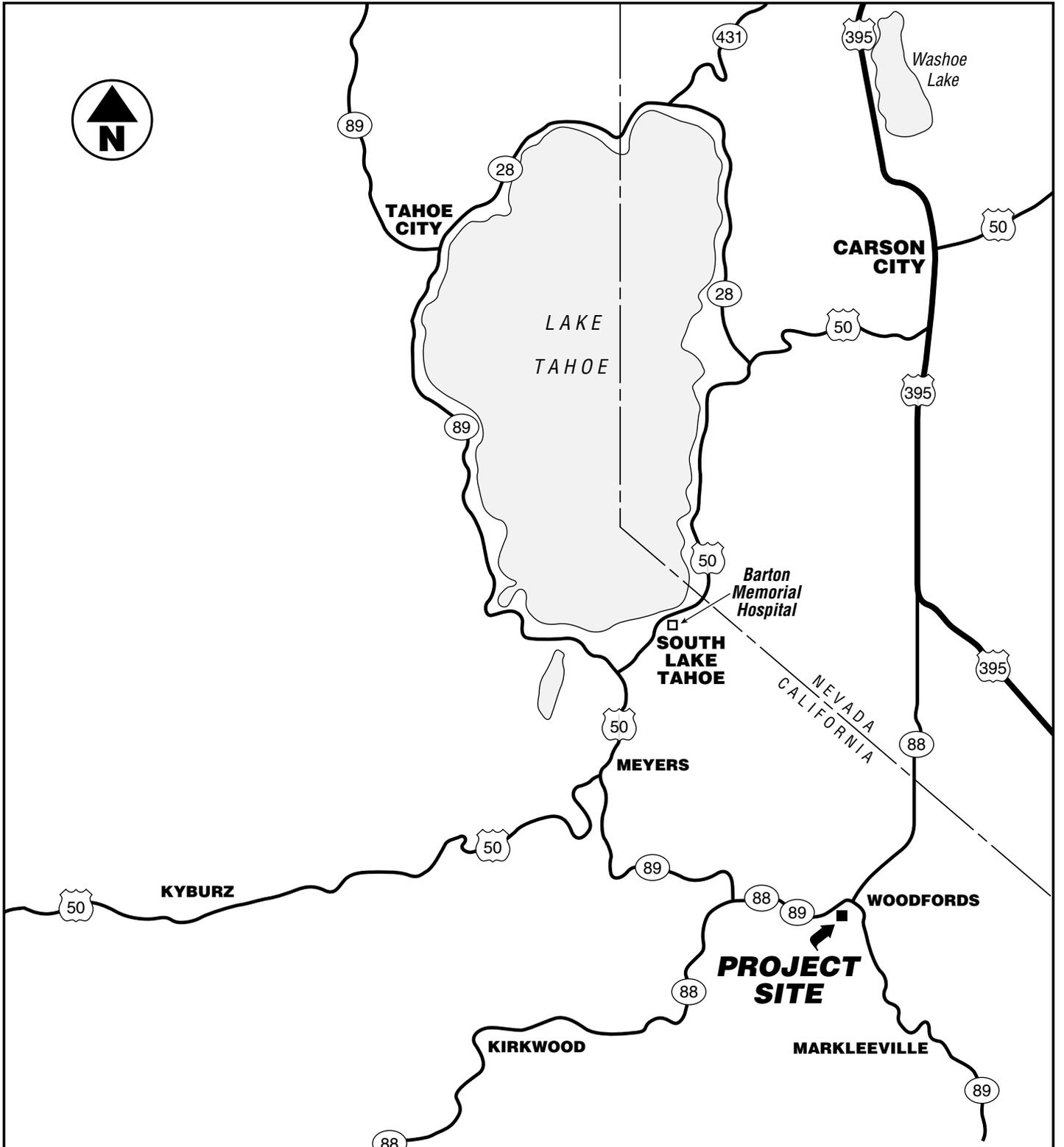


LEGEND:

- |      |                                      |   |                    |                    |
|------|--------------------------------------|---|--------------------|--------------------|
| AST  | Aboveground Storage Tank             | — | Electric           |                    |
| UST  | Underground Storage Tank             | — | Water              |                    |
| LPG  | Liquid Petroleum Gas                 | — | Gas                |                    |
| DI   | Drain Inlet                          | — | Sewer              |                    |
| CMP  | Corrugated Metal Pipe                | — | Compressed Air     |                    |
| FH   | Fire Hydrant                         | — | Surface Water Flow |                    |
| MW-1 | Approximate Monitoring Well Location | — | COTG               | Clean Out To Grade |
| ↘    | Slope                                |   |                    |                    |



<b>GEOCON</b> CONSULTANTS, INC. <small>11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742                  PHONE 916 852-9118 - FAX 916 852-9132</small>		
Woodfords Maintenance Station 18935 Highway 88 Alpine County, California		
GEOCON Proj. No. S8225-06-146		UTILITIES MAP
Task Order No. 10-0E790K-7B		September 2001
		Figure 13



<p><b>GEOCON</b> CONSULTANTS, INC. 11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742 PHONE 916 852-9118 - FAX 916 852-9132</p>		
<p>Woodfords Maintenance Station</p>		
<p>18935 Highway 88 Alpine County, California</p>		<p><b>VICINITY MAP</b></p>
<p>GEOCON Proj. No. S8225-06-146</p>		
<p>Task Order No. 10-0E790K-7B</p>	<p>September 2001</p>	<p>Figure 1</p>



Photo No. 13 Looking South at the Gas House and Diesel (Left) and Gasoline (Right) ASTs



Photo No. 14 Spill Kit, Petroleum Drums and Equipment in the Gas House

**SITE PHOTOS NO. 13 & 14**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12g



Photo No. 15 Engineers Building Located South of the Gas House



Photo No. 16 Sign House

**SITE PHOTOS NO. 15 & 16**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12h



Photo No. 17 Looking South at the Treated Wood Storage Located Adjacent and East of the Sign House



Photo No. 18 Hazardous Materials Storage Container, Sign Storage Container and Sealand Container (Left to Right), Located Northeast of the Equipment Building

**SITE PHOTOS NO. 17 & 18**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12i



Photo No. 19 Looking South at the Loading Dock and Steel Piping



Photo No. 20 Looking North at the Mud Rinse Slab, Equipment Building and Storage Container

**SITE PHOTOS NO. 19 & 20**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12j



Photo No. 21 Looking East at the Water Treatment System Location



Photo No. 22 Tires, Debris and Battery Storage Container Located Southwest of the Sign House

**SITE PHOTOS NO. 21 & 22**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12k



Photo No. 23 Looking North at Plastic Piping and Wood Debris Located Between the Salt and Sand Storage Buildings



Photo No. 24 Looking East at Piping Located on the Southern Portion of the Site

**SITE PHOTOS NO. 23 & 24**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12I



Photo No. 25 Looking South at the Drain Inlet Located in the Eastern Portion of the Site



Photo No. 26 Looking South at the Domestic Water Well, Water Storage AST and Pressure Tank Building (Forefront to Back) and the Sand Storage Building to the Right

**SITE PHOTOS NO. 25 & 26**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12m



Photo No. 27 Looking West at the Radio Tower and Pole-Mounted Transformer Located North of the Equipment Building



Photo No. 28 Looking Northwest at the LPG AST

**SITE PHOTOS NO. 27 & 28**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12n



Photo No. 29 Burner Unit Associated With the LPG AST



Photo No. 30 Water Pressure AST Located in the Water Pressure Building

**SITE PHOTOS NO. 29 & 30**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12o



Photo No. 31 Out of Service Waste Oil AST Located North of the Equipment Building

**SITE PHOTO NO. 31**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

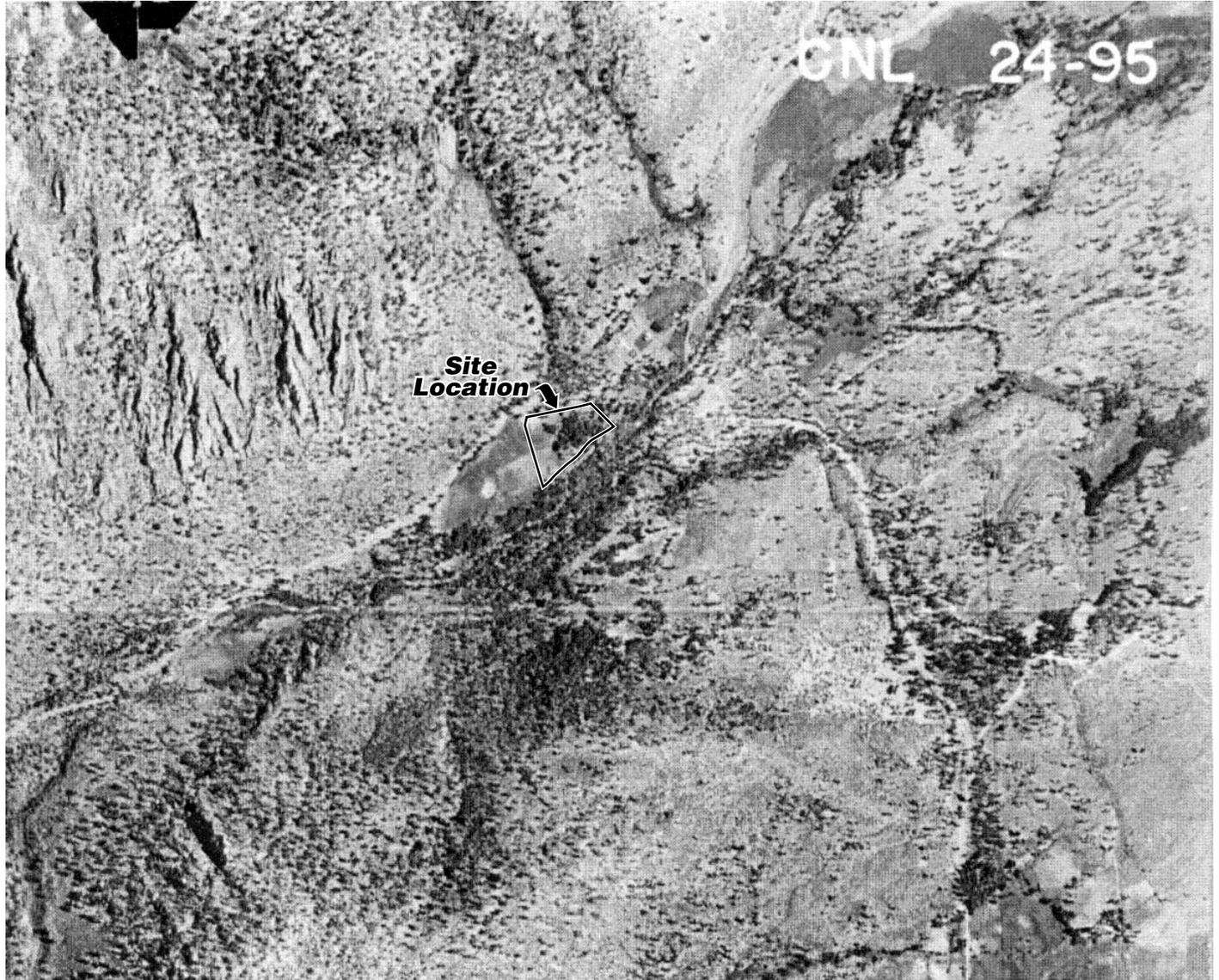
GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 12p



**1940 AERIAL PHOTO**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 6



**1987 AERIAL PHOTO**

**GEOCON**  
CONSULTANTS, INC.

11375 SUNRISE PARK DR. - SUITE 100 - RANCHO CORDOVA, CA. 95742  
PHONE 916 852-9118 - FAX 916 852-9132



Woodfords Maintenance Station

GEOCON Proj. No. S8225-06-146

18935 Highway 88  
Alpine County, California

Task Order No. 10-0E790K-7B

September 2001

Figure 7

Project No. S8225-06-146  
October 31, 2001

Mr. Saiyed S. Ali  
California Department of Transportation  
Central Sierra Environmental Services Branch  
Post Office Box 2048  
Stockton, California 95201

Subject:           CAMP CONNELL MAINTENANCE STATION  
                  CALAVERAS COUNTY, CALIFORNIA  
                  CONTRACT NO. 43A0012  
                  TASK ORDER NO. 10-0E790K-7B  
                  INITIAL SITE ASSESSMENT

Dear Mr. Ali:

In accordance with Caltrans Contract No. 43A0012 and Task Order No. 10-0E790K-7B, Geocon Consultants, Inc. has performed an Initial Site Assessment (ISA) of the subject site. The Site consists of the Caltrans Camp Connell Maintenance Station located at 5507 Meko Drive in Camp Connell, Calaveras County, California.

The accompanying report presents the details of the ISA conducted at the request of Caltrans. The report summarizes the services performed, including a summary of recognized environmental conditions associated with the former and current operations at the Site and adjacent facilities. An electronic copy of the ISA report is presented on the attached compact disc.

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

Sincerely,

**GEOCON CONSULTANTS, INC.**

John E. Juhrend, PE, CEG  
Project Manager

Amy L. Hester  
Senior Staff Environmental Scientist

ALH:JEJ:krc

(6) Addressee

# TABLE OF CONTENTS

## INITIAL SITE ASSESSMENT

EXECUTIVE SUMMARY .....	i
1.0 INTRODUCTION .....	1
1.1 Background .....	1
1.2 Purpose.....	1
1.3 Scope of Work .....	2
2.0 EXISTING SITE, GEOLOGIC AND GROUNDWATER CONDITIONS.....	5
2.1 Existing Site Conditions and Improvements.....	5
2.2 Soil and Geologic Conditions .....	5
2.3 Groundwater Conditions .....	6
3.0 SITE HISTORY .....	7
3.1 Historical Research Report .....	7
3.2 Previous Environmental Conditions .....	7
3.3 Caltrans Site Permits.....	10
3.4 Aerial Photographs.....	11
3.5 Historical Site Development .....	12
3.6 Historical Site Photographs.....	12
3.7 USGS Topographic Maps .....	13
3.8 Title Report and Right-of-Way Plans .....	13
3.9 Flood Control & Oil Survey Maps.....	13
4.0 SITE RECONNAISSANCE.....	15
4.1 Onsite Survey .....	15
4.1.1 Buildings.....	15
4.1.2 Chemical Materials/Wastes .....	17
4.1.3 Refuse & Debris .....	18
4.1.4 Site Drainage .....	19
4.1.5 Surface Vegetation.....	19
4.1.6 Water Wells .....	19
4.1.7 Utilities .....	19
4.1.8 Transformers.....	19
4.1.9 Storage Tanks .....	20
4.1.10 GPS Data Collection.....	20
4.2 Offsite Survey .....	20
4.3 Interviews.....	21
5.0 VISTA REPORT LISTINGS .....	22
5.1 EPA NPL and CORRACTS Listings.....	22
5.2 DTSC SPL/SCL Listings .....	22
5.3 EPA CERCLIS/NFRAP and TSD Listings.....	22
5.4 Leaking Underground Storage Tank (LUST) Listings .....	22
5.5 SWLF Listings .....	22
5.6 Deed Restriction Properties Report.....	22
5.7 CORTESE Listing.....	22
5.8 Toxic Pits Listing.....	23
5.9 USGS Water Well Listing.....	23
5.10 RCRA Violation Listing .....	23
5.11 TRIS Listing.....	23
5.12 SWRCB UST/AST Listings.....	23

## TABLE OF CONTENTS

5.13	EPA ERNS Listing.....	23
5.14	EPA Generator Listing.....	23
5.15	SPILLS Listing .....	23
6.0	RECORDS REVIEW .....	24
6.1	CVRWQCB Leaking Underground Storage Tank (LUST) Information System .....	24
6.2	CCEHD and CVRWQCB .....	24
6.3	CCAPCD.....	24
6.4	PG&E.....	24
7.0	LIMITED LEAD AND ASBESTOS SURVEYS .....	25
7.1	Review of Previous Building Surveys and As-Built Plans .....	25
7.2	Limited Asbestos Survey .....	25
7.3	Limited Lead-Based Paint Survey .....	27
8.0	CONCLUSIONS AND RECOMMENDATIONS .....	28
9.0	REPORT LIMITATIONS .....	31

### FIGURES

1. Vicinity Map
2. Site Plan
3. Equipment Building Detail
4. Geologic Map
5. Soil Boring and Trench Sample Locations Map
6. 1997 UST Excavation & Sample Locations Map
7. Cross Sections A-A' & B-B'
8. 1968 Aerial Photo
9. 2000 Aerial Photo
- 10a-10d. Historical Site Photos
11. Topographic Map
12. Site Characterization Map
- 13a-13o. Site Photos
14. Utilities Map
- 15a-15b. Offsite Photos
16. Lead and Asbestos Sample Locations Map

### TABLES

1. Summary of Soil Analytical Data
2. Summary of Soil and Groundwater Analytical Data – CAM 17 Metals
3. Summary of Recognized Environmental Conditions
4. Summary of Asbestos Analytical Data
5. Summary of Lead-Containing Paint Analytical Data

## TABLE OF CONTENTS

### APPENDICES

- A. Historical Research Report
- B. Site Information from Previous Environmental Documents
- C. Site Regulatory Permit Information
- D. GPS Data
- E. Interview Transcripts
- F. Vista Recovery Database Report
- G. Asbestos and Lead Survey Laboratory Analytical Reports

### ELECTRONIC MEDIA

Attached Compact Disc

## LIST OF ACRONYMS

ACBM	Asbestos-Containing Building Materials
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
ATF	Automotive Transmission Fluid
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Total Xylenes
CCEHD	Calaveras County Environmental Health Department
CCAPCD	Calaveras County Air Pollution Control District
CCR	California Code of Regulations
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CDMG	California Division of Mines and Geology
CORRACTS	RCRIS Corrective Action Sites
CVRWQCB	Central Valley Regional Water Quality Control Board
CEG	Certified Engineering Geologist
CMP	Corrugated Metal Pipe
DHS	Department of Health Services
HUD	Department of Housing and Urban Development
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
GIS	Geographic Information System
GPS	Global Positioning System
Hwy	Highway
ISA	Initial Site Assessment
km	Kilometer
LCP	Lead-Containing Paint
LUST	Leaking Underground Storage Tank
LPG	Liquid Petroleum Gas
m	Meter
MTBE	Methyl tert-butyl ether
µg/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
NIST-NVLAP	National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program
NPL	National Priorities List
PG&E	Pacific Gas & Electric
pCi/l	Picocuries per liter
PLM	Polarized Light Microscopy
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Act Information System
SCL	DTSC Calsites Database
SPL	State Equivalent to NPL

SWIS	Solid Waste Inventory System
SWLF	Solid Waste Landfills
SWRCB	State Water Resources Control Board
TO	Task Order
TPH	Total Petroleum Hydrocarbons
TPHd	Total Petroleum Hydrocarbons as Diesel
TPHg	Total Petroleum Hydrocarbons as Gasoline
TPHk	Total Petroleum Hydrocarbons as Kerosene
TPHmo	Total Petroleum Hydrocarbons as Motor Oil
TRPH	Total Reportable Petroleum Hydrocarbons
TRIS	Toxic Release Inventory System
TSD	Treatment, Storage and Disposal
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	Underground Storage Tank
WMUDS	Waste Management Unit Data System

## **INITIAL SITE ASSESSMENT**

### **EXECUTIVE SUMMARY**

The California Department of Transportation (Caltrans) District 10 - Environmental Engineering Branch retained Geocon Consultants, Inc. to perform an Initial Site Assessment (ISA) of the Camp Connell Maintenance Station. The objective of the ISA was to provide a summary of recognized environmental conditions associated with the former and current facility operations. Caltrans requested the ISA to identify potential onsite and adjacent property environmental impairments that may impact land use planning, the health and safety of onsite personnel, and/or the construction of future onsite improvements. The scope of the ISA included a site reconnaissance, an offsite survey, a review of historical records and environmental documents, asbestos and lead-based paint building surveys, data evaluation and the preparation of this report.

The Site was developed as a Caltrans maintenance station between 1967 and 1968 including the office and equipment building, hydraulic lift, wash rack and sump drain trench, bunkhouse, gas and generator building, sand storage building, pump house, residence, septic tank and associated leach field, oil/water separator, and liquid petroleum gas (LPG), one 1,140-liter (300-gallon) waste oil underground storage tank (UST), one 38,000-liter (10,000-gallon) diesel UST, one 19,000-liter (5,000-gallon) diesel UST and one 19,000-liter (5,000-gallon) gasoline UST. An oil/water separator was installed in 1972 and removed in 2000. The waste oil UST was removed in 1988 and the diesel and gasoline USTs were removed in 1997. The Site currently utilizes three LPG aboveground storage tanks (ASTs), one 38,000-liter (10,000-gallon) diesel UST and one 22,800-liter (6,000-gallon) gasoline AST.

In July 1988, the 1,140-liter (300-gallon) waste oil UST located east of the equipment building was removed. The UST appeared to be in good condition; however, discolored and odorous soil around the fill spout was noted. A soil sample collected from the bottom of the excavation indicated the presence of 180 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons (TPH) characterized as motor oil. The excavation was backfilled with the original excavated material.

In November 1990, a site investigation was performed to determine the potential presence of petroleum hydrocarbon impacted soil at the Site in the vicinity of the former waste oil UST, the oil/water separator and the fuel USTs. Four hollow-stem auger borings, five trenches and four hand-auger borings were advanced to a maximum depth of 21 meters (m) (70 feet) below ground surface (bgs). Groundwater was not encountered during drilling activities. A maximum total reportable petroleum hydrocarbons (TRPH) concentration of 19,000 mg/kg was detected in the vicinity of the oil/water separator. Based on the limited vertical and lateral extent of detected TRPH in soil and the presence of asphalt pavement, no further action with respect to the former waste oil UST was recommended by the Caltrans' consultant. Removal of the abandoned oil/water separator and performing additional

investigation to define the vertical and lateral extent of impacted soil beneath the Site was further recommended by the Caltrans' consultant.

A site investigation was performed in 1995 to attempt to establish the lateral and vertical extent of TRPH impacted soil resulting from surface and subsurface releases from the abandoned wash water discharge system at the Site. Nine soil borings were drilled and chemical analysis of soil and grab groundwater samples from the soil borings and water sampling of one existing offsite groundwater monitoring well was performed. Shallow groundwater was encountered at depths ranging from 2.1 to 7.6 m (7 to 25 feet) bgs. TRPH was detected in four of 35 soil samples analyzed at concentrations ranging from 200 to 7,800 mg/kg. TPH as gasoline (TPHg) was reported in one of 35 soil samples analyzed at a concentration of 53 mg/kg. TPH as diesel (TPHd) was reported in two of 35 soil samples analyzed at concentrations of 27 and 140 mg/kg. Recommendations included abandoning the oil/water separator and removing petroleum hydrocarbon surface stains from the northern portion of the Site. Additional site investigations with respect to the distribution of TRPH soil impacts in the vicinity of the former waste oil UST and the abandoned wash water discharge system were not considered necessary.

In May 1997, a temporary 19,000-liter (5,000-gallon) AST was installed south of the gas and generator building and three USTs [one 38,000-liter (10,000-gallon) diesel UST, one 19,000-liter (5,000-gallon) diesel and one 19,000-liter (5,000-gallon) gasoline] and associated piping and dispensers were removed from the Site. The three USTs had been installed at the Site in 1967. Groundwater was not encountered during the UST removal activities. TPHg and TPHd were detected in soil samples collected from beneath the USTs and fuel dispensers at maximum concentrations of 160 and 3,230 mg/kg, respectively. In June 1997, overexcavation activities occurred and approximately 41.5 cubic m (54 cubic yards) of soil was removed from the former dispenser island area. Due to the presence of water in the UST excavation, overexcavation activities were not performed in the former UST locations.

In October 1997, one 38,000-liter (10,000-gallon) diesel UST was installed south of the gas and generator building. In July 1998, a mud rinse slab that discharges directly to the ground surface was constructed east of the equipment building. In 2000, the oil/water separator was removed.

The Site is bounded to the north by forested land and Highway 4, to the west by forested land, to the east by Meko Road and the Ebbetts Pass Fire District Station, and to the south by a rural subdivision.

The Site is referenced by the Central Valley Regional Water Quality Control Board (CVRWQCB) for the release of diesel affecting an aquifer used for drinking water discovered during a UST removal. The incident was reported in December 1987. According to Saiyed Ali of Caltrans, Caltrans is scheduled to submit a request for site closure to the CVRWQCB. No other facilities located within 1.6 kilometers (1 mile) of the Site are referenced for fuel releases. LPG ASTs were noted in the residential subdivision adjacent and south of the Site, and a diesel AST was noted at the Ebbetts Pass Fire District Station

located adjacent and east of the Site. These facilities have a low potential of impacting the Site.

Based on the information presented in this ISA, the following recognized environmental conditions exist at the Site:

- Confirmed soil contamination associated with the former fuel and waste oil USTs
- Former oil/water separator and abandoned associated leach field.
- Mud rinse area that discharges wash water directly to the ground surface.
- Hydraulic lift and hydraulic oil AST.
- Sump drains, trench, wash rack and leach field associated with the water filtration system.
- Fill material located along the northern site boundary.
- Septic tanks and leach fields associated with the bunkhouse and equipment building.

The former oil/water separator and the leach field that formerly received drainage from the equipment building sumps and floor drain should be properly closed in accordance with Environmental Protection Agency and Calaveras County Environmental Health Department (CCEHD) requirements.

A determination of the lateral extent of the soil impacts and an assessment of groundwater occurrence and quality associated with the recognized environmental conditions will be necessary prior to evaluating remedial response actions for specific future land use options. Targeted site investigations should be designed to evaluate potential soil and groundwater impacts with respect to specific project requirements prior to design and construction of any proposed onsite improvements. Soil and groundwater generated from excavations at the Site may require treatment and/or disposal.

The Site is located within EPA Radon Zone 2 with a predicted average indoor screening level of between 2 and 4 picocuries per liter (pCi/l). The EPA has established a recommended action level of 4 pCi/l. Radon gas is a clear, odorless, radioactive gas that is considered by the EPA to be the second leading cause of lung cancer in the country. Radon gas can enter enclosed structures by plumbing or other apertures within the foundation and may also be present in well water and be released and inhaled during showering. Based on regional occurrences of naturally occurring radioactive materials associated with granitic rocks, consideration should be given for the performance of air quality and water surveys for the presence of radon at the Site. The surveys should be conducted by personnel certified by the State of California for radon measurement. If radon gas is determined to be present in the air or water at the Site, it should be mitigated by a state certified contractor.

A review of previous surveys and the results of the building surveys performed at the Site by Geocon, indicate the presence of asbestos-containing building materials (ACBMs) in the asphalt and gravel roofing, gypsum board wall systems, resilient floor tiles, window putty wall base coving. In addition, ceramic tiles used in the office and equipment building restroom were not sampled and are assumed

to contain asbestos. Sampling activities would have significantly damaged the materials in question and would likely have contributed to the potential release of asbestos fibers into occupied areas of the building. Lead-containing paints (LCPs) were further identified in the office and equipment building, gas and generator building, pump house, LPG AST, boxcar, fuel canopy, hazardous materials storage container and sand storage building. Based on our findings, Geocon recommends the following:

- Retain a registered asbestos abatement contractor to remove and dispose of ACBM identified during this survey that will be impacted by renovation or demolition activities.
- Notify contractor(s) that will be conducting renovation work and related activities of the presence of ACBM and LCP in their work areas and instruct the contractor(s) not to disturb ACBM or LCP during their work (i.e., provide the contractor[s] with a copy of this report and a list of ACBM removed by the asbestos abatement contractor during any abatement activities).
- Treat all paints at the Site as lead-containing for purposes of determining the applicability of the California Occupational Safety and Health Administration (Cal/OSHA) lead standard during any future maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results, the age of the buildings, and the fact that lead was a common ingredient of paints manufactured before 1978.
- Implement interim controls to maintain identified ACBMs and LCPs.

## INITIAL SITE ASSESSMENT

### 1.0 INTRODUCTION

#### 1.1 Background

This report presents the results of an Initial Site Assessment (ISA) performed under California Department of Transportation (Caltrans) Contract No. 43A0012 and Task Order (TO) No. 10-0E790K-7B. The Site consists of the Camp Connell Maintenance Station located at 5507 Meko Drive in Camp Connell, Calaveras County, California (see Vicinity Map, Figure 1).

Caltrans District 10 requested this ISA to identify potential onsite and adjacent property environmental impairments that may impact land use planning, the health and safety of onsite personnel, and/or the construction of future onsite improvements.

#### 1.2 Purpose

The purpose of the ISA was to provide a summary of recognized environmental conditions associated with the former and current site and adjacent property operations. According to the American Society of Testing and Materials (ASTM) Practice E 1527-00, Section 1.1.1, *the term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.*

Specifically, the objectives of this ISA were to:

- Document the existing site conditions.
- Document the development and historical facility operations at the Site and adjacent facilities.
- Summarize available information and analytical data generated from previous environmental site investigations and remediation activities performed at the Site and adjacent facilities.
- Perform updated asbestos and lead-based paint surveys of the onsite structures.
- Summarize the extent of soil and groundwater impacts at adjacent facilities to evaluate the potential for these facilities to impact the Site.
- Provide recommendations for onsite areas of concern requiring additional site characterization and/or remediation and cleanup activities.

### **1.3**    **Scope of Work**

Geocon has performed preliminary research and a site reconnaissance to estimate the potential for existing environmental impacts to the Site from the presence of hazardous materials/wastes on or adjacent to the Site. The guidelines used for the definition of hazardous materials/wastes are presented in the California Code of Regulations (CCR) Title 22.

The ISA services performed are presented as follows:

- Conducted a pre-work meeting on December 15, 2000, attended by Mr. Saiyed Ali with Caltrans and Mr. John Juhrend, Mrs. Rebecca Silva and Ms. Amy Hester of Geocon, to review the subject TO.
- Reviewed the following documents to obtain information regarding the prevailing soil, geologic and groundwater conditions at the Site:
  - *Geologic Map of the Sacramento Quadrangle*, prepared by the California Division of Mines and Geology (CDMG), dated 1981.
  - *Fault Activity Map of California and Adjacent Areas*, prepared by the CDMG, dated 1994.
  - *The Water Quality Control Basin Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region*, third edition 1994.
- Geocon personnel performed an onsite reconnaissance on August 22, 2001 to attempt to identify visual indicators suggestive of the potential presence, as of the date of the site reconnaissance, of hazardous materials/wastes at the Site. These indicators typically include the presence of chemical containers and drums, waste disposal storage areas, industrial facilities, discolored surficial soils, electrical transformers that may contain polychlorinated biphenyls (PCBs), underground/aboveground storage tanks (USTs/ASTs), and areas conspicuously absent of vegetation. Global Positioning System (GPS) data was collected to document the locations of observed site features with the information provided herein in Caltrans compatible Geographic Information System (GIS) format.
- Surveyed adjacent properties from public thoroughfares on August 22, 2001 to attempt to evaluate if adjacent properties possess facilities or structures that were likely to be occupied by entities that potentially use, store, generate, or dispose of hazardous materials/wastes.
- Conducted a personal interview with Mr. Mike Barrington of Caltrans, Maintenance Supervisor since 1995 (onsite since 1978), to determine the history of the Site.
- Reviewed aerial photographs for the years 1968, 1977 and 2000 available from Caltrans and Cartwright Aerial Surveys in Sacramento, California, to obtain information concerning the history of the Site.
- Sanborn Map coverage for the Camp Connell Maintenance Station was not available for review.
- Reviewed the United States Geological Survey (USGS) topographic maps of the Blue Mountain, California 15 minute Quadrangle, dated 1956 and the Dorrington, California 7 1/2 minute Quadrangle, dated 1979, to obtain topographic information and information relative to previous development of the Site and facilities in the vicinity of the Site.
- Reviewed the following environmental reports:

- *Soil Contamination Investigation, Camp Connell Maintenance Station, Calaveras County, California*, prepared by CKY, Inc., Environmental Services, dated November 1991.
- *Site Investigation Report, Camp Connell Maintenance Station, Calaveras County, California*, prepared by Geocon, dated August 10, 1995.
- *Tank Removal Report, Camp Connell Maintenance Facility*, prepared by Wayne Perry Inc., dated February 10, 1998.
- Reviewed a *Site Assessment Plus Report* prepared for Caltrans by Vista Information Systems dated July 31, 2001. The Vista regulatory database search included the following information sources at a search distance of 1.6 kilometers (km) (1 mile).

NPL - Environmental Protection Agency (EPA) National Priorities List dated March 2001.  
 CORRACTS - EPA Resource Conservation and Recovery Act Information System (RCRIS) Corrective Action Sites List, dated June 2000.

SPL & SCL - California Department of Toxic Substances Control (DTSC) Calsites Databases dated October 2000.

CERCLIS/NFRAP - EPA Databases dated March 2001.

RCRIS - TSD - TSC - EPA Treatment, Storage and Disposal (TSD) Facilities subject to Corrective Action and Treatment, Storage and Disposal Facilities Lists dated June 2000.

LUST - California Regional Water Quality Control Databases dated February 2000 for Region 6, January 2001 for Region 5, and California EPA Listing dated March 2001.

SWLF - California Solid Waste Information System (SWIS) Database dated January 2001, City of Los Angeles Landfills Transfer Stations Database dated April 1999, and State Water Resources Control Board (SWRCB) Waste Management Unit Data System (WMUDS) listing dated February 1999.

DEED RSTR - California Department of Health Services (DHS) Database dated April 2001.

CORTESE - California EPA Database dated April 1998.

TOXIC PITS - SWRCB Database dated February 1995.

WATER WELLS - USGS Water Wells Database dated March 1998.

RCRIS VIOL - EPA Database dated June 2000.

TRIS - EPA Database dated January 1998.

UST/AST - SWRCB Database dated January 1994/January 2001.

UST - CO - CAL- Calaveras County Underground Storage Tanks Database dated November 2000.

ERNS - EPA Emergency Response and Notification System (ERNS) Database dated December 2000.

RCRA - LQG/RCRIS - SQG - EPA Database dated June 2000.

SPILLS - Database dated January 2001.

- Reviewed regulatory files and environmental reports available at the Calaveras County Environmental Health Department (CCEHD), and requested files at the Central Valley Regional Water Quality Control Board (CVRWQCB) pertaining to UST facilities, and hazardous material/waste storage and waste generation facilities located within the Site and vicinity. CCEHD files were reviewed to obtain information regarding the nature and extent of potential reported hazardous material/waste releases, and to estimate the potential for the reported releases to impact the Site.

- Reviewed the following as-built plans provided by Caltrans to determine structural features at the Site:
  - *Camp Connell Maintenance*, dated July 26 1966.
  - *Camp Connell Maintenance Station, Plot Plan and Services, Division of General Services*, dated June 15, 1967.
  - *As Built 10-094104*, dated July 1967.
  - *Site Plan*, date illegible.
  - *Camp Connell Maintenance Station Mud Rinse Slab, Site Plan and Details*, date illegible.
- Reviewed the "1993 Munger Map Book" to obtain information regarding the locations of potential oil and gas wells in the site vicinity.
- Contacted the following public agencies to obtain information regarding the site history and potential and/or existing presence of hazardous materials/wastes at the Site at levels likely to warrant current regulatory mitigation action:
  - Calaveras County Public Library
  - Merced County Public Library
  - Calaveras County Surveyors Office
  - Calaveras County Assessors Office
  - Calaveras County Building and Planning Departments
  - CCEHD
  - Calaveras Ranger Station
  - Calaveras County Recorder's Office
  - CVRWQCB
  - Pacific Gas & Electric (PG&E)
  - Department of Water Resources (DWR)
  - Calaveras County Air Pollution Control District (CCAPCD)
- Reviewed previous building surveys performed at the Site and the as-built plans provided by Caltrans to evaluate the general presence of asbestos containing materials and lead-based paint within the onsite structures. Based on the review, a Geocon Asbestos Hazard Emergency Response Act (AHERA) Certified Asbestos Consultant and California DHS certified lead-based paint sampler performed updated asbestos and lead-based paint building surveys on September 24, 2001.
- Reviewed a *Historic Land Use and Research Report, Camp Connell Maintenance Station*, prepared by Sarah Lim, MS Historian, dated September 4, 2001, to determine the history of the Site and the site vicinity. The Historical Research Report is presented in Appendix A.
- Prepared this ISA report to summarize the information sources reviewed and to present recommendations regarding additional site characterization.

## **2.0 EXISTING SITE, GEOLOGIC AND GROUNDWATER CONDITIONS**

### **2.1 Existing Site Conditions and Improvements**

The Caltrans Camp Connell Maintenance Station is located at 5507 Meko Drive in Camp Connell, Calaveras County, California. The 1.22-hectare (3.06-acre) irregularly shaped parcel is bounded to the north by forested land and Highway (Hwy) 4, to the west by forested land, to the east by Meko Road and the Ebbetts Pass Fire District Station and to the south by a rural subdivision.

The Site consists of an active maintenance facility for the storage of vehicles and equipment used for the maintenance of California highways. Structures on the Site include the office and equipment building, hydraulic lift, mud rinse, gas and generator building, sand storage building, pump house, one 38,000-liter (10,000-gallon) diesel UST and one 22,800-liter (6,000-gallon) gasoline AST. The existing site improvements are depicted on the Site Plan, Figure 2 and Equipment Building Detail, Figure 3.

### **2.2 Soil and Geologic Conditions**

Information concerning the general soil and geologic conditions beneath the Site was obtained from a review of previous reports prepared for the Site and the previously referenced CDMG and soil survey documents.

The Site is located within the Sierra Nevada Mountains, approximately 111 km (70 miles) east-southeast of Sacramento and about 94 km (59 miles) northeast of Stockton. The Site is located about 21 km (13 miles) east of the inactive Shoo Fly Thrust, about 38 km (24 miles) east of the potentially active Melones fault zone and approximately 50 km (31 miles) southwest of the active Genoa fault. Surficial soils are generally comprised of Holocene age colluvium consisting of sands and gravels overlying Mesozoic age granitic rocks of the Sierra Nevada batholith. A portion of the CDMG geologic map depicting the Site is presented on Figure 4.

Based on information obtained from soil borings drilled at the Site, miscellaneous fill materials, topsoil and Mesozoic-aged decomposed to fresh granitic rock was encountered beneath the Site. The fill materials encountered along the northern site boundary slope generally consist of loose silty sand and gravel ranging in thickness from 0.9 to 2.1 meters (m) (3 to 7 feet) below ground surface (bgs) overlying silty clay and clayey to sandy silt. The fill was encountered to maximum depths of 0.6 to 5.5 m (2 to 18 feet) bgs. The upper sandy fill materials and the entire slope face appeared to have been deposited from snow removal stockpiles. The underlying fine-grained fill materials were likely placed during the initial site grading operations. Granitic rock ranging from medium dense decomposed granite to hard unweathered rock was encountered beneath the fill materials and topsoil. Drilling refusal on unweathered rock was encountered at a depth of 4.6 m (15 feet) bgs. Copies of the soil boring logs are presented in Appendix B.

### **2.3 Groundwater Conditions**

Information sources prepared by the DWR and the CVRWQCB were reviewed for information pertaining to groundwater quality and occurrence in the vicinity of the Site.

Water Well Drillers Reports for the two onsite domestic wells were obtained from the DWR; however, it is unclear which report corresponds to each of the wells. Both wells were completed in July of 1966 to total depths of 57 and 76.2 m (190 and 250 feet) bgs. The reports indicate that the wells partially cased to a depth of 36.5 m (120 feet) bgs. During drilling activities, groundwater was first encountered at depths of 27.4 and 39.9 m (90 and 131 feet) bgs. Standing groundwater levels were reported at depths of 14.3 and 27.4 m (47 and 90 feet) bgs. An investigation performed at the Site in 1990 indicated that the wells were legally abandoned and the Site currently obtains domestic water from the Calaveras County Water District. Copies of the Well Drillers Reports are presented in Appendix B.

Review of the CVRWQCB Basin Plan indicates that the Site is located in the South Fork Calaveras Hydrologic Area of the Upper Calaveras Hydrologic Unit of the San Joaquin Hydrologic Basin. The Basin Plan further indicates that groundwater occurring within the South Fork Calaveras Hydrologic Area has “designated beneficial” uses for recreation, habitat, migration, spawning and wild river purposes.

### **3.0 SITE HISTORY**

#### **3.1 Historical Research Report**

A *Historic Land Use Research Report, Camp Connell Maintenance Station*, prepared by Sarah Lim, MS Historian, dated September 4, 2001 is presented in Appendix A. Review of the report indicates that in 1965 the State of California purchased a total of 1.5 hectares (3.84 acres) of land from the American Forest Products Corporation. The Site was developed as a Caltrans maintenance station between 1967 and 1968. A residential subdivision was developed adjacent and south of the Site in the 1970s. In the 1980s, the State of California sold 0.16 hectare (0.39 acre) of the eastern portion of the Site including the bunkhouse to RPO Varsity House, a group home for troubled youths. The current assessor's map indicated that the Site consists of 1.38 hectares (3.45 acres). Copies of a Land and Buildings Inventory, a plot plan, grant deeds, right-of-way and parcel maps, topographic maps and city directories are presented in Appendix A.

#### **3.2 Previous Environmental Conditions**

Information regarding the use, storage and disposal of hazardous material/waste and previous environmental investigations performed at the Site was obtained from a review of onsite records and information obtained from the Caltrans District 10 office, the CCEHD in San Andreas and the CVRWQCB in Sacramento, California. Copies of pertinent site-specific information are presented in Appendix B.

The equipment building contains a drainage trench which originally discharged waste water generated from maintenance/cleaning operations directly to a leach line at the northwest corner of the building. In 1972, the drain line was connected to an oil/water separator which was then to be connected to the original leach line. The oil/water separator was reportedly modified in 1979 including approximately 9.1 m (30 feet) of new leach line and was abandoned in 1990 and replaced with a carbon filtration system connected to a new leach line.

In July 1988, a 1,140-liter (300-gallon) waste oil UST located east of the equipment building was removed. The UST appeared to be in good condition; however, discolored and odorous soil around the fill spout was noted. A soil sample collected from the bottom of the excavation indicated the presence of 180 milligrams per kilogram (mg/kg) total petroleum hydrocarbons (TPH) characterized as motor oil. The excavation was backfilled with the original excavated material.

In order to comply with regulatory requirements, an Unauthorized Release Report dated September 9, 1997 was submitted for the release of waste oil from the oil/water separator.

In November 1990, a site investigation was performed to determine the potential presence of petroleum hydrocarbon impacted soil at the Site in the vicinity of the former waste oil UST, the oil/water separator and the fuel USTs. Four hollow-stem auger borings (B-2, B-4, B-5 and B-12), five trenches (T1 through T5) and four hand-auger borings (HB-1 through HB-4) were advanced to a maximum depth of 21 m (70 feet) bgs. Groundwater was not encountered during drilling activities. Total reportable petroleum hydrocarbons (TRPH) concentrations of 64 and 290 mg/kg at depths of 0.6 and 1.5 m (2 and 5 feet) bgs, respectively, in boring B-5 located within the former waste oil UST excavation. TRPH was not detected in the soil sample collected in B-5 at 3.0 m (10 foot) bgs. Based on the limited vertical and lateral extent of detected TRPH in soil and the presence of asphalt pavement, no further action with respect to the former waste oil UST was recommended.

TRPH concentrations ranging from 41 to 11,000 mg/kg were detected in soil samples collected in the vicinity of the oil/water separator to a maximum depth of 1.5 m (5 feet) bgs. Analytical results of one soil sample obtained at a depth of 3 m (10 feet) bgs in boring B-2, located adjacent to the oil/water separator, indicated the presence of TRPH at a concentration of 19,000 mg/kg. Analytical results for 7 of 15 soil samples collected in the vicinity of the oil/water separator indicated TRPH concentrations greater than 1,000 mg/kg. One soil sample obtained from the inside of the suspected oil/water separator leach line (sample P1-6) indicated a TRPH concentration of 24,000 mg/kg. The suspected leach line comprised of clay pipe was found to be continuous at least 27.4 m (90 feet) to the east of the oil/water separator. Removal of the abandoned oil/water separator and performing an additional investigation to define the vertical and lateral extent of the impacted soil was recommended by the Caltrans' consultant. Soil boring, trench and sample locations are presented on Figures 5 and 6. A summary of the soil analytical data is presented on Tables 1 and 2.

A site investigation was performed in 1995 to attempt to establish the lateral and vertical extent of TRPH impacted soil resulting from surface and subsurface releases from the abandoned wash water discharge system at the Site. Nine soil borings (B-13 through B-21) were drilled and chemical analysis of soil and grab groundwater samples from the soil borings and water sampling of one existing offsite groundwater monitoring well (MW-A) was performed. Shallow groundwater was encountered in borings B-13, B-20, and B-21 and within existing monitoring well MW-A at depths ranging from 2.1 to 7.6 m (7 to 25 feet) bgs. The shallow groundwater levels likely resulted from snow melt/runoff conditions. TRPH was detected in four of 35 soil samples analyzed (B-13, B-14, B-17 and B-18) at concentrations ranging from 200 to 7,800 mg/kg. Total petroleum hydrocarbons as gasoline (TPHg) was reported in one of 35 soil samples analyzed (sample B17-5) at a concentration of 53 mg/kg. Ethylbenzene and total xylenes were further detected in sample B17-5 at concentrations of 0.028 and 0.22 mg/kg, respectively. Total petroleum hydrocarbons as diesel (TPHd) was reported in two of 35 soil samples analyzed at concentrations of 27 and 140 mg/kg. The reported TPHd concentrations were limited to the soil samples collected at 1.5 m (5 feet) bgs in soil borings B-13 and B-18. Nine soil samples obtained from boring B-17 were further analyzed for purgeable volatile organic compounds and

Title 22 total threshold limit concentration (TTLC) metals. Acetone, methylene chloride and 2-butanone were reported at concentrations ranging from 10 to 98 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) at sample depths of 6.1, 7.6 and 9.1 m (20, 25 and 30 feet) bgs. The results of the Title 22 metals analyses did not indicate hazardous metal concentrations greater than the respective TTLC values or ten times the soluble threshold limit concentrations. It was estimated that a total volume of approximately 96 cubic m (125 cubic yards) of soil contained a TRPH concentration greater than 10,000 mg/kg in the vicinity of the abandoned oil/water separator. Cross sections are presented on Figure 7.

Dissolved TRPH at concentrations of 380 and 600 mg/l were reported in grab groundwater samples obtained from offsite borings B-20 and B-21, respectively. Due to the lack of reported vadose zone impacts or odors noted during the sampling operations, the reported TRPH concentrations were attributed to naturally occurring organic matter. Nondetected concentrations of TPHg, TPHd and Total petroleum hydrocarbons as motor oil (TPHmo) range petroleum hydrocarbons and purgeable organic compounds were reported for the groundwater sample obtained from well MW-A. It was recommended that the abandoned oil/water separator and petroleum hydrocarbon surface stains be removed from the northern portion of the Site. Additional site investigations with respect to the distribution of TRPH soil impacts in the vicinity of the former waste oil UST and the abandoned wash water discharge system were not considered necessary. A summary of the groundwater analytical data generated at the Site is presented on Table 2.

In May 1997, a temporary 19,000-liter (5,000-gallon) AST was installed south of the gas and generator building and three USTs [one 38,000-liter (10,000-gallon) diesel UST, one 19,000-liter (5,000-gallon) diesel and one 19,000-liter (5,000-gallon) gasoline] and associated piping and dispensers were removed from the Site. The three USTs had been installed at the Site in 1967. Excavated soil was stockpiled on visqueen. Groundwater was not encountered during the UST removal activities to a maximum depth of 4.1 m (13.5 feet) bgs. TPHg and TPHd were detected in soil samples collected from beneath the USTs and fuel dispensers at maximum concentrations of 160 and 3,230 mg/kg, respectively. Analytical results of four composite soil samples collected from the soil stockpile indicated maximum TPHg and TPHd concentrations of 11 and 4,370 mg/kg, respectively. Benzene and methyl tert-butyl ether (MTBE) were not detected in any of the soil samples collected.

In June 1997, overexcavation activities occurred and approximately 41.5 cubic m (54 cubic yards) of soil was removed from the former dispenser island area. Due to the presence of rain water and surface runoff that had accumulated in the UST excavation, overexcavation activities were not performed in the former UST excavation. Confirmatory soil samples were not collected from the dispenser island overexcavation limits and maximum depths explored beneath the dispenser island were not provided. Approximately 186 cubic m (242 cubic yards) of TPHg and TPHd impacted soil was accepted for disposal at the Rock Creek Solid Waste Facility. The excavations were backfilled with clean,

compacted native fill and finished with asphalt concrete. An Unauthorized Release Report was submitted for the release of gasoline affecting the groundwater. A map depicting the excavation and soil sample locations is presented on Figure 6.

A UST Permit Application dated December 3, 1997 indicated that a 38,000-liter (10,000-gallon) diesel UST was installed at the Site in October 1997.

In 2000, Caltrans maintenance reportedly removed the oil/water separator. The oil/water separator consisted of vertical corrugated metal piping on a concrete footing. Documentation regarding the removal was not available. Caltrans informed Geocon that the concrete footing may not have been removed.

Monthly water sampling of the existing filtration system leach field effluent commenced in April 1991. The most recent effluent samples were collected in June 2001. Water samples were collected at the monitoring point located north of the equipment building. Maximum TPHd and TPHmo concentrations of 21 and 140 mg/l, respectively, have been reported for water effluent samples. TPHg and total petroleum hydrocarbons as kerosene (TPHk) have not been detected in the water effluent samples with the exception of a TPHk concentration of 2.3 mg/l detected in October 1999. Petroleum hydrocarbons were not detected above laboratory detection limits during the most recent effluent sampling event in June 2001. Copies of water effluent analytical data is presented in Appendix B.

According to Saiyed Ali of Caltrans, Caltrans is scheduled to submit a request for site closure to the CVRWQCB.

### **3.3 Caltrans Site Permits**

In December 1993, the EPA issued Caltrans an Environmental Compliance Agreement Regarding Industrial Injection Wells at Caltrans Maintenance Stations. The agreement outlines Federal Safe Drinking Water Act compliance requirements for maintenance wash rack facilities that discharge to septic/leach field systems. EPA defines wash rack/septic systems as Class V industrial injection wells. EPA has required Caltrans to close all Class V industrial injection wells in accordance with the *EPA Region 9 Guidelines for Closure of Shallow Disposal Wells* and applicable state and local regulatory requirements. The septic system can continue to be used for disposal of sanitary waste if the system is in good working condition, the soil is not severely contaminated, all industrial fluids are removed from the tank, and the industrial discharge is discontinued.

In November 1990, the CVRWQCB issued requirements for a monitoring and reporting program of the wash water filtration and treatment system at the Site. The CVRWQCB issued a revised monitoring program in May 2000.

Copies of the EPA Agreement Regarding Industrial Injection Wells, CVRWQCB Monitoring and Reporting Program requirements, Emergency Response Plan UST Monitoring Program, a Hazardous Waste Traveling Manifest with the Site's Generator EPA ID number, SWRCB National Pollution Discharge Elimination System Permit, Emergency Action Plan, UST Operating Permit and Business Plan are presented in Appendix C.

The Business Plan indicates that hazardous materials stored at the Site may include dynamite caps, explosive liquid, solvents, waste oil, asphalt, kerosene, propane, antifreeze, diesel, gasoline, acetylene, gear lube, transmission fluid, grease, oxygen and salt.

### **3.4 Aerial Photographs**

A review of aerial photographs dated 1968, 1977 and 2000 was conducted at Caltrans Photogrammetry Unit and Cartwright Aerial Surveys in Sacramento. The review was performed to obtain information concerning the history of development at the Site and the site vicinity. The following observations were noted during the review of the aerial photographs.

**1968 Aerial Photograph.** Review of the black and white, 1:2,000 scale, monoscopic 1968 aerial photograph indicates that the Site was developed including the office and equipment building, gas and generator building, pump house, two water storage ASTs, the former bunkhouse, a pad for the sand storage building and a pad for a residence. A concrete pad and a fuel dispenser were noted adjacent and east of the gas and generator building. A liquid petroleum gas (LPG) AST was noted northwest of the water storage ASTs. A structure was noted at the southwest corner of the office. Three transformers on a concrete slab were noted adjacent and northeast of the bunkhouse. The Site appeared to be graded but not paved. A fill wedge was noted along the northern portion of the Site. Hwy 4 was noted as a paved two-lane road adjacent and north of the Site and Meko Drive was noted adjacent and east of the Site. A graded area with structures or vehicles was noted adjacent and southeast of the Site. Several fallen trees were noted east of Meko Drive. An unpaved access road was noted parallel and north of Hwy 4. Undeveloped forest was otherwise noted in the aerial photograph. A copy of the 1968 aerial photograph is presented on Figure 8.

**1977 Aerial Photograph.** Review of the monoscopic 1977 aerial photograph indicated similar observations as in the 1968 aerial photograph. The Site was paved and the sand storage building was noted on the eastern portion of the Site. Paved roads and sparse residential development was noted in the vicinity south of the Site.

**2000 Aerial Photograph.** Review of the black and white, 1:6,700 scale, monoscopic 2000 aerial photograph indicated similar observations as in the 1977 aerial photograph. The two water storage ASTs noted in the 1968 aerial photograph were not noted in the 2000 aerial photograph. An LPG AST was noted adjacent and north of the pump house. The mud rinse slab was noted at the northeast corner of the equipment building. A canopy was noted over the fuel island adjacent and east of the gas and generator building and a concrete slab was noted adjacent and south of the gas and generator building. The Ebbetts Pass Fire Station was noted adjacent and east of the Site and east of Meko Drive. A copy of the 2000 aerial photograph is presented on Figure 9.

### **3.5 Historical Site Development**

The following information was obtained from review of a plot plan dated June 1967 and a Land and Buildings Inventory dated January 1, 1973. Copies of these documents are presented in Appendix A.

Features noted on the 1967 plot plan included the equipment building, residence, bunkhouse, gas and generator building, pump house and two water storage ASTs. The sand storage building was noted in a different configuration from its construction. A salt bin was noted in the northeast corner of the Site; however, a salt bin was not constructed at the Site. A septic tank and associated leach field were noted east of the bunkhouse. A leach line associated with the equipment building was noted along the northern site boundary. A well was noted north of the bunkhouse and east of the paved portion of the Site. A 11,400-liter (3,000-gallon) LPG AST was noted west of the bunkhouse and an additional LPG AST was noted east of the residence. Corrugated metal pipe (CMP) drains were noted at the northeast corner of the Site and at the northern and southern corners of the bunkhouse.

According to the 1973 Land and Buildings Inventory, an equipment building with an automotive hoist and a steam cleaner, a gas house with a pump island, a bunkhouse, a residence and a sand storage building existed at the Site in 1967. A 19,000-liter (5,000-gallon) gasoline tank and a 19,000-liter (5,000-gallon) diesel tank were noted on the inventory. A water well, a septic tank and a leach field were located at the Site. Services included electricity, radio, telephone and LPG.

Existing structures at the Site are discussed hereinafter in Section 4.1 "Onsite Survey."

### **3.6 Historical Site Photographs**

Ground level photographs obtained from Caltrans were reviewed to confirm historical uses of the Site and locations of hazardous material/waste storage at the Site. Review of 1968 photographs indicate that the office and equipment building, bunkhouse and carport, pump house, water storage tanks and the gas and generator building were located at the Site. One gasoline and one diesel fuel dispenser were noted west of the gas and generator building. An asphalt pile was noted northwest of the bunkhouse. Review of 1995 photographs indicates that one water storage tank was located north of the pump house. Two fuel dispensers were noted west of the gas and generator building. Fresh fill

material was noted along the northern site boundary between the equipment building and the sand storage building. Emulsion stains were noted on the surface of the fill material. The three-cell clarifier, sand filter and carbon filter locations, the filtration system air vent, a fire hydrant and a bucket of oil or emulsion were noted north of the equipment building. The waste/oil separator was noted east of the filtration system. According to photographs dated July 1998, the wash slab was constructed east of the equipment building. Soil piles were noted north of the equipment building. A shallow excavation was noted adjacent and north of the filtration system. The excavation was filled with water and what appeared to be a plastic water line was noted. Copies of the photographs are presented on Figures 10a through 10d.

### **3.7 USGS Topographic Maps**

The USGS topographic maps for the 15 minute Blue Mountain, California Quadrangle, dated 1956 and the Dorrington, California 7 1/2 minute Quadrangle, dated 1979 were reviewed to obtain information relative to the topography, previous development, and uses of the Site and properties located in the site vicinity. Information obtained from the review of the USGS topographic maps is presented hereinafter.

**Site Topography.** A review of the USGS maps indicates that the Site is relatively flat at an elevation of approximately 1,572 m (5,240 feet) above Mean Sea Level.

**Site Development.** A review of the 1956 topographic map indicates that no structures were noted at the Site. Undeveloped forest surrounded the Site, an unimproved access road was noted east of the Site and Hwy 4 was noted north of the Site. Camp Connell was noted approximately 2,160 m (7,200 feet) southwest of the Site. The review of the 1979 topographic map indicated that the Site had been cleared of vegetation and four structures were noted at the Site including the office and equipment building, bunkhouse, pump house and residence. A copy of the USGS 1979 topographic map is presented on Figure 11. A copy of the 1956 USGS topographic map is presented in Appendix A.

### **3.8 Title Report and Right-of-Way Plans**

Information obtained from the Calaveras County Records Office indicates that in 1965, the State of California purchased 1.54 hectares (3.84 acres) of land from the American Forest Products Corporation. In the 1980s the State of California sold 0.16 hectares (0.39 acres) to the RPO Varsity House. Copies of the grant deeds and the Caltrans right-of-way-map are presented in Appendix A.

### **3.9 Flood Control & Oil Survey Maps**

Information requested from the Calaveras County Planning Department regarding flood control indicated that the Site is located in Flood Zone X. Flood Zone X is an area of moderate or minimal hazard and is subject to flooding from severe storm activity or local drainage problems. A review of the 1993 Munger Map Book indicates that no oil or gas wells are located within 1.6 km (1 mile) of

the Site.

## 4.0 SITE RECONNAISSANCE

### 4.1 Onsite Survey

Representatives of Geocon performed a site reconnaissance on August 22, 2001. Geocon performed an interview with Mr. Mike Barrington, Maintenance Superintendent since 1995. The purpose of the reconnaissance was to survey the existing site conditions to attempt to identify visual indicators of potential hazardous material/waste impacts to the Site. A Site Characterization Map depicting current hazardous material locations and recognized environmental conditions is presented on Figure 12.

Building locations and existing site conditions are depicted on Figure 2. Site photographs obtained during the site reconnaissance are presented on Figures 13a through 13o. A summary of the recognized environmental conditions observed and/or documented at the Site is presented on Table 3. Information obtained from Caltrans personnel and observations noted during the site reconnaissance are summarized hereinafter.

#### 4.1.1 Buildings

The interiors and exteriors of the following onsite building improvements were observed during the site reconnaissance.

**Office and Equipment Building.** The office and equipment building was constructed between 1967 and 1968. The office is a component of the equipment building founded on perimeter concrete footings and slab-on-grade flooring, and is comprised of concrete block and wood exterior walls and a sloping built-up steel roof. The interior partition walls are wood-framed, and sheet-rocked with paint. The ceilings are wood-framed construction with plywood sheeting material and paint. Rooms in the office include the supervisor's office, restroom, locker room, and crew room. A second story is located over the office and is utilized as a storage area for vests and household cleaners. Services utilized in the office include city water, septic tank and leach field, generator-provided electricity, propane gas, telephone, and radio. The equipment building is constructed similar to the office with all structural steel supports, pitched steel roof and galvanized steel roll-up doors at each of the sixteen service vehicle bays. The equipment building is equipped with electrical, telephone, water, septic and leach field, radio, and propane gas services. Rooms include wash rack, warehouse storage, welding area, parts storage rooms and combined fourteen equipment vehicle storage bays. Bay 1 contains a fire hose, electrical panel, ice machine and stair well for access to the second story over the office along the south wall. A trench floor drain extending the length of the building, ultimately leading to the wash water filtration system and leach field, begins in bay 1. Bay 2 contains a flammable storage container and spill kit along the west wall. Bay 3 contains 209-liter (55-gallon) drums containing tire chains and a work table along the west wall. The trench floor drain contains a sump in bay 3 that extends into bay 4. Bay 4 contains a work table along the western wall. Bay 5 contains water service.

Bay 6 is separated from bay 7 by a cinder block fire wall and has a plywood-walled room in the northwest corner containing a fire extinguisher, alarm box and entry into bay 7. Bay 7 contains a spill kit and an acetylene cylinder, fire hose and breaker switches along the south wall. Bay 8 contains an overhead crane and a portable 456-liter (120-gallon) diesel AST. Bay 9 contains a sump within the trench floor drain and a snow pole straightener. Bay 10 contains an electrode-stabilizing oven, welding machine, and acetylene and oxygen cylinder cylinders, and tool and parts storage in the north portion of the bay. Bay 11 contains a two-story parts storage and mechanics room with a stairway on the east side, a Safety-Kleen parts cleaner with an extra drum, and the end of the trench floor drain surface grating. A vent from a removed 1,140-liter (300-gallon) waste oil UST is located on the exterior of the building between bays 11 and 12. Bay 12 contains a 319-liter (84-gallon) hydraulic oil AST in the southwest corner to support the hydraulic lift also located in bay 12. A flammable storage container, two Safety-Kleen absorbent drums, four 209-liter (55-gallon) drums on spill pallets containing waste oil, solvent, used oil filters and petroleum product waste are located in the northern portion of bay 12. Bay 13 contains overhead reels for dispensing petroleum products within the southern portion, a portable Lube Cube waste oil AST, a 209-liter (55-gallon) drum containing transfer oil and a Safety-Kleen parts cleaner drum within the central portion. A 950-liter (250-gallon) new antifreeze AST, a 950-liter (250-gallon) used antifreeze AST, and six 209-liter (55-gallon) drums on spill pallets containing motor oil, hydraulic tractor fluid, grease, automatic transmission fluid (ATF) and gear lube are located in bay 13. Bay 14 contains a spill kit in the southern portion, a cinder block room in the northwest portion used for mechanics storage and a 448-liter (118-gallon) air compressor. The western portion of bay 14 also contains a 209-liter (55-gallon) drum of kerosene and a 209-liter (55-gallon) drum of waste oil and a 1,900-liter (500-gallon) waste oil AST. A steam cleaner and a wash rack for receiving steam cleaning waste is located within the central portion of bay 14. Photographs of the office and equipment building are presented on Figures 13a through 13e.

**Mud Rinse.** The mud rinse is located at the northeast corner of the office and equipment building and was installed in 1998. The mud rinse consists of a concrete pad with a solids collection (grease/sand trap) drain that discharges to the ground surface north of the edge of pavement. The mud rinse is serviced by water. A photograph of the mud rinse is presented on Figure 13e, Photo No. 10.

**Pump House.** The pump house was constructed in 1967 and is a cinder block, slab-on-grade building with a flat sloping roof. The pump house formerly contained a pump system connected to the domestic well and two water storage ASTs were located north of the building. The system was removed in 1995. The building is currently utilized for treated wood and vehicle debris storage. A photograph of the pump house is presented on Figure 13e, Photo No. 10.

**Sand Storage Building.** The sand storage building was constructed after 1968 and is comprised of concrete slab-on-grade floor, concrete block and wood walls with a built up steel roof and a west entrance. The building is supplied with electricity and lighting. The sand storage building is used for

the bulk storage of de-icing sand. A photograph of the sand storage building is presented on Figure 13f, Photo No. 11.

**Bunkhouse.** The bunkhouse was built in 1967 and consists of split-level concrete block and wood walls with a pitched roof. A carport is located below the first floor living area. The bunkhouse was sold by the State of California in the mid 1980s to be utilized as a home for troubled youths. Photographs of the bunkhouse and the carport are presented on Figures 13f and 13g.

**Gas and Generator Building.** The gas and generator building was built in 1967, and is currently serviced with electric power. The building is founded on slab-on-grade flooring with concrete block walls and sloped steel roofing. The northern portion of the building contains one diesel powered generator and a 190-liter (50-gallon) diesel day tank. The southern portion of the building is utilized for the storage of 209-liter (55-gallon) drums containing petroleum products, an emergency spill kit, a fuel meter and tires. One 38,000-liter (10,000-gallon) diesel UST is located south of the building and one 22,800-liter (6,000-gallon) gasoline AST is located west of the building. A canopy covered concrete pad and a fuel island with one diesel and one gasoline dispenser is located west of the building. A concrete loading dock is located northeast of the building. Photographs of the gas and generator building are presented on Figures 13g, 13h and 13i.

**Former Residence.** One residence was constructed south of the office and equipment building after 1968. The residence burned to the ground during a suspected arson fire in approximately 1985. The area is now used as a leach field for the septic tank associated with the office and equipment building. A photograph of the former residence area is presented on Figure 13i, Photo No. 18.

**Boxcar.** A former railroad boxcar is utilized for the storage of explosives including dynamite caps, traffic cones, tools and other field supplies. Photographs of the boxcar are presented on Figure 13j.

#### **4.1.2 Chemical Materials/Wastes**

The current wash rack/steam cleaning system is located in bay 14 of equipment building. The wash rack is a two-part system consisting of a wash rack area with a solids collection (grease/sand trap) floor drain. The wash water enters a water filtration system including a three-cell clarifier, a sand filter and a carbon filter discharging past a monitoring point directly to a leach field located adjacent and north of the system. The water filtration system was installed in 1990 and is located at the northern end of the equipment building. Fluids that collect in the trench floor drain that extends from bay 1 to 14 drains to the filtration system. The mud rinse area is located at the northeast corner of the equipment building and discharges to the ground surface. A photograph of the wash rack is presented on Figure 13e, Photo No. 9. A photograph of the mud rinse slab is presented on Figure 13e, Photo No. 10. A photograph of the filtration system is presented on Figure 13k, Photo No. 21.

A septic tank associated with the bunkhouse is located at the southeast site boundary. The leach field associated with the office and equipment building is located in the southwest corner of the Site. A photograph of the septic tank location associated with the office and equipment building is presented on Figure 13a, Photo No. 1. A photograph of the leach field location associated with the office and equipment building is presented on Figure 13i, Photo No. 18.

An underground hydraulic lift and associated piping are located in bay 12 of the equipment building. The oil pipelines exist belowground between the lift and the AST location. A 448-liter (118-gallon) air compressor is located in bay 14 of the equipment building. One acetylene and two oxygen cylinders are located in bay 10 of the equipment building. The office and equipment building is utilized for the storage of new and used antifreeze, motor oil, lube oil, waste oil, solvents, hydraulic oil and ATF, lube and gear grease products for servicing equipment and vehicles. The drums are contained on spill scooters or spill drum pallets throughout the shop areas. Flammable storage containers are located in bays 2 and 12. Flammable storage containers at the Site generally contain paint thinners, cleaners, aerosol sprays, gasoline, diesel fuel and grease cans, and other petroleum and flammable products used for routine maintenance. Used oil, antifreeze and solvents are recycled.

One generator is located in the gas and generator building. A 190-liter (50-gallon) diesel day AST is used to provide warm fuel to the generator. Drums containing petroleum products and an emergency spill kit are located in the southern portion of the building.

A self-generated waste and hazardous material storage container is located adjacent and north of the pump house and is utilized to store drums of petroleum products scheduled for pick up. Empty drums were noted east of the sand storage building. Other self-generated waste including floor sweep material temporarily stored in 114-liter (30-gallon) drums in the office and equipment building. A photograph of the hazardous material storage container is presented on Figure 13e, Photo No. 10.

Three pad-mounted transformers belonging to PG&E are located northeast of the bunkhouse. Information regarding the transformers is presented in Section 6.4 "PG&E." A photograph of the transformers is presented on Figure 13k, Photo No. 22.

Chemicals contained in the onsite ASTs are discussed hereinafter in Section 4.1.9 "Storage Tanks."

#### **4.1.3 Refuse & Debris**

A large fill apron exists between 15 and 18 m (50 and 60 feet) beyond the paved portion of the Site along the northern property boundary and extends from the equipment building to east of the sand storage building. A trash dumpster is located northeast of the boxcar. Wood and metal debris and an unused asphalt emulsion AST and water tank are stored to the east of the sand storage building. An asphalt pile was noted northwest of the sand storage building. Wood and vegetation debris have been

placed on the fill apron to the northeast of the bunkhouse. A photograph of the fill apron is presented on Figure 13l, Photo No. 23. A photograph of the asphalt pile is presented on Figure 13l, Photo No. 24. A photograph of the fill and debris located northeast of the bunkhouse is presented on Figure 13m, Photo No. 25. A photograph of the ASTs and debris east of the sand storage building is presented on Figure 13m, Photo No. 26.

#### **4.1.4 Site Drainage**

Surface water collects in a shallow unlined ditch west of and parallel to the office and equipment building. Water flows north and down an embankment. In general, surface water drains from the central portion of the Site at sheet flow to the southeast. Three CMP drains are located on the southern portion of the Site to transport surface water offsite. Settling ponds, dry wells, lagoons and other drainage features were neither reported nor noted at the Site. A mud rinse slab with a screened drain is located northeast of bay 14 of the office and equipment building. Water runoff from the mud rinse slab discharges to the ground surface via a pipe connected to the drain. A photograph of the unlined ditch is presented on Figure 13n, Photo No. 27. Arrows indicating the direction of surface water flow are presented on Figure 14.

#### **4.1.5 Surface Vegetation**

Onsite vegetation includes Sugar Pine and other native conifers, brush, weeds and grasses. The vegetation appeared healthy and did not display evidence of stress. Discolored or stained soils were not noted during the onsite reconnaissance.

#### **4.1.6 Water Wells**

One groundwater monitoring well is located at the Site north of the pavement. Two abandoned domestic water wells are reportedly located at the Site. One of the domestic wells is located in the vicinity of the boxcar and was not noted during the onsite reconnaissance. One domestic well is located northeast of the bunkhouse and the well head is contained within a CMP. It is unknown if the wells are functional. A photograph of the domestic well near the bunkhouse is presented on Figure 13n, Photo No. 28.

#### **4.1.7 Utilities**

Power lines that service the Site were noted along the west side of Meko Drive. The Site is equipped with county water, septic tank and leach field, generated electrical service, LPG, telephone, and radio services. A current utilities map was not available from Caltrans; however, the approximate locations of utilities at the Site are presented on Figure 14.

#### **4.1.8 Transformers**

Three pad-mounted transformer boxes were noted to the northeast of the bunkhouse. Indication of leakage was not noted on the transformers or ground surface beneath the transformers. Information

regarding the transformers is presented in Section 6.4 "PG&E." A photograph of the transformers is presented on Figure 13k, Photo No. 22.

#### **4.1.9 Storage Tanks**

A three cell septic tank, three cell honeycomb tank and charcoal filter that receives water from the wash rack/steam cleaner, mud rinse and trench floor drain in the equipment building is located north of the equipment building. A septic tank associated with the office and equipment building is located at the southeast corner of the building and a septic tank associated with the bunkhouse is located northeast of the building. A 456-liter (120-gallon) portable diesel AST is located in bay 8. An out of service 1,900-liter (500-gallon) double-walled polyethylene waste oil AST and a 448-liter (118-gallon) air compressor are located in bay 14. A 950-liter (250-gallon) new antifreeze AST and a 950-liter (250-gallon) used antifreeze AST are located in bay 13. The 319-liter (84-gallon) hydraulic oil AST associated with the hydraulic lift is located in bay 12. A 190-liter (50-gallon) diesel day tank is located northern portion of the gas and generator building. One 38,000-liter (10,000-gallon) diesel UST is located to the south of the gas and generator building and one 22,800-liter (6,000-gallon) gasoline AST is located to the west of the building. Two fuel dispensers are located on the west side of the gas and generator building beneath a canopy. One empty 740-liter (200-gallon) asphalt emulsion AST is located east of the sand storage building. One 19,756-liter (5,000-gallon) LPG AST is located north of the pump house and two 1,900-liter (500-gallon) LPG ASTs are located east of the bunkhouse. One acetylene and two oxygen cylinders are located in bay 10 of the office and equipment building. Photographs of the LPG ASTs are presented on Figure 13o.

#### **4.1.10 GPS Data Collection**

The locations of hazardous material storage areas at the Site were recorded utilizing GPS technology. Geocon utilized a Trimble® Pathfinder Pro XRS™ portable GPS data collection unit to locate the coordinates of areas of concern. The system utilizes signals from up to eight available satellites to locate points with sub-meter (less than one meter) accuracy. A summary of the GPS information is presented Appendix D.

#### **4.2 Offsite Survey**

In addition to the onsite reconnaissance, a representative of Geocon performed survey of properties within the site vicinity from public thoroughfares to assess if facilities and/or structures located on these properties are operated by entities that potentially (as of August 22, 2001) use, store, generate, or dispose of hazardous materials/wastes. Offsite photographs obtained during the offsite reconnaissance are presented on Figures 15a and 15b.

The Site is bounded to the north by forested land and Hwy 4, to the west by forested land, to the east by Meko Drive and the Ebbetts Pass Fire District Station and to the south by a rural subdivision. Several LPG ASTs were noted associated with the rural subdivision adjacent and south of the Site.

Power lines and pole-mounted transformers were noted along Meko Drive. A diesel AST, an LPG AST, a generator and a hot box were noted at the Ebbetts Pass Fire District Station adjacent and east of the Site. An unlined ditch along the west side of Meko Drive was noted that dropped into a culvert which was connected to a large corrugated plastic pipe on the east side of Meko Drive that appeared to transport waste water downhill.

### **4.3 Interviews**

Representatives of Geocon performed an interview on August 22, 2001 with Mr. Mike Barrington, Maintenance Supervisor since 1995. A transcript of the interview is presented in Appendix E.

Based on the information obtained from Mr. Barrington, the Site is utilized for snow removal and routine maintenance and storage for vehicles and equipment. The Site was constructed to handle Hwy 4 and a new road that was proposed to reach Hwy 88. The station operates all year. Mr. Barrington indicated that the maintenance station was built between 1966 and 1967 along with the Cabbage Patch Maintenance Station. There have been several environmental groundwater studies at the Site. Mr. Barrington was not aware of dry wells at the Site and was not aware of a previous Caltrans facility at the Site. Mr. Barrington further recalled there were three original USTs, one gas one diesel and one boiler tank. The original USTs were removed in the mid 1990s and one new USTs and one new AST were installed. Mr. Barrington indicated that soil samples were taken from where the USTs were and analyzed. Mr. Barrington indicated there was a former waste oil UST by the truck shed that was removed in the late 1980s, and waste oil was stored in an AST inside the building. Mr. Barrington said that waste oil at the Site is removed by Shop 10. The empty emulsion AST behind the sand storage building is from the Angels Camp maintenance station. Mr. Barrington recalled there used to be water ASTs onsite for the domestic well. One of the tanks was taken out in the 1980s when the bunkhouse was sold. The other water well was abandoned at that time and the Site was connected to county water. Mr. Barrington indicated the LPG AST, septic tank and leach field were relocated about this time. Mr. Barrington informed Geocon that the water from the leach field connected to the filter system associated with the equipment building is analyzed every three months. The septic tank for the leach field was pumped out last year, for the first time in five or six years. There is a leach field connected to the bunkhouse. Materials picked up from the highway are stored in the pump house. Mr. Barrington indicated that surface water from the Site ultimately drains into San Antonio Creek. In the winter, sand gets pushed off by the sand shed and the old bunkhouse. There is a telephone panel by the front gate. The residence burned down in about 1985 and everything associated with the building was removed. Mr. Barrington indicated that there may have been a little fill brought in from along the highway and placed where the residence was. There is a diesel day tank in the generator room. The Ebbetts Pass Fire District Station adjacent and east of the Site was constructed in the 1990s and that is the only facility around that has ever had tanks. There is no herbicide or pesticide usage at the Site.

## **5.0 VISTA REPORT LISTINGS**

A Vista regulatory database report provided by Caltrans and previously referenced in the "Scope of Work" section of this report was reviewed for information regarding the potential existing presence of hazardous materials/wastes at the Site or adjacent facilities at levels likely to warrant current regulatory mitigation action. The Vista regulatory database search included information sources at a search distance of 1.6 km (1 mile) from the Site. For the purposes of this report, information summarized hereinafter references facilities located within 0.4 km (0.25 mile) of the Site unless otherwise noted. A copy of the Vista report is presented in Appendix F.

### **5.1 EPA NPL and CORRACTS Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the EPA National Priority Listing (NPL) or the Resource Conservation and Recovery Act (RCRA) Corrective Actions (CORRACTS) Listing for required financial responsibility for treatment, storage and disposal of hazardous wastes.

### **5.2 DTSC SPL/SCL Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the DTSC State Priority List (SPL) or the State CERCLIS (SCL) List.

### **5.3 EPA CERCLIS/NFRAP and TSD Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the EPA CERCLIS TSD listing or the NFRAP Listing.

### **5.4 Leaking Underground Storage Tank (LUST) Listings**

Review of the Vista report indicates that the Site is referenced on the LUST Listings for the release of diesel affecting an aquifer used for drinking water discovered during a UST removal. The incident was reported in December 1987. No facilities located within 1.6 km (1 mile) of the Site are referenced on the LUST Listings.

### **5.5 SWLF Listings**

Review of the Vista report indicates that that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Solid Waste Landfill Facility (SWLF) Listing.

### **5.6 Deed Restriction Properties Report**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Deed Restriction Properties Report.

### **5.7 CORTESE Listing**

Review of the Vista report indicates that that the Site is referenced on the CORTESE Listing for a

leaking tank. No facilities located within 1.6 km (1 mile) of the Site are referenced on the CORTESE Listing.

#### **5.8 Toxic Pits Listing**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Toxic Pits Listing.

#### **5.9 USGS Water Well Listing**

Review of the Vista report indicates that no water wells within 1.6 km (1 mile) of the Site are referenced on the USGS Water Well Listing.

#### **5.10 RCRA Violation Listing**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the RCRA Violation Listing for treatment, storage and disposal of hazardous wastes.

#### **5.11 TRIS Listing**

Review of the Vista report indicates that no facilities within 1.6 km (1 mile) of the Site are referenced on the Toxic Release Inventory System (TRIS) Listing.

#### **5.12 SWRCB UST/AST Listings**

Review of the Vista report indicates that no facilities within 1.6 km (1 mile) of the Site are referenced on the SWRCB registered UST/AST Listings.

#### **5.13 EPA ERNS Listing**

Review of the Vista report indicates that no incidents within 1.6 km (1 mile) are referenced on the EPA ERNS Listing.

#### **5.14 EPA Generator Listing**

Review of the Vista report indicates that no facilities are referenced by the EPA as small or large quantity generators within 1.6 km (1 mile) of the Site.

#### **5.15 SPILLS Listing**

Review of the Vista report indicates that no facilities within 1.6 km (1 mile) of the Site are referenced on the Spills Listing.

## **6.0 RECORDS REVIEW**

Public agencies previously specified in the "Scope of Work" section of this report were contacted to obtain information regarding the potential existing presence of hazardous materials/wastes at the Site at levels likely to warrant current regulatory mitigation action. Unless otherwise noted, information was obtained for the Site and adjacent facilities. The information obtained from public agencies is summarized hereinafter.

### **6.1 CVRWQCB Leaking Underground Storage Tank (LUST) Information System**

A review of the CVRWQCB LUST Information System dated September 2001 indicates that the Site is referenced for the release of diesel affecting an aquifer used for drinking water. No facilities within 1.6 km (1 mile) of the Site are referenced on LUST list.

### **6.2 CCEHD and CVRWQCB**

Files do not exist at the CCEHD or the CVRWQCB for the Ebbetts Pass Fire District Station located adjacent and east of the Site. Information reviewed at the CCEHD and the CVRWQCB for the Site is presented in Section 3.2 "Previous Environmental Conditions." Copies of regulatory file information obtained from the CCEHD and the CVRWQCB for the Site are presented in Appendix B.

### **6.3 CCAPCD**

Al Grewal with the CCAPCD informed Geocon that no permits or violations exist for the Site.

### **6.4 PG&E**

PG&E informed Geocon that additional information regarding the transformers located at the Site would require a written request from Caltrans. Because the three pad-mounted transformers located north of the bunkhouse were noted in the 1968 aerial photograph, it can be assumed that the transformers were installed in or prior to 1968 and may potentially contain PCBs.

## **7.0 LIMITED LEAD AND ASBESTOS SURVEYS**

Geocon performed a limited survey of suspect asbestos-containing building materials (ACBM) and lead-containing paints (LCP) at the Site to evaluate the potential disturbance of these materials during renovation or demolition activities. Suspect ACBM and LCP sample locations are depicted on Figure 16. ACBM and LCP bulk sample results are presented in Tables 4 and 5, respectively. Laboratory analytical data are presented in Appendix G.

### **7.1 Review of Previous Building Surveys and As-Built Plans**

Geocon performed a review of previous surveys conducted at the Camp Connell Maintenance Station prior to the site visit. Assumed ACBM and LCP quantities and locations were reviewed and compared with onsite conditions at the time of Geocon's building survey. The following materials were assumed to be asbestos-containing during a previous survey:

- Asphalt and gravel roofing;
- Gypsum board wall systems;
- Resilient floor tiles;
- Window putty; and
- Wall base coving.

As-built plans of the Camp Connell Maintenance Station were not available for review.

### **7.2 Limited Asbestos Survey**

Geocon's procedures for the building inspection and bulk asbestos sampling are discussed below:

- Conducted a walkthrough inspection of building interiors and exteriors to identify suspect ACBM that were visually apparent at the time of our survey.
- Recorded the location of and quantified each type of suspect ACBM identified during the building survey. Suspect ACBM were inventoried and quantified by building location.
- Collected representative bulk samples of suspect ACBM using the EPA AHERA protocol as follows:
  - One to three samples per miscellaneous material
  - Three samples of each type of thermal system insulation
  - Samples of *friable surfacing* materials according to the 3/5/7 rule based on quantity of material [3 samples of each material comprising less than 90 square meters (1,000 square feet), 5 samples of each material comprising 90 to 450 square meter (1,000 to 5,000 square feet), and 7 samples of each material comprising more than 450 square meters (5,000 square feet)]
  - Samples of nonfriable surfacing materials as deemed appropriate by the inspector
- Collected bulk samples after first wetting the material with a light mist of water. The samples were then cut from the substrate and transferred to a labeled container. The presence of resilient

flooring materials concealed under carpeting was checked in several representative locations. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).

- Relinquished the bulk samples to a laboratory accredited by the DHS and the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis.

Polarized light microscopy (PLM) analysis of bulk asbestos samples collected from the building interiors and exteriors revealed the presence of chrysotile asbestos at concentrations greater than 1% in the materials listed below:

- Green, 30 by 30-centimeter floor tiles used in the office area;
- Wall base coving used in the office area; and
- Joint compound associated with gypsum board wall systems used in the office and equipment building.

*Composite results of gypsum board wall systems using PLM indicated asbestos levels below 1%.*

In addition, trace (less than 1%) levels of chrysotile asbestos were detected in window putty used in the office and equipment building and the gas and generator building.

Ceramic tiles used in the office and equipment building restroom were not sampled and are *assumed* to contain asbestos. Sampling activities would have significantly damaged the materials in question and would likely have contributed to the potential release of asbestos fibers into occupied areas of the building.

Approximate sample locations of suspect ACBMs are depicted on the attached Figure 16. A copy of the laboratory analytical report is presented in Appendix G. Suspect ACBMs observed during this survey were in good condition. Table 4 includes the following information, which is presented for each suspect ACBM type:

- Approximate quantity of material
- Physical assessment of the material, including friability and existing condition
- Locations where samples were collected
- Asbestos content (% and type)

### **7.3 Limited Lead-Based Paint Survey**

Geocon's procedures for the suspect LCP sampling are discussed below:

- Conducted a walkthrough inspection of building interiors and exteriors to identify suspect LCP that were visually apparent at the time of our assessment.
- Recorded the location of each type of suspect LCP identified during the building inspection.
- Collected representative bulk samples of suspect LCP using techniques presented in the United States Department of Housing and Urban Development (HUD) guidelines.

*It was not Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with HUD guidelines. HUD protocol generally requires a very extensive sampling strategy that includes sampling of paint on each surface type (wall, ceiling, window sill, window frame, door frame, molding, etc.) in each room.*

- Relinquished the bulk samples to a laboratory accredited by the DHS and the NIST-NVLAP for lead analysis.

Analysis of bulk paint samples revealed the presence of lead at concentrations ranging from 48 to 320,000 mg/kg in buildings at the Site.

Approximate sample locations of suspect lead-containing paints are depicted on the attached Figure 16. A copy of the laboratory analytical report is presented in Appendix G. The following peeling or flaking LCP were observed during Geocon's site visit:

- Yellow paint used on the exteriors of the office and equipment building, gas and generator building, pump house, and sand storage building;
- Brown paint used on the exteriors of the office and equipment building, gas and generator building, pump house, and sand storage building; and
- Red paint used on the exterior of the boxcar.

The remaining paints at the Site were observed by Geocon to be intact. Table 5 includes the following information, which is presented for each suspect LCP type:

- Paint color;
- Buildings where LCP is located;
- Approximate quantity of each LCP; and
- Lead content (% weight).

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

The Site was developed as a Caltrans maintenance station between 1967 and 1968 including the office and equipment building, gas and generator building, hydraulic lift, bunkhouse, pump house and two water storage ASTs, two domestic water wells, a sand storage building, three fuel USTs and one waste oil UST. The domestic wells were reportedly abandoned and the water tanks were removed in the 1980s. The residence was burned in approximately 1985 and demolished. The bunkhouse was sold to a private entity by the State of California in the 1980s.

The waste oil UST was removed from the Site in 1988 and a soil sample collected from beneath the tank indicated the presence of TPHmo. Site investigations performed at the Site in 1990 and 1995 indicated the presence of petroleum hydrocarbon impacted soil in the vicinity of the former waste oil UST, former oil/water separator and fuel USTs. In 1997, three fuel USTs were removed from the north side of the gas and generator building and one diesel UST was installed south of the building. In July 1998, a mud rinse slab that discharges directly to the ground surface was constructed east of the equipment building. In 2000, the oil/water separator was removed.

The Site is bounded to the north by forested land and Hwy 4, to the west by forested land, to the east by Meko Drive and the Ebbetts Pass Fire District Station, and to the south by a rural residential development.

The Site is referenced by the CVRWQCB for the release of diesel affecting an aquifer used for drinking water discovered during a UST removal. The incident was reported in December 1987. According to Saiyed Ali of Caltrans, Caltrans is scheduled to submit a request for site closure to the CVRWQCB. No other facilities located within 1.6 km (1 mile) of the Site are referenced for fuel releases. LPG ASTs were noted in the residential subdivision adjacent and south of the Site, and a diesel AST was noted at the Ebbetts Pass Fire District Station located adjacent and east of the Site. These facilities have a low potential of impacting the Site.

Based on the information presented in this ISA, the following recognized environmental conditions exist at the Site:

- Confirmed soil contamination associated with the former fuel and waste oil USTs
- Former oil/water separator and abandoned associated leach field.
- Mud rinse area that discharges wash water directly to the ground surface.
- Hydraulic lift and hydraulic oil AST.
- Sump drains, trench, wash rack and leach field associated with the wash water filtration system.
- Fill material located along the northern site boundary.

- Septic tanks and leach fields associated with the bunkhouse and equipment building.

The former oil/water separator and the leach field that formerly received drainage from the equipment building sumps and floor drain should be properly closed in accordance with EPA and CCEHD requirements.

A determination of the lateral extent of the soil impacts and an assessment of groundwater occurrence and quality associated with the recognized environmental conditions will be necessary prior to evaluating remedial response actions for specific future land use options. Targeted site investigations should be designed to evaluate potential soil and groundwater impacts with respect to specific project requirements prior to design and construction of any proposed onsite improvements. Soil and groundwater generated from excavations at the Site may require treatment and/or disposal.

The Site is located within EPA Radon Zone 2 with a predicted average indoor screening level of between 2 and 4 picocuries per liter (pCi/l). EPA has established a recommended action level of 4 pCi/l. Radon gas is a clear, odorless, radioactive gas that is considered by the EPA to be the second leading cause of lung cancer in the country. Radon gas can enter enclosed structures by plumbing or other apertures within the foundation and may also be present in well water and be released and inhaled during showering. Based on regional occurrences of naturally occurring radioactive materials associated with granitic rocks, consideration should be given for the performance of air quality and water surveys for the presence of radon at the Site. The surveys should be conducted by personnel certified by the State of California for radon measurement. If radon gas is determined to be present in the air or water at the Site, it should be mitigated by a state certified contractor.

A review of previous surveys and the results of the building surveys performed at the Site by Geocon, indicate the presence of ACMs in the asphalt and gravel roofing, gypsum board wall systems, resilient floor tiles, window putty wall base coving. In addition, ceramic tiles used in the office and equipment building restroom were not sampled and are assumed to contain asbestos. Sampling activities would have significantly damaged the materials in question and would likely have contributed to the potential release of asbestos fibers into occupied areas of the building. LCPs were further identified in the office and equipment building, gas and generator building, pump house, LPG AST, boxcar, fuel canopy, hazardous materials storage container and sand storage building. Based on our findings, Geocon recommends the following:

- Retain a registered asbestos abatement contractor to remove and dispose of ACM that will be impacted by renovation or demolition activities.
- Notify contractor(s) that will be conducting renovation work and related activities of the presence of ACM and LCP in their work areas and instruct the contractor(s) not to disturb ACM or

LCP during their work (i.e., provide the contractor[s] with a copy of this report and a list of ACBM removed by the asbestos abatement contractor during any abatement activities).

- Treat all paints at the Site as lead-containing for purposes of determining the applicability of the California Occupational Safety and Health Administration (Cal/OSHA) lead standard during any future maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results, the age of the buildings, and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some industrial paints.

Typically, only paints that are peeling, flaking, or have otherwise become separated from their substrate are of concern from a hazardous waste standpoint. The DTSC “does not generally expect intact painted building materials to exhibit a characteristic of hazardous waste when disposed of.” However, construction activities (including demolition) which disturb materials containing any amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8 CCR Section 1532.1. Intact lead-painted building materials that are removed/demolished should not require disposal as hazardous waste; however, contractor(s) should characterize painted waste materials prior to disposal.

- Implement interim controls to maintain identified ACBMs and LCPs.

## **9.0 REPORT LIMITATIONS**

This initial site assessment report has been prepared for Caltrans in accordance with Task Order No. 10-0E790K-7B. The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Therefore, the information contained herein is only valid as of the date of the report, and will require an update to reflect recent records/site visits.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions presented in this report are predicated on the site reconnaissance and building surveys, a review of the specified regulatory records, and a review of the historical usage of the Site, as presented in this report. The Client should also understand that lead in drinking water, radon and methane gas surveys were not included in the scope of services for this report. The scope of the lead-based building surveys did not include sampling frequencies in accordance with HUD guidelines.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warrantee of the results of the ISA is implied within the intent of this report or any subsequent reports, correspondence or consultation, either expressed or implied. Geocon strived to conduct the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

TABLE 1  
 SUMMARY OF SOIL ANALYTICAL DATA  
 CAMP CONNELL MAINTENANCE STATION  
 CALAVERAS COUNTY

SAMPLE I.D.	SAMPLE DATE	TRPH (mg/kg)	TPHg (mg/kg)	TPHd (mg/kg)	PCE (µg/kg)	BENZENE (µg/kg)	TOLUENE (µg/kg)	ETHYL-BENZENE (µg/kg)	TOTAL XYLENES (µg/kg)	MTBE (µg/kg)	PVOCs by 8240 (µg/kg)
Soil Borings in the Vicinity of the Waste Oil UST											
B5-2	10/29/90	<b>64</b>	ND	ND	---	ND	ND	ND	ND	---	---
B5-5	10/29/90	<b>290</b>	ND	ND	---	ND	ND	ND	ND	---	---
B5-10	10/29/90	ND	ND	ND	---	ND	ND	ND	ND	---	---
B5-20	10/29/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B5-30	10/29/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B5-40	10/29/90	---	ND	ND	---	ND	ND	ND	ND	---	---
Soil Borings in the Vicinity of the Oil/Water Separator											
B2-5	10/29/90	<b>240</b>	ND	---	ND	ND	ND	ND	ND	---	---
B2-10	10/29/90	<b>19,000</b>	<b>470</b>	---	ND	<b>23</b>	<b>51</b>	<b>840</b>	<b>3,000</b>	---	---
B2-15	10/29/90	ND	ND	---	ND	ND	ND	ND	ND	---	---
B2-20	10/29/90	ND	ND	---	ND	ND	ND	ND	ND	---	---
B2-25	10/29/90	ND	ND	---	ND	ND	ND	ND	ND	---	---
B2-30	10/29/90	ND	ND	---	ND	ND	<b>5.3</b>	ND	<b>4.3</b>	---	---
B4-5	10/29/90	<b>11,000</b>	ND	---	ND	ND	ND	ND	ND	---	---
B4-15	10/29/90	ND	ND	---	ND	ND	ND	ND	ND	---	---
B4-30	10/29/90	ND	ND	---	ND	ND	ND	ND	ND	---	---
B12-5	11/03/90	ND	ND	---	ND	ND	ND	ND	ND	---	---
B12-10	11/03/90	ND	ND	---	ND	ND	<b>19</b>	<b>13</b>	ND	---	---
B12-25	11/03/90	ND	ND	---	ND	ND	ND	ND	ND	---	---
Soil Borings in the Vicinity of the Fuel USTs											
B1-5	10/29/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B1-10	10/29/90	---	<b>0.55</b>	<b>110</b>	---	ND	ND	ND	ND	---	---
B1-20	10/29/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B1-30	10/29/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B1-40	10/29/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B3-2	10/30/90	---	<b>0.28</b>	ND	---	<b>1.1</b>	<b>4.1</b>	<b>36</b>	<b>10</b>	---	---
B3-5	10/30/90	---	ND	ND	---	ND	ND	ND	<b>1.8</b>	---	---
B3A-5	10/30/90	---	<b>5.6</b>	<b>15</b>	---	<b>6</b>	<b>26</b>	<b>240</b>	<b>310</b>	---	---
B3A-10	10/30/90	---	<b>640</b>	<b>3,800</b>	---	<b>19</b>	<b>56</b>	<b>700</b>	<b>1900</b>	---	---
B3A-15	10/30/90	---	<b>44</b>	<b>2,700</b>	---	ND	ND	<b>14</b>	<b>48</b>	---	---

TABLE 1  
 SUMMARY OF SOIL ANALYTICAL DATA  
 CAMP CONNELL MAINTENANCE STATION  
 CALAVERAS COUNTY

SAMPLE I.D.	SAMPLE DATE	TRPH (mg/kg)	TPHg (mg/kg)	TPHd (mg/kg)	PCE (µg/kg)	BENZENE (µg/kg)	TOLUENE (µg/kg)	ETHYL-BENZENE (µg/kg)	TOTAL XYLENES (µg/kg)	MTBE (µg/kg)	PVOCs by 8240 (µg/kg)
B6-2	10/30/90	---	<b>0.32</b>	ND	---	<b>2.3</b>	<b>1.6</b>	<b>140</b>	ND	---	---
B6-5	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-10	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-15	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-20	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-25	10/30/90	---	ND	<b>40</b>	---	ND	ND	ND	ND	---	---
B6-30	10/30/90	---	<b>100</b>	<b>3,700</b>	---	ND	<b>29</b>	<b>53</b>	<b>250</b>	---	---
B6-35	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-40	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-45	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-50	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-55	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-60	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-65	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B6-70	10/30/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B7-5	10/31/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B7-10	10/31/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B7-25	10/31/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B7-30	10/31/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B8-2	11/3/90	---	<b>0.4</b>	ND	---	ND	ND	<b>82</b>	ND	---	---
B8-5	11/3/90	---	<b>1.5</b>	ND	---	ND	<b>13</b>	<b>550</b>	ND	---	---
B8-10	11/3/90	---	<b>1.7</b>	ND	---	ND	ND	<b>11</b>	ND	---	---
B8-20	11/3/90	---	<b>0.3</b>	ND	---	ND	ND	ND	ND	---	---
B8-30	11/3/90	---	<b>0.2</b>	ND	---	ND	ND	ND	<b>9.2</b>	---	---
B8-35	11/3/90	---	<b>0.2</b>	ND	---	ND	ND	ND	<b>6.7</b>	---	---
B8-40	11/3/90	---	<b>0.4</b>	ND	---	ND	ND	<b>5.8</b>	ND	---	---
B9-2	11/3/90	---	<b>0.8</b>	<b>14</b>	---	<b>24</b>	<b>8.9</b>	<b>79</b>	<b>5.5</b>	---	---
B9-5	11/3/90	---	<b>0.3</b>	ND	---	ND	<b>6.8</b>	ND	<b>10</b>	---	---
B9-15	11/3/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B9-25	11/3/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B10-2	11/3/90	---	ND	<b>17</b>	---	ND	ND	<b>14</b>	ND	---	---
B10-5	11/3/90	---	ND	ND	---	ND	ND	ND	ND	---	---
B10A-15	11/3/90	---	ND	ND	---	ND	ND	ND	ND	---	---





TABLE 1  
 SUMMARY OF SOIL ANALYTICAL DATA  
 CAMP CONNELL MAINTENANCE STATION  
 CALAVERAS COUNTY

SAMPLE I.D.	SAMPLE DATE	TRPH (mg/kg)	TPHg (mg/kg)	TPHd (mg/kg)	PCE (µg/kg)	BENZENE (µg/kg)	TOLUENE (µg/kg)	ETHYL-BENZENE (µg/kg)	TOTAL XYLENES (µg/kg)	MTBE (µg/kg)	PVOCs by 8240 (µg/kg)
B20-15	06/08/95	<30	<1.0	<1.0	---	---	---	---	---	---	---
B21-5	06/08/95	<30	<1.0	<1.0	---	---	---	---	---	---	---
B21-11	06/08/95	<30	<1.0	<1.0	---	---	---	---	---	---	---
B21-15	06/08/95	<30	<1.0	<1.0	---	---	---	---	---	---	---
B21-20	06/08/95	<30	<1.0	<1.0	---	---	---	---	---	---	---
Gasoline UST Excavation Samples											
T3E-13.5	05/12/97	---	<b>1.9</b>	---	---	<5	<5	<5	<5	<5	---
T3W-13.5	05/12/97	---	<b>160</b>	---	---	<250	<250	<250	<250	<250	---
Diesel UST Excavation Samples											
T2W-13.5	05/12/97	---	---	<b>1,350</b>	---	<5	<5	<5	<5	<5	---
T2E-13.5	05/12/97	---	---	<b>630</b>	---	<250	<250	<250	<250	<250	---
Fuel Oil UST Excavation Samples											
T1E-13.5	05/12/97	---	---	<b>1,680</b>	---	<5	<5	<b>6</b>	<b>21</b>	<5	---
T1W-13.5	05/12/97	---	---	<b>2,250</b>	---	<5	<5	<5	<5	<5	---
Dispenser Pump Excavation Samples											
Disp1-3.5	05/12/97	---	<1	<10	---	<5	<b>6</b>	<5	<b>25</b>	<5	---
Disp2-3.5	05/12/97	---	<b>110</b>	<b>3,230</b>	---	<5	<b>25</b>	<b>29</b>	<b>780</b>	<5	---
Product Line Excavation Samples											
PL1-3.5	05/12/97	---	<1	<10	---	<5	<5	<5	<5	<5	---
PL2-3.5	05/12/97	---	<1	<10	---	<5	<5	<5	<5	<5	---

TABLE 1  
 SUMMARY OF SOIL ANALYTICAL DATA  
 CAMP CONNELL MAINTENANCE STATION  
 CALAVERAS COUNTY

SAMPLE I.D.	SAMPLE DATE	TRPH (mg/kg)	TPHg (mg/kg)	TPHd (mg/kg)	PCE (µg/kg)	BENZENE (µg/kg)	TOLUENE (µg/kg)	ETHYL-BENZENE (µg/kg)	TOTAL XYLENES (µg/kg)	MTBE (µg/kg)	PVOCs by 8240 (µg/kg)
Soil Stockpile Samples											
COMP STK1 (A-D)	05/12/97	---	<b>11</b>	<b>4,370</b>	---	<25	<25	<25	<b>140</b>	<25	---
COMP STK2 (A-D)	05/12/97	---	<b>6.1</b>	<b>2,050</b>	---	<25	<25	<25	<25	<25	---
COMP STK3 (A-D)	05/12/97	---	<1	<b>1,840</b>	---	<5	<5	<5	<5	<5	---

Notes: mg/kg = milligrams per kilogram  
 µg/kg = micrograms per kilogram  
 TRPH = total recoverable petroleum hydrocarbons  
 TPHg = total petroleum hydrocarbons as gasoline  
 TPHd = total petroleum hydrocarbons as diesel  
 PCE = tetrachloroethene  
 MTBE = methyl tert-butyl ether  
 PVOC = purgable volatile organic compounds  
 --- = not tested  
 ND = not detected above laboratory method detection limits  
 AC = acetone  
 MC = methylene chloride  
 2-B = 2-butanone  
 < = less than laboratory method detection limits  
 B17-50 = Sample number-Sample depth in feet below surface grade  
 \* laboratory notation "Peaks in diesel range however sample chromatography does not look like our diesel #2 standard chromatography"

{PRIVATE }TABLE 2  
 SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL DATA - CAM 17 METALS  
 CAMP CONNELL MAINTENANCE STATION  
 CALAVERAS COUNTY

SAMPLE I.D.	B17-5	B17-10	B17-15	B17-20	B17-25	B17-30	B17-40	B17-45	B17-50	DRUM 90	MW-A
SAMPLE DATE	06/08/95	06/08/95	06/08/95	06/08/95	06/08/95	06/08/95	06/08/95	06/08/95	06/08/95	06/08/95	07/14/95
ANALYTE	Results in milligrams per kilogram (mg/kg)										mg/l
Antimony	0.31	0.43	0.27	<0.25	<0.25	0.44	<0.25	<0.25	<0.25	---	<0.06
Arsenic	0.89	0.43	0.30	<0.25	0.57	0.32	<0.25	0.32	0.52	---	<0.10
Barium	47	111	64	96	73	197	52	66	214	---	0.20
Beryllium	<0.05	<0.05	0.51	0.72	<0.05	<0.05	<0.05	0.60	0.14	---	<0.005
Cadmium	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	---	<0.005
Chromium	12	26	17	11	8.4	34	3.8	5.7	7.0	---	0.053
Cobalt	7.5	4.2	1.2	3.8	2.0	12	1.6	4.8	12	---	<0.05
Copper	10	12	17	15	6.8	12	3.8	5.5	6.0	---	0.044
Lead	15	3.5	6.4	7.0	5.0	3.9	1.5	1.8	2.3	24	0.034
Mercury	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	<0.0002
Molybdenum	0.57	0.45	1.2	1.1	0.25	0.30	<0.25	<0.25	<0.25	---	<0.04
Nickel	8.6	5.3	2.3	1.4	0.83	22	2.3	1.8	5.9	---	0.063
Selenium	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	---	<0.10
Silver	1.6	<0.05	<0.05	<0.05	<0.05	<0.05	5.3	<0.05	<0.05	---	<0.01
Thallium	<0.25	0.54	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	---	<0.10
Vanadium	14	38	26	19	20	95	5.9	20	16	---	<0.05
Zinc	67	11	6.4	8.2	11	23	6.8	13	13	---	0.09

Notes: < = Less than laboratory method detection limit  
 B17-50 = Sample number-Sample depth in feet below surface grade  
 mg/l = Milligrams per liter

TABLE 3  
 SUMMARY OF RECOGNIZED ENVIRONMENTAL CONDITIONS  
 CAMP CONNELL MAINTENANCE STATION  
 CALAVERAS COUNTY, CALIFORNIA

AREA OF CONCERN	SUBSTANCE/CHEMICAL	RECOMMENDED RESPONSE/REMEDIAL ACTION
Confirmed Soil Contamination Associated with the Former Fuel and Waste Oil USTs	Petroleum Hydrocarbons	Soil Sampling and Analytical Testing
Former Oil/Water Separator and Associated Abandoned Leach Field	Petroleum Hydrocarbons; Heavy Metals	Remove Abandoned Leach Field That Received Discharge from the Oil/Water Separator; Soil Sampling and Analytical Testing
Mud Rinse That Discharges Directly to the Ground Surface	Petroleum Hydrocarbons; Heavy Metals	Soil Sampling and Analytical Testing; Cease Discharge
Hydraulic Lift and Hydraulic Oil AST	Petroleum Hydrocarbons	Soil Sampling and Analytical Testing; Routine Maintenance
Sump Drains, Trench, Wash Rack and Leach Field Associated with the Wash Water Filtration System	Petroleum Hydrocarbons; Heavy Metals	Soil Sampling and Analytical Testing; Routine Maintenance
Fill Material Located Along the Northern Site Boundary	Petroleum Hydrocarbons, Asphalt, Heavy Metals	Soil Sampling and Analytical Testing
Septic Tanks and Leach Fields Associated with the Bunkhouse and Equipment Building	Sewage	Soil Sampling and Analytical Testing; Routine Maintenance

Notes: AST = Aboveground Storage Tank  
 UST = Underground Storage Tank

TABLE 4  
 SUMMARY OF ASBESTOS ANALYTICAL DATA  
 CAMP CONNELL MAINTENANCE STATION  
 CALAVERAS COUNTY, CALIFORNIA

SAMPLE I.D.	BUILDING LOCATION	FRIABILITY	MATERIAL DESCRIPTION/CONDITION	APPROXIMATE QUANTITY (SQUARE METER OR LINEAR METER)	ASBESTOS EPA 600/M4-82-020 (TYPE AND % BY WEIGHT)
CC-MS-1A	Office and Equipment Building, Gas and Generator Building, Pump House, Sand Storage Building	NONFRIABLE	ASPHALT AND GRAVEL ROOFING/GOOD	1,500 SQUARE METERS	ND
CC-MS-1B					ND
CC-MS-1C					ND
CC-MS-2A	Office and Equipment Building, Gas and Generator Building,	NONFRIABLE	WINDOW PUTTY/GOOD	130 LINEAR METERS	<1% Chrysotile
CC-MS-2B					<1% Chrysotile
CC-MS-2C					<1% Chrysotile
CC-MS-3A	Office and Equipment Building	NONFRIABLE	GREEN, 23 BY 23-CENTIMETER FLOOR TILE AND MASTIC/GOOD	11 SQUARE METERS	2% Chrysotile in tile (mastic ND)
CC-MS-3B					2% Chrysotile in tile (mastic ND)
CC-MS-3C					2% Chrysotile in tile (mastic ND)
CC-MS-4A	Office and Equipment Building	NONFRIABLE	WALL BASE COVING AND MASTIC/GOOD	15 LINEAR METERS	ND (coving/mastic)
CC-MS-4B					2% Chrysotile (mastic ND)
CC-MS-4C					2% Chrysotile (mastic ND)
NS	Office and Equipment Building (Restrooms)	NONFRIABLE	CERAMIC TILE, GROUT, AND MASTIC/GOOD	10 SQUARE METERS	ASSUMED TO CONTAIN ASBESTOS
CC-MS-5A	Office and Equipment Building	NONFRIABLE	GYPSUM BOARD WALL SYSTEMS/GOOD	600 SQUARE METERS	2% Chrysotile (joint compound)*
CC-MS-5B					3% Chrysotile (joint compound)*
CC-MS-5C					ND

Notes: ND = Not detected  
 NA = Not analyzed (prior positive)  
 \* = Composite results less than 1%

TABLE 5 SUMMARY OF LEAD-CONTAINING PAINT ANALYTICAL DATA CAMP CONNELL MAINTENANCE STATION CALAVERAS COUNTY, CALIFORNIA				
SAMPLE I.D.	PAINT COLOR	BUILDING LOCATION	APPROXIMATE QUANTITY (SQUARE METERS)	TOTAL LEAD (mg/kg)
LCP-1	WHITE	Fuel Canopy (Concrete Pad)	50	48
LCP-2	YELLOW	Office and Equipment Building, Gas and Generator Building, Pump House, Sand Storage Building Exteriors	1,500	610
LCP-3	BROWN	Office and Equipment Building, Gas and Generator Building, Pump House, Sand Storage Building Exteriors	500	1,400
LCP-4	BEIGE	Hazardous Material Storage Container	60	190
LCP-5	WHITE	LPG AST	30	12,000
LCP-6	GREEN	LPG AST	30	57,000
LCP-7	RED	Boxcar	300	14,000
LCP-8	WHITE	Office and Equipment Building Interior	500	490
LCP-9	GRAY	Office and Equipment Building Exterior (East)	200	320,000

Notes: mg/kg = Milligrams per kilogram  
 < = Less than laboratory reporting limits  
 LPG = Liquid Propane Gas  
 AST = Aboveground Storage Tank

Project No. S8225-06-146  
June 29, 2001

Mr. Saiyed S. Ali  
California Department of Transportation  
Central Sierra Environmental Services Branch  
Post Office Box 2048  
Stockton, California 95201

Subject: PEDDLER HILL MAINTENANCE STATION  
EL DORADO COUNTY, CALIFORNIA  
CONTRACT NO. 43A0012  
TASK ORDER NO. 10-0E790K-7B  
INITIAL SITE ASSESSMENT

Dear Mr. Ali:

In accordance with Caltrans Contract No. 43A0012 and Task Order No. 10-0E790K-7B, Geocon Consultants, Inc. has performed an Initial Site Assessment (ISA) of the subject site. The Site consists of the Caltrans Peddler Hill Maintenance Station located at 41951 Highway 88, Pioneer, California.

The accompanying report presents the details of the ISA conducted at the request of Caltrans. The report summarizes the services performed, including a summary of recognized environmental conditions associated with the former and current operations at the Site and adjacent facilities. An electronic copy of the ISA report is presented on the attached compact disc.

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

Sincerely,

**GEOCON CONSULTANTS, INC.**

John E. Juhrend, PE, CEG  
Project Manager

Amy L. Hester  
Senior Staff Environmental Scientist

ALH:JEJ:sld

(6) Addressee

## TABLE OF CONTENTS

### INITIAL SITE ASSESSMENT

EXECUTIVE SUMMARY .....	i
1.0 INTRODUCTION .....	1
1.1 Background .....	1
1.2 Purpose.....	1
1.3 Scope of Work .....	2
2.0 EXISTING SITE, GEOLOGIC AND GROUNDWATER CONDITIONS .....	6
2.1 Existing Site Conditions and Improvements .....	6
2.2 Soil and Geologic Conditions .....	6
2.3 Groundwater Conditions .....	7
3.0 SITE HISTORY .....	8
3.1 Historical Research Report .....	8
3.2 Previous Environmental Investigations.....	8
3.3 Caltrans Site Permits .....	10
3.4 Aerial Photographs.....	11
3.5 Historical Site Photographs.....	12
3.6 U.S. Geological Survey (USGS) Topographic Map .....	12
3.7 Title Report and Right-of-Way Plans .....	12
3.8 Flood Control & Oil Survey Maps.....	12
4.0 SITE RECONNAISSANCE.....	13
4.1 Onsite Survey .....	13
4.1.1 Buildings.....	13
4.1.2 Chemical Materials/Wastes .....	17
4.1.3 Refuse & Debris .....	18
4.1.4 Site Drainage .....	19
4.1.5 Surface Vegetation and Soil Conditions.....	19
4.1.6 Water Wells .....	19
4.1.7 Utilities .....	19
4.1.8 Transformers.....	19
4.1.9 Storage Tanks .....	19
4.1.10 GPS Data Collection.....	20
4.2 Offsite Survey .....	20
4.3 Interviews.....	20
5.0 GOVERNMENTAL AGENCIES - RECORDS REVIEW .....	24
5.1 EPA NPL and CORRACTS Listings.....	24
5.2 DTSC SPL/SCL Listings .....	24
5.3 EPA CERCLIS/NFRAP and TSD Listings.....	24
5.4 Leaking Underground Storage Tank (LUST) Listing .....	24
5.5 SWLF Listing.....	24
5.6 Deed Restriction Properties Report.....	24
5.7 CORTESE Listing.....	25
5.8 Toxic Pits Listing .....	25
5.9 USGS Water Well Listing.....	25
5.10 RCRA Violation Listing .....	25
5.11 TRIS Listing.....	25
5.12 SWRCB UST/AST Listings.....	25
5.13 EPA ERNS Listing.....	25
5.14 EPA Generator Listing .....	25
5.15 SPILLS Listing .....	25

## TABLE OF CONTENTS

(Continued)

6.0	RECORDS REVIEW .....	26
6.1	CVRWQCB Leaking Underground Storage Tank Information System .....	26
6.2	ACEHD .....	26
6.3	Amador County Air Pollution Control District.....	26
7.0	LIMITED LEAD AND ASBESTOS SURVEYS .....	27
7.1	Review of Previous Building Surveys and As-Built Plans .....	27
7.2	Limited Asbestos Survey .....	27
7.3	Limited Lead-Based Paint Survey .....	29
8.0	CONCLUSIONS AND RECOMMENDATIONS .....	30
9.0	REPORT LIMITATIONS .....	34

### FIGURES

1. Vicinity Map
2. Site Plan
3. Equipment Building Detail
4. Geologic Map
5. Confirmatory Soil Sample And Soil Boring Locations Map
6. Cross Section A-A'
7. Hydrocarbon Concentrations in Groundwater-March 2001
8. 1962 Aerial Photo
9. 1974 Aerial Photo
10. 1993 Aerial Photo
11. Historical Site Photos No. 1 & 2
12. Historical Site Photos No. 3 & 4
13. Topographic Map
14. Site Characterization Map
- 15a-15l. Site Photos
16. Utilities Map
17. Lead and Asbestos Sample Locations Map

### TABLES

1. Summary of Soil Analytical Data
2. Summary of Groundwater Analytical Data
3. Summary of Recognized Environmental Conditions
4. Summary of Asbestos Analytical Data
5. Summary of Lead-Based Paint Analytical Data

### APPENDICES

- A. Historical Research Report
- B. Site Information from Previous Environmental Documents
- C. Site Regulatory Permit Information
- D. GPS Data
- E. Interview Transcripts
- F. Vista Recovery Database Report
- G. Asbestos and Lead Survey and Laboratory Analytical Reports

### ELECTRONIC MEDIA

Attached Compact Disc

## LIST OF ACRONYMS

ACAPCD	Amador County Air Pollution Control District
ACEHD	Amador County Environmental Health Department
ACBM	Asbestos-Containing Building Materials
AST	Aboveground Storage Tank
AHERA	Asbestos Hazard Emergency Response Act
ASTM	American Society for Testing and Materials
bgs	Below Ground Surface
Caltrans	California Department of Transportation
DHS	California Department of Health Services
CDMG	California Division of Mines and Geology
CHP	California Highway Patrol
Cal/OSHA	California Occupational Safety and Health Administration
CORRACTS	RCRIS Corrective Action Sites
cm	Centimeter
CVRWQCB	Central Valley Regional Water Quality Control Board
CEG	Certified Engineering Geologist
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ETBE	Ethyl tert-butyl ether
FOC	Fuel Oxygenate Compound
GIS	Geographic Information System
GPS	Global Positioning System
HUD	Department of Housing and Urban Development
Hwy	Highway
ICP	Inductively Coupled Plasma
ISA	Initial Site Assessment
km	Kilometer
LCP	Lead-Containing Paint
LUST	Leaking Underground Storage Tank
LPG	Liquid Propane Gas
MSL	Mean Sea Level
m	Meter
MTBE	Methyl Tert-butyl Ether
µg/kg	Micrograms per kilogram
mg/kg	Milligrams per kilogram
µg/l	Micrograms per liter
mg/l	Milligrams per liter
NIST-NVLAP	National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program
NPL	National Priorities List
pCi/l	Picocuries per liter
PLM	Polarized Light Microscopy
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
RCRA	Resource Conservation and Recovery Act
SCL	DTSC Calsites Database
SPL	State Equivalent to NPL
SWIS	Solid Waste Inventory System
SWLF	Solid Waste Landfills
TAME	Tert-amyl Methyl Ether
TBA	Tert-butanol

TO	Task Order
TPHd	Total Petroleum Hydrocarbons as Diesel
TPHg	Total Petroleum Hydrocarbons as Gasoline
TPHmo	Total Petroleum Hydrocarbons as Motor Oil
TRIS	Toxic Release Inventory System
TSD	Treatment, Storage and Disposal
UPM	Uneven Pavement Mix
USDA	United States Department of Agriculture
USFS	United States Forestry Service
USGS	United States Geological Survey
UST	Underground Storage Tank
WMUDS	Waste Management Unit Data System

## **INITIAL SITE ASSESSMENT**

### **EXECUTIVE SUMMARY**

The California Department of Transportation (Caltrans) District 10 - Environmental Engineering Branch retained Geocon Consultants, Inc. to perform an Initial Site Assessment (ISA) of the Peddler Hill Maintenance Station. The objective of the ISA was to provide a summary of recognized environmental conditions associated with the former and current facility operations. Caltrans requested the ISA to identify potential onsite and adjacent property environmental impairments that may impact land use planning, the health and safety of onsite personnel, and/or the construction of future onsite improvements. The scope of the ISA included a site reconnaissance, an offsite survey, a review of historical records and environmental documents, asbestos and lead-based paint building surveys, data evaluation and the preparation of this report.

The Site was occupied by forested lands prior to development as a Caltrans maintenance station in 1971-1972. The 1971-1972 construction activities included asphalt paving, septic tank and domestic well installations, the construction of the office and equipment building, one 7,600-liter (2,000-gallon) waste oil underground storage tank (UST), wash rack, concrete loading dock, sand storage building, hydraulic lift, wooden water tanks, dormitory, town house, liquid propane gas (LPG) aboveground storage tank (AST), water well and pump house, gas house and generator building with one 38,000-liter (10,000-gallon) gasoline UST and two 38,000-liter (10,000-gallon) diesel USTs. Subsequent onsite improvements constructed at the Site include the installation of two 38,000-liter (10,000-gallon) diesel USTs, one 3,800-liter (1,000-gallon) gasoline AST, one 1,114-liter (300-gallon) Jet-A fuel AST owned by the California Highway Patrol (CHP), water storage building and metal water tanks, storage containers and a United States Forestry Service (USFS) storage building. Facility operations generally include the storage and repair of Caltrans vehicles and equipment used for the maintenance of California highways.

In March 1988, one 7,600-liter (2,000-gallon) waste oil UST was removed from the north side of the equipment building. Results of a soil sample collected from beneath the UST indicated low concentrations of total petroleum hydrocarbons as gasoline (TPHg) and a maximum total petroleum hydrocarbons as motor oil (TPHmo) concentration of 7,100 milligrams per kilogram (mg/kg). A "Report of Unauthorized Release" was filed as a result of the soil contamination encountered during the UST removal activities. Subsequently, the waste oil UST cavity was overexcavated. Confirmatory soil samples indicated no reportable concentrations of TPHg and a decrease in TPHmo at a concentration of 160 milligram per kilogram (mg/kg). In August 2000, the Amador County Environmental Health Department (ACEHD) issued a no further action letter for the Site regarding the waste oil UST.

Correspondence from the ACEDH dated April 14, 1997 indicated that the three 38,000-liter (10,000-gallon) fuel USTs at the Site would not meet the 1998 UST upgrade requirements due to lack of

monitoring and compliance. The document further indicated that one of the diesel USTs failed a tank test in 1986 and inventory variances occurred in 1988. The tank was repaired and tested tight in March 1988. The ACEDH further indicated that the extent of soil contamination was not determined for the 1988 waste oil UST removal or for the failed tank test and inventory variances. The ACEDH required that an exploratory soil boring be drilled adjacent to the USTs.

In May 1997, the gasoline and diesel USTs were removed from the Site. Total petroleum hydrocarbons as diesel (TPHd) and TPHg were detected in soil samples collected from beneath the three USTs and product dispenser area. Ethylbenzene and total xylenes were detected in samples from beneath the diesel fuel UST and product dispensers. Overexcavation activities were performed in June 1997 to the maximum extent possible without threatening the structural integrity of the adjacent gas house. Approximately 344 cubic meters (m) (450 cubic yards) of contaminated soil was removed during the overexcavation activities. Maximum TPHd and TPHg concentrations of 7,770 and mg/kg, respectively, were detected in confirmatory soil samples collected at a depth of 4.8 m (16 feet) below ground surface (bgs). Maximum TPHd, TPHg and benzene concentrations of 1,970, 66 and 0.11 mg/kg, respectively, were detected in soil samples collected from the dispenser overexcavation at a depth of 1.2 m (4 feet) bgs. Due to the presence of the gas house, petroleum hydrocarbon impacted soils remained in place. The overexcavation was backfilled with clean imported fill and 1.8-centimeter (¾-inch) aggregate material. Base material was placed in the upper 45 centimeters (18 inches) of the overexcavation and the area was resurfaced with asphalt.

Following the UST removal, a temporary 38,000-liter (10,000-gallon) diesel AST and two permanent 7,600-liter (2,000-gallon) gasoline ASTs were installed at the Site. In March 1998, two new 38,000-liter (10,000-gallon) diesel USTs were installed. One of the temporary diesel ASTs was subsequently removed from the Site. The Site now operates with two, 38,000-liter (10,000-gallon) diesel USTs and one 3,800-liter (1,000-gallon) gasoline AST.

In October 2000, three exploratory borings (MW-1, MW-2 and MW-3) were advanced to a maximum depth of 10.5 m (34 feet) bgs and were subsequently completed as groundwater monitoring wells. TPHg was detected in two of the fifteen soil samples analyzed at concentrations of 55 mg/kg in well boring MW-1 at a depth of 4.5 m (15 feet) bgs and 1.0 mg/kg in well boring MW-3 at a depth of 1.5 m (5 feet) bgs. TPHd concentrations ranging from 1.2 to 510 mg/kg were detected in the soil samples from each of the three well borings at depths between 1.5 and 9 m (5 and 30 feet) bgs. Fuel oxygenate compounds (FOCs) were detected in one soil sample with concentrations of ethyl tert-butyl ether (ETBE) at 13 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ), tert-amyl methyl ether (TAME) at 39  $\mu\text{g}/\text{kg}$ , and tert-butanol (TBA) at 220  $\mu\text{g}/\text{kg}$ . Organic lead and total organic carbon were not reported above method detection limits in any of the soil samples analyzed. Toluene was detected in soil samples from well borings MW-1 and MW-2 at concentrations of 9.7 and 6.4 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ), respectively. Ethylbenzene and total xylenes were detected in the soil samples from well boring MW-1 at concentrations of 70 and 200  $\mu\text{g}/\text{kg}$ , respectively. Benzene and methyl tert-butyl

ether (MTBE) were not reported in any of the soil samples analyzed. The horizontal extent of petroleum hydrocarbons in soil at the Site is not defined.

In October 2000, groundwater samples were obtained from each monitoring well and a water sample was obtained from the drain valve at the bottom of the northern water storage tank (DW-1). TPHg was detected in wells MW-1 and MW-2 at concentrations of 0.15 and 0.14 milligrams per liter (mg/l), respectively. TPHd was detected in all of the monitoring well samples at concentrations ranging from 0.11 to 2.1 mg/l. TPHd was detected in the domestic well at a concentration of 0.20 mg/l. Subsequent reanalysis performed to confirm the detection in the domestic well sample indicated a TPHd concentration of 0.11 mg/l. Benzene, toluene, and ethylbenzene were detected in MW-1 at 1.1, 4.6, and 1.7 micrograms per liter ( $\mu\text{g/l}$ ), respectively. Total xylenes in MW-1 and MW-2 were detected at 9.6 and 0.65  $\mu\text{g/l}$ , respectively. FOCs were not reported above the laboratory test method reporting limits for any of the groundwater samples analyzed. During the most recent groundwater monitoring event performed at the Site in March 2001, TPHg, TPHd, benzene, toluene, ethylene and total xylenes (BTEX) and MTBE by Environmental Protection Agency (EPA) Test Method 8260 were not detected in each groundwater sample above their respective laboratory detection limits.

The Site is surrounded by forested land and no facilities are located within site vicinity. The Site is referenced by the Central Valley Regional Water Quality Control Board (CVRWQCB) as an open case for a fuel UST release. However, in August 2000, the ACEHD issued a no further action letter for the Site regarding the waste oil UST.

Based on the information presented in this ISA, the following recognized environmental conditions exist at the Site:

- Surface stains of unknown origin observed north of the gas house on the 1974 aerial photograph.
- Mud rinse area, drain line, and associated distressed vegetation noted in the vicinity of the drain line outlet.
- The hydraulic lift in the second bay of the equipment building.
- Hydraulic, waste oil, gasoline and Jet-A fuel ASTs.
- The abandoned wash rack in the southeast bay of the equipment building and associated leach field located north the equipment building.
- The septic tank and leach field associated with the town house.
- The septic tank and leach field associated with the dormitory.
- Onsite domestic water well.
- Four former UST locations.

The abandoned leach field system associated with the abandoned wash rack in the equipment building should be properly closed in accordance with county and EPA requirements.

A determination of the lateral extent of soil impacts and an assessment of groundwater quality associated with the recognized environmental conditions will be necessary prior to evaluating remedial response actions for specific future land use options. Targeted site investigations should be designed to evaluate potential soil and groundwater impacts with respect to specific project requirements prior to design and construction of any proposed onsite improvements. Soil and groundwater generated from excavations at the Site may require treatment and/or disposal.

Quarterly groundwater monitoring should continue at the Site to confirm the groundwater flow direction and the lateral extent of petroleum hydrocarbon impacts. Additional site characterization may be necessary, including additional monitoring wells; however, the groundwater flow direction should be confirmed with at least one additional monitoring event.

Based on the October 2000 detection of TPHd in the onsite domestic water well, continued monitoring directly from the onsite domestic water well casing is recommended.

The Site is located within EPA Radon Zone 2 with a predicted average indoor screening level of between 2 and 4 picocuries per liter (pCi/l). EPA has established a recommended action level of 4 pCi/l. Radon gas is a clear, odorless, radioactive gas that is considered by the EPA to be the second leading cause of lung cancer in the country. Radon gas can enter enclosed structures by plumbing or other apertures within the foundation and may also be present in well water and be released and inhaled during showering. Based on regional occurrences of naturally occurring radioactive materials associated with granitic rocks, consideration should be given for the performance of air quality and water surveys for the presence of radon at the Site. The surveys should be conducted by personnel certified by the State of California for radon measurement. If radon gas is determined to be present in the air or water at the Site, it should be mitigated by a state certified contractor.

A review of previous surveys and the as-built plans, and the results of the building surveys performed at the Site by Geocon, indicate the presence of asbestos-containing building materials (ACBMs) in the town house and equipment building. Lead-containing paints (LCPs) were identified in the pump house, town house, gas house, water tank building, sealand storage container, hazardous materials storage container, sand storage building and equipment building. Based on our findings, Geocon recommends the following:

- Retain a registered asbestos abatement contractor to remove and dispose of ACBM identified during this survey that will be impacted by renovation or demolition activities.
- Notify contractor(s) that will be conducting renovation work and related activities of the presence of ACBM and LCP in their work areas and instruct the contractor(s) not to disturb ACBM or LCP during their work (i.e., provide the contractor[s] with a copy of this report and a list of ACBM removed by the asbestos abatement contractor during any abatement activities).

- Treat all paints at the Site as lead-containing for purposes of determining the applicability of the California Occupational Safety and Health Administration (Cal/OSHA) lead standard during any future maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results, the age of the buildings, and the fact that lead was a common ingredient of paints manufactured before 1978.
- Implement interim controls to maintain identified ACBMs and LCPs.

# INITIAL SITE ASSESSMENT

## 1.0 INTRODUCTION

### 1.1 Background

This report presents the results of an Initial Site Assessment (ISA) performed under the California Department of Transportation (Caltrans) Contract No. 43A0012 and Task Order (TO) No. 10-0E790K-7B. The Site consists of the Caltrans Peddler Hill Maintenance Station located at 41951 Highway (Hwy) 88 in El Dorado and Amador Counties, California (see Vicinity Map, Figure 1).

Caltrans District 10 requested this ISA to identify potential onsite and adjacent property environmental impairments that may impact land use planning, the health and safety of onsite personnel, and/or the construction of future onsite improvements.

### 1.2 Purpose

The purpose of the ISA was to provide a summary of recognized environmental conditions associated with the former and current site and adjacent property operations. According to the American Society of Testing and Materials (ASTM) Practice E 1527-00, Section 1.1.1, *the term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.*

Specifically, the objectives of this ISA were to:

- Document the existing site conditions.
- Document the development and historical facility operations at the Site and adjacent facilities.
- Summarize available information and analytical data generated from previous environmental site investigations and remediation activities performed at the Site and adjacent facilities.
- Perform updated asbestos and lead-based paint surveys of the onsite structures.
- Summarize the extent of soil and groundwater impacts at adjacent facilities to evaluate the potential for these facilities to impact the Site.
- Provide recommendations for onsite areas of concern requiring additional site characterization and/or remediation and cleanup activities.

### **1.3    Scope of Work**

Geocon has performed preliminary research and a site reconnaissance to estimate the potential for existing environmental impacts to the Site from the presence of hazardous materials/wastes on or adjacent to the Site. The guidelines used for the definition of hazardous materials/wastes are presented in the California Code of Regulations Title 22.

The ISA services performed are presented as follows:

- Conducted a pre-work meeting on December 15, 2000, attended by Mr. Saiyed Ali with Caltrans and Mr. John Juhrend, Mrs. Rebecca Silva, and Ms. Amy Hester of Geocon, to review the subject TO.
- Reviewed the following documents to obtain information regarding the prevailing soil, geologic and groundwater conditions at the Site:
  - *Geologic Map of the Sacramento Quadrangle*, prepared by the California Division of Mines and Geology (CDMG), dated 1981.
  - *Geologic Features and Ground-Water Storage Capacity of the Sacramento Valley, California, Water-Supply Paper 1497* prepared by the United States Geological Survey (USGS), dated 1961.
  - *Fault Activity Map of California and Adjacent Areas with Locations and Ages of Recent Volcanic Eruptions*, prepared by the CDMG, dated 1994
  - *Soil Survey Amador Area, California*, prepared by the United States Department of Agriculture (USDA) Soil Conservation Service, dated September 1965.
  - *Soil Survey El Dorado Area, California*, prepared by the USDA Soil Conservation Service, dated April 1974.
  - *The Water Quality Control Basin Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region*, third edition 1994.
- Geocon personnel performed an onsite reconnaissance on June 5, 2001 to attempt to identify visual indicators suggestive of the potential presence, as of the date of the site reconnaissance, of hazardous materials/wastes at the Site. These indicators typically include the presence of chemical containers and drums, waste disposal storage areas, industrial facilities, discolored surficial soils, electrical transformers that may contain polychlorinated biphenyls (PCBs), underground/aboveground storage tanks (USTs/ASTs), and areas conspicuously absent of vegetation. Global Positioning System (GPS) data was collected to document the locations of observed site features with the information provided herein in Caltrans compatible Geographic Information System (GIS) format.
- Surveyed adjacent properties from public thoroughfares on June 5, 2001 to attempt to evaluate if adjacent properties possess facilities or structures that were likely to be occupied by entities that potentially use, store, generate, or dispose of hazardous materials/wastes.

- Conducted a personal taped interview with Wally Mason and Gary Thibodeaux of Caltrans to determine the history of the Site.
- Reviewed aerial photographs for the years 1962, 1974, 1993 and 1997 available from Cartwright Aerial Surveys, Inc. in Sacramento, California, the USDA in Jackson, California and Caltrans to obtain information concerning the history of the Site.
- Researched Sanborn Maps for the Peddler Hill area available from the Caltrans Library in Sacramento, California, for the years 1911 and 1920. Coverage was not available for the Site.
- Reviewed the USGS topographic map for the Peddler Hill, California, Quadrangle dated 1951 (photorevised 1973) to obtain topographic information and information relative to previous development of the Site and facilities in the vicinity of the Site.
- Reviewed the following environmental report provided by Caltrans:
  - *Tank Removal Report, Peddler Hill Maintenance Facility, Highway 88 P.M. 54, Pioneer California*, prepared by Wayne Perry, Inc., dated January 6, 1998.
  - *Site Investigation Report Peddler Hill Maintenance Station, 10-AMA-88-KP 87, Amador County, California*, prepared by Geocon dated December 14, 2000.
- Reviewed a *Site Assessment Plus Report* prepared for Caltrans by Vista Information Systems dated May 15, 2001. The Vista regulatory database search included the following information sources at a search distance of 1.6 kilometers (km) (1 mile):

NPL - Environmental Protection Agency (EPA) National Priorities List dated March 2001.  
 CORRACTS - EPA Resource Conservation and Recovery Act (RCRA) Corrective Action Sites List dated June 2000.  
 SPL & SCL - California Department of Toxic Substances Control (DTSC) Calsites Databases dated October 2000.  
 CERCLIS/NFRAP - EPA Databases dated March 2001.  
 RCRIS - TSDC - TSD - EPA Treatment, Storage and Disposal Facilities subject to Corrective Action and Treatment, Storage and Disposal Facilities Lists dated June 2000.  
 LUST - California Regional Water Quality Control Databases dated February 2000 for Region 6 and January 2001 for Region 5 and California EPA Listing dated January 2001.  
 SWLF - California Solid Waste Information System (SWIS) Database dated December 1991, City of Los Angeles Landfills Transfer Stations Database dated April 1999, and State Water Resources Control Board Waste Management Unit Data System (WMUDS) listing dated February 1999.  
 DEED RSTR - California Department of Health Services (DHS) Database dated April 1994.  
 CORTESE - California EPA Database dated April 1998.  
 TOXIC PITS - SWRCB Database dated February 1995.  
 WATER WELLS - USGS Water Wells Database dated March 1998.  
 RCRIS VIOL - EPA Database dated June 2000.  
 TRIS - EPA Database dated January 1998.  
 UST/AST - SWRCB Database dated January 1994/December 1999.  
 ERNS - EPA Database dated December 1999.  
 RCRA - LQG/RCRIS - SQG - EPA Database dated June 2000.  
 SPILLS - Database dated September 2000.

- Reviewed regulatory files and environmental reports available at the ACEHD pertaining to UST facilities, and hazardous material/waste storage and waste generation facilities located within the

site vicinity. ACEHD files were reviewed to obtain information regarding the nature and extent of potential reported hazardous material/waste releases, and to estimate the potential for the reported releases to impact the Site.

- Reviewed the following as-built plans provided by Caltrans to determine structural features at the Site:
  - *Plot Plan and Details, Maintenance Station Peddler Hill*, dated August 11, 1971
  - *Floor Plan, Elevations, Sections, Finishes*, dated November 3, 1973.
  - *Plan and Details*, dated November 3, 1973.
  - *Dormitory Building*, dated November 3, 1973.
  - *Town House Building*, dated November 3, 1973.
  - *Project Plans for Construction, Peddler Hill Maintenance Station*, dated December 13, 1993.
  - *Plot plan and Details, Maintenance Station Division of Highways, Peddler Hill*, undated.
  - *Floor Plans*, undated.
  - *Details*, undated.
- Reviewed the "1993 Munger Map Book" to obtain information regarding the locations of potential oil and gas wells in the site vicinity.
- Contacted the following public agencies to obtain information regarding the site history and potential and/or existing presence of hazardous materials/wastes at the Site at levels likely to warrant current regulatory mitigation action:
  - California State University, Stanislaus, Library
  - Central Valley Regional Water Quality Control Board (CVRWQCB)
  - Department of Water Resources (DWR)
  - California Department of Forestry Dew Drop Station
  - National Forest Service Lumber Yard Station
  - ACEHD
  - Amador County Archive
  - Amador County Assessors Office
  - Amador County Recorders Office
  - Amador County Surveyors Office
  - Amador County Building and Planning Department
  - Amador County Air Pollution Control District (ACAPCD)
  - El Dorado County Library
  - El Dorado County Building and Planning Departments
  - El Dorado County Assessors Office
  - El Dorado County Surveyors Office
  - El Dorado County Recorders Office
- Reviewed previous building surveys performed at the Site and the as-built plans provided by Caltrans to evaluate the general presence of asbestos containing materials and lead-based paint within the onsite structures. Based on the review, a Geocon Asbestos Hazard Emergency Response Act Certified Asbestos Consultant and California Department of Health Services certified lead-based paint sampler performed updated asbestos and lead-based paint building

surveys on March 16, 2001.

- Reviewed a *Historical Land Use Research Report, Peddler Hill Maintenance Station*, prepared by Sarah Lim, MS Historian, dated June 18, 2001, to determine the history of the Site and the site vicinity. The Historical Research Report is presented in Appendix A.
- Prepared this ISA report to summarize the information sources reviewed and to present recommendations regarding additional site characterization.

## **2.0 EXISTING SITE, GEOLOGIC AND GROUNDWATER CONDITIONS**

### **2.1 Existing Site Conditions and Improvements**

The Caltrans Peddler Hill Maintenance Station is located at 41951 Hwy 88 in Pioneer, California. The roughly 7-hectare (17.25 acre) parcel is bounded on all sides by undeveloped forested land and is situated approximately 48 meters (m) (160 feet) northwest of Hwy 88. The majority of the Site is situated in El Dorado County, however a small portion of the southwest corner of the Site extends into Amador County. Caltrans has been granted a Special Use Permit by the United States Forestry Service (USFS) to operate a highway maintenance station.

The Site consists of an active maintenance facility utilized for the storage and repair of vehicles and equipment used for the maintenance of California highways. Existing improvements include the office and equipment building, wash rack, mud rinse, gas house and generator building, two 38,000-liter (10,000-gallon) diesel USTs, one 3,800-liter (1,000-gallon) gasoline AST, one 1,114-liter (300-gallon) Jet-A fuel AST owned by the California Highway Patrol (CHP), water tank building and two water ASTs, water well pump house, USFS storage building, dormitory, town house and one 4,572-liter (15,000-gallon) liquid propane gas (LPG) AST. Existing site improvements are depicted on Figures 2 and 3.

### **2.2 Soil and Geologic Conditions**

Information concerning the general soil and geologic conditions beneath the Site was obtained from a review of previous reports prepared for the Site and the previously referenced USGS, CDMG and USDA documents.

The Site is located within the Sierra Nevada Mountains, approximately 109 km (68 miles) east of Sacramento and approximately 46 km (29 miles) south-southwest of South Lake Tahoe. The potentially active West Tahoe Fault is located approximately 26 km (16 miles) east of the Site and the active Genoa Fault is located approximately 40 km (25 miles) to the west of the Site. Surficial soils are generally comprised of Holocene age colluvium overlying Mehrten Formation, which ranges in age from Miocene to Pliocene and consists of andesitic tuff-breccias of mudflow origin. The Mehrten deposits in turn overlie Mesozoic age granitic rocks of the Sierra Nevada Batholith. A portion of the CDMG geologic map depicting the Site is presented on Figure 4.

Review of the USDA Soils report indicates that the Site is outside of mapped areas. Soil and geologic conditions encountered beneath the Site generally consisted of fill material overlying weathered volcanic bedrock. Fill was encountered from the ground surface to depths ranging from 2.5 to 4.6 m (8 to 15 feet) bgs. The fill generally consisted of brown sandy gravel with clay. Underlying the fill was a reddish-brown to maroon silty sand resulting from weathering of the underlying volcanic bedrock. Information obtained during the drilling of an onsite domestic well indicate the fill is

underlain by alternating layers of “hard lava” and andesitic rock

### **2.3 Groundwater Conditions**

Information sources prepared by the DWR and the CVRWQCB were reviewed for information pertaining to groundwater quality and occurrence in the vicinity of the Site.

A copy of the Water Well Drillers Report for the onsite domestic well was not available at the DWR. Based on information from a site investigation performed by Geocon in December 2000, the onsite domestic well extends to a depth of approximately 91 m (300 feet). The domestic well is located approximately 170 m (557 feet) south of the former UST locations. Water extracted from the onsite domestic well that is stored in the onsite water storage tanks is reportedly sampled on a quarterly basis for methyl tert-butyl ether (MTBE) and bacteria, and general physical and general mineral analysis is also conducted approximately every 5 years. The sampling points for the bacteria analysis are located in the crew area of the equipment building and the town house. The sampling point for MTBE analysis is a drain valve at the bottom of the northern water storage tank. In order to collect a representative groundwater sample prior to passing through the piping and storage tanks, a sampling point is scheduled to be installed at the well head. The most recent domestic water sampling event was performed in June 2001 and is further discussed in Section 3.2 “Previous Environmental Investigations.”

In March 2001, groundwater was encountered in the onsite monitoring wells at an average depth of approximately 5 m (16.4 feet) bgs and was directed to the west. The March 2001 groundwater monitoring event is further discussed in Section 3.2 “Previous Environmental Investigations.”

A 1971 Plot Plan indicates that a well exists approximately 9.1 m (30 feet) southwest of the southwest corner of the Site. The well was not noted nor reported during the onsite and offsite reconnaissances and a Water Well Drillers Report was not available at the DWR.

The CVRWQCB Basin Plan indicates that the Site is located in the Omo Ranch Hydrologic Sub Area of the Cosumnes Hydrologic Area of the Middle Sierra Hydrologic Unit, of the San Joaquin Hydrogeologic Basin. The Basin Plan further indicates that groundwater occurring within the Cosumnes Hydrologic Area has “designated beneficial” uses for municipal and domestic supply, agricultural supply, industrial service, recreation, habitat, migration, spawning and wild river purposes.

## **3.0 SITE HISTORY**

### **3.1 Historical Research Report**

*Historical Land Use Research Report, Peddler Hill Maintenance Station*, prepared by Sarah Lim, MS Historian, dated June 18, 2001 is presented in Appendix A. Review of the report indicates that the Site was Federal land prior to construction by Caltrans. No other record of historical ownership was found; however, Caltrans has been granted a Special Use Permit by the United States Forestry Service (USFS) to operate a highway maintenance station. The most current assessor's maps from Amador and El Dorado Counties do not show the Site. Copies of a site plan and a survey report are presented in Appendix A.

### **3.2 Previous Environmental Investigations**

Information regarding the use, storage and disposal of hazardous material/waste and previous environmental investigations performed at the Site was obtained from a review of onsite records and information obtained from the Caltrans District 10 office in Stockton, California, and the ACEHD in Jackson, California. Copies of pertinent site-specific information are presented in Appendix B.

In March 1988, one 7,600-liter (2,000-gallon) waste oil UST was removed from the north side of the equipment building. The former waste oil UST was connected by a pipe to a waste oil AST located inside the equipment building. Results of a soil sample collected from beneath the UST indicated low concentrations of total petroleum hydrocarbons as gasoline (TPHg) and a maximum total petroleum hydrocarbons as motor oil (TPHmo) concentration of 7,100 milligrams per kilogram (mg/kg). A "Report of Unauthorized Release" was filed as a result of the soil contamination encountered during the UST removal activities. Subsequently, the waste oil UST cavity was overexcavated. Confirmatory soil samples indicated no reportable concentrations of TPHg and a decrease in TPHmo at a concentration of 160 mg/kg. In August 2000, the ACEHD issued a no further action letter for the Site regarding the waste oil UST.

Correspondence from the ACEDH dated April 14, 1997 indicated that the three 38,000-liter (10,000-gallon) fuel USTs at the Site would not meet the 1998 UST upgrade requirements due to lack of monitoring and compliance. The document further indicated that one of the diesel USTs failed a tank test in 1986 and inventory variances occurred in 1988. The tank was repaired and tested tight in March 1988. The extent of soil contamination was not determined for the 1988 waste oil UST removal or the failed tank test and inventory variances. The ACEDH required that an exploratory soil boring be drilled adjacent to the USTs.

In May 1997, the gasoline and diesel USTs were removed from the Site. Total petroleum hydrocarbons as diesel (TPHd) and TPHg were detected in soil samples collected from beneath the three USTs and product dispenser area. Ethylbenzene and total xylenes were detected in samples

from beneath the diesel fuel UST and product dispensers. Overexcavation activities were performed in June 1997 to the maximum extent possible without threatening the structural integrity of the adjacent gas house. Approximately 344 cubic m (450 cubic yards) of contaminated soil was removed during the overexcavation activities. Maximum TPHd and TPHg concentrations of 7,770 and 740 mg/kg, respectively, were detected in confirmatory soil samples collected at a depth of 4.8 m (16 feet) bgs. Maximum TPHd, TPHg and benzene concentrations of 1,970, 66 and 0.11 mg/kg, respectively, were detected in soil samples collected from the dispenser overexcavation at a depth of 1.2 m (4 feet) bgs. Due to the presence of the gas house, petroleum hydrocarbon impacted soils remained in place. The overexcavation was backfilled with clean imported fill and 1.8-cm (¾-inch) aggregate material. Base material was placed in the upper 45 cm (18 inches) of the overexcavation and the area was resurfaced with asphalt.

Following the UST removal, a temporary 38,000-liter (10,000-gallon) diesel AST and two permanent 7,600-liter (2,000-gallon) gasoline ASTs were installed at the Site. In March 1998, two new 38,000-liter (10,000-gallon) diesel USTs were installed. One of the temporary diesel ASTs was subsequently removed from the Site. The Site now operates with two, 38,000-liter (10,000-gallon) diesel USTs and one 3,800-liter (1,000-gallon) gasoline AST.

In October 2000, three exploratory borings (MW-1, MW-2 and MW-3) were advanced to a maximum depth of 10.5 m (34 feet) bgs and were subsequently completed as groundwater monitoring wells. TPHg was detected in two of the fifteen soil samples analyzed at concentrations of 55 mg/kg in well boring MW-1 at a depth of 4.5 m (15 feet) bgs and 1.0 mg/kg in well boring MW-3 at a depth of 1.5 m (5 feet) bgs. TPHd concentrations ranging from 1.2 to 510 mg/kg were detected in the soil samples from each of the three well borings at depths between 1.5 and 9 m (5 and 30 feet) bgs. TPHd concentrations detected in well borings MW-2 and MW-3 are assumed to be associated with surficial leaks and spills at the Site and are not connected to the soil plume associated with the former fuel USTs. Fuel oxygenate compounds (FOCs) were detected in one soil sample with concentrations of ethyl tert-butyl ether (ETBE) at 13 µg/kg, tert-amyl methyl ether (TAME) at 39 µg/kg, and tert-butanol (TBA) at 220 µg/kg. Organic lead and total organic carbon were not reported above method detection limits in any of the soil samples analyzed. Toluene was detected in soil samples collected from well borings MW-1 and MW-2 at concentrations of 9.7 and 6.4 micrograms per kilogram (µg/kg), respectively. Ethylbenzene and total xylenes were detected in soil samples from well boring MW-1 at concentrations of 70 and 200 µg/kg, respectively. Benzene and MTBE were not reported present in any of the soil samples analyzed. The horizontal extent of the petroleum hydrocarbon plume in soil in the vicinity of the gas house is not defined. Petroleum hydrocarbons in soil at the Site are depicted on Figures 5 and 6. A summary of soil analytical data for the Site is presented in Table 1.

In October 2000, groundwater samples were obtained from each monitoring well and a water sample was obtained from the drain valve at the bottom of the northern water storage tank (DW-1). TPHg was detected in wells MW-1 and MW-2 at concentrations of 0.15 and 0.14 milligrams per liter (mg/l), respectively. TPHd was detected in all of the monitoring well samples at concentrations ranging from 0.11 to 2.1 mg/l. TPHd was detected in the domestic well at a concentration of 0.20 mg/l. Subsequent reanalysis performed to confirm the detection in the domestic well sample indicated a TPHd concentration of 0.11 mg/l. Benzene, toluene, and ethylbenzene were detected in MW-1 at 1.1, 4.6, and 1.7 micrograms per liter (µg/l), respectively. Total xylenes in MW-1 and MW-2 were detected at 9.6 and 0.65 µg/l, respectively. FOCs were not reported above the laboratory test method reporting limits for any of the groundwater samples analyzed. During the most recent groundwater monitoring event performed at the Site in March 2001, TPHg, TPHd, benzene, toluene, ethylene and total xylenes (BTEX) and MTBE by EPA Test Method 8260 were not detected above their respective laboratory detection limits in any of the groundwater samples collected from each well. In March 2001, groundwater was encountered in the onsite monitoring wells at an average depth of approximately 5 m (16.4 feet) bgs and was directed to the west. The March 2001 groundwater concentrations and gradient are presented on Figure 7. A summary of groundwater analytical data for the Site is presented in Table 2.

In October 2000, a water sample was collected from the drain valve at the bottom of the northern water storage tank and analyzed for general mineral and general physical compounds. In June 2001, a water sample was collected from the faucet in the crew area of the equipment building and was analyzed for TPHd and bacteria. A water sample was collected from the town house and was analyzed for bacteria. A water sample was collected from the drain valve at the bottom of the northern water storage tank and was analyzed for MTBE. Bacteria, MTBE and TPHd were not reported above their respective laboratory detection limits.

### **3.3 Caltrans Site Permits**

A Special Use Permit dated November 1970 indicates that 7.3 hectares (18.25 acres) was granted to the State of California for the construction of a highway maintenance station including six residences, a dormitory, equipment storage building, sand storage building, gas, oil and generator house, LPG tank, utility system, access road, roads and parking areas and radio and/or microwave transmitting and receiving. The permit further indicates that the USFS owns the land.

In December 1993, EPA issued Caltrans an Environmental Compliance Agreement Regarding Industrial Injection Wells at Caltrans Maintenance Stations. The agreement outlines Federal Safe Drinking Water Act compliance requirements for maintenance wash rack facilities that discharge to septic/leach field systems. EPA defines wash rack/septic systems as Class V industrial injection wells. EPA has required Caltrans to close all Class V industrial injection wells in accordance with the *EPA Region 9 Guidelines for Closure of Shallow Disposal Wells* and applicable state and local

regulatory requirements. The septic system can continue to be used for disposal of sanitary waste if the system is in good working condition, the soil is not severely contaminated, all industrial fluids are removed from the tank, and the industrial discharge is discontinued.

Copies of the Special Use Permit, EPA Industrial Injection Well Agreement, Hazardous Waste Transporter Registration, Permit to Operate Underground Fuel Storage Tanks, Underground Storage tank Facility Upgrade Compliance Certificate, Hazmat Business Plan Medium Facility, Permit to Operate a 1,000 Gallon Above Ground Gasoline Dispensing Facility, a Permit to Operate three 207 Horsepower Diesel Engines and Generators and a Gasoline Dispensing Facility Annual Inspection Report are presented in Appendix C.

### **3.4 Aerial Photographs**

Aerial photographs taken in 1962 were provided by Cartwright Aerial Surveys, 1974 and 1997 photographs were provided by Caltrans and a 1993 photograph was reviewed at the USDA. The reviews were performed to obtain information concerning the history of development on and in the vicinity of the Site. The following observations were noted during the review of the aerial photographs.

**1962 Aerial Photographs.** Review of the 1962 black and white stereoscopic aerial photographs indicates the Site was undeveloped forested land. The old and new Hwy 88 right-of-way alignments are noted to the southeast. Several areas of severe erosion or land sliding are present east of Hwy 88 and north of the Site. A copy of the 1962 photograph is presented on Figure 8.

**1974 Aerial Photograph.** Review of the 1974 oblique color aerial photograph indicates the office and equipment building, sand storage building, two water tanks and water tank building, dormitory, town house and gas house were located at the Site. An asphalt parking area was noted west of the office and equipment building. A dark surface stain was noted north of the gas house. Stockpiles of materials were noted south of the dormitory. An LPG AST was noted west of the gas house. A copy of the 1974 photograph is presented on Figure 9.

**1993 Aerial Photograph.** Review of the 1993 monoscopic black and white aerial photograph indicates similar features as in the 1974 photograph. The water well pump house was noted on the southwest portion of the Site. The Site is surrounded on all sides by undeveloped forested land and Highway 88 is visible to the southeast. A copy of the 1993 photograph is presented on Figure 10.

**1997 Aerial Photograph.** The 1997 monoscopic black and white aerial photograph depicts the majority of the Site with the exception of the area west of the equipment building. The photograph indicates similar features as in the 1993 photograph. An open excavation from the UST removal activities was noted northeast of the gas house. A loading dock was noted northwest of the gas house. An asphalt stockpile was noted south of the loading dock. A wash rack slab was noted on the southeast end of the equipment building. The soil and vegetation appears to be impacted south of

the sand storage building.

### **3.5 Historical Site Photographs**

Ground level photographs obtained from Caltrans were reviewed to determine historical uses of the Site and locations of hazardous material/waste storage at the Site. Photos dated 1982 depict vent lines, two fuel dispensers and three roll-up doors on the north and east sides of the gas house. A concrete slab and UST excavation stockpile material were noted northeast of the gas house. Undated photographs of the dormitory, sand storage building, former water storage tanks and the water tank building were noted. An asphalt stockpile was noted northeast of the dormitory. Copies of the historical photographs are presented on Figures 11 and 12.

### **3.6 U.S. Geological Survey (USGS) Topographic Map**

A USGS topographic map dated 1951 (photorevised 1973) for the Peddler Hill, California, Quadrangle was reviewed to obtain information relative to the topography, previous development, and uses of the Site and properties located in the site vicinity. Information obtained from the review of the USGS topographic map is presented hereinafter.

**Site Topography.** A review of the USGS map indicates that the Site is situated on the axis of a ridge gently sloping to the southwest at elevations ranging from approximately 2,137 m (7,124 feet) above Mean Sea Level (MSL) in the northeast to 2,124 m (7,080 feet) above MSL in the southwest.

**Site Development.** A review of the USGS map indicates that the Site and immediate area has been cleared of vegetation. The office and equipment building, gas house, sand house, dormitory and town house and access roads were constructed at the Site between 1951 and 1973. The old and new Hwy 88 alignments were noted south of the Site. The Middle Fork Cosumnes River was noted approximately 0.6 km (0.4 mile) north of the Site and natural springs were noted approximately 0.48 m (0.3 mile) south and west of the Site. The Lower Bear River Reservoir was noted approximately 3.2 km (2 miles) south of the Site. A copy of the USGS topographic map is presented on Figure 13.

### **3.7 Title Report and Right-of-Way Plans**

Title reports and right-of-way plans were not available at the El Dorado or Amador County Recorders Office or the Caltrans District 10 Right-of-Way Office.

### **3.8 Flood Control & Oil Survey Maps**

A review of the 1993 Munger Map Book indicates that there are no oil or gas wells near the Site. The Site is located at an elevation of approximately 2,133 m (7,000 feet) above MSL, on a sloping hillside and is not located within a flood zone.

## 4.0 SITE RECONNAISSANCE

### 4.1 Onsite Survey

Representatives of Geocon performed a site reconnaissance and personnel interviews with Wallace Mason and Gary Thibodeaux on June 5, 2001. Mr. Mason (Maintenance Supervisor) has been at the facility since 1994. Mr. Thibodeaux, the onsite Caltrans lead worker (onsite since November 1989) accompanied Geocon personnel during the site visit on June 5, 2001. The purpose of the reconnaissance was to survey the existing site conditions to attempt to identify visual indicators of potential hazardous material/waste impacts to the Site. The Peddler Hill Maintenance Facility is located on about 7 hectares (17.25 acres) in an undeveloped wilderness area on the northwest side of Highway 88. The site is occupied by the State of California under a land use agreement (lease) with the USFS. A Site Characterization Map depicting current hazardous material locations and recognized environmental conditions is presented on Figure 14. A summary of the recognized environmental conditions observed and/or documented at the Site is presented on Table 3.

Building locations and existing site conditions are depicted on Figures 2 and 3. Site photographs obtained during the site reconnaissance are presented on Figures 15a through 15l. Information obtained from Caltrans personnel and observations noted during the site reconnaissance are summarized below.

#### 4.1.1 Buildings

The interiors and exteriors of the following onsite building improvements were observed during the site reconnaissance:

**Office and Equipment Building.** The office and equipment building was constructed in 1971-72, and is built with all structural steel and interior insulation panels. Services include well water, septic tank and leach field, generated electric power, propane gas, telephone, microwave and radio. The structure is founded on perimeter concrete footings and slab-on-grade flooring, and is comprised of reinforced structural steel, insulated metal siding, and a sloping built-up and insulated roof with 18-gauge steel roofing panels and decking. The ceilings are wood-framed construction with plywood sheathing material and paint. Metal siding and fascia work are visible on exterior portions of the building. Rooms include a combined training-lunch-locker room, warehouse storage, welding shop, tool rooms, mechanics shop and seventeen equipment vehicle storage bays. The office is located on the northwest end of the equipment building. A microwave and radio communication tower is located on the exterior northeast corner of the office. A supervisor's office, crew room and rest room are located on the northwest end of the building. The walls in the service bays are constructed of structural steel supports, insulated steel siding, and insulated galvanized steel. Roll-up doors are located at each of the service vehicle bays. The mechanics shop area consists of five bays on the southeastern portion of the building. The interior partition walls between the equipment storage area

and the mechanics area are wood-framed and hardboard. Metal drums, troughs, funnels and containers used for draining of oil and oil filters are also located against the northeast wall. 209-liter (55-gallon) drums of motor oil, hydraulic fluid and automatic transmission fluid, lube and gear grease, and an air operated overhead hose reel dispensing system for the petroleum products are located in bay 1 for servicing equipment and vehicles. One flammable materials storage locker is located on the northeast wall of bay 3. The majority of drums located in the equipment building are contained on spill scooters or spill drum pallets. A 380-liter (100-gallon) hydraulic oil AST is located inside the northeastern wall of bays 2 and 3 that services an old electric hydraulic hoist lift. The hydraulic lines are underground and the lift is located in bay 2. The hoist is fully operational with no reported problems and is still in use. An out-of-service 1,900-liter (500-gallon) double-walled polyethylene waste oil AST, a 950-liter (250-gallon) waste antifreeze AST, a 950-liter (250-gallon) new antifreeze AST and one new 840-liter (220-gallon) portable Lube-Cube AST utilized for waste oil storage are located on the interior northeast wall of bay 4. Two 114-liter (30-gallon) drums of used floor sweep, and eight 209-liter (55-gallons) drums of uneven pavement mix (UPM) are located in bay 6. An oxygen and acetylene cylinder for portable flame cutting is located on the northeast wall of bay 7 next to the main electric service panel. Two acetylene cylinders are located between bays 10 and 11, and two oxygen cylinders are located in bay 12. A plastic automotive battery storage container for lead-acid batteries is located in bay 12. Two 114-liter (30-gallon) Safety-Kleen parts cleaner basins, oxygen and acetylene cylinders are located in bay number 15 and a 304-liter (80-gallon) air compressor is located in bay 16. Two 114-liter (30-gallon) floor sweep drums between bays 15 and 16. Products stored on shelves in bay 17 include small propane torch cylinders, aerosol paints, diesel treatment, brake fluid and other petroleum based products used in a mechanics shop. A doorway in the southeast wall accesses an adjoining steel sealand storage container located used to store steel for fabrication and repairs. The abandoned wash rack is located in the southeastern most bay 17 along with 19-liter (5-gallon) containers of hydraulic fluid, one 209-liter (55-gallon) drum of kerosene, one drum of steam cleaning soap and a “Hotsy” hot water pressure washer. Photographs of the office and equipment building are presented on Figures 15a through 15d.

**Wash Rack and Mud Rinse.** The abandoned wash rack system, located inside the southeast bay of the equipment building, is a two-part system consisting of a wash rack slab area with a solids collection interceptor trench (grease/sand trap) floor drain, a steam cleaning unit, and a 91 m (300 feet) leach field. The wash rack system was placed out of service in 1996 and has been replaced with a mud rinse only system that is located in front of bay 17. The drain line has been capped and the collection sump has been cleaned and pumped. The leach field and distribution box is located northeast of the equipment building. Mr. Thibodeaux of Caltrans indicated that the collection sump is pumped out every year due to the influence of surface groundwater intrusion. The new mud rinse area is comprised of a large concrete slab with a steel grated drain box. Water that enters the drain flows through an underground 10-centimeter (4-inch) line that discharges to the unpaved ground surface south of the mud rinse pad. Stunted trees and granular surface soils were noted in the area where the drain line discharges. A photograph of the mud rinse slab is presented on Figure 15d, Photo No. 8.

**Sand Storage Building.** This structure was constructed in 1971-72 and is comprised of four reinforced concrete walls with a southwest entrance. The top half of the walls and the roofing are comprised of rigid structural steel. The building has steel siding and roof sheeting, and is supplied with electricity and lighting. The sand storage building is used for the bulk storage of de-icing sand and cinder sand, and a small quantity of de-icing salt. A photograph of the sand storage building is presented on Figure 15e, Photo No. 9.

**Gas House and Generator Building.** The combined gas house and generator building was constructed in 1971-72, and currently includes well water, generated electric power and air services. Rooms include the generator room, storage room and gas/oil room. Three electric generators are located in the generator room which produces all of the electricity for the facility. The structure is founded on perimeter concrete footings and slab-on-grade flooring, and is comprised of reinforced structural steel, insulated metal siding, and a sloping built-up insulated roof with 18-gauge steel roofing panels and decking. Metal siding and fascia work is visible on exterior portions of the building. A canopy on the northwest side of the building covers two ASTs. The building is utilized for warehouse storage of 209-liter (55-gallon), 114-liter (30-gallon) and 19-liter (5-gallon) drums of new petroleum oils and products, materials and supplies for equipment, vehicles and maintenance personnel. All of the containers are stored on spill scooters and containment pallets. The storage shelves contain small containers of new petroleum products, oils and oil filters. One flammable materials storage locker and one emergency spill kit cabinet located in the gas house. The new AST refueling system for gasoline [3,800-liter (1,000-gallon)] and Jet-A [1,140-liter (30-gallon)] fuel has been recently installed on the northwest side of gas house under a canopy. Two new 38,000-liter (10,000-gallon) diesel USTs and one dispenser are located on the northeast side of the gas house. One UST services the three generators and small day tank, and the other UST is used for motor vehicle fuel dispensing. Photographs of the gas house and generator building are presented on Figures 15e, 15f and 15g.

**Water Tank Building.** The water tank building is serviced with generated electric power and water. This structure was constructed after 1972 and is not visible on the original site plans. The building is constructed with four reinforced concrete walls placed upon a perimeter footing and concrete slab. The top half of the walls and the roofing are comprised of rigid structural steel. The building has steel siding and roof sheeting. The building contains a 5,700-liter (1,500-gallon) water pressure AST and electrical components for distributing water throughout the facility. Two 38,000-liter (10,000-gallon) steel ASTs for storage of well water are located on the southeast side of the building. The two steel tanks were installed in 2000 replacing the two original redwood tanks that were installed in 1972. A photograph of the storage tanks and water tank building is presented on Figure 15g, Photo No. 14.

**USFS Storage Building.** The USFS storage building was built in approximately 1998 for the storage of USFS equipment. The structure is a large rigid steel storage building with one large roll-up door. The structure is built on a concrete perimeter footing and concrete slab. The roof and siding is comprised of painted steel panels. The building was locked at the time of the Site reconnaissance and

inaccessible for inspection. Caltrans personnel indicated that a snow cat, equipment and supplies are located inside. A photograph of the USFS storage building is presented on Figure 15g, Photo No. 14.

**Water Well Pump House.** The water well pump house is compartmentalized and houses the domestic well for the Site, and the Volcano telephone service terminals. The building is a concrete perimeter footing and slab, with wood frame construction covered with steel siding and roofing panels. The domestic well is approximately 91 m (300 feet) deep and is tested annually. Photographs of the pump house and the well are presented on Figure 15h.

**Dormitory.** The dormitory has been abandoned since the late 1980's and is scheduled to be demolished and removed. Currently, the building is utilized for the storage of traffic signs, cones, office equipment, supplies and flammable fuses (road flares). The basement parking stalls are currently being used for storage of empty petroleum drums. The drums are stored on spill containment pallets. The building was used for winter crew personnel living quarters and is equipped with a full kitchen, restrooms, showers and bedrooms. The building is on a steep slope and has a basement style garage constructed of concrete footings, stem walls and slab parking underneath the structure. The two top stories are the living quarters and are constructed of wood and other insulating materials. The roof is A-framed and covered with steel sheeting. Generated electric power, telephone, propane gas, well water, septic tank and leach field service the building. Photographs of the dormitory are presented on Figure 15i.

**Former Loading Dock.** A concrete loading dock located between the gas house and the dormitory was removed sometime after 1997 by Caltrans personnel. This structure, constructed after 1972, was an elevated concrete slab with an adjacent concrete ramp used for loading and docking. An asphalt patch was noted in the location of the former loading dock and can be viewed on Figure 15i, Photo No. 17.

**Town House.** The town house consists of four two-story living units for Caltrans personnel and their families who live at the Site. The building is located on the sloping western portion of the Site and is constructed on a perimeter concrete footing, stem wall and basement type concrete slab. The two top stories are the living quarters and are constructed of wood and other insulating materials. The roof is A-framed and covered with steel sheeting. Generated electric power, telephone, propane gas, well water, septic tank and leach field service the building. A photograph of the town house is presented on Figure 15j, Photo No. 19.

**Storage Containers.** One sealand storage container, one small orange steel container and one hazardous material storage container are located on the southeasterly end of the equipment building. One small debris/trash container with plastic lids is located in front of the sand storage building. The sealand storage container and orange container can be viewed on Figure 15d, Photo No. 8. The debris/trash container in front of the sand storage building can be viewed on Figure 15e, Photo No. 9.

A photograph of the hazardous materials storage container is presented on Figure 15j, Photo No. 20.

#### **4.1.2 Chemical Materials/Wastes**

The abandoned wash rack system located in the southeastern bay of the equipment building is a two-part system consisting of a wash rack slab area with a solids collection interceptor trench (grease/sand trap) floor drain, a steam cleaning unit, and a 91 m (300 feet) leach field. The wash rack system was placed out of service in 1996 and has been replaced with a mud rinse only system that is located in front of bay 17. The drain line has been capped and the collection sump has been cleaned and pumped. The leach field and distribution box is located northeast of the equipment building. Mr. Thibodeaux of Caltrans indicated that the collection sump is pumped out every year due to influence of surface groundwater intrusion. The mud rinse system was installed around 1977-78, and is comprised of a large concrete slab with a steel grated drain box. Water that enters the drain flows through an underground 10-centimeter (4 inch) line that discharges to the unpaved ground surface south of the mud rinse pad. Stunted trees and granular surface soils were noted in the area where the drain line discharges. A photograph of the mud rinse slab is presented on Figure 15d, Photo No. 8.

A 20,520-liter (5,400-gallon) septic tank and leach field is located northwest of the dormitory. The septic tank still provides service to the office, equipment building and the dormitory. The leach field is located downhill and west of an access road from the dormitory. A 22,800-liter (6,000-gallon) septic tank and leachfield is located southwest of the town house and services the town house only. Both of the septic systems are active, and pumped out annually. There are no reported problems with the two systems.

Self-generated waste at the Site is minimal and is temporarily contained in one hazardous material storage container located on the southeast end of the equipment storage building. 114-liter (30-gallon) drums of self-generated floor sweep are located in the gas house, and equipment storage building. One sealand storage container, one small, orange storage container and a debris/trash container are also located on the southeast end of the equipment storage building. The self-generated waste items and drums are transported to the Pine Grove Maintenance Station by Caltrans. Personnel from the Stockton Shop 10 Maintenance Station pick up items such as tires and batteries, and treated wood is sent to the Ione Maintenance Station. The used oil and antifreeze, Safety-Kleen parts cleaner solution and septic waste is handled by outside contractors. The empty drums are either picked up by the oil company delivery driver, and/or stored in the basement area under the dormitory.

The equipment building contains 209-liter (55-gallon) drums of motor oil, hydraulic fluid and automatic transmission fluid, lube and gear grease, and an air operated overhead hose reel dispensing system for the petroleum products are located in bay 1 for servicing equipment and vehicles. One flammable materials storage locker is located on the northeast wall of bay 3. The majority of drums in the equipment building are contained on spill scooters or spill drum pallets. A hydraulic hoist in bay 2 is fully operational with no reported problems and is still in use. Two 114-liter (30-gallon) drums of used

floor sweep, and eight 209-liter (55-gallons) drums of UPM are located bay 6. An oxygen and acetylene cylinder for portable flame cutting is located on the northeast wall of bay 7 next to the main electric service panel. Two acetylene cylinders are located between bays 10 and 11, and two oxygen cylinders are located in bay 12. A plastic automotive battery storage container for lead-acid batteries is located in bay 12. Two 114-liter (30-gallon) Safety-Kleen parts cleaner basins, oxygen and acetylene cylinders are located in bay number 15 and a 304-liter (80-gallon) air compressor is located in bay 16. Two 114-liter (30-gallon) floor sweep drums between bays 15 and 16. Products stored on shelves is bay 17 include small propane torch cylinders, aerosol paints, diesel treatment, brake fluid and other petroleum based products used in a mechanics shop. The abandoned wash rack is located in the southeastern most bay 17 along with 19-liter (5-gallon) containers of hydraulic fluid, one 209-liter (55-gallon) drum of kerosene, one drum of steam cleaning soap and a “Hotsy” hot water pressure washer.

The equipment building is utilized for warehouse storage of 209-liter (55-gallon), 114-liter (30-gallon) and 19-liter (5-gallon) drums of new petroleum oils and products, materials and supplies for equipment, vehicles and maintenance personnel. All of the containers are stored on spill scooters and containment pallets. The storage shelves contain small containers of new petroleum products, oils and oil filters. One flammable materials storage locker and one emergency spill kit cabinet are located in the gas house.

Chemicals contained in the onsite ASTs and USTs are discussed hereinafter in Section 4.1.9 “Storage Tanks.”

#### **4.1.3 Refuse & Debris**

The southeastern and northwestern unpaved portions of the Site are the primary storage area for stockpiled snow, sand, salt and ice during the winter season. Stockpiled materials noted during the site reconnaissance included firewood, sand, cinder sand and salt. The sands and salts are stored inside the covered sand storage building. One sealand storage container, one small orange steel container and one hazardous material storage container are located on the southeasterly end of the equipment building. One small debris/trash container with plastic lids is located in front of the sand storage building.

#### **4.1.4 Site Drainage**

Surface water leaves the Site as sheet flow to the southwest and northwest. The mud rinse drain line flows to the southwest portion of the Site, and discharges to the unpaved ground surface south of the mud rinse slab.

#### **4.1.5 Surface Vegetation and Soil Conditions**

Onsite vegetation includes fir trees, pine trees, indigenous weeds, grasses and shrubs along the perimeter of the Site. Onsite vegetation appeared healthy and did not display evidence of stress with the exception for the trees in the southwestern portion of the Site where the mud rinse drain line discharges. A large accumulation of sand and salt have built up from snow plowing and blowing. Discolored or stained soils were not noted during the onsite reconnaissance. A photograph of the stunted trees noted where the mud rinse drain line discharges is presented on Figure 15k, Photo No. 21.

#### **4.1.6 Water Wells**

Two new 38,000-liter (10,000-gallon) steel water ASTs with an associated 5,700-liter (1,500-gallon) water pressure tank and a domestic water well are located at the Site. The two steel tanks were installed in 2000 to replace two original redwood tanks that were installed in 1972. The domestic well is located in a pump house near the southern site boundary. The well is approximately 91 m (300 feet) deep and is tested annually. The pump house was recently remodeled to include space for Volcano Telephone.

#### **4.1.7 Utilities**

The Site is fully self contained and equipped with domestic water well service, generated electric power service, propane gas, microwave, radio, and telephone services. The leach field line associated with the out of service wash rack has been capped and isolated from the drain. Two additional septic tanks and associated leach fields for the facility are pumped annually. A radio tower is located at the northeast corner of the equipment storage building. A Utilities Map is presented on Figure 16.

#### **4.1.8 Transformers**

Transformers were not noted nor reported to exist at the Site.

#### **4.1.9 Storage Tanks**

A new AST refueling system for gasoline [3,800-liter (1,000-gallon)] and Jet-A fuel [1,140-liter (300-gallon)] has recently been installed on the northwest side of the gas house beneath a canopy. The gasoline AST is used for motor vehicle fuel and the Jet-A AST is used for CHP emergency aircraft. Two 38,000-liter (10,000-gallon) diesel fuel USTs and one dispenser installed in 1998 are located on the northeast side of the gas house. One diesel UST is used for motor vehicle refueling and one diesel UST is utilized for fueling three onsite generators.

The tanks were removed in 1997, and approximately 344 cubic m (450 cubic yards) of contaminated soil was removed from the site. A 380-liter (100-gallon) hydraulic oil AST is located inside the northeastern wall of bays 1 and 2 of the equipment building that services an electric hydraulic hoist lift with underground hydraulic lines. An out-of-service 1,900-liter (500-gallon) double-walled polyethylene waste oil AST, a 950-liter (250-gallon) waste antifreeze AST, 950-liter (250-gallon) new antifreeze AST and one new 840-liter (220-gallon) Lube-Cube portable AST utilized for waste oil storage are located in bay 4. A 304-liter (80-gallon) air compressor is located in bay 16. The water tank building contains a 5,700-liter (1,500-gallon) water pressure AST and electrical components for distributing water throughout the facility. Two new 38,000-liter (10,000-gallon) steel water ASTs are located southeast of the water tank building for the storage of well water. A 58,026-liter (15,270-gallon) LPG AST provides heating and cooking fuel for the Site. The LPG AST is situated within concrete saddles and is located southwest of the dormitory. The LPG AST is equipped with a pressure relief vent and burner unit located across the road from the AST. A photograph of the LPG AST is presented on Figure 15k, Photo No. 22. A photograph of the pressure relief vent and burner unit is presented on Figure 15l, Photo No. 23.

#### **4.1.10 GPS Data Collection**

The location of hazardous materials located at the Site was recorded utilizing GPS technology. Geocon utilized a Trimble® Pathfinder Pro XRS™ portable GPS data collection unit to locate the coordinates of areas of concern. The system utilizes signals from up to eight available satellites to locate points with sub-meter (less than one meter) accuracy. A summary of the GPS information is presented in Appendix D.

#### **4.2 Offsite Survey**

In addition to the onsite reconnaissance, a representative of Geocon performed a survey of properties within the site vicinity from public thoroughfares to assess if facilities and/or structures located on these properties are operated by entities that potentially (as of June 5, 2001) use, store, generate, or dispose of hazardous materials/wastes.

The Site is situated in the El Dorado National Forest and is surrounded by fir and pine trees. The old Hwy 88 alignment ran roughly east-west south of the Site near the current water well pump house. The nearest development to the Site is the Bear River Resort on Caples Lake approximately 3.2 km (2 miles) south of the Site. No residences were noted nor reported to exist in the site vicinity.

#### **4.3 Interviews**

Representatives of Geocon performed a Site reconnaissance and taped personnel interview with Wallace Mason and Gary Thibodeaux on June 5, 2001. Mr. Mason (Maintenance Supervisor) has been at the Site since 1994. Mr. Thibodeaux, the onsite Caltrans lead worker (onsite since November 1989) also accompanied Geocon personnel during the site visit on June 5, 2001. The purpose of the reconnaissance and interviews was to survey the existing and historical Site conditions to attempt to

identify visual indicators of potential hazardous material/waste impacts to the Site. A transcript of the interviews is presented in Appendix E.

Based on the information obtained from Mr. Mason and Mr. Thibodeaux, the Site is utilized for the routine maintenance, snow removal and storage for vehicles and equipment. Mr. Thibodeaux indicated that two diesel 38,000-liter (10,000-gallon) USTs, one 3,800-liter (1,000-gallon) gasoline and one 1,140-liter (300-gallon) Jet-A fuel AST are present at the Site. One of the diesel USTs provides fuel to the three generators and the other is used for motor vehicle fuel. The gasoline AST is for motor vehicle fuel and the Jet-A fuel AST is used by the California Highway Patrol as emergency fuel rescue helicopter operations. Mr. Thibodeaux explained that the tanks were installed in 1998. Three 38,000-liter (10,000-gallon) USTs (1-gasoline, 2-diesel) and one 7,600-liter (2,000-gallon) waste oil UST were installed in 1971. The waste oil UST was located behind the equipment storage building and was removed in March 1988. The three 38,000-liter (10,000-gallon) USTs reportedly were out of compliance and that one diesel UST had failed a tank test. The tanks were removed in 1997, and approximately 344 cubic m (450 cubic yards) of contaminated soil was removed from the Site. A 380-liter (100-gallon) hydraulic oil AST is located inside the northeastern wall of the second and third services bay of the equipment building. The hydraulic lift is at this same location, the hydraulic lines are underground and the lift is located in the second service equipment bay of the equipment building. The hoist is fully operational with no reported problems, and is still in use. An out-of-service 1,900-liter (500-gallon) double-walled polyethylene waste oil AST is located in the inside rear of service bay number four. Next to the abandoned waste oil AST is a 950-liter (250-gallon) waste antifreeze AST, 950-liter (250-gallon) new antifreeze AST and one new 840-liter (220-gallon) Lube-Cube portable AST utilized for waste oil storage. A 304-liter (80-gallon) air compressor is located in bay 16 along the northeast wall of the mechanics area of the equipment storage building. The water tank building contains a 5,700-liter (1,500-gallon) pressure tank (AST) and electrical components for distributing water throughout the facility. On the southeast side of the building are two new 38,000-liter (10,000-gallon) steel ASTs for storage of well water. The two new tanks were installed in 2000 to replace the two original redwood tanks that were installed in 1972. A 58,026-liter (15,270-gallon) Propane AST provides heating and cooking fuel for the facility. The Propane AST is situated in concrete saddles and is located southwest of the dormitory building. The AST is equipped with a pressure relief vent and burner unit located southeast of the AST.

Mr. Mason and Mr. Thibodeaux stated that the facility was constructed in 1971-72, is located at an elevation of 2,164-meters (7,100 feet) and that the USFS owns the property. Their understanding is that the State of California has a memorandum of understanding with the USFS to operate and maintain the Site. The interviewees further stated that a work crew from the California Youth Authority cleans up the grounds and forest areas. The California Youth Authority provides brush and tree removal, and conducts prescribed burns to remove the trees and brush on the Site. Mr. Mason and Mr. Thibodeaux indicated that the facility is entirely self-sufficient. The facility generates its own electric power with three generators located in the gas/generator house which are fueled from an

underground diesel tank. Heating and cooking gas is provided by a 57,000-liter (15,000-gallon) propane AST, phone service provided by Volcano telephone company, domestic water is provided by a on-site drinking water well, and sewer service is provided by two on-site septic tanks and associated leach fields. The septic tanks are pumped annually and the drinking water well is tested annually as well. Both Mr. Mason and Mr. Thibodeaux said the septic tanks have never had a problem and the water is very palatable. Mr. Mason indicated that a working electric hydraulic oil lift is present in the equipment storage building and is still used by the resident mechanic. Mr. Mason further indicated that they had a wash rack at the end of the equipment building, which had been put out of service approximately 5-years ago. He says that they capped the drain line and cleaned out the oil/grease/sand sump. The sump is tied into a leach field located behind the building. The sump does continue to fill up with groundwater every year, and they continue to pump it out once a year with a disposal/recycler contractor. Mr. Mason was not aware of any ponds, lagoons or dry wells onsite. Mr. Thibodeaux indicated that he knew the location of the septic tanks and the distribution boxes for the leach fields. Mr. Mason indicated that the wash rack system has been replaced with a new mud rinse slab located on the outside of the building in front of the old wash rack. The mud rinse has a grated sand and mud trap that allows the rinse water to drain through an open line. The open line drains to the southwest area of the property directly to surface soils. Mr. Mason was unaware of any drain inlets or ditches that catch storm water. Surface water runs off the asphalt onto the forested land in a south-southwest direction. De-icing sand and salt are part of the run-off materials from snow blowing and plowing operations during the winter season as evidenced in the perimeter vegetation.

Mr. Thibodeaux stated that their self-generated waste is minimal and is temporarily contained in one hazardous material storage container located on the southeast end of the equipment storage building. The Site has 114-liter (30-gallon) drums of self-generated floor sweep located in the gas house, equipment building and the mechanics building. The self-generated waste items and drums are transported to the Pine Grove Maintenance Station by Caltrans. Shop-10 personnel pick up items such as tires, batteries, and treated wood and transport them to the Ione Maintenance Station. The used oil and antifreeze, Safety-Kleen parts cleaner solution and septic waste is handled by outside contractors. The empty drums are either picked up by the oil company delivery driver, and/or stored in the basement area under the dormitory. Mr. Thibodeaux said that the batteries are temporarily stored in a plastic container box in the equipment building and that all aerosol containers are treated as hazardous waste for disposal. Mr. Thibodeaux also stated that they do not store or have they ever used any pesticides or herbicides at the facility except to kill rodents. Mr. Thibodeaux did state that they have a rodent problem in the dormitory which has been abandoned since the late 1980s. Mr. Thibodeaux says there are plans to demolish the building soon and that there has been some asbestos and lead testing performed on the building. They use the building for the storage of traffic signs, furniture and fuses. Mr. Thibodeaux stated that he is currently occupying only one of the four available units of the town house. Neither Mr. Mason or Mr. Thibodeaux recalls seeing any significant spill or environmental concerns at the Site except for the UST removal project, contaminated soil removal from the USTs, new UST and AST installation, and groundwater monitoring well installations. They said Geocon installed the

groundwater monitoring wells last year.

## **5.0 GOVERNMENTAL AGENCIES - RECORDS REVIEW**

A Vista regulatory database report provided by Caltrans and previously referenced in the "Scope of Work" section of this report was reviewed for information regarding the potential existing presence of hazardous materials/wastes at the Site or adjacent facilities at levels likely to warrant current regulatory mitigation action. The Vista regulatory database search included information sources at a search distance of 1.6 km (1 mile) from the Site. For the purposes of this report, information summarized hereinafter references facilities located within 0.4 km (0.25 mile) of the Site unless otherwise noted. A copy of the Vista report is presented in Appendix F.

### **5.1 EPA NPL and CORRACTS Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the EPA National Priority Listing (NPL) or the RCRA Corrective Actions (CORRACTS) Listings for required financial responsibility for treatment, storage and disposal of hazardous wastes.

### **5.2 DTSC SPL/SCL Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the DTSC State Priority List (SPL) or the State CERCLIS (SCL) listing.

### **5.3 EPA CERCLIS/NFRAP and TSD Listings**

Review of the Vista report indicates that facilities located within 1.6 km (1 mile) of the Site are referenced on the EPA CERCLIS/NFRAP Listings or the Treatment Storage and Disposal (TSD) Listing.

### **5.4 Leaking Underground Storage Tank (LUST) Listing**

Review of the Vista report indicates that the Site is referenced on the LUST Listing. Bear River Lake Resort is referenced on the LUST Listing within 0.8 km (0.5 mile) of the Site; however, during the offsite reconnaissance, the Bear River Lake Resort was noted approximately 3.2 km (2 miles) south of the Site and will not be addressed in the remainder of this report.

### **5.5 SWLF Listing**

Review of the Vista report indicates no facilities located within 1.6 km (1 mile) of the Site are referenced on the Solid Waste Landfill Facility (SWLF) Listing.

### **5.6 Deed Restriction Properties Report**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Deed Restriction Properties Report.

### **5.7    CORTESE Listing**

Review of the Vista report indicates that the Site is referenced on the CORTESE Listing. No facilities within 1.6 km (1 mile) of the Site are referenced on the CORTESE Listing.

### **5.8    Toxic Pits Listing**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Toxic Pits Listing.

### **5.9    USGS Water Well Listing**

Review of the Vista report indicates that no water wells are referenced within 1.6 km (1 mile) of the Site on the USGS Water Well Listing.

### **5.10    RCRA Violation Listing**

Review of the Vista report indicates no facilities located within 1.6 km (1 mile) of the Site are referenced on the RCRA Violation Listing for treatment, storage and disposal of hazardous wastes.

### **5.11    TRIS Listing**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the Toxic Release Inventory System (TRIS) Listing.

### **5.12    SWRCB UST/AST Listings**

Review of the Vista report indicates that no facilities located within 1.6 km (1 mile) of the Site are referenced on the SWRCB UST/AST Listings.

### **5.13    EPA ERNS Listing**

Review of the Vista report indicates no incidents were referenced within 1.6 km (1 mile) of the Site on the EPA Emergency Response and Notification System (ERNS) Listing.

### **5.14    EPA Generator Listing**

Review of the Vista report indicates that the Site is referenced as a small quantity generator. No facilities within 1.6 km (1 mile) of the Site are referenced on the EPA Generator Listing.

### **5.15    SPILLS Listing**

Review of the Vista report indicates that no facilities are referenced within 1.6 km (1 mile) of the Site on the Spills Listing.

## **6.0 RECORDS REVIEW**

Public agencies previously specified in the "Scope of Work" section of this report were contacted to obtain information regarding the potential existing presence of hazardous materials/wastes at the Site at levels likely to warrant current regulatory mitigation action. Unless otherwise noted, information was obtained for the Site and adjacent facilities. The information obtained from public agencies is summarized hereinafter.

### **6.1 CVRWQCB Leaking Underground Storage Tank Information System**

A review of the CVRWQCB Leaking Underground Storage Tank Information System dated January 1, 2001 indicates that the Site is referenced for the release of waste oil to soil. The status indicates that the leak is being confirmed. However, in August 2000, the ACEHD issued a no further action letter for the Site regarding the waste oil UST.

### **6.2 ACEHD**

Regulatory file information obtained from the ACEHD was reviewed regarding the Site and is summarized in Section 3.2 "Previous Environmental Investigations." Due to the lack of development within the site vicinity, files do not exist for potential hazardous facilities.

### **6.3 Amador County Air Pollution Control District**

Information obtained from the ACAPCD indicates that the Site is permitted to operate three 207 horsepower diesel engines and generators and a 3,800-liter (1,000-gallon) gasoline dispensing facility with a phase I and II vapor recovery system. Copies of the permits are presented in Appendix C.

## **7.0 LIMITED LEAD AND ASBESTOS SURVEYS**

Geocon performed a limited survey of suspect ACBMs and lead-containing paints (LCP) at the Site to evaluate the potential disturbance of these materials during renovation or demolition activities at the Site. At the direction of the Caltrans Contract Manager, the dormitory and the USFS storage building located at the Site were not included in the survey. In addition, two offsite facilities, Milt's Place Sand Storage and Mud Springs Sand Storage, were further requested to be included in the survey. The locations of Milt's Place and Mud Springs are depicted on Figure 1. Suspect ACBM and LCP sample locations are illustrated in Figure 17. ACBM and LCP bulk sample results are presented in Tables 4 and 5, respectively. Laboratory analytical data are included as Appendix G.

### **7.1 Review of Previous Building Surveys and As-Built Plans**

Geocon performed a review of previous surveys conducted at the Peddler Hill Maintenance Station prior to the site visit. Assumed ACBM and LCP quantities and locations were reviewed and compared with onsite conditions at the time of the Geocon building surveys. The following materials were assumed to be asbestos-containing in previous surveys:

- Gypsum board wall systems;
- Pipe fittings;
- Pipe insulation;
- Resilient floor tiles;
- Marlite™ wall panels and mastic;
- Window putty;
- Acoustical ceiling spray;
- Resilient sheet flooring;
- Wall base coving and mastic; and
- Marlite™ wall panels and mastic.

ACBMs were not identified in the as-built plans reviewed for the Peddler Hill Maintenance Station.

### **7.2 Limited Asbestos Survey**

Geocon's procedures for the building inspection and bulk asbestos sampling are discussed below:

- Conducted a walkthrough inspection of building interiors and exteriors to identify suspect ACBMs that were visually apparent at the time of our survey.
- Recorded the location of and quantified each type of suspect ACBM identified during the building survey. Suspect ACBM were inventoried and quantified by building location.
- Collected representative bulk samples of suspect ACBM using the EPA Asbestos Hazard Emergency Response Act (AHERA) protocol as follows:

- One to three samples per miscellaneous material
  - Three samples of each type of thermal system insulation
  - Samples of *friable surfacing* materials according to the 3/5/7 rule based on quantity of material [3 samples of each material comprising less than 90 square meters (1,000 square feet), 5 samples of each material comprising 90 to 450 square meter (1,000 to 5,000 square feet), and 7 samples of each material comprising more than 450 square meters (5,000 square feet)]
  - Samples of nonfriable surfacing materials as deemed appropriate by the inspector
- Collected bulk samples after first wetting the material with a light mist of water. The samples were then cut from the substrate and transferred to a labeled container. The presence of resilient flooring materials concealed under carpeting was checked in several representative locations. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).
  - Relinquished the bulk samples to a laboratory accredited by the California DHS and the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis.

Polarized light microscopy (PLM) analysis of bulk asbestos samples collected from the building interiors and exteriors by Geocon revealed the presence of asbestos at concentrations greater than 1% in the materials listed below.

The approximate sampling locations are depicted in Figure 17. ACBM identified during previous surveys were observed to be in good condition. Table 4 includes the following information, which is presented for each suspect ACBM type:

- Joint compound associated with gypsum board wall systems used in the town house;
- Acoustical ceiling spray used in the town house; and
- Pipe insulation used in the equipment building.

Asbestos was detected at trace (less than 1%) levels in window putty used in the equipment building and gas house. In addition, Marlite™ wall panels and mastic used in the equipment building restrooms and ceramic wall tile, grout, and mastic used in the town house bathrooms were not sampled and are *assumed* to contain asbestos. Sampling activities would have significantly damaged the materials in question and would likely have contributed to the potential release of asbestos fibers into occupied areas of the buildings.

The approximate building material sample locations are depicted on the attached Figure 17. A copy of the laboratory analytical report is presented in Appendix G. ACBMs identified during this survey were observed to be in good condition. Table 4 includes the following information, which is presented for each suspect ACBM type:

- Approximate quantity of material
- Physical assessment of the material, including friability and existing condition
- Locations where materials are located
- Asbestos content (% and type)

### **7.3 Limited Lead-Based Paint Survey**

Geocon's procedures for the suspect LCP sampling are discussed below:

- Conducted a walkthrough inspection of building interiors and exteriors to identify suspect LCP that were visually apparent at the time of our assessment.
- Recorded the location of each type of suspect LCP identified during the building inspection.
- Collected representative bulk samples of suspect LCP using techniques presented in the United States Department of Housing and Urban Development (HUD) guidelines.
- Relinquished the bulk samples to a laboratory accredited by the California DHS and the NIST-NVLAP for lead analysis.

Inductively coupled plasma (ICP) analysis of bulk paint samples revealed the presence of lead at concentrations ranging from less than 0.25 to 100,000 mg/kg in buildings at the Site.

The approximate paint sample locations are depicted on the attached Figure 17. A copy of the laboratory analytical report is presented in Appendix G. Exterior LCPs identified at the town house, the water tank building, sealand storage container and sand storage building during this survey were observed to be in fair or poor condition. Interior LCP identified in the sand storage building was also observed to be in poor condition. All other LCPs were observed to be in good condition. Table 5 includes the following information, which is presented for each suspect LCP type:

- Paint color
- Buildings where LCP is located
- Approximate quantity of each LCP
- Lead content (% weight)

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

The Site was occupied by forested lands prior to development as a Caltrans maintenance station in 1971-1972. The 1971-1972 construction activities included asphalt paving, septic tank and domestic well installations, the construction of the office and equipment building, one 7,600-liter (2,000-gallon) waste oil UST, wash rack, concrete loading dock, sand storage building, hydraulic lift, wooden water tanks, dormitory, town house, LPG AST, water well and pump house, gas house and generator building with one 38,000-liter (10,000-gallon) gasoline UST and two 38,000-liter (10,000-gallon) diesel USTs. Subsequent onsite improvements constructed at the Site include the installation of two 38,000-liter (10,000-gallon) diesel USTs, one 3,800-liter (1,000-gallon) gasoline AST, one 1,114-liter (300-gallon) Jet-A fuel AST owned by the CHP, water storage building and metal water tanks, storage containers and a USFS storage building. Facility operations generally include the storage and repair of Caltrans vehicles and equipment used for the maintenance of California highways.

In March 1988, one 7,600-liter (2,000-gallon) waste oil UST was removed from the north side of the equipment building. Results of a soil sample collected from beneath the UST indicated low concentrations of TPHg and a maximum TPHmo concentration of 7,100 mg/kg. A "Report of Unauthorized Release" was filed as a result of the soil contamination encountered during the UST removal activities. Subsequently, the waste oil UST cavity was overexcavated. Confirmatory soil samples indicated no reportable concentrations of TPHg and a decrease in TPHmo at a concentration of 160 mg/kg. In August 2000, the ACEHD issued a no further action letter for the Site regarding the waste oil UST.

Correspondence from the ACEDH dated April 14, 1997 indicated that the three 38,000-liter (10,000-gallon) fuel USTs at the Site would not meet the 1998 UST upgrade requirements due to lack of monitoring and compliance. The document further indicated that one of the diesel USTs failed a tank test in 1986 and inventory variances occurred in 1988. The tank was repaired and tested tight in March 1988. The ACEDH further stated that the extent of soil contamination was not determined for the 1988 waste oil UST removal or the failed tank test and inventory variances. The ACEDH required that an exploratory soil boring be drilled adjacent to the USTs.

In May 1997, the gasoline and diesel USTs were removed from the Site. TPHd and TPHg were detected in soil samples collected from beneath the three USTs and product dispenser area. Ethylbenzene and total xylenes were detected in samples from beneath the diesel fuel UST and product dispensers. Overexcavation activities were performed in June 1997 to the maximum extent possible without threatening the structural integrity of the adjacent gas house. Approximately 344 cubic m (450 cubic yards) of contaminated soil was removed during the overexcavation activities. Maximum TPHd and TPHg concentrations of 7,770 and 740 mg/kg, respectively, were detected in confirmatory soil samples collected at a depth of 4.8 m (16 feet) bgs. Maximum TPHd, TPHg and

benzene concentrations of 1,970, 66 and 0.11 mg/kg, respectively, were detected in soil samples collected from the dispenser overexcavation at a depth of 1.2 m (4 feet) bgs. Due to the presence of the gas house, petroleum hydrocarbon impacted soils remained in place. The overexcavation was backfilled with clean imported fill and 1.8-cm (¾-inch) aggregate material. Base material was placed in the upper 45 cm (18 inches) of the overexcavation and the area was resurfaced with asphalt.

Following the UST removal, a temporary 38,000-liter (10,000-gallon) diesel AST and two permanent 7,600-liter (2,000-gallon) gasoline ASTs were installed at the Site. In March 1998, two new 38,000-liter (10,000-gallon) diesel USTs were installed. One of the temporary diesel ASTs was subsequently removed from the Site. The Site now operates with two, 38,000-liter (10,000-gallon) diesel USTs and one 3,800-liter (1,000-gallon) gasoline AST.

In October 2000, three exploratory borings (MW-1, MW-2 and MW-3) were advanced to a maximum depth of 10.5 m (34 feet) bgs and were subsequently completed as groundwater monitoring wells. TPHg was detected in two of the fifteen soil samples analyzed at concentrations of 55 mg/kg in well boring MW-1 at a depth of 4.5 m (15 feet) bgs and 1.0 mg/kg in well boring MW-3 at a depth of 1.5 m (5 feet) bgs. TPHd concentrations ranging from 1.2 to 510 mg/kg were detected in the soil samples from each of the three well borings at depths between 1.5 and 9 m (5 and 30 feet) bgs. FOCs were detected in one soil sample with concentrations of ETBE at 13 µg/kg, TAME at 39 µg/kg, and TBA at 220 µg/kg. Organic lead and total organic carbon were not reported above method detection limits in any of the soil samples analyzed. Toluene was detected in soil samples collected from well borings MW-1 and MW-2 at concentrations of 9.7 and 6.4 µg/kg, respectively. Ethylbenzene and total xylenes were detected in soil samples from well boring MW-1 at concentrations of 70 and 200 µg/kg, respectively. Benzene and MTBE were not reported present in any of the soil samples analyzed. The horizontal extent of petroleum hydrocarbons in soil at the Site is not defined.

In October 2000, groundwater samples were obtained from each monitoring well and a water sample was obtained from the drain valve at the bottom of the northern water storage tank (DW-1). TPHg was detected in wells MW-1 and MW-2 at concentrations of 0.15 and 0.14 mg/l, respectively. TPHd was detected in all of the monitoring well samples at concentrations ranging from 0.11 to 2.1 mg/l. TPHd was detected in the domestic well at a concentration of 0.20 mg/l. Subsequent reanalysis performed to confirm the detection in the domestic well sample indicated a TPHd concentration of 0.11 mg/l. Benzene, toluene, and ethylbenzene were detected in MW-1 at 1.1, 4.6, and 1.7 µg/l, respectively. Total xylenes in MW-1 and MW-2 were detected at 9.6 and 0.65 µg/l, respectively. FOCs were not reported above the laboratory test method reporting limits for any of the groundwater samples analyzed. During the most recent groundwater monitoring event performed at the Site in March 2001, TPHg, TPHd, BTEX and MTBE by EPA Test Method 8260 were not detected above their respective laboratory detection limits in any of the groundwater samples collected from each well.

Adjacent land on all sides is forested and no facilities are referenced as potential hazardous facilities. The Site is referenced by the CVRWQCB as an open case for the release of waste oil to soil. However, in August 2000, the ACEHD issued a no further action letter for the Site regarding the waste oil UST.

Based on the information presented in this ISA, the following recognized environmental conditions exist at the Site:

- Surface stains of unknown origin observed north of the gas house on the 1974 aerial photograph.
- Mud rinse area, drain line, and associated distressed vegetation noted in the vicinity of the drain line outlet.
- The hydraulic lift in the second bay of the equipment building.
- Hydraulic, waste oil, gasoline and Jet-A fuel ASTs.
- The abandoned wash rack in the southeast bay of the equipment building and associated leach field located north the equipment building.
- The septic tank and leach field associated with the town house.
- The septic tank and leach field associated with the dormitory.
- Onsite domestic water well.
- Four former UST locations.

The abandoned leach field system associated with the abandoned wash rack in the equipment building should be properly closed in accordance with county and EPA requirements.

A determination of the lateral extent of soil impacts and an assessment of groundwater quality associated with the recognized environmental conditions will be necessary prior to evaluating remedial response actions for specific future land use options. Targeted site investigations should be designed to evaluate potential soil and groundwater impacts with respect to specific project requirements prior to design and construction of any proposed onsite improvements. Soil and groundwater generated from excavations at the Site may require treatment and/or disposal.

Quarterly groundwater monitoring should continue at the Site to confirm the groundwater flow direction and the lateral extent of petroleum hydrocarbon impacts. Additional site characterization may be necessary, including additional monitoring wells; however, the groundwater flow direction should be confirmed with at least one additional monitoring event.

Based on the October 2000 detection of TPHd in the onsite domestic water well, continued monitoring directly from the onsite domestic water well casing is recommended.

The Site is located within EPA Radon Zone 2 with a predicted average indoor screening level of between 2 and 4 picocuries per liter (pCi/l). EPA has established a recommended action level of 4 pCi/l. Radon gas is a clear, odorless, radioactive gas that is considered by the EPA to be the second leading cause of lung cancer in the country. Radon gas can enter enclosed structures by plumbing or other apertures within the foundation and may also be present in well water and be released and inhaled during showering. Based on regional occurrences of naturally occurring radioactive materials associated with granitic rocks, consideration should be given for the performance of air quality and water surveys for the presence of radon at the Site. The surveys should be conducted by personnel certified by the State of California for radon measurement. If radon gas is determined to be present in the air or water at the Site, it should be mitigated by a state certified contractor.

A review of previous surveys and the as-built plans, and the results of the building surveys performed at the Site by Geocon, indicate the presence of ACBMs in the town house and equipment building. LCPs were identified in the pump house, town house, gas house, water tank building, sealand storage container, hazardous materials storage container, sand storage building and equipment building. Based on our findings, Geocon recommends the following:

- Retain a registered asbestos abatement contractor to remove and dispose of ACBM identified during this survey that will be impacted by renovation or demolition activities.
- Notify contractor(s) that will be conducting renovation work and related activities of the presence of ACBM and LCP in their work areas and instruct the contractor(s) not to disturb ACBM or LCP during their work (i.e., provide the contractor[s] with a copy of this report and a list of ACBM removed by the asbestos abatement contractor during any abatement activities).
- Treat all paints at the Site as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during any future maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results, the age of the buildings, and the fact that lead was a common ingredient of paints manufactured before 1978.

Typically, only paints that are peeling, flaking, or have otherwise become separated from their substrate are of concern from a hazardous waste standpoint. The California Department of Toxic Substances Control “does not generally expect intact painted building materials to exhibit a characteristic of hazardous waste when disposed of.” However, construction activities (including demolition) which disturb materials containing any amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8 California Code of Regulations Section 1532.1. Intact lead-painted building materials that are removed/demolished should not require disposal as hazardous waste; however, contractor(s) should characterize painted waste materials prior to disposal.

- Implement interim controls to maintain identified ACBMs and LCPs.

## **9.0 REPORT LIMITATIONS**

This initial site assessment report has been prepared for Caltrans in accordance with Task Order No. 10-0E790K-7B. The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Therefore, the information contained herein is only valid as of the date of the report, and will require an update to reflect recent records/site visits.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions presented in this report are predicated on the site reconnaissance and building surveys, a review of the specified regulatory records, and a review of the historical usage of the Site, as presented in this report. The Client should also understand that lead in drinking water, radon and methane gas surveys were not included in the scope of services for this report. The scope of the lead-based building surveys did not include sampling frequencies in accordance with HUD guidelines.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warrantee of the results of the ISA is implied within the intent of this report or any subsequent reports, correspondence or consultation, either expressed or implied. Geocon strived to conduct the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

TABLE 1  
 SUMMARY OF SOIL ANALYTICAL DATA  
 PEDDLER HILL MAINTENANCE STATION  
 EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DEPTH (meters)	TPHg (mg/kg)	TPHd (mg/kg)	B (µg/kg)	T (µg/kg)	E (µg/kg)	X (µg/kg)	FOCs (µg/kg)	Organic Lead (mg/kg)	Total Organic Carbon (mg/kg)	Hydraulic Conductivity (cm/sec)
<b>INITIAL SOIL SAMPLE DATA</b>											
T1E-14.5'	4.4	9.8	5,020.0	<5.0	<5.0	<5.0	<5.0	<5.0 <sup>4</sup>	---	---	---
T1W-14.5'	4.4	<1.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0 <sup>4</sup>	---	---	---
T2F-14.5'	4.4	65.0	2,350.0	<5.0	<25.0	57.0	85.0	<25.0 <sup>4</sup>	---	---	---
T2W-14.5'	4.4	<1.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0 <sup>4</sup>	---	---	---
SWE-7.1		500.0	30,200.0	<250.0	<250.0	780.0	7,760.0	<250.0 <sup>4</sup>	---	---	---
T3E-14.5'	4.4	8.6	338.0	<5.0	<5.0	<5.0	<5.0	<5.0 <sup>4</sup>	---	---	---
T3W-14.5'	4.4	2.1	714.0	<5.0	<5.0	<5.0	<5.0	<5.0 <sup>4</sup>	---	---	---
SWW-10'	3.0	<1.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0 <sup>4</sup>	---	---	---
DISP#1-2'	0.6	380.0	492.0	<250.0	<250.0	420.0	5,060.0	<250.0 <sup>4</sup>	---	---	---
DISP#2-2'	0.6	180.0	4,370.0	<25.0	<25.0	76.0	570.0	<25.0 <sup>4</sup>	---	---	---
DISP#3-2'	0.6	64.0	4,410.0	<25.0	<25.0	97.0	210.0	<25.0 <sup>4</sup>	---	---	---
SP#1		---	4,500.0	<30.0	<30.0	<30.0	<50.0	<200.0 <sup>4</sup>	---	---	---
SP#2		---	110.0	<5.0	<5.0	<5.0	<10.0	<30.0 <sup>4</sup>	---	---	---
SP#3		---	4,300.0	<5.0	<5.0	<5.0	<10.0	<30.0 <sup>4</sup>	---	---	---
SP#4		---	1,800.0	<5.0	<5.0	<5.0	<10.0	<30.0 <sup>4</sup>	---	---	---
SP#5		---	2,800.0	<30.0	<30.0	<30.0	<50.0	<200.0 <sup>4</sup>	---	---	---
SP#6		---	640.0	<5.0	<5.0	<5.0	<10.0	<30.0 <sup>4</sup>	---	---	---
SP#7		---	<10.0	<5.0	<5.0	<5.0	<10.0	<30.0 <sup>4</sup>	---	---	---
SP#8		---	1,500.0	<5.0	<5.0	<5.0	<10.0	<30.0 <sup>4</sup>	---	---	---
SP#9 TOP		---	590.0	<5.0	<5.0	<5.0	<10.0	<30.0 <sup>4</sup>	---	---	---
SP#10 TOP		---	190.0	<5.0	<5.0	<5.0	<10.0	<30.0 <sup>4</sup>	---	---	---
<b>CONFIRMATORY SOIL SAMPLE DATA</b>											
T1E-14.5'	4.4	<1.0	<10.0	<5.0	<5.0	<5.0	<5.0	---	---	---	---
T1W-14.5'	4.4	9.8	1,290.0	<5.0	<5.0	<5.0	<5.0	<5.0 <sup>4</sup>	---	---	---
N.WALL-8'	2.4	<1.0	<10.0	<5.0	<5.0	<5.0	<5.0	---	---	---	---
T3E-7'	2.1	<1.0	<10.0	<5.0	<5.0	<5.0	<5.0	---	---	---	---
T2W-15'	4.6	680.0	2,800.0	<1,250.0	<1,250.0	<1,250.0	<1,250.0	<5.0 <sup>4</sup>	---	---	---
T2E-14.5'	4.4	<1.0	<10.0	<5.0	<5.0	<5.0	<5.0	---	---	---	---
T3W-16'	4.9	740.0	7,770.0	<1,250.0	<1,250.0	<1,250.0	<1,250.0	<5.0 <sup>4</sup>	---	---	---
S.WALL-10'	3.0	<1.0	317.0	<5.0	<5.0	<5.0	<5.0	---	---	---	---

TABLE 1  
 SUMMARY OF SOIL ANALYTICAL DATA  
 PEDDLER HILL MAINTENANCE STATION  
 EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DEPTH (meters)	TPHg (mg/kg)	TPHd (mg/kg)	B (µg/kg)	T (µg/kg)	E (µg/kg)	X (µg/kg)	FOCs (µg/kg)	Organic Lead (mg/kg)	Total Organic Carbon (mg/kg)	Hydraulic Conductivity (cm/sec)
DISP1-4'	1.2	33.0	639.0	66.0	2,120.0	650.0	4,350.0	<5.0 <sup>4</sup>	---	---	---
DISP2-4'	1.2	66.0	1,970.0	110.0	3,260.0	930.0	5,850.0	<5.0 <sup>4</sup>	---	---	---
DISP3-4'	1.2	2.1	242.0	<5.0	<5.0	<5.0	22.0	<5.0 <sup>4</sup>	---	---	---
<b>SOIL BORING DATA</b>											
MW1-15	4.5	55	510	<5.0	9.7	70	200	13 <sup>1</sup> , 39 <sup>2</sup> , 220 <sup>3</sup>	<0.5	---	---
MW1-20	6.1	<1.0	1.6	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---
MW1-30	9.1	<1.0	1.2	<5.0	<5.0	<5.0	<5.0	ND	<0.5	<30	3.97E-5
MW2-5	1.5	<1.0	210	<5.0	6.4	<5.0	<5.0	ND	<0.5	---	---
MW2-10	3.0	<1.0	1.5	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---
MW2-15	4.5	<1.0	1.4	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---
MW2-20	6.1	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	ND	<0.5	<30	1.25E-5
MW2-25	7.6	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---
MW2-30	9.1	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---
MW3-5	1.5	1.0	140	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---
MW3-10	3.0	<1.0	3.7	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---
MW3-15	4.5	<1.0	3.5	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---
MW3-20	6.1	<1.0	1.5	<5.0	<5.0	<5.0	<5.0	ND	<0.5	<30	5.30E-5
MW3-25	7.6	<1.0	1.5	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---
MW3-30	9.1	<1.0	2.3	<5.0	<5.0	<5.0	<5.0	ND	<0.5	---	---

Notes:

TPHg = Total petroleum hydrocarbons as gasoline  
 < = Less than laboratory test method reporting limits  
 FOCs = Fuel oxygenate compounds  
<sup>1</sup> = Ethyl tert-butyl ether (ETBE)  
<sup>2</sup> = Tert-amyl methyl ether (TAME)  
<sup>3</sup> = Tert-butanol (TBA)  
<sup>4</sup> = Methyl tert-butyl ether (MTBE)

TPHd = Total petroleum hydrocarbons as diesel  
 mg/kg = Milligrams per kilogram  
 cm/sec = centimeters per second  
 ND = Below method reporting limits for tested analyte  
 --- = Not analyzed

BTEX = Benzene, toluene, ethylbenzene, total xylenes  
 µg/kg = Micrograms per kilogram

TABLE 2  
 SUMMARY OF GROUNDWATER ANALYTICAL DATA  
 PEDDLER HILL MAINTENANCE STATION  
 EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DATE	TOP OF CASING (feet)	DEPTH TO WATER (feet)	GROUND-WATER ELEVATION (feet)	GROUND-WATER ELEVATION (meters)	TPHg (mg/l)	TPHd (mg/l)	B (µg/l)	T (µg/l)	E (µg/l)	X (µg/l)	MTBE (µg/l)	Total Dissolved Solids (mg/l)	FOCS (µg/l)
MW-1	10/31/00	7119.29	23.35	7095.94	2162.84	0.15	0.30	1.1	4.6	1.7	9.6	<5.0	420	ND
MW-1	3/28/01	7119.29	16.45	7102.84	2164.95	<0.05	<0.05	<0.3	<0.2	<0.2	<0.2	<0.6 <sup>2</sup>	---	---
MW-2	10/31/00	7119.25	24.05	7095.21	2162.62	0.14	2.1	<0.50	<0.50	<0.50	0.65	<5.0	310	ND
MW-2	3/28/01	7119.25	16.50	7102.75	2164.92	<0.05	<0.05	<0.3	<0.2	<0.2	<0.2	<0.6 <sup>2</sup>	---	---
MW-3	10/31/00	7119.27	23.84	7095.43	2162.69	<0.05	0.14	<0.50	<0.50	<0.50	<0.50	<5.0	180	ND
MW-3	3/28/01	7119.27	16.36	7102.91	2164.97	<0.05	<0.05	<0.3	<0.2	<0.2	<0.2	<0.6 <sup>2</sup>	---	---
DW-1	10/31/00	---	---	---	---	<0.05	0.20/0.1 <sup>1</sup>	<0.50	<0.50	<0.50	<0.50	<5.0	100	ND

Notes:  
 TPHg = Total petroleum hydrocarbons as gasoline  
 TPHd = Total petroleum hydrocarbons as diesel  
 BTEX = Benzene, toluene, ethylbenzene, total xylenes  
 MTBE = Methyl tert-butyl ether  
 FOCs = Fuel oxygenate compounds  
 < = Less than laboratory test method reporting limits  
 mg/l = Milligrams per liter  
 µg/l = Micrograms per liter  
 1 = Result of re-test to confirm detection.  
 2 = EPA Test Method 8260  
 ND = Not detected above the laboratory detection limit  
 --- = Not tested/analyzed

TABLE 3  
 SUMMARY OF RECOGNIZED ENVIRONMENTAL CONDITIONS  
 PEDDLER HILL MAINTENANCE STATION  
 EL DORADO COUNTY, CALIFORNIA

AREA OF CONCERN	SUBSTANCE/CHEMICAL	RECOMMENDED RESPONSE/REMEDIAL ACTION
Surface Stains North of the Gas House in the 1974 Aerial Photograph	Unknown	Soil Sampling and Analytical Testing
Mud Rinse Area, Drain Line and Associated Stressed Vegetation	Petroleum Hydrocarbons, Heavy Metals, Herbicides	Soil Sampling and Analytical Testing
Hydraulic Lift in the Equipment Building	Petroleum Hydrocarbons	Soil Sampling, Analytical Testing and Routine Maintenance
Abandoned Wash Rack and Leach Field	Petroleum Hydrocarbons, Heavy Metals	Soil Sampling and Analytical Testing; Removal in Accordance With EPA and County Requirements
Hydraulic, Waste Oil, Gasoline and Jet-A Fuel ASTs	Petroleum Hydrocarbons	Soil Sampling and Analytical Testing
Septic Tank and Leach Field for the Town House	Sewage	Soil Sampling and Analytical Testing
Septic Tank and Leach Field for the Dormitory	Sewage	Soil Sampling and Analytical Testing
Onsite Domestic Water Well	Petroleum Hydrocarbons, Radon Gas	Analytical Testing and Routine Maintenance
Four Former UST Locations	Petroleum Hydrocarbons	Soil and Groundwater Sampling and Analytical Testing

TABLE 4 SUMMARY OF ASBESTOS ANALYTICAL DATA PEDDLER HILL MAINTENANCE STATION EL DORADO COUNTY, CALIFORNIA					
SAMPLE I.D.	BUILDING LOCATION	FRIABILITY	MATERIAL DESCRIPTION/CONDITION	APPROXIMATE QUANTITY (SQUARE METER OR LINEAR METER)	ASBESTOS EPA 600/M4-82-020 (TYPE AND % BY WEIGHT)
PH-MS-1A	Pump House	NONFRIABLE	GYPSUM BOARD WALL SYSTEMS/GOOD	75 SQUARE METERS	ND
PH-MS-1B					ND
PH-MS-1C					ND
PH-MS-2A	Pump House	FRIABLE	PIPE INSULATION/GOOD	2 LINEAR METERS	ND
PH-MS-2B					ND
PH-MS-2C					ND
PH-MS-3A	Town House (Kitchen/Dining)	NONFRIABLE	TAN, 30 BY 30-CENTIMETER FLOOR TILE AND MASTIC/GOOD	90 SQUARE METERS	ND
PH-MS-3B					ND
PH-MS-3C					ND
PH-MS-4A	Town House	NONFRIABLE	WALL BASE COVING AND MASTIC/GOOD	320 LINEAR METERS	ND
PH-MS-4B					ND
PH-MS-4C					ND
PH-MS-5A	Town House	NONFRIABLE	GYPSUM BOARD WALL SYSTEMS AND ASSOCIATED TEXTURING/GOOD	2,800 SQUARE METERS	CHRYSTILE 2% (JOINT COMPOUND)
PH-MS-5B					NA
PH-MS-5C					NA
PH-MS-6A	Town House	FRIABLE	ACOUSTICAL CEILING SPRAY/GOOD	560 SQUARE METERS	CHRYSTILE 4%
PH-MS-6B					NA
PH-MS-6C					NA
PH-MS-6D					NA
PH-MS-6E					NA
PH-MS-6F					NA
PH-MS-6G					NA
PH-MS-7A	Town House (Garage)	FRIABLE	MUDDER PIPE FITTINGS/GOOD	4 EACH	ND
PH-MS-7B					ND
PH-MS-7C					ND
PH-MS-8A	Town House (Garage)	NONFRIABLE	PIPE INSULATION/GOOD	4 LINEAR METERS	ND
PH-MS-8B					ND
PH-MS-8C					ND

TABLE 4 SUMMARY OF ASBESTOS ANALYTICAL DATA PEDDLER HILL MAINTENANCE STATION EL DORADO COUNTY, CALIFORNIA					
SAMPLE I.D.	BUILDING LOCATION	FRIABILITY	MATERIAL DESCRIPTION/CONDITION	APPROXIMATE QUANTITY (SQUARE METER OR LINEAR METER)	ASBESTOS EPA 600/M4-82-020 (TYPE AND % BY WEIGHT)
PH-MS-9A	Town House (Under carpeting)	NONFRIABLE	VAPOR BARRIER PAPER/GOOD	460 SQUARE METERS	ND
PH-MS-9B					ND
PH-MS-9C					ND
PH-MS-10A	Town House (Bathrooms)	NONFRIABLE	WHITE, 30 BY 30-CENTIMETER FLOOR TILE AND MASTIC/GOOD	20 SQUARE METERS	ND
PH-MS-10B					ND
PH-MS-10C					ND
PH-MS-11A	Equipment Building and Gas House	NONFRIABLE	WINDOW PUTTY/GOOD	18 LINEAR METERS	CHRYSOTILE <1%
PH-MS-11B					ND
PH-MS-11C					CHRYSOTILE <1%
PH-MS-12A	Equipment Building (East and West Garages)	NONFRIABLE	GYPSUM BOARD WALL SYSTEMS/GOOD	115 SQUARE METERS	ND
PH-MS-12B					ND
PH-MS-12C					ND
PH-MS-13A	Equipment Building (East Garage)	FRIABLE	MUDDER PIPE FITTINGS/GOOD	8 EACH	ND
PH-MS-13B					ND
PH-MS-13C					ND
PH-MS-14A	Equipment Building (East Garage)	FRIABLE	PIPE INSULATION/GOOD	21 LINEAR METERS	CHRYSOTILE 18%
PH-MS-14B					NA
PH-MS-14C					NA
PH-MS-15A	Equipment Building (West Garage)	NONFRIABLE	FIRE DOOR/GOOD	1 EACH	ND
PH-MS-16A	Equipment Building (Office)	NONFRIABLE	BLACK, 30 BY 30-CENTIMETER FLOOR TILE AND MASTIC/GOOD	12 SQUARE METERS	ND
PH-MS-16B					ND
PH-MS-16C					ND
PH-MS-17A	Equipment Building (Office and Restroom Areas)	NONFRIABLE	GYPSUM BOARD WALL SYSTEMS AND ASSOCIATED TEXTURING/GOOD	190 SQUARE METERS	ND
PH-MS-17B					ND
PH-MS-17C					ND
NS	Equipment Building (Restrooms)	NONFRIABLE	MARLITE™ WALL PANELS AND MASTIC/GOOD	9 SQUARE METERS	ASSUMED TO CONTAIN ASBESTOS

TABLE 4 SUMMARY OF ASBESTOS ANALYTICAL DATA PEDDLER HILL MAINTENANCE STATION EL DORADO COUNTY, CALIFORNIA					
SAMPLE I.D.	BUILDING LOCATION	FRIABILITY	MATERIAL DESCRIPTION/CONDITION	APPROXIMATE QUANTITY (SQUARE METER OR LINEAR METER)	ASBESTOS EPA 600/M4-82-020 (TYPE AND % BY WEIGHT)
NS	Town House (Bathrooms)	NONFRIABLE	CERAMIC WALL TILE, GROUT, AND MASTIC/GOOD	20 SQUARE METERS	ASSUMED TO CONTAIN ASBESTOS

Notes: ND = Not detected  
NA = Not applicable (materials sampled during previous surveys)

TABLE 5  
 SUMMARY OF LEAD-BASED PAINT ANALYTICAL DATA  
 PEDDLER HILL MAINTENANCE STATION  
 EL DORADO COUNTY, CALIFORNIA

SAMPLE I.D.	PAINT COLOR	BUILDING LOCATION	APPROXIMATE QUANTITY (SQURE METERS)	TOTAL LEAD (mg/kg)
LCP-1	BEIGE	Milt's Place Sand Storage (Exterior)	750	<61
LCP-2	WHITE	Milt's Place Sand Storage (Interior)	750	<46
LCP-3	GREEN	Mud Springs Sand Storage (Exterior)	750	4,700
LCP-4	WHITE	Mud Springs Sand Storage (Interior)	750	1,300
LCP-5	BROWN	Pump House (Exterior)	80	11,000
LCP-6	BROWN	Town House (Exterior)	770	2,300
LCP-7	WHITE	Town House (Interior)	2,000	5.6
LCP-8	BEIGE	Gas House (Interior)	450	100,000
LCP-9	BROWN	Gas House (Exterior)	300	850
LCP-10	WHITE	Gas House (Exterior)	90	41
LCP-11	BROWN	Water Tank Building (Exterior)	45	<0.25
LCP-12	WHITE	Sealand Storage Container (Exterior/Interior)	225	0.5
LCP-13	ORANGE	Sealand Storage Container (Exterior/Interior)	130	4,900
LCP-14	BEIGE	Hazardous Materials Storage Container (Exterior/Interior)	45	3.4
LCP-15	WHITE	Sand Storage Building (Interior)	750	20
LCP-16	BEIGE	Sand Storage Building (Exterior)	750	<2.5
LCP-17	BROWN	Equipment Building (Exterior)	2,000	170
LCP-18	BROWN	Equipment Building (Interior)	2,000	2,700

Notes: < = Less than laboratory reporting limits  
 mg/kg = Milligrams per kilogram

## Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. SEAN SAMUEL  
Branch Chief  
Structural Design Section 2  
Office of Transportation Architecture  
Division of Engineering Services

**Date:** November 19, 2012  
**File:** 10-CAL-04  
EA: 10-0X2101  
PID: 1012000181  
Camp Connell HMS  
5507 Meko Drive  
ALC: 5726  
Wash Rack (new)

Attention: Tom Mesich

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
GEOTECHNICAL SERVICES – MS 5

**Subject:** Foundation Report for Wash Rack

### Introduction and Project Description

Per your request, we are providing foundation recommendations for the maintenance station project referenced above. It is proposed to construct a new wash rack enclosure and sump facility along with a brine mixing station and an associated subsurface disposal field. The disposal field area is not part of the scope of this report, however, some of the information obtained from the percolation testing for the disposal field was utilized for foundation recommendations. This report is for use by the project design engineer, construction personnel, bidders and contractors.

### Scope of Work

The scope of our work included a review of the site plan for Phase 2 showing the location of the proposed new facilities, dated May 6, 2012, a review of any previous geotechnical work performed by Caltrans and performing exploratory drilling with soil/rock sampling, geologic mapping and geotechnical engineering analysis.

Two exploratory borings were drilled at the site to depths of 20 feet and 9.5 feet. One boring (9.5' depth) was drilled in the proposed wash rack area south of the existing equipment building. Another (20' depth) was drilled near the area of the proposed brine mixing station area just to the north of the equipment building. A boring was not conducted directly in the area of the proposed brine mixing station due to access limitations. A Log of Test Borings (LOTB) showing boring locations will be submitted in the contract plans.

## Site Geology

The Camp Connell HMS is situated on a cut/fill pad. The subsurface materials found during exploration at the project site are decomposed granite (igneous) bedrock and side-cast fill. The site is primarily a rock cut except for the north side near where the proposed brine mixing station is located. A wedge of fill has been placed in this location and is at least 20 feet deep along the north side of the maintenance station property. The contact between this fill and the granitic bedrock may transition through the brine mixing station location. The fill is poorly compacted.

The proposed brine mixing station and enclosed wash rack will both be founded on granitic bedrock. The bedrock is moderately soft (decomposed) to hard, and extremely weathered.

## Groundwater

Groundwater was not encountered in the deepest exploratory boring (20 feet) and is not expected to be a factor during construction.

## Surface Fault Rupture Hazard

The site is not located within any Earthquake Fault Zone (EFZ) as defined by the California Department of Conservation (Special Publication 42, 1997). There are no known faults crossing beneath or extending directly toward the site. Therefore, the potential hazard due to ground rupture is considered to be very low.

## Site Classification

Based on Table 1613A.5.2 of the 2010 CA Building Code the site should be classified as Class "B".

The following mapped spectral response accelerations at the project site were interpreted based on Table 1613.5(3) and 1613.5(4) of the 2010 CA Building Code.

Mapped 0.2 second spectral acceleration, $S_s$	0.56g
Mapped 1.0 second spectral acceleration, $S_1$	0.21g

## Recommendations

### Brine Mixing Station

Based on the recent foundation investigation and review of the site plan and economic structural design considerations, the new brine mixing station may be supported by a cast-in-drilled-hole (CIDH) pile foundation system. The provided compressional service load is 8.3 kips per pile.

The following table shows the required embedment depth of piles below the structure's slab or footings. The pile embedment shall be at least 5 feet into decomposed granitic bedrock.

**Table 1**

<b>Pile Type</b>	<b>Design Load</b>	<b>Embedment depth of piles</b>
<b>24" ø CIDH</b>	<b>8.3 kips</b>	<b>7.0 feet</b>

Wash Rack Enclosure

The wash rack enclosure structure should be supported on conventional spread footings on decomposed granitic bedrock using an allowable bearing capacity of 4000 psf. The footings should have a minimum width of 12 inches and a minimum embedment depth of 24 inches below the lowest adjacent finish grade.

Slabs-On-Grade

Soil supported slabs should be designed using a subgrade reaction modulus of 120 pounds per square inch per inch (pci).

Lateral Earth Pressure

An active earth pressure equal to 36 pounds per square foot per foot (psf/ft) and a passive earth pressure of 360 (psf/ft) should be used for design.

Coefficient of Sliding Friction

A coefficient of friction (concrete on decomposed rock) of 0.50 should be used to calculate sliding resistance.

Settlement

The estimated total and differential settlement in the area of the enclosed wash rack is less than 0.5 inch

Backfill

Any excavated on-site soils may be reused as structure fill provided they are free of organics and, deleterious substances and contain proper moisture for compaction. Soils imported from off-site sources shall be non-expansive.

If any conceptual changes are proposed during final project design, the Office of Geotechnical Design-North should review those changes to determine if the recommendations contained herein are still applicable.

### **Construction Considerations**

- 1) Pile end bearing capacity was not utilized in determining the pile tip depths.
- 2) At the brine mixing station at the northwest side of the property, there exists a wedge of uncompacted, side cast fill. The contact of this fill and granitic bedrock transitions through the brine mixing station location. The recommended embedment depth for CIDH piles of 5 feet is calculated to be in decomposed granitic rock and may be increased or decreased based on actual conditions encountered during construction.
- 3) The artificial spill fill at the northerly portion of the property may contain large amount of deleterious material such as construction and roadway maintenance debris.

### **Project Information**

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

*Data and information attached with the project plans are:*

One Log of Test Borings (Camp Connell HMS Wash Rack).

*Data and information included in the Information Handout provided to the bidders and Contractors are:*

None.

*Data and information available for inspection at the District Office:*

None.

*Data and information available for inspection at the Transportation Laboratory are:*

None.

If you have any questions or comments, or need additional information please contact Christopher Koepke at (916) 227-1040.

Report by:

*Chris Koepke*



Christopher Koepke, C.E.G.  
Engineering Geologist  
Office of Geotechnical Design – North  
Branch E

cc: Qiang Huang, R.E., Pending, Structures OE (E-copy), GDN File, D10 PCE – Angela Ezekiel, D10 DME – Dave Dhillon

## Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. JERRY MARCOTTE  
Senior Sanitary Engineer  
Water and Wastewater Branch  
Division of Engineering Services

**Date:** January 7, 2013

**File:** 10-CAL-04  
EA: 10-0X2101  
PID: 1012000181  
Camp Connell HMS  
5507 Meko Drive  
ALC: 5726  
Wash Rack (new)

Attention: Eric Schmitz

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
GEOTECHNICAL SERVICES – MS 5

**Subject:** Results of Percolation Testing, Wash Rack, Phase 2

### Introduction and Project Description

Per your request, we are providing the following percolation test results for the maintenance station project referenced above. It is proposed to construct a new subsurface disposal field with infiltration chambers to service a new wash rack and brine mixing facility.

### Scope of Work

The scope of our work included a review of the site plan for Phase 2 showing the location of the proposed new disposal field, dated April 20, 2012, a review of the proposed infiltration chamber plan dated April 12, 2012, a review of the previous geotechnical work performed by Caltrans and performing exploratory drilling with percolation testing.

### Site Geology

In order to characterize the geological conditions of the site in the area of the proposed disposal field and locate any groundwater, one exploratory boring was drilled to a depth of 20 feet.

The Camp Connell HMS is situated on a cut/fill pad. The subsurface material found during exploration at the disposal site is side-cast fill consisting of loose to medium dense silty sand with gravel.

At depth, the geology consists of moderately soft (decomposed) to hard and extremely weathered granitic rock. Granitic rock was not encountered in the exploratory boring at the location of the new disposal field and is not expected to affect its performance.

## Groundwater

Ground water was not encountered to the maximum explored depth of 20 feet.

## Percolation Testing Method

Two percolation tests were conducted during our field investigation. The tests were performed in general accordance with the method set forth in California Test 749, “*Method for Determining the Percolation Rate of Soils Using a 12-Inch-Diameter Test-Hole*”. The tests were performed in 12-inch diameter auger drilled holes advanced to depths of 6.0 feet (PT-1) and 3.0 feet (PT-2). One test, PT-2, was conducted outside of the area of the new disposal site in order to characterize the percolation rate of the decomposed granite near the proposed enclosed wash rack.

The test holes were presoaked for at least 24 hours prior to testing the following day. The tests consisted of filling the holes with clean water and monitoring the rate at which the water surface dropped by using a data logging pressure sensor placed at the bottom of the holes until stabilized readings were observed.

A plot plan showing the locations of PT-1 and PT-2 is attached.

## Soil Classification

Soil profiles encountered in the exploratory borings have been provided to your office (Water and Wastewater Branch) for your use in determining the design soil application rates based on the U.S.D.A. soil classification system as required by the Water Control Board.

## Percolation Testing Results

The attached boring plot plan shows the locations of the percolation tests conducted at the site in the area of the proposed disposal field. The results of the percolation tests are shown in the following table:

Table 1 (Percolation Test Results)

Test Hole #	Diameter (inches)	Date	Start Time	End Time (Stabilized)	Water Level Drop (inches)	Percolation Rate (min./inch)
PT-1	12	9/24/2012	13:55	16:23	36.99	<b>4.0</b>
PT-2	12	9/24/2012	13:39	19:55	13.60	<b>27.6</b>

## Project Information

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

*Data and information attached with the project plans are:*

None.

*Data and information included in the Information Handout provided to the bidders and Contractors are:*

Results of Percolation Testing, Camp Connell HMS Wash Rack, Phase 2 dated 01-07-2013.

*Data and information available for inspection at the District Office:*

None.

*Data and information available for inspection at the Transportation Laboratory are:*

None.

If you have any questions or comments, or need additional information please contact Christopher Koepke at (916) 227-1040.

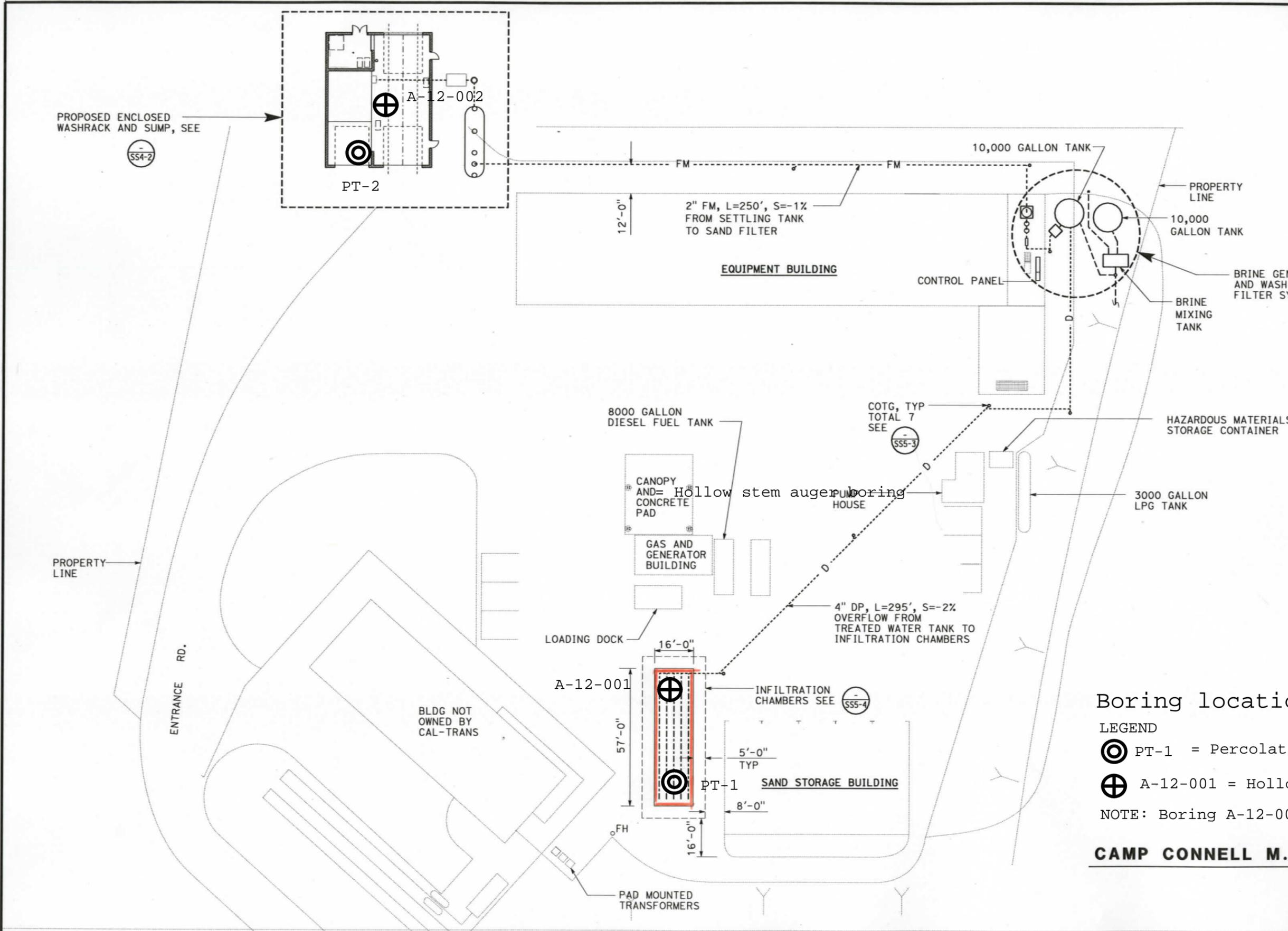
Report by:



Christopher Koepke, C.E.G.  
Engineering Geologist  
Office of Geotechnical Design – North  
Branch E

cc: Qiang Huang, R.E., Pending, Structures OE (E-copy), GDN File, D10 PCE – Angela Ezekiel, D10 DME – Dave Dhillon  
Attachment: Boring location plot plan

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Alp, Amc Cal	VARIOUS			
					
REGISTERED CIVIL ENGINEER DATE					
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.					



Boring location plot plan

- LEGEND
- ⊙ PT-1 = Percolation test boring, 12" dia.
  - ⊕ A-12-001 = Hollow stem auger boring
- NOTE: Boring A-12-002 submitted as LOTB.

**CAMP CONNELL M. S. SITE PLAN**

DESIGN BY Amar Baidwan CHECKED Jerry Marcotte	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. X	DISTRICT 10 WASHRACKS PHASE 2	SHEET
			POST MILE X		CAMP CONNELL M. S.
DETAILS BY Amar Baidwan CHECKED Jerry Marcotte	GENERAL PLAN			REVISION DATES (PRELIMINARY STAGE ONLY)	
QUANTITIES BY Amar Baidwan CHECKED Jerry Marcotte	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT PROJECT NUMBER & PHASE 3016 10020001811	DISREGARD PRINTS BEARING EARLIER REVISION DATES 4-20-12	SHEET OF	

## Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. SEAN SAMUEL  
Branch Chief  
Structural Design Section 2  
Office of Transportation Architecture  
Division of Engineering Services

**Date:** November 19, 2012

**File:** 10-AMA-88  
EA: 10-0X2101  
PID: 1012000181  
Peddler Hill HMS  
41951 Highway 88  
ALC: 5729  
Wash Rack (new)

Attention: Tom Mesich

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
GEOTECHNICAL SERVICES – MS 5

**Subject:** Foundation Report for Wash Rack/Brine Mixing Facility

### Introduction and Project Description

Per your request, we are providing foundation recommendations for the maintenance station project referenced above. It is proposed to construct a new enclosed wash rack and sump facility along with a brine mixing station and an associated subsurface disposal field. The disposal field area is not part of the scope of this report. This report is for use by the project design engineer, construction personnel, bidders and contractors.

### Scope of Work

The scope of our work included a review of the site plan for Phase 2 showing the location of the proposed new facilities, a review of the previous geotechnical work performed by Caltrans and others and performing exploratory drilling with soil/rock sampling and geotechnical engineering analysis.

Two exploratory borings were drilled at the site to depths of 20 feet and 5 feet. One boring (20' depth) was drilled in the proposed wash rack area south of the existing equipment building. Another (5' depth) was drilled in the proposed brine mixing station area just to the east of the equipment building. A Log of Test Borings (LOTB) will be submitted in the contract plans.

## Site Geology

The Peddler Hill HMS is situated on cut/fill pad. The subsurface materials found during exploration at the project site are artificial fill and andesitic (volcanic) conglomerate bedrock. The artificial fill consists of sandy clay and clayey silt that is stiff to hard. This fill is at least 10 feet deep in the area of the proposed enclosed wash rack and becomes thinner moving north and thicker moving west and east. The fill is 23 feet deep in the area of the proposed disposal area. The andesitic bedrock is very hard, moderately fractured and moderately weathered. This bedrock was encountered 2 feet below the original ground (OG) at the north eastern portion of the lot near the existing equipment building at the proposed brine mixing station facility.

## Groundwater

Groundwater was encountered at a depth of 17 feet below OG in the area of the proposed enclosed wash rack and is not expected to be a factor during construction.

## Surface Fault Rupture Hazard

The site is not located within any Earthquake Fault Zone (EFZ) as defined by the California Department of Conservation (Special Publication 42, 1997). There are no known faults crossing beneath or extending directly toward the site. Therefore, the potential hazard due to ground rupture is considered to be very low.

## Site Classification

Based on Table 1613A.5.2 of the 2010 CA Building Code the site should be classified as Class "B".

The following mapped spectral response accelerations at the project site were obtained based on the U.S.G.S. *National Earthquake Hazards Reduction Program (NEHRP)*, 2003.

Mapped 0.2 second spectral acceleration, $S_s$	0.74g
Mapped 1.0 second spectral acceleration, $S_1$	0.25g

## Recommendations

### Brine Mixing Station

Based on the recent foundation investigation and review of the site plan and economic structural design considerations, the new brine mixing station may be supported by a cast-in-drilled-hole (CIDH) pile foundation system. The provided compressional service load is 8.3 kips per pile. The following table shows the required embedment depth of piles below the structure's slab or footings. The pile embedment shall be at least 2 feet into andesitic bedrock.

**Table 1**

<b>Pile Type</b>	<b>Design Load</b>	<b>Embedment depth of piles</b>
<b>24" ø CIDH</b>	<b>8.3 kips</b>	<b>4 feet</b>

Wash Rack Enclosure

The wash rack enclosure structure should be supported on conventional spread footings using an allowable soil bearing capacity of 2000 psf. The footings should have a minimum width of 12 inches and a minimum embedment depth of 36 inches below the lowest adjacent finish grade.

Slabs-On-Grade

Soil supported slabs should be designed using a subgrade reaction modulus of 140 pounds per square inch per inch (pci).

Lateral Earth Pressure

An active earth pressure equal to 36 pounds per square foot per foot (psf/ft) and a passive earth pressure of 360 (psf/ft) should be used for design.

Coefficient of Sliding Friction

A coefficient of friction (concrete on sandy soil) of 0.35 should be used to calculate sliding resistance.

Settlement

The estimated total and differential settlement in the area of the enclosed wash rack and brine station is less than 0.5 inch

Backfill

Any excavated on-site soil may be reused as structure backfill by following the Standard Specifications for structure backfill (19-3.02B). Soils imported from off-site sources shall be non-expansive.

If any conceptual changes are proposed during final project design, the Office of Geotechnical Design-North should review those changes to determine if the recommendations contained herein are still applicable.

### Construction Considerations

- 1) Very difficult drilling of the CIDH piles in the area of the brine mixing station is expected. The use of rock augers and core barrels should be considered.
- 2) The CIDH piles shall be embedded at least 2 feet into andesitic rock. The piles may be shortened during construction if any of the pile excavations are drilled at least 2 feet into rock.
- 3) Footing excavations shall be free of loose material prior to rebar placement.

### Project Information

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

*Data and information attached with the project plans are:*

One Log of Test Borings (Peddler Hill HMS Wash Rack).

*Data and information included in the Information Handout provided to the bidders and Contractors are:*

None.

*Data and information available for inspection at the District Office:*

None.

*Data and information available for inspection at the Transportation Laboratory are:*

None.

If you have any questions or comments, or need additional information please contact Christopher Koepke at (916) 227-1040.

Report by:


Christopher Koepke, C.E.G.  
Engineering Geologist  
Office of Geotechnical Design – North  
Branch E

cc: Qiang Huang, R.E., Pending, Structures OE (E-copy), GDN File, D10 PCE – Angela Ezekiel, D10 DME – Dave Dhillon

## Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. JERRY MARCOTTE  
Senior Sanitary Engineer  
Water and Wastewater Branch  
Division of Engineering Services

**Date:** January 7, 2013

**File:** 10-ALP-88  
EA: 10-0X2101  
PID: 1012000181  
Peddler Hill HMS  
41951 Highway 88  
ALC: 5729  
Wash Rack (new)

Attention: Eric Schmitz

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
GEOTECHNICAL SERVICES – MS 5

**Subject:** Results of Percolation Testing, Wash Rack, Phase 2

### Introduction and Project Description

Per your request, we are providing the following percolation test results for the maintenance station project referenced above. It is proposed to construct a new subsurface disposal field with infiltration chambers to service a new wash rack and brine mixing facility.

### Scope of Work

The scope of our work included a review of the site plan for Phase 2 showing the location of the proposed new disposal field, dated April 13, 2012, a review of the proposed infiltration chamber plan dated April 12, 2012, a review of the previous geotechnical work performed by Caltrans and performing exploratory drilling with percolation testing.

### Site Geology

In order to characterize the geological conditions and locate any water table, one exploratory boring was drilled in the area of the proposed disposal field to a depth of 25 feet.

The Peddler Hill HMS is situated on a cut/fill pad. The subsurface material found during the exploration at the proposed disposal site is artificial fill.

The artificial fill consists of sandy clay that is stiff to hard and has a high plasticity. The clay fill is 23 feet deep in the area of the disposal site area. Below this fill, coarse sand with gravel was encountered.

At depth, the geology consists of andesitic (volcanic) bedrock. Bedrock was not encountered in the exploratory boring in the area of the disposal field and is not expected to affect its performance.

### Groundwater

Ground water was not encountered to the maximum explored depth of 25 feet.

### Percolation Testing Method

Two percolation tests were conducted during our field investigation. The tests were performed in general accordance with the method set forth in California Test 750, "*Method for Determining the Percolation Rate of Soils Using a 6-Inch-Diameter Test-Hole*". The tests were performed in 4-inch diameter pipes placed using the above methods.

The tests were performed at depths 5.0 feet (PT-1) and 25.0 feet (PT-2). The test were staggered in order to characterize the two differing materials encountered in the exploratory boring; highly plastic clay (PT-1) to a depth of 23 feet and coarse sand and gravel (PT-2) below.

The test holes were presoaked for at least 24 hours prior to testing the following day. The tests consisted of filling the pipe with clean water and monitoring the rate at which the water surface dropped by using a data logging pressure sensor placed at the bottom of the holes until stabilized readings were observed.

A plot plan showing the locations of PT-1 and PT-2 is attached.

### Soil Classification

Soil profiles encountered in the exploratory borings have been provided to your office (Water and Wastewater Branch) for your use in determining the design soil application rates based on the U.S.D.A. soil classification system as required by the Water Control Board.

### Percolation Testing Results

The attached boring plot plan shows the locations of the percolation tests conducted at the site in the area of the proposed disposal field. The results of the percolation tests are shown in the following table:

Table 1 (Percolation Test Results)

Test Hole #	Diameter (inches)	Date	Start Time	End Time (Stabilized)	Water Level Drop (inches)	Percolation Rate (min./inch)
PT-1	4	8/30/2012	13:47	16:16	36.1	<b>4.1</b>
PT-2	4	8/30/2012	13:20	16:08	144.1	<b>1.2</b>

## Recommendation

If the calculated percolation rate is not acceptable for the test at PT-1, which was conducted in highly plastic clay at a depth of 5 feet, it is recommended as an option to install additional drainage capacity in the form of pipes extending from the floor of the infiltration chamber to the more permeable layer consisting of sands and gravels encountered at 23 feet below O.G.

## Project Information

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

*Data and information attached with the project plans are:*

None.

*Data and information included in the Information Handout provided to the bidders and Contractors are:*

Results of Percolation Testing, Peddler Hill HMS Wash Rack, Phase 2 dated 01-07-2013.

*Data and information available for inspection at the District Office:*

None.

*Data and information available for inspection at the Transportation Laboratory are:*

None.

If you have any questions or comments, or need additional information please contact Christopher Koepke at (916) 227-1040.

Report by:


Christopher Koepke, C.E.G.  
Engineering Geologist  
Office of Geotechnical Design – North  
Branch E

cc: Qiang Huang, R.E., Pending, Structures OE (E-copy), GDN File, D10 PCE – Angela Ezekiel, D10 DME – Dave Dhillon  
Attachment: Boring location plot plan

DIST.	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
X	X	X			

REGISTERED CIVIL ENGINEER	DATE
	
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.	



<b>ACCESSIBILITY DESIGN APPROVAL STAMP</b> DOT / DES / OTA PROJECT ID <b>XXXXXXXXXX</b> Reviewed by: _____ Date: _____	<b>CALIFORNIA STATE FIRE MARSHAL APPROVED</b> Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times. Reviewed by: _____ Approval date: _____
---	---

Boring location plot plan

LEGEND

-  PT-1 = Percolation test boring, 6" dia. 4" pipe
-  A-12-001 = Hollow stem auger boring

NOTE: Borings A-12-002/003 submitted as LOTB.

**PEDDLER HILL MS SITE PLAN**  
 SCALE 1" = 40'-0"

DESIGN BY <i>R E Schmitz</i> CHECKED	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. X	DISTRICT 10 WASHRACKS PHASE 2	SHEET SS2-1
			POST MILE X		
DETAILS BY <i>R E Schmitz</i> CHECKED	UNIT PROJECT NUMBER & PHASE 3616 10120001811			GENERAL PLAN	
QUANTITIES BY _____ CHECKED	DISREGARD PRINTS BEARING EARLIER REVISION DATES			REVISION DATES (PRELIMINARY STAGE ONLY)	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3			SHEET OF	

## Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. SEAN SAMUEL  
Branch Chief  
Structural Design Section 2  
Office of Transportation Architecture  
Division of Engineering Services

**Date:** November 19, 2012

**File:** 10-AMA-88  
EA: 10-0X2101  
PID: 1012000181  
Pine Grove HMS  
19587 Highway 88  
ALC: 5718  
Wash Rack (new)

Attention: Tom Mesich

**From:** **DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF ENGINEERING SERVICES**  
**GEOTECHNICAL SERVICES – MS 5**

**Subject:** Foundation Report for Wash Rack/Brine Mixing Facility

### Introduction and Project Description

Per your request, we are providing foundation recommendations for the maintenance station project referenced above. It is proposed to construct a new wash rack enclosure and sump facility along with a brine mixing station and an associated subsurface disposal field. The disposal field area is not part of the scope of this report. This report is for use by the project design engineer, construction personnel, bidders and contractors.

### Scope of Work

The scope of our work included a review of the site plan for Phase 2 showing the location of the proposed new facilities, dated June 13, 2012, a review of the previous geotechnical work performed by Caltrans and performing exploratory drilling with soil/rock sampling and geotechnical engineering analysis.

Two exploratory borings were drilled at the site to depths of 20 feet and 5 feet. One boring (5' depth) was drilled in the proposed wash rack area north of the existing equipment building. Another (20' depth) was drilled in the proposed brine mixing station area on the fill pad at the north portion of the site, south of the existing fuel station. A Log of Test Borings (LOTB) will be submitted in the contract plans.

## **Site Geology**

The Pine Grove HMS is situated on a cut/fill pad. The subsurface materials found during exploration at the project site are artificial fill and slate/phyllite (metamorphic) bedrock.

### Brine Mixing Station

The brine mixing station is to be situated on an artificial fill pad. This fill consists of sandy clay and clayey silt that is firm to stiff and contains wood, trash and other organic material. The fill is poorly compacted. This fill is 13.5 feet deep in the area of the proposed brine mixing station. Slate/phyllite bedrock underlies this fill pad. The bedrock is very hard, moderately fractured and moderately weathered. The contact between the fill and bedrock is clean.

### Enclosed Wash Rack

The wash rack will be situated entirely on slate/phyllite bedrock. The bedrock is very hard, moderately fractured and moderately weathered.

## **Groundwater**

Groundwater was not encountered during the investigation and is not expected to be a factor during construction.

## **Seismicity**

### Surface Fault Rupture Hazard

The site is not located within any Earthquake Fault Zone (EFZ) as defined by the California Department of Conservation (Special Publication 42, 1997). There are no known faults crossing beneath or extending directly toward the site. Therefore, the potential hazard due to ground rupture is considered to be very low.

### Site Classification

Based on Table 1613A.5.2 of the 2010 CA Building Code the site should be classified as Class "B".

The following mapped spectral response accelerations at the project site were obtained based on the U.S.G.S. *National Earthquake Hazards Reduction Program (NEHRP)*, 2003.

Mapped 0.2 second spectral acceleration, $S_s$	0.40g
Mapped 1.0 second spectral acceleration, $S_1$	0.19g

## **Recommendations**

### Brine Mixing Station

Based on the recent foundation investigation and review of the site plan and economic structural design considerations, the new brine mixing station may be supported by a cast-in-drilled-hole (CIDH) pile foundation system. The provided compressional service load is 8.3 kips per pile. The following table shows the required embedment depth of piles below the structure's slab or footings. The pile embedment through the artificial fill shall be at least 2 feet into slate/phyllite bedrock.

**Table 1**

<b>Pile Type</b>	<b>Design Load</b>	<b>Embedment depth of piles</b>
<b>24" ø CIDH</b>	<b>8.3 kips</b>	<b>15.5 feet</b>

### Wash Rack Enclosure

The wash rack enclosure structure should be supported on conventional spread footings on slate/phyllite rock using an allowable bearing capacity of 4000 psf. The footings should have a minimum width of 12 inches and a minimum embedment depth of 18 inches below the lowest adjacent finish grade.

### Slabs-On-Grade

Both the soil supported slab for the brine mixing station and the wash rack enclosure should be designed using a subgrade reaction modulus of 120 pounds per square inch per inch (pci).

### Lateral Earth Pressure

An active earth pressure equal to 36 pounds per square foot per foot (psf/ft) and a passive earth pressure of 360 (psf/ft) should be used for design.

### Coefficient of Sliding Friction

A coefficient of friction of 0.35 should be used to calculate sliding resistance for the brine mixing station and enclosed wash rack.

### Settlement

The estimated total and differential settlement in the area of the enclosed wash rack and brine station is less than 0.5 inch

### Backfill

Any excavated on-site soil may be reused as structure backfill by following the Standard Specifications for structure backfill (19-3.02B). Soils imported from off-site sources shall be non-expansive.

If any conceptual changes are proposed during final project design, the Office of Geotechnical Design-North should review those changes to determine if the recommendations contained herein are still applicable.

### **Construction Considerations**

- 1) Difficult excavation of the spread footings for the enclosed wash rack using conventional equipment such as a standard backhoe bucket should be expected. A small hoe ram may be required.
- 2) Difficult excavation of the bottom 2 feet of CIDH piles below the brine mixing station is expected. A rock auger may be required.
- 3) Pile end bearing capacity was not utilized in determining the pile tip depths.

### **Project Information**

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

-----  
*Data and information attached with the project plans are:*

One Log of Test Borings (Pine Grove HMS Wash Rack).

*Data and information included in the Information Handout provided to the bidders and Contractors are:*

None.

*Data and information available for inspection at the District Office:*

None.

*Data and information available for inspection at the Transportation Laboratory are:*

None.

If you have any questions or comments, or need additional information please contact Christopher Koepke at (916) 227-1040.

Report by:

*Chris Koepke*



Christopher Koepke, C.E.G.  
Engineering Geologist  
Office of Geotechnical Design – North  
Branch E

cc: Qiang Huang, R.E., Pending, Structures OE (E-copy), GDN File, D10 PCE – Angela Ezekiel, D10 DME – Dave Dhillon

## Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. JERRY MARCOTTE  
Senior Sanitary Engineer  
Water and Wastewater Branch  
Division of Engineering Services

**Date:** January 7, 2013

**File:** 10-AMA-88  
EA: 10-0X2101  
PID: 1012000181  
Pine Grove HMS  
19587 Highway 88  
ALC: 5718  
Wash Rack (new)

Attention: Eric Schmitz

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
GEOTECHNICAL SERVICES – MS 5

**Subject:** Results of Percolation Testing, Wash Rack, Phase 2

### Introduction and Project Description

Per your request, we are providing the following percolation test results for the maintenance station project referenced above. It is proposed to construct a new subsurface disposal field with infiltration chambers to service a new wash rack and brine mixing facility.

### Scope of Work

The scope of our work included a review of the site plan for Phase 2 showing the location of the proposed new disposal field, dated April 14, 2012, a review of the proposed infiltration chamber plan dated April 12, 2012, a review of the previous geotechnical work performed by Caltrans and performing exploratory drilling with percolation testing.

### Site Geology

The Pine Grove HMS is situated on a cut/fill pad. The subsurface materials found during the exploration at the project site are artificial fill and slate/phyllite (metamorphic) bedrock.

In order to characterize the geological conditions and locate any water table, one exploratory boring was drilled in the area of the proposed disposal field to a depth of 25 feet

The subsurface materials found during exploration in the area of the proposed disposal field consist of silt with trace amounts of clay and trace amounts of gravel.

These deposits are medium dense in consistency.

At depth and to the east of the disposal site, the geology consists of hard metamorphic rock (schist). Metamorphic rock was not encountered in the exploratory boring in the area of the disposal field and is not expected to affect its performance.

### Groundwater

Ground water was not encountered to the maximum explored depth of 25 feet.

### Percolation Testing Method

Two percolation tests were conducted during our field investigation. The tests were performed in general accordance with the method set forth in California Test 750, "*Method for Determining the Percolation Rate of Soils Using a 6-Inch-Diameter Test-Hole*". The tests were performed in 4-inch diameter pipes placed using the above methods. The tests were performed in holes advanced to depths of 10.0 feet.

The test holes were presoaked for at least 24 hours prior to testing the following day. The tests consisted of filling the pipes with clean water and monitoring the rate at which the water surface dropped by using a data logging pressure sensor placed at the bottom of the holes until stabilized readings were observed.

### Soil Classification

Soil profiles encountered in the exploratory borings have been provided to your office (Water and Wastewater Branch) for your use in determining the design soil application rates based on the U.S.D.A. soil classification system as required by the Water Control Board.

### Percolation Testing Results

The attached boring plot plan shows the locations of the percolation tests conducted at the site in the area of the proposed disposal field. The results of the percolation tests are shown in the following table:

Table 1 (Percolation Test Results)

Test Hole #	Diameter (inches)	Date	Start Time	End Time (Stabilized)	Water Level Drop (inches)	Percolation Rate (min./inch)
PT-1	4	9/18/2012	13:22	12:27 (19 <sup>th</sup> )	10.5	<b>133.3</b>
PT-2	4	9/18/2012	12:49	21:15	88.5	<b>5.7</b>

\*\*The testing result for PT-1 is considered unreliable either due to error or most likely a localized pocket of impermeable material at a depth of 10 feet at that location.

## Project Information

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

*Data and information attached with the project plans are:*

None.

*Data and information included in the Information Handout provided to the bidders and Contractors are:*

Results of Percolation Testing, Pine Grove HMS Wash Rack, Phase 2 dated 01-07-2013.

*Data and information available for inspection at the District Office:*

None.

*Data and information available for inspection at the Transportation Laboratory are:*

None.

If you have any questions or comments, or need additional information please contact Christopher Koepke at (916) 227-1040.

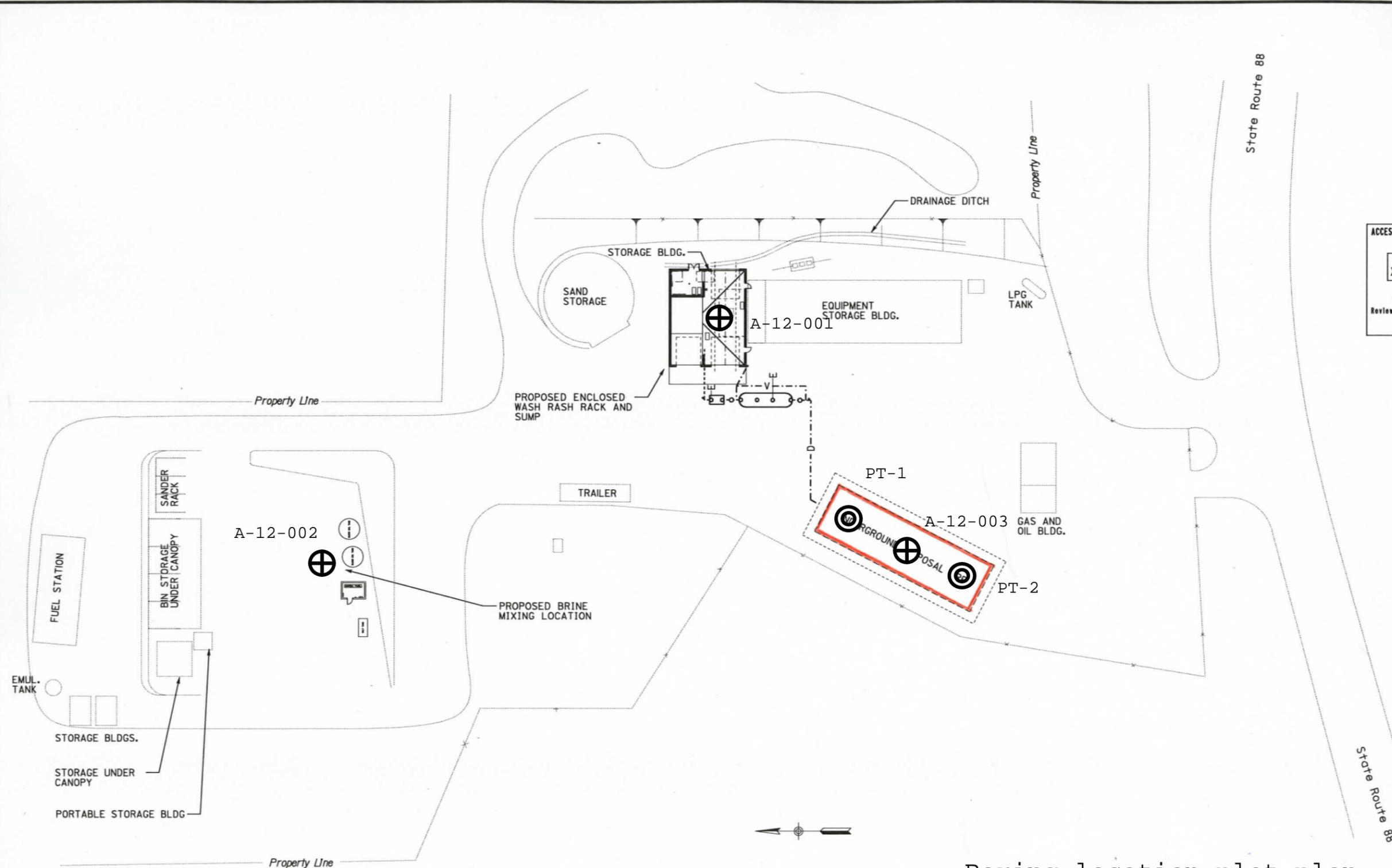
Report by:



Christopher Koepke, C.E.G.  
Engineering Geologist  
Office of Geotechnical Design – North  
Branch E

cc: Qiang Huang, R.E., Pending, Structures OE (E-copy), GDN File, D10 PCE – Angela Ezekiel, D10 DME – Dave Dhillon  
Attachment: Boring location plot plan

DIST.	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
X	X	X			
REGISTERED CIVIL ENGINEER			DATE		
					
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.					



<b>ACCESSIBILITY DESIGN APPROVAL STAMP</b> DOT / DES / OTA PROJECT ID <b>XXXXXXXXXX</b> Reviewed by: _____ Date: _____	<b>CALIFORNIA STATE FIRE MARSHAL APPROVED</b> Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times. Reviewed by: _____ Approval date: _____
---	---

**Boring location plot plan**

**LEGEND**

- ⊙ PT-1 = Percolation test boring, 6" dia. with 4" pipe
- ⊕ A-12-001 = Hollow stem auger boring

NOTE: Borings A-12-001/002 submitted as LOTB.

**PINE GROVE MS SITE PLAN**  
 SCALE 1" = 30'-0"

DESIGN	BY R E Schmitz	CHECKED
DETAILS	BY R E Schmitz	CHECKED
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO.	X
POST MILE	X

**DISTRICT 10 WASHRACKS PHASE 2**  
 PINE GROVE M.S.  
**SITE PLAN**

SHEET **SS3-1** OF

## Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. SEAN SAMUEL  
Branch Chief  
Structural Design Section 2  
Office of Transportation Architecture  
Division of Engineering Services

**Date:** November 19, 2012

**File:** 10-ALP-88  
EA: 10-0X2101  
PID: 1012000181  
Woodfords HMS  
18935 Highway 88  
ALC: 5725  
Wash Rack (new)

Attention: Tom Mesich

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
GEOTECHNICAL SERVICES – MS 5

**Subject:** Foundation Report for Wash Rack/Brine Mixing Facility

### Introduction and Project Description

Per your request, we are providing foundation recommendations for the maintenance station project referenced above. It is proposed to construct a new wash rack enclosure and sump facility along with a brine mixing station and an associated subsurface disposal field. The disposal field area is not part of the scope of this report. This report is for use by the project design engineer, construction personnel, bidders and contractors.

### Scope of Work

The scope of our work included a review of the site plan for Phase 2 showing the location of the proposed new facilities, dated June 22, 2012, a review of the previous geotechnical work performed by Caltrans and performing exploratory drilling with soil/rock sampling and geotechnical engineering analysis.

Two exploratory borings were drilled at the site to depths of 25 feet and 9 feet. One boring (25' depth) was drilled in the proposed wash rack area south of the existing equipment building. Another (9' depth) was drilled in the proposed brine mixing station area just to the east of the equipment building. A Log of Test Borings (LOTB) will be submitted in the contract plans.

Additionally, two borings were drilled in association with percolation testing in the area of the proposed leach field directly adjacent to the brine mixing station. These borings along with the 9' boring met with refusal in material containing a large percentage of cobbles.

## Site Geology

The Woodfords HMS is situated on an alluvial terrace. The source of the alluvium is the stream to the south and below the site. The upper 5 feet of the site consists of artificial fill placed to create a level building area.

The subsurface materials found during exploration at the project site are artificial fill and alluvium. These materials consist of silty sands with gravel (fill) and coarse sands with gravel and cobbles (alluvium).

These deposits vary in consistency from loose to medium dense. The deposits are medium dense in the upper 10 feet.

At depth, the geology consists of hard granitic rock. Granitic rock was not encountered in the exploratory borings and is not expected to be encountered during construction.

## Groundwater

An active monitoring well, directly adjacent to the proposed brine mixing station just east of the existing equipment building was measured on September 11, 2012. The depth to water measured in this well was 16.5 feet below the existing maintenance yard grade (OG) next to the equipment building. This corresponds with the elevation of the stream to the south.

Possible effluent water was encountered in the boring drilled in the area of the proposed wash rack. The wash rack location is directly adjacent to and to the east of an abandoned leach field. The depth of water encountered in this boring was 10 feet below OG.

Groundwater is not expected to be a factor during construction

## Surface Fault Rupture Hazard

The site is not located within any Earthquake Fault Zone (EFZ) as defined by the California Department of Conservation (Special Publication 42, 1997). There are no known faults crossing beneath or extending directly toward the site. Therefore, the potential hazard due to ground rupture is considered to be very low.

## Site Classification

Based on Table 1613A.5.2 of the 2010 CA Building Code the site should be classified as Class "D".

The following mapped spectral response accelerations at the project site were obtained based on the U.S.G.S *National Earthquake Hazards Reduction Program (NEHRP)*, 2003.

Mapped 0.2 second spectral acceleration, $S_s$	1.65g
Mapped 1.0 second spectral acceleration, $S_1$	0.75g

## **Recommendations**

### Brine Mixing Station

Based on the recent foundation investigation and review of the site plan and economic structural design considerations, the new brine mixing station may be supported by a cast-in-drilled-hole (CIDH) pile foundation system. The provided compressional service load is 8.3 kips per pile. The following table shows the required embedment depth of piles below the structure's slab or footings.

**Table 1**

<b>Pile Type</b>	<b>Design Load</b>	<b>Embedment depth of piles</b>
<b>24" ø CIDH</b>	<b>8.3 kips</b>	<b>10 feet</b>

### Wash Rack Enclosure

The wash rack enclosure structure should be supported on conventional spread footings using an allowable soil bearing capacity of 2000 psf. The footings should have a minimum width of 12 inches and a minimum embedment depth of 36 inches below the lowest adjacent finish grade.

### Slabs-On-Grade

Soil supported slabs should be designed using a subgrade reaction modulus of 120 pounds per square inch per inch (pci).

### Lateral Earth Pressure

An active earth pressure equal to 36 pounds per square foot per foot (psf/ft) and a passive earth pressure of 360 (psf/ft) should be used for design.

### Coefficient of Sliding Friction

A coefficient of friction (concrete on sandy soil) of 0.35 should be used to calculate sliding resistance.

### Settlement

The estimated total and differential settlement in the areas of the enclosed wash rack and brine station is less than 0.5 inch

### Backfill

Any excavated on-site soil may be reused as structure backfill by following the Standard Specifications for structure backfill (19-3.02B). Soils imported from off-site sources shall be non-expansive.

If any conceptual changes are proposed during final project design, the Office of Geotechnical Design-North should review those changes to determine if the recommendations contained herein are still applicable.

### **Construction Considerations**

- 1) There is an abandoned leach field directly adjacent to and west of the wash rack location. This area contains loose, coarse gravel with no fine material. Footing excavations may encounter this gravel. If this gravel is encountered in the footing excavations this office should be contacted for recommendations to mitigate the resulting native soil/gravel transition.
- 2) Pile end bearing capacity was not utilized in determining the pile tip depth.
- 3) Native gravel and cobbles were encountered in the exploratory borings. Difficult drilling of the CIDH piles for the brine mixing station due to cobbly material should be expected. Temporary casing may be used during drilling.
- 4) Footing excavations shall be free of loose material prior to rebar placement.

### **Project Information**

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

*Data and information attached with the project plans are:*

One Log of Test Borings (Woodfords HMS Wash Rack).

*Data and information included in the Information Handout provided to the bidders and Contractors are:*

None.

*Data and information available for inspection at the District Office:*

None.

*Data and information available for inspection at the Transportation Laboratory are:*

None.

Sean Samuel  
November 19, 2012  
Page 5

Foundation Report  
Woodfords HMS Wash Rack  
EA: 10-0X2101

If you have any questions or comments, or need additional information please contact Christopher Koepke at (916) 227-1040.

Report by:


Christopher Koepke, C.E.G.  
Engineering Geologist  
Office of Geotechnical Design – North  
Branch E

cc: Qiang Huang, R.E., Pending, Structures OE (E-copy), GDN File, D10 PCE – Angela Ezekiel, D10 DME – Dave Dhillon

## Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. JERRY MARCOTTE  
Senior Sanitary Engineer  
Water and Wastewater Branch  
Division of Engineering Services

**Date:** January 7, 2013

**File:** 10-ALP-88  
EA: 10-0X2101  
PID: 1012000181  
Woodfords HMS  
18935 Highway 88  
ALC: 5725  
Wash Rack (new)

Attention: Eric Schmitz

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
GEOTECHNICAL SERVICES – MS 5

**Subject:** Results of Percolation Testing, Wash Racks, Phase 2

### Introduction and Project Description

Per your request, we are providing the following percolation test results for the maintenance station project referenced above. It is proposed to construct a new subsurface disposal field with infiltration chambers to service a new wash rack and brine mixing facility.

### Scope of Work

The scope of our work included a review of the site plan for Phase 2 showing the location of the proposed new disposal field, dated June 22, 2012, a review of the proposed infiltration chamber plan dated April 12, 2012, a review of the previous geotechnical work performed by Caltrans and performing exploratory drilling with percolation testing.

### Site Geology

The Woodfords HMS is situated on a fluvial terrace deposited by the stream to the south approximately 70 feet below the site. The upper 5 feet of the site consists of artificial fill placed to create a level building area.

In order to characterize the geological conditions of the site, one exploratory boring was drilled in the area of the proposed disposal field to a depth of 9 feet. This boring met with refusal in sandy material containing a large percentage of cobbles.

The subsurface materials found during exploration in the area of the proposed disposal field consist of silty sands with gravel (fill, 5 feet deep) and coarse sands with gravel and cobbles (alluvium, below fill).

These deposits vary in consistency from loose to medium dense. The deposits are medium dense below a depth of 5 feet.

At depth, the geology consists of hard granitic rock. Granitic rock was not encountered in the exploratory boring and is not expected to affect the performance of the new disposal field.

### **Groundwater**

An active monitoring well, directly adjacent to the proposed disposal field area just east of the existing equipment building was measured on September 11, 2012. The depth to water measured in this well was 16.5 feet below the existing maintenance yard grade (OG) next to the equipment building.

### **Percolation Testing Method**

Two percolation tests were conducted during our field investigation. The tests were performed in general accordance with the method set forth in California Test 749, "*Method for Determining the Percolation Rate of Soils Using a 12-Inch-Diameter Test-Hole*". The tests were performed in 12-inch diameter auger drilled holes advanced to depths of 4.5 feet (PT-1 and PT-2). The test borings refused on cobbles at the bottom of both holes.

The test holes were presoaked for at least 24 hours prior to testing the following day. The tests consisted of filling the holes with clean water and monitoring the rate at which the water surface dropped by using a data logging pressure sensor placed at the bottom of the holes until stabilized readings were observed.

### **Soil Classification**

Soil profiles encountered in the exploratory borings have been provided to your office (Water and Wastewater Branch) for your use in determining the design soil application rates based on the U.S.D.A. soil classification system as required by the Water Control Board.

### **Percolation Testing Results**

The attached boring plot plan shows the locations of the percolation tests conducted at the site in the area of the proposed disposal field. The results of the percolation tests are shown in the following table:

Table 1 (Percolation Test Results)

Test Hole #	Diameter (inches)	Date	Start Time	End Time (Stabilized)	Water Level Drop (inches)	Percolation Rate (min./inch)
PT-1	12	9/17/2012	16:00	23:26	27.72	<b>16.1</b>
PT-2	12	9/17/2012	16:00	20:38	36.40	<b>7.6</b>

### Project Information

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

*Data and information attached with the project plans are:*

None.

*Data and information included in the Information Handout provided to the bidders and Contractors are:*

Results of Percolation Testing, Woodfords HMS Wash Rack, Phase 2 dated 01-07-2013.

*Data and information available for inspection at the District Office:*

None.

*Data and information available for inspection at the Transportation Laboratory are:*

None.

If you have any questions or comments, or need additional information please contact Christopher Koepke at (916) 227-1040.

Report by:

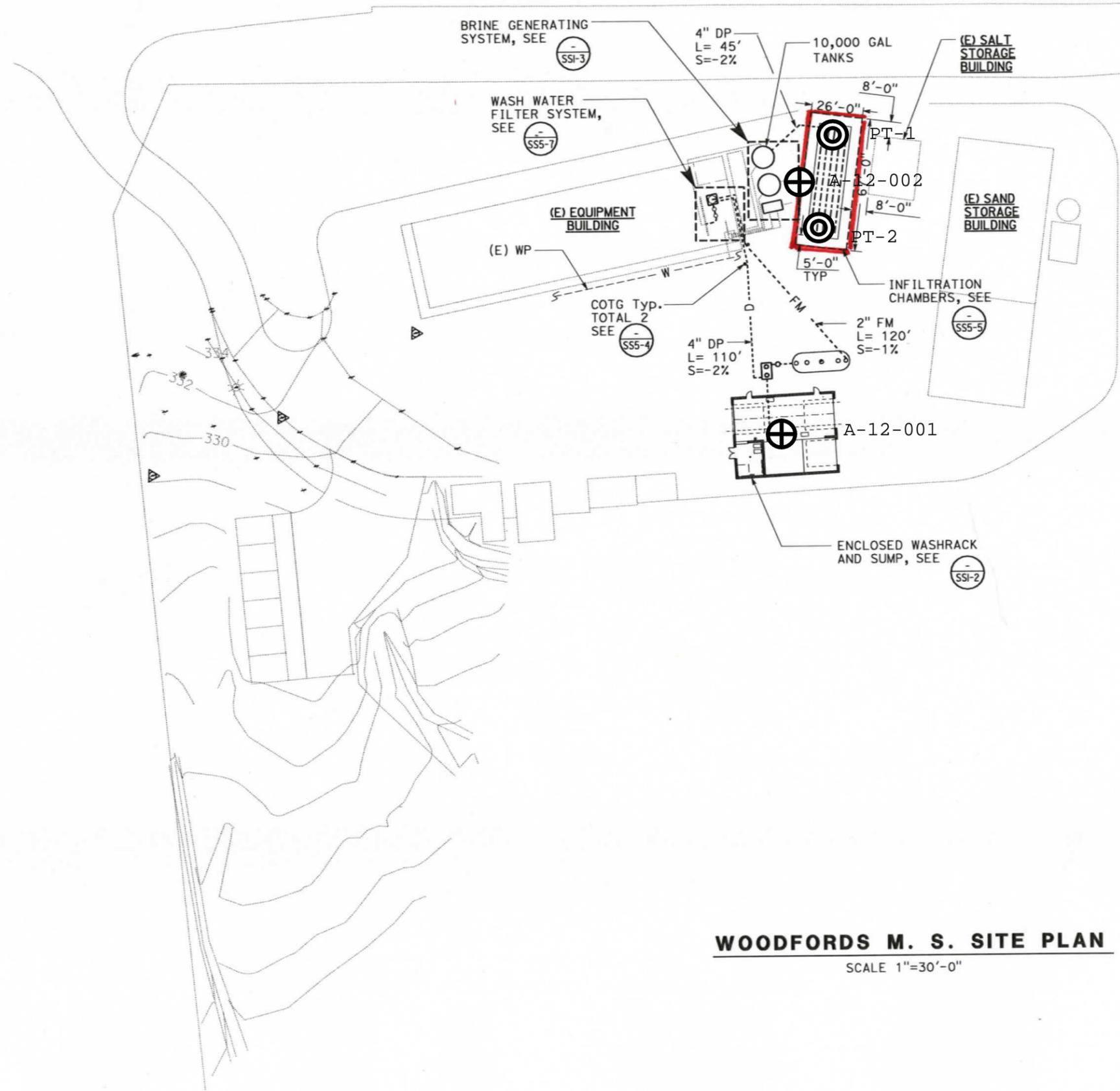

Christopher Koepke, C.E.G.  
Engineering Geologist  
Office of Geotechnical Design – North  
Branch E

cc: Qiang Huang, R.E., Pending, Structures OE (E-copy), GDN File, D10 PCE – Angela Ezekiel, D10 DME – Dave Dhillon  
Attachment: Boring location plot plan

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Alp, Amc Cal	VARIOUS			

REGISTERED CIVIL ENGINEER	DATE
REGISTERED PROFESSIONAL ENGINEER No. X Exp. X CIVIL STATE OF CALIFORNIA	
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.	



Boring location plot plan

LEGEND

- ⊕ A-12-001 = Hollow stem auger boring 6" dia.
- ⊙ PT-1 = Percolation test boring, 12" dia.

NOTE: Borings A-12-001/002 submitted as LOTB.

**WOODFORDS M. S. SITE PLAN**

SCALE 1"=30'-0"



DESIGN	BY Amar Baidwan	CHECKED Jerry Marcotte
DETAILS	BY Amar Baidwan	CHECKED Jerry Marcotte
QUANTITIES	BY Amar Baidwan	CHECKED Jerry Marcotte

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO.	X	DISTRICT 10 WASHRACKS PHASE 2	WOODFORDS M. S.	MODIFIED SITE PLAN	SHEET SS1-1
POST MILE	X				



REVISION DATES (PRELIMINARY STAGE ONLY)	4-28-12	5-7-12	6-22-12							
---	---------	--------	---------	--	--	--	--	--	--	--