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**Soil Management Plan for  
Former Anthony's Auto Wrecking Property  
Pinole, California**

**October 3, 2002  
001-08171-00-003**

Prepared for  
City of Pinole  
2131 Pear Street  
Pinole, California 94564

  
LEVINE • FRICKE

October 3, 2002

001-08171-00-003

Sampath Rangarajan  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
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Subject: Soil Management Plan for the Former Anthony's Auto Wrecking Property, 850 San Pablo Avenue, Pinole, California

Dear Sampath:

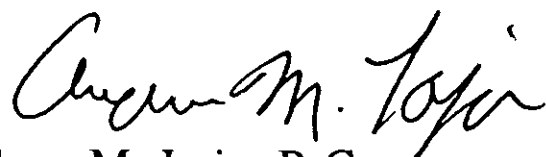
LFR Levine·Fricke (LFR) has prepared the attached Soil Management Plan (SMP) on behalf of the City of Pinole ("the City") for the former Anthony's Auto Wrecking Property, located at 850 San Pablo Avenue, Pinole, California ("the Site"). LFR understands that the City is considering acquiring the Site for industrial redevelopment. The Regional Water Quality Control Board (RWQCB) recommended the preparation of an SMP for use during redevelopment of the Site. The SMP addresses the management of naturally occurring soil and existing fill material at the Site.

The SMP presents sampling and health and safety procedures to be implemented during site development or future site modification that could disturb site soil, such as the repair of a subsurface utility. The SMP will facilitate regulatory site closure by providing a framework to manage residual concentrations of lead and petroleum hydrocarbons in soil at the Site in a manner that is protective of human health and the environment, including water quality.

The SMP will remain in effect unless future site development plans necessitate changes in land use. At such time, the RWQCB may require a re-evaluation of the soil and groundwater conditions at the Site and implementation of further remedial measures to address residual metals and petroleum-hydrocarbon-affected soil if warranted by the proposed changed land use.

If you have questions or comments, please call me at (510) 652-4500.

Sincerely,



Andrew M. Lojo, R.G.  
Senior Associate Geologist

Enclosure

cc: Marcus Tartt, City of Pinole

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## 1.0 INTRODUCTION

LFR Levine-Fricke (LFR) has prepared this draft Soil Management Plan (SMP) on behalf of the City of Pinole ("the City") for the former Anthony's Auto Wrecking Property, located at 850 San Pablo Avenue, Pinole, California ("the Site"; Figure 1). LFR understands that the City is considering acquiring the Site for redevelopment. The portion of the Site previously used for auto wrecking activities (approximately 7 acres) is slated for industrial reuse. The remaining 7 acres, which has remained unused until now, is slated for residential redevelopment. This SMP is intended to provide protocols for managing residual soil remaining on the auto wrecking portion of the Site containing lead and total petroleum hydrocarbon (TPH) concentrations that are acceptable for industrial site reuse, although above natural background levels. The protocols are intended for use during site redevelopment and future maintenance that may require the disturbance of subsurface soil at the Site.

This SMP is intended to facilitate regulatory site closure by providing a framework to manage residual concentrations of lead and TPH in soil at the Site in a manner that is protective of human health and the environment, including water quality. The SMP identifies the general measures that must be implemented before, during, and after redevelopment of the Site. The SMP was prepared based on the results of field investigations and remedial activities conducted by LFR and on previous site investigative work conducted by Terrasearch, Inc. ("Terrasearch") and Geocon Geotechnical and Environmental Consultants ("Geocon").

This SMP will remain in effect unless future site development plans necessitate changes in land use. At such time, the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) may require a re-evaluation of the soil and groundwater conditions at the Site and implementation of further remedial measures to address residual concentrations of lead- and TPH-affected soil.

## 2.0 SITE DESCRIPTION

The Site, located at 850 San Pablo Avenue, Pinole, California, covers an area of approximately 14 acres, the western half of which was formerly used for auto wrecking activities. A site vicinity map is presented as Figure 1. The Site is bounded to the east by hilly undeveloped land with residential housing beyond, to the south by San Pablo Avenue and various businesses, to the west by industrial property, and to the north by the Atchison, Topeka, and Santa Fe Railroad and residences beyond. The northern two-thirds of the Site slopes gently downhill toward the railroad tracks and San Francisco Bay. The southern third of the Site forms a hill, which slopes to the south toward San Pablo Avenue after peaking on the Site. A site plan is presented as Figure 2.

Several scenarios for the industrial redevelopment of the Site have been proposed. The current redevelopment plan for the former auto wrecking parcel (approximately 7 acres)

includes the construction of an access road along the eastern boundary of the parcel. Five level building pads to be constructed along the western side of the access road are proposed for later industrial development.

### **3.0 BACKGROUND**

#### **3.1 Previous Environmental Investigations**

In 2000, the City retained Terrasearch to provide preliminary environmental and geotechnical investigation services at the Site and to propose a remediation plan to address identified contaminants in soil. In March 2001, the City requested that LFR evaluate the remedial activities that Terrasearch recommended for the Site. Specifically, LFR reviewed the following Terrasearch documents:

- “Geotechnical Site Evaluation and Preliminary Grading Recommendations,” dated January 24, 2001
- “Limited Phase I and II Environmental Site Assessment,” dated January 25, 2001
- “Preliminary Cost Estimate for Removal of Contaminated Soil,” dated February 8, 2001

Based on review of these reports, LFR recommended that more data be collected to assess whether soil at the Site needed to be removed to protect human health and the environment. LFR therefore conducted a further soil and limited groundwater investigation at areas of concern and reviewed the regulatory files from neighboring properties to evaluate the potential for migration of off-site contamination to the Site.

The results of LFR’s investigation indicated that the potential for migration of contaminants onto the Site from off-site sources is low, including fuel conveyed in pipelines present in a Chevron Pipeline easement located in the southern portion of the Site (Figure 2).

Based on the results of the analytical data and information collected during LFR’s investigation and on the previous investigation work conducted by Terrasearch and Geocon, LFR found that four areas of the Site had been affected by past site uses. Two of these areas (in the vicinity of boring LF-30 and test pit TP-6 and in the vicinity of boring LF-13; Figure 2) had elevated concentrations of lead in soil. A third area, in the vicinity of the former engine draining area (borings LF-5 and LF-6; Figure 2) had soil affected with TPH and low levels of volatile organic compounds (VOCs). The fourth area was the former underground storage tank (UST) area, which has already been closed by the RWQCB.

Because oil/water separators in the engine draining area were reported to have drained into the soil rather than the sewer system, groundwater sampling was conducted by LFR

in September 2001. During the groundwater investigation, LFR collected six grab groundwater samples from borings GW-1 through GW-6. Analytical results from these samples indicated that previous oil drainage from the oil/water separators has not significantly affected shallow groundwater in the area.

Based on the analytical results of these and previous groundwater samples collected during these investigations, LFR concluded that no additional investigations or remedial actions were needed for groundwater at the Site (with the exception of the UST area).

### 3.2 Remedial Goals Established for Soil

The results of previous investigations indicated that soil and existing fill material at the Site had been affected by lead and TPH quantified in the motor oil (TPHmo) and diesel (TPHd) ranges. A total of three areas were identified where these constituents exceeded the remediation goals developed for the industrial reuse planned by the City of Pinole for the Site (LFR 2002). The remediation goals developed for these constituents in soil were:

- TPHmo: 1,000 milligrams per kilogram (mg/kg)
- TPHd: 500 mg/kg
- benzene: 0.39 mg/kg
- toluene: 8.4 mg/kg
- ethylbenzene: 24 mg/kg
- total xylenes: 1.0 mg/kg
- total lead: 750 mg/kg

These residual goals were chosen using a combination of U.S. Environmental Protection Agency (EPA) preliminary remediation goals (PRGs) and RWQCB risk-based screening levels (RBSLs).

The TPHmo and TPHd remedial goals were based on the values provided in the RWQCB RBSLs for the industrial/commercial land-use scenario in which groundwater is not considered a potential source of drinking water. LFR has used information in this document as an informative tool in the process of evaluating whether a release of chemicals may or may not be considered significant.

The RWQCB has prepared a technical document entitled "Application of Risk-Based Screening Levels and Decision Making to Sites With Impacted Soil and Groundwater" (Interim Final, August 2000). The document presents lookup tables of conservative RBSLs for over 100 chemicals commonly found in affected soil and groundwater at sites where releases of hazardous substances have occurred. The report describes how the RBSLs were developed and provides detailed tables and appendices in support of the summary lookup tables. The document is intended to help expedite the preparation of

environmental risk assessments at sites where affected soil and groundwater have been identified.

As an alternative to preparing a formal risk assessment, soil and groundwater data collected at a site can be directly compared to the RBSLs and the need for additional work evaluated. It is anticipated that this document will be especially beneficial for use at small- to medium-size sites (similar to this Site) where the preparation of a more formal risk assessment may not be warranted or feasible because of time and/or cost constraints.

The total lead remedial goal of 750 mg/kg was based on the value provided in the EPA PRGs for industrial sites. For comparison purposes, the RBSL for lead at industrial sites in which groundwater is not considered a potential source of drinking water is 1,000 mg/kg.

#### 4.0 SOIL REMEDIATION

Based on previous investigations, two areas were identified as containing lead-affected soil at concentrations exceeding the industrial PRG. These areas are located in the northern (lower) and central (upper) portions of the Site. A further area in the southern portion of the Site was identified as containing TPH-affected soil at concentrations exceeding RBSLs. In June and July of 2002, LFR supervised the excavation and off-site disposal of the affected soil in the following areas (Figure 2):

- The lower lead excavation area, located near former soil boring LF-30, was excavated to approximately 2 feet below ground surface (bgs)
- The upper lead excavation area, located near former soil boring LF-13, was excavated to approximately 2 feet bgs
- The TPH-affected excavation area, located near former soil borings LF-4 and LF-5, was excavated to a depth of approximately 5 to 8 feet bgs

As the excavations progressed, confirmation samples were collected from the base and the sidewalls of each excavation after the removal of affected soil. Excavation continued until the analysis of confirmation sample results indicated that the remedial goals for affected soil in the areas had been met. Results of the remediation activities are presented in LFR's "Report of Soil Remediation Activities," dated September 26, 2002.

Approximately 2,800 tons of lead-affected soil were removed from the lower and upper lead excavations. The excavated soil was stabilized to below soluble threshold limit concentration (STLC) levels by mixing the soil with approximately 10 percent cement to fixate the lead. The treated soil was then transported to Allied Waste's Forward Landfill, a Class 2 nonhazardous waste landfill located in Stockton, California. A total of approximately 742 tons of TPH-affected soil was excavated and transported to Allied Waste's Forward Landfill for off-site disposal.

The analytical results of the confirmation samples collected from the base and sidewalls of the excavations indicated that the remedial goals established for lead- and fuel-affected soil had been successfully achieved at the Site. LFR therefore recommended in its Report of Soil Remediation Activities that the Site be granted no-further-action status and that additional soil removal and handling activities be conducted under the guidance of this SMP.

## **5.0 SOIL MANAGEMENT PROTOCOLS DURING SITE DEVELOPMENT**

The following sections present the management protocols for handling, moving, stockpiling, and reusing native soil during the development at the Site. Contingency protocols to be followed when unknown contamination or underground structures are identified are also presented.

### **5.1 Soil Management Strategy**

Throughout the grading activities associated with the redevelopment of the Site, native soil and existing fill material will be handled and moved from one portion of the Site to another.

As described above, the analysis of confirmation samples collected from the areas of excavations indicated that the remedial goals for lead- and fuel-affected soil at the Site have been met. An objective of this SMP is to further minimize the potential for exposure to residual concentrations of lead and fuel in soil by developing a strategy for the management of reuse-soil at the Site. In addition, this SMP addresses the concern that soils meeting the remedial goals may be classified as hazardous waste if they are removed from the Site due to the relatively high solubility of the lead.

Many of the projected construction activities at the Site will require limited excavation of native soil. Other construction activities proposed will require soil to be added for grading. The net balance of soil from cut and fill grading will probably not require removal of soil from the Site. LFR recommends that the shallow soil, which contains residual levels of lead and TPH, be stripped off to a depth of approximately 1 to 2 feet bgs and placed in deeper fills as part of the normal site grading activities, to minimize the potential of future exposure of this soil to site occupants. Although off-site disposal of soil is not anticipated, any soil to be disposed of off site will be tested and disposed of at an appropriately licensed landfill following applicable federal and state laws and regulations.

In addition, fill material, which is present in portions of the Site, may include construction debris, concrete, rock, glass, wood, bricks, and other debris such as pieces of metal. It may be necessary to remove soil containing this material, which will also be tested and disposed of in accordance with all applicable laws and regulations.



## **5.2 Measures to Minimize Dust from Soil Movement and Handling**

Soil handling activities can result in exposure to dust. Dust control measures will be implemented during the construction at the Site. In general, the most effective dust control measure is to water all active construction areas at least twice per day or as necessary to prevent visible dust plumes from migrating off site. Also, tarpaulins or other effective covers may be used for trucks carrying soils on and off site.

## **5.3 Reuse of Excavated Soil**

Soil that is excavated within the Site may need to be stockpiled before it is reused. There are three potential concerns associated with the stockpiling of soils: dust generation, erosion, and unauthorized access to the stockpiles. The risk management measures that will be implemented to control dust from the stockpiles are described below.

Water will be used to mitigate dust generated during the creation, movement, or use of the soil stockpiles. Overwatering, which could result in excessive runoff, will be avoided. Dust palliatives or other methods of dust control may be used if water proves to be inadequate.

While stockpiles are in place, dust will be controlled using a cover or an alternative method that provides equivalent protection. If the stockpiles are covered, the cover will consist of anchored plastic sheeting or equivalent cover. The method of covering will be determined based on the anticipated time the stockpiles will be in place, weather conditions, and other practical factors such as the size of the stockpiles.

## **5.4 Soil for Landscaped Areas**

This section applies to landscaped areas that will be accessible for human use. Materials used for landscaped areas will consist of imported materials composed of sand, topsoil, or fill that meets the prevailing commercial standards for use in commercial developments or on-site material (such as native soil) that has been specifically approved for reuse and meets the prevailing commercial standards.

## **5.5 Contingency Protocols for Identifying Affected Media or Underground Structures**

The protocols to be followed in the event that unknown areas of contamination and/or underground structures are identified during site development are described in this section. These protocols will be conducted by the owner, lessee, or other entity, such as a contractor or qualified consultant, designated or certified by the owner or lessee.

Unknown conditions that may trigger contingency monitoring procedures during site development include but are not limited to those listed below. Discovery of any of these conditions could require either alternative or additional measures to protect human health and the environment.

- oily, shiny, or saturated soil or free product in previously undocumented areas
- discovery of a UST
- discovery of debris associated with former wrecking yard activities
- other conditions that vary materially from those documented during previous investigations

If free product is encountered, the areal extent and thickness will be characterized and excavated. The excavated soil will be stockpiled and disposed of off site.

During the course of excavation and construction activities within the Site, it is possible that USTs, sumps, or other underground structures that were not identified during previous site investigations will be discovered. For example, USTs may be identified during grading and site excavation activities by the presence of vent pipes that extend above the ground surface, product distribution piping that leads to the UST, fill pipes, backfill materials, or the UST itself. Other structures might not have features that extend above the surface and could be unearthed when construction equipment comes into contact with them. The following section outlines the measures that govern identification and removal of USTs and appropriate measures for addressing other underground structures identified during development.

Chapter 6.7 of the California Health and Safety Code contains the specific requirements for removing and remediating contamination associated with a leaking UST. The Contra Costa County Hazardous Materials Program (CCCHMP) is responsible for local oversight and overseeing the removal of any UST; however, the RWQCB maintains responsibility for overseeing environmental investigations and responses arising from releases from any UST at the Site. Accordingly, the RWQCB and the CCCHMP will be notified in the event that a UST or appurtenant piping is discovered during construction and development of the Site.

Environmental investigations and responses required following removal of the UST will be conducted under the direction of the RWQCB and in accordance with the specific provisions delineated in Chapter 6.7 of the California Health and Safety Code.

For other subsurface structures that may have been related to former use and storage of chemicals, such as underground vaults and sumps, the following procedures should be implemented to determine the proper disposition of the encountered structure.

The structure should be inspected to assess whether it contains any indication of chemical residuals or free liquids other than water. The owner or lessee's designated environmental engineer will make this assessment using field observations. If there is no

indication, based on visual observation, odor, or field air monitoring equipment, that chemicals are or were present within the vault or sump, then removal of the structure is not necessary for environmental reasons.

If a sump or vault contains liquids that appear to contain chemicals, based on visual observations, odor, or field air monitoring equipment, then the following steps shall be taken:

- Characterize the chemical and determine appropriate response action.
- Sample potentially chemical-containing liquids for profiling purposes.
- Properly remove and dispose of liquids under the direction of the owner or lessee's designated environmental engineer.
- Notify the RWQCB and/or CCCHMP before the selection of an appropriate response.

## 5.6 Access Control During Construction

The potential for trespassers or visitors to gain access to construction areas and come into direct contact with potentially contaminated soils or groundwater will be controlled through the implementation of the access and perimeter security measures.

## 5.7 Construction Worker Management Measures

During construction activities, workers that may directly contact the native soil will conduct the work in accordance with California Occupational Safety and Health Administration (Cal/OSHA) training and worker protection rules and regulations. The types of hazards that construction workers or other workers involved in soil disruptive activities are most likely to encounter include the following:

- identifying previously unknown structures or areas of contamination
- having direct contact with fill materials that contain inorganic constituents including lead or petroleum compounds

Cal/OSHA is the state agency that is responsible for monitoring compliance with worker health and safety laws and requirements. Compliance with standard Cal/OSHA regulations, particularly Title 8, Chapter 4, "Division of Industrial Safety," will minimize the potential effects associated with excavation activities, as the intent of these standards is to prepare workers for the types of hazards that are likely to be encountered during such activities. All activities conducted within the Site must be in compliance with current Cal/OSHA rules and regulations, even if not expressly noted in this SMP. Further, all workers involved in subsurface activities must conduct the work in compliance with an environmental health and safety plan (HSP). The HSP will be an additional mechanism that will protect workers engaging in intrusive work. To achieve

that goal, the HSP will delineate the specific potential hazards associated with contact with native soils at the Site and will inform workers that the subsurface material may contain lead or petroleum compounds. The HSP will also define the methods to be employed to minimize the hazards associated with such activities.

The minimum health and safety guidelines for all workers engaging in intrusive work at the Site are provided below. Preparation of and compliance with all aspects of the HSP is the responsibility of the individuals engaged in the intrusive activities. HSPs prepared for any construction projects will be kept on site during the project. This SMP does not require that construction workers working at the Site comply with Cal/OSHA standards for Hazardous Waste Operations and Emergency Response, unless the companies conducting intrusive work at the Site conclude it is required after thoroughly evaluating the residual soil analytical data in relation to the potential exposure to those chemicals necessitated by the type of work being conducted.

## 5.8 Environmental Health and Safety Guidelines

Although this SMP establishes the minimum requirements for an HSP, the HSP is a stand-alone document developed by the owner or lessee's designated contractor or qualified environmental consultant before the initiation of any construction activities that would disrupt the native soils. It is the responsibility of the individual preparing the HSP to verify that the components of the HSP are consistent with current worker health and safety rules and regulations. All workers, including utility repair workers or other workers who may directly contact native soil or groundwater, would perform all activities in accordance with an HSP. Consistent with Cal/OSHA standards, an HSP would not be required for workers such as carpenters, painters, or others who would not be performing activities that disrupt native soils.

The HSP will be designed to identify, evaluate, and control safety and health with respect to the chemicals present in the soil and groundwater. The HSP will require that the on-site Health and Safety Officer conduct periodic briefing meetings (tailgate meetings) with construction personnel on the reporting requirements to be undertaken when underground structures are identified. Compliance with all aspects of the HSP is the responsibility of the party conducting the construction activities.

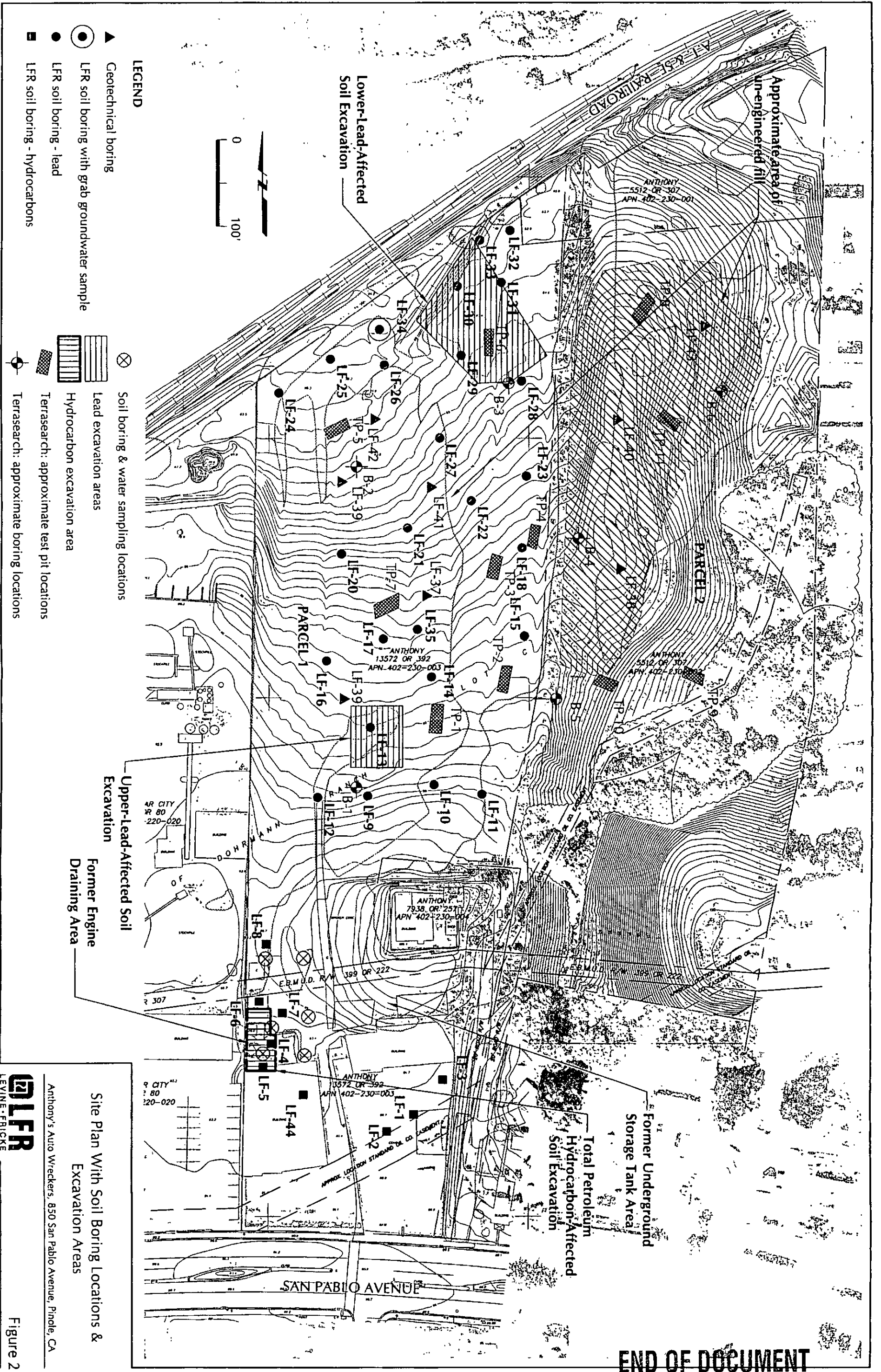


**Table 2**  
**Lead Concentrations in Soil**  
**Anthony's Auto, Pinole, California**  
*Concentrations in milligrams per kilogram (mg/kg)*

Sample Location	Sample ID	Depth Interval	Lead (mg/kg)
LF-8	LF-8-0.5	0-0.5	27
	LF-8-2	1.5-2	29
LF-9	LF-9-1	0.5-1	410
	LF-9-2	1.5-2	25
LF-10	LF-10-0.5	0.5-1	98
	LF-10-2	1.5-2	8.5
LF-11	LF-11-0.5	0-0.5	19
	LF-11-2	1.5-2	1.7
LF-12	LF-12-0.5	0-0.5	6.6
	LF-12-2	1.5-2	5.4
LF-13	LF-13-0.5	0-0.5	940
	LF-13-2	1.5-2	5.0
LF-14	LF-14-0.5	0-0.5	210
	LF-14-2	1.5-2	270
LF-15	LF-15-0.5	0-0.5	9.4
	LF-15-2	1.5-2	2.7
LF-16	LF-16-0.5	0-0.5	52
	LF-16-2	1.5-2	2.3
LF-17	LF-17-0.5	0-0.5	36
	LF-17-2	1.5-2	2.1
LF-18	LF-18-0.5	0-0.5	63
	LF-18-2	1.5-2	2.0
LF-19	Not drilled		
LF-20	LF-20-0.5	0-0.5	19
	LF-20-2	1.5-2	120
LF-21	LF-21-0.5	0-0.5	38
	LF-21-2	1.5-2	160
LF-22	LF-22-0.5	0-0.5	9.0
	LF-22-2	1.5-2	2.5
LF-23	LF-23-0.5	0-0.5	82
	LF-23-2	1.5-2	5.3
LF-24	LF-24-0.5	0-0.5	31
	LF-24-1	0.5-1	140
	LF-24-2	1.5-2	62
LF-25	LF-25-0.5	0-0.5	110
	LF-25-2	1.5-2	42
LF-26	LF-26-0.5	0-0.5	57
	LF-26-2	1.5-2	12
LF-27	LF-27-0.5	0-0.5	44
	LF-27-2	1.5-2	2.6
LF-28	LF-28-0.5	0-0.5	160
	LF-28-2	1.5-2	3.4
LF-29	LF-29-0.5	0-0.5	85
	LF-29-2	1.5-2	3.1
LF-30	LF-30-0.5	0-0.5	1500
	LF-30-2	1.5-2	7.5
LF-31	LF-31-0.5	0-0.5	17
	LF-31-2	1.5-2	2.9
LF-32	LF-32-0.5	0-0.5	16
	LF-32-2	1.5-2	7.3
LF-33	LF-33-0.5	0-0.5	290
	LF-33-2	1.5-2	6.2
LF-34	LF-34-0.5	0-0.5	180
	LF-34-2	1.5-2	43
LF-35	LF-35-0.5	0-0.5	31
	LF-35-2	1.5-2	9.6
LF-44	LF-44-1	0.5-1	34

Data entered by TIH. Data proofed by LIU.





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