

ENVIRONMENTAL
PROTECTION

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UNDERGROUND FUEL STORAGE TANK REMOVAL AND REPLACEMENT REPORT

SOUTH COUNTY CORPORATION YARD
17930 LAKE CHABOT ROAD
CASTRO VALLEY, CALIFORNIA

Prepared For

EAST BAY REGIONAL PARK DISTRICT
OAKLAND, CALIFORNIA

January 1999

 Stellar Environmental Solutions

Geoscience & Engineering Consulting

★ Stellar Environmental Solutions

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January 12, 1999

Mr. Stephen Gehrett, Equipment Manager
East Bay Regional Park District
P.O. Box 5381
Oakland, California 94605-0381

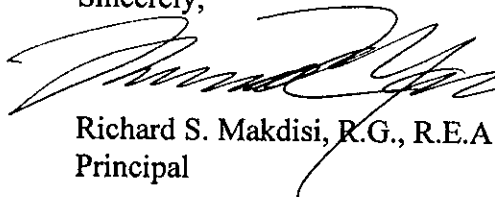
Subject: UFST Closure Report, South County Corporation Yard
17930 Lake Chabot Road, Castro Valley, California

Dear Mr. Gehrett:

This report summarizes underground fuel storage tank (UFST) removal and replacement activities conducted by Stellar Environmental Solutions (SES) at the East Bay Regional Park District (District) South County Corporation Yard located at 17930 Lake Chabot Road in Castro Valley, California (project site). SES was initially retained to conduct soil sampling in support of a retrofit of three existing UFSTs. However, as a result of finding soil contamination during the field work activities on November 10, 1998, and the subsequent discovery of the brittle condition of the 21-year-old fiberglass UFSTs on November 11, 1998, the District decided to complete the project as a UFST replacement rather than a retrofit. The District's UFST removal contractor, VCI, completed the excavation, tank removal and tank replacement work.

This report summarizes and documents the UFST removals and replacements. Included are discussions of the volume of contaminated soil removed, its fate, and the extent of residual hydrocarbon contamination left at the base of the excavation before the two new replacement tanks were installed. Please contact us directly at (510) 644-3123 if you have any questions.

Sincerely,


Richard S. Makdisi, R.G., R.E.A.
Principal



505 507 1250

REGIONAL PARKS

EAST BAY REGIONAL PARK DISTRICT



June 9, 1999

JUN 14 1999

Richard A. Pantages, Chief, Contract Project Director
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

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Re: StID#: 1813

East Bay Regional Park District Corporation Yard
17930 Lake Chabot Road
Castro Valley, CA 94546

Dear Mr. Pantages,

This is to acknowledge that the East Bay Regional Park District is the sole current record owner of above site. The Park District has operated a corporation yard at this site for more than 20 years.

Sincerely,

Stephen Gehrett
Equipment Manager
(510) 544-2700



**UNDERGROUND FUEL STORAGE TANK
REMOVAL AND REPLACEMENT REPORT**

**SOUTH COUNTY CORPORATION YARD
17930 LAKE CHABOT ROAD
CASTRO VALLEY, CALIFORNIA**

Prepared For

**EAST BAY REGIONAL PARK DISTRICT
P.O. BOX 5381
OAKLAND, CALIFORNIA 94605-0381**

Prepared By

**STELLAR ENVIRONMENTAL SOLUTIONS
2110 SIXTH STREET
BERKELEY, CA 94710**

January 12, 1999

Project No. 98039

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EXECUTIVE SUMMARY

Stellar Environmental Solutions (SES) was retained by the East Bay Regional Park District (District) in November 1998 to provide soil sampling analytical services in what was anticipated to be retrofit of piping associated with three underground fuel storage tanks (UFSTs) at the District's South County Corporation Yard, located at 17930 Lake Chabot Road in Castro Valley, California (project site). The three UFSTs consisted of two 8,000-gallon gasoline tanks and one 2,200-gallon diesel tank, all in a common pit that was excavated into bedrock and with backfill below, around and on top of the tanks.

The District retained Verl's Construction, Inc. of California (VCI) (California Contractor's License #487537) as the UFST retrofit contractor to complete the retrofit project on November 10, 1998. However, as a result of finding soil contamination during the field work activities on November 10, and the subsequent discovery of the brittle condition of the 21-year-old fiberglass UFSTs on November 11, 1998, the District decided to complete the project as a UFST replacement rather than a retrofit. The scope of VCI's work was expanded to include the removal of the three UFSTs and their replacement by two tanks—a 12,000-gallon unleaded gasoline tank and a 2,500-gallon diesel tank.

Regulatory oversight during the UFST removal and replacement project was provided by Alameda County Health Care Services Agency (ACHCSA). Mr. Robert Weston of ACHCSA provided the regulatory oversight of the field activities, also acting in the capacity of health and safety officer of the VCI work during the UFST removal phase of the field work.

The excavation and tank removal and transport activities were conducted by VCI of California between November 9 and November 20, 1998. The installation of the two new replacement tanks was initiated on November 23, 1998 and was substantially completed by January 12, 1999. Final site restoration, including installation of dispensing equipment, system pressure testing and paving, is anticipated to be completed by February 1999.

The UFST removals were conducted in accordance with the UFST Closure Plan submitted by the District to ACHCSA. The subject UFSTs included two 8,000-gallon gasoline UFSTs and one 2,200-gallon diesel UFST, all located within a common excavation. One vapor monitoring device was

installed in the excavation adjacent to the gasoline UFSTs, and the UFSTs were connected to aboveground pumps with steel piping.

Soil sampling of the backfill, sidewall and base of excavation materials encountered during the November 10 and November 17 field work resulted in 10 soil samples being collected for analyses. The range of total petroleum hydrocarbons (TPH) in the soil samples ranged from not detected to 8,900 mg/kg with the majority (>75%) being associated with the TPH as diesel fraction. A water sample was collected from the base of the excavation at about 12.5 feet below ground surface. The water encountered at the base of the excavation was not considered to be indicative of the water table, but rather reflected the infiltration of the recent rains into the UFST excavation while it was open. The water sample was analyzed for TPHd, TPHg, BTEX and MTBE. Analytes detected included TPHd (100,000 µg/L), benzene (300 µg/L), toluene (280 µg/L) and MTBE (56,000 µg/L). Neither TPHg, ethylbenzene nor xylenes were detected.

The residual contamination in the soil and in the water at the base of the excavation is not considered to be of significant impact to human health and safety or the environment, although the concentrations do exceed some regulatory guidance. The lack of environmental impact is suggested by the location of the site in the uplands area with bedrock located at approximately 4 feet bgs, as well as the effectiveness of the bedrock material at the base of the excavation to inhibit migration away from the excavation. The residual TPH remaining in the soil at the base of the excavation, although at relatively high concentrations of >1,000 mg/Kg, is not a serious risk to groundwater—because the base of the excavation is fractured sandstone, and because the groundwater should naturally attenuate over time given the distance over which it must travel before encountering any sensitive receptors.

On December 10, 1998 SES collected two 4:1 composite samples from the bermed soil pile where VCI placed the excavated contaminated soil. The volume of this soil is estimated at approximately 120 CY. Concentrations detected include 590 and 2,000 mg/Kg TPHd, 21 and 79 mg/Kg TPHg and no detectable BTEX or MTBE. The District has indicated that the soil will be aerated at this location until it meets ACHCSA criteria for re-use. The natural degradation of the TPH contamination in the soil, given the average concentrations, should occur over a time period of approximately 2 years.

The tank and piping were recycled as scrap metal, and all construction debris was landfilled. The new tanks were installed to meet the requirements of the California UST replacement specification and are double walled with internal monitors for any leaks.

1.0 INTRODUCTION

SITE DESCRIPTION

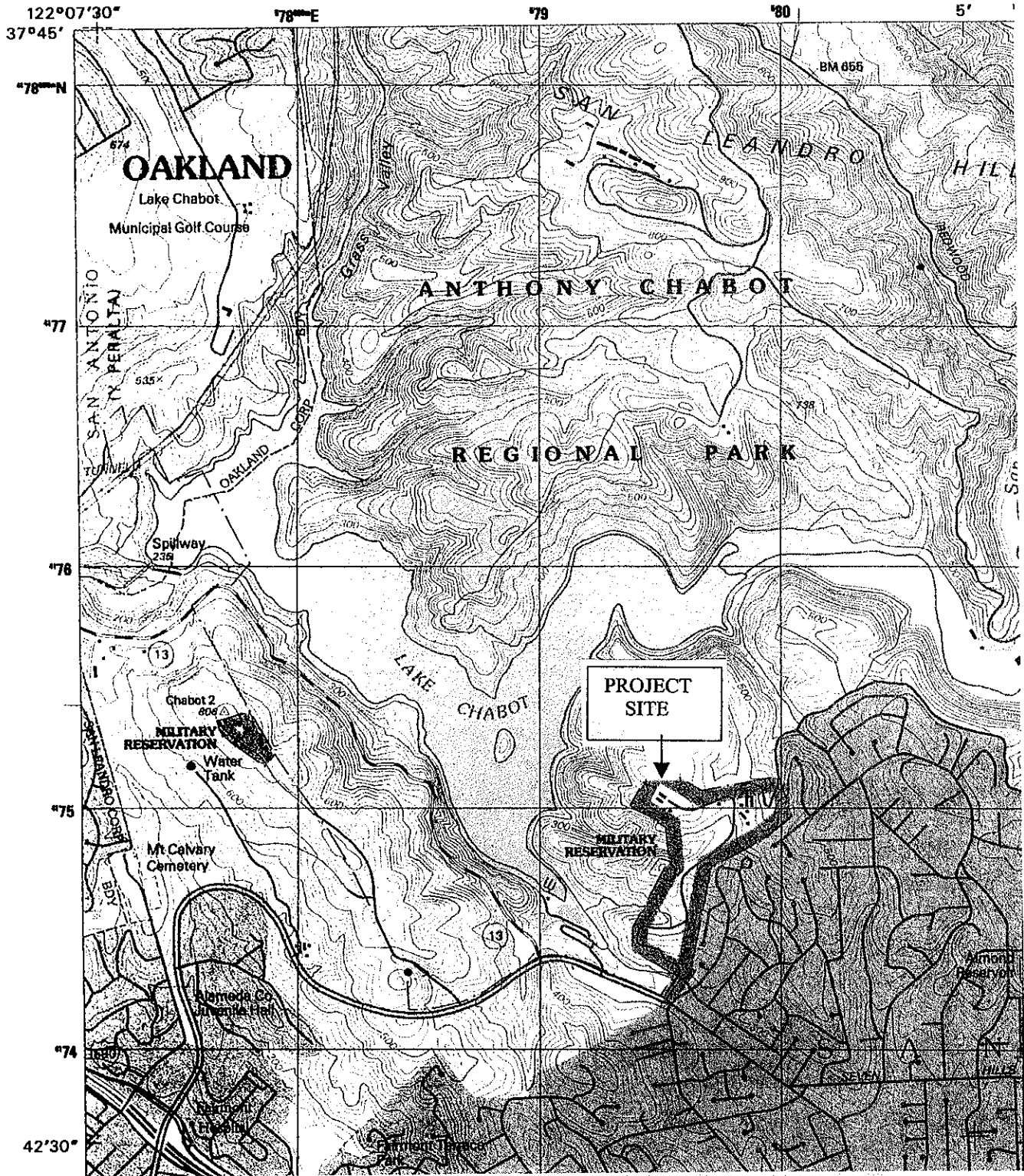
The project site is the East Bay Regional Park District (District) South County Corporation Yard located at 17930 Lake Chabot Road in Castro Valley, California (project site). The site is located at the top of a hill in Castro Valley at an elevation of about 1,000 feet above mean sea level (amsl). The general location of the site is shown on a USGS topographic map (Figure 1). The UFST work area showing the configuration of the three UFSTs before their removal in relation to the site and immediate vicinity is shown on the Site Plan (Figure 2). The top of the hill area, where the Corporation Yard is located, has been modified by some grading that has resulted in essentially flat topography. The entire roughly 5 acres of the Corporation Yard area is covered with asphalt paving and/or concrete.

UFST SYSTEM DESCRIPTION AND USAGE HISTORY

This project included the removal of three fiberglass UFSTs with steel pipe fittings and appurtenant piping. The two gasoline tanks were 8,000-gallon tanks, 24 feet long with a diameter of about 8 feet. The 2,200-gallon diesel tank was approximately 8 feet long with a diameter of 7 feet. All three UFSTs were installed about 21 years ago according to the District records. The UFSTs were installed in an excavation dug into bedrock with the base at about 12 feet bgs. The UFSTs were not tied down to any concrete anchor slab (deadman) as is sometimes done when shallow groundwater is considered to present a buoyancy problem. The UFSTs were configured as shown in Figure 2 with the long axis of the gasoline tanks oriented to the north-south. The gasoline tanks had vapor monitoring points associated with them. No historical monitoring had shown any results of concern. Appendix A contains the State of California Underground Storage Tank Permit Application – Forms A and B for the former UFSTs (completed in July 1998 for the permit renewal).

The UFSTs had been used by the District to support the District's fuel needs for law enforcement maintenance vehicles. Discussions with Mr. Gil Lopez, District service manager, indicated that there had been at least one occasion, and possible more, in which the piping and pump station of the diesel tank were damaged by vehicles knocking into them.

**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

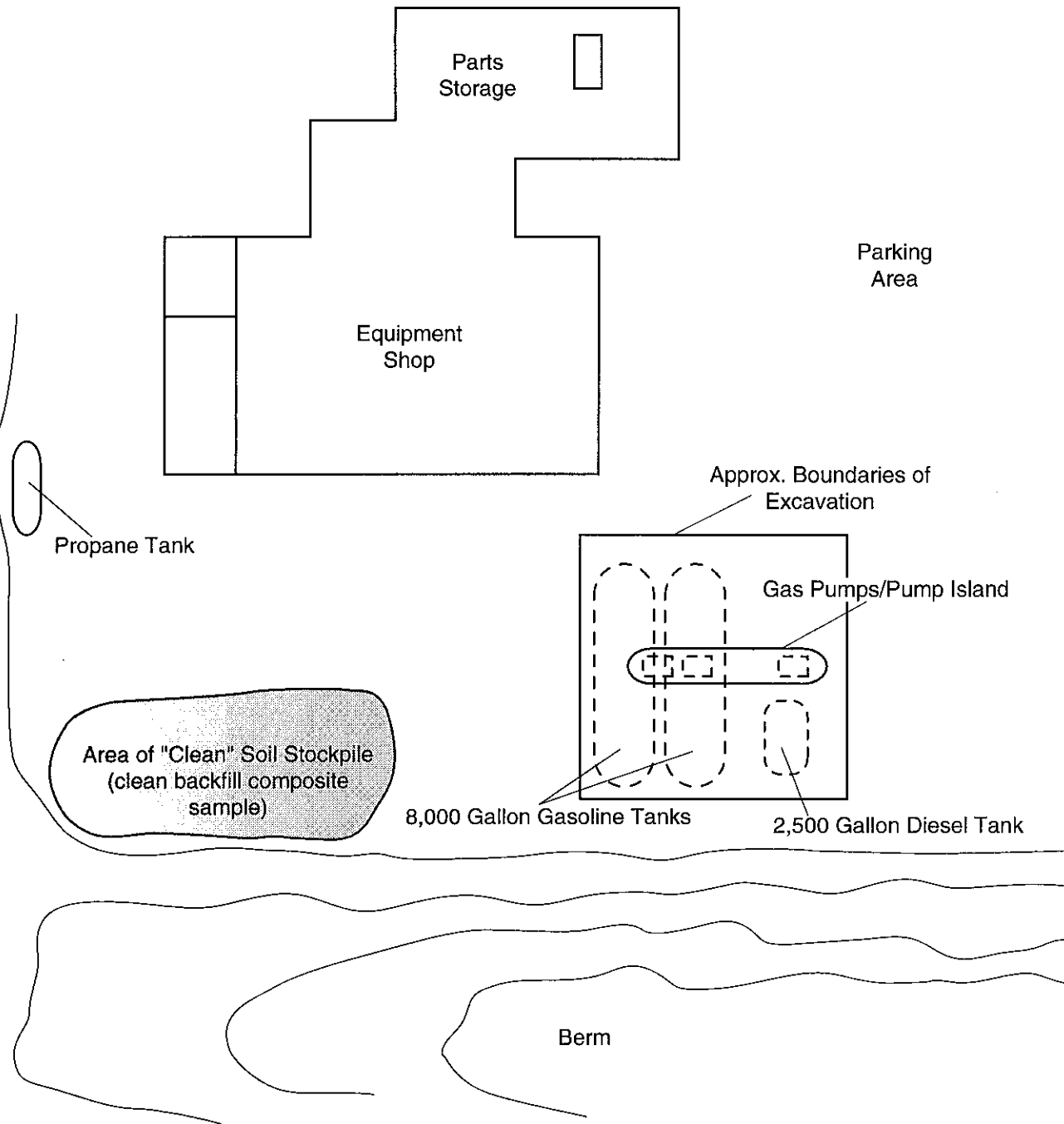


SITE LOCATION ON U.S.G.S. TOPOGRAPHIC MAP



East Bay Regional Park District 17930 Lake Chabot Rd.	By: MJC	DECEMBER 1998	★ Stellar Environmental Solutions Geoscience & Engineering Consulting
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Figure 1

98035-4-a



LEGEND

-  Area of UFST excavation
-  Approximately 50 CY clean soil stockpile

APPROXIMATE SCALE: 1 inch = 18 feet



SOUTH COUNTY CORPORATION YARD SITE PLAN SHOWING FORMER UFSTS

East Bay Park District
17930 Lake Chabot Rd.

By: MJC

NOVEMBER 1998

Figure 2

 **Stellar Environmental Solutions**
Geoscience & Engineering Consulting

98039-1-a

2.0 UFST SYSTEM REMOVAL

The following section summarizes the pre-field work planning and UFST system removal activities. Appendix B contains photodocumentation of the field activities. The following companies participated in the UFST system removal:

- Stellar Environmental Solutions – District's contractor responsible for environmental sampling and closure documentation
- Verl's Construction, Inc. of California (VCI) – UFST system demolition, removal and replacement contractor (copy of licenses included as Appendix C)
- Trident Trucklines – Transporter of removed UFSTs
- Sequoia Analytical – Soil and water sample chemical analyses
- Curtis and Tompkins, Ltd. – Soil sample chemical analyses
- Erickson, Inc. (a subsidiary of Ecology Control Industries) – Tank decommissioning
- Construction Materials Testing – Excavation backfill compaction testing

PRE-FIELD WORK PLANNING

Prior to UFST removals, appropriate permits and regulatory agency notifications were completed by the District, including: State of California Underground Storage Tank Permit Application – Forms A and B (for tank closure); Alameda County Health Care Services Agency Underground Tank Closure Plan; and Bay Area Air Quality Management District Notification Form (for removal or replacement of tanks). Copies of these documents are included as Appendix D.

UFST SYSTEM DECOMMISSIONING AND CLEANING

The UFST system was taken off-line by VCI on November 8, 1998. The aboveground pump island and associated electrical components were disconnected and removed. The retrofit field work occurred on November 10, 1998, but was abandoned when the District decided to replace the UFSTs. On November 13, 1998 the residual fuel in the UFSTs was pumped out and transported offsite. On November 17, 1998, VCI pressure-washed the inside of the inlet piping by pressure

washing so that the rinseate flowed back into the UFSTs. The interior of the UFSTs was then pressure-washed and the decontamination rinseate was vacuumed from the UFST by VCI.

UFST AND PIPING REMOVAL AND SOIL STOCKPILING

On November 6, 1998 the asphalt and concrete surface cover over the tanks was removed (activities conducted prior to SES's arrival onsite). At that time, visual evidence of contamination was noted in the vicinity of the diesel tank suction piping union, which was noted to be leaking into the backfill material. Based on this observation, ACHCSA completed an Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report (copy included in Appendix D).

On November 9, 1998 VCI prepared the work site for UFST and piping removal by removing the three fuel dispensing pumps and the concrete pump island (activities conducted prior to SES's arrival on site). The pump product lines were essentially adjacent to the UFSTs and angled down to the top of each UFST center at a depth of approximately 4 feet below ground surface (bgs). The top of the UFSTs were then exposed by removing the gravel backfill. VCI then excavated approximately 20 cubic yards (CY) (total of two truck loads) of apparently contaminated soil, which was placed in the on-site bermed soil stockpile area.

On November 18, after the decision had been made to remove the UFSTs and replace them, the tanks were inerted (rendered non-flammable) prior to their removal. Dry ice (solid carbon dioxide) was emplaced in each tank at approximately 10:00 a.m.—including 350 pounds (7 bags) in Gasoline Tank 1 (GT-1); 250 pounds in Gasoline Tank 2 (GT-2); and 100 pounds in the Diesel Tank (DT). Appendix E includes the dry ice receipt. At approximately 1:00 p.m. Mr. Robert Weston of ACHCSA observed measurement of the lower explosive limit (LEL) and oxygen measured inside the UFST, and approved the removal of the UFSTs from the excavation.

The UFSTs were removed from the excavation and were visually inspected for signs of leakage. Following Mr. Weston's concurrence that there were no signs of leakage from the UFSTs themselves, the UFSTs were transported offsite (see following section for discussion of tank transport and disposal).

A total of approximately 100 cubic yards of inferred clean backfill material was excavated on November 18, 1998 and placed in the onsite bermed soil stockpile area. Appendix D contains the ACHCSA Hazardous Materials Inspection Form documenting their inspection of the UFST removals.

SOIL AND WATER SAMPLING

Soil and water sampling was conducted in three phases: on November 9, 1998 when the anticipated scope of work was limited to retrofitting; on November 18, 1998 when the UFSTs and piping were removed for replacement; and on December 10, 1998 when the contaminated soil stockpile was

sampled. Screening of potentially contaminated soil was defined during the progress of uncovering the UFSTs by visual and odor observations and by flame ionization detector (FID) readings. Soil samples were collected in 8-oz glass jars and water samples were collected in 40-ml glass vials and amber glass jars. All samples were labeled, chilled, and transported under chain-of-custody record to the analytical laboratory. The following summarizes each sampling event.

November 9, 1998 Soil Sampling

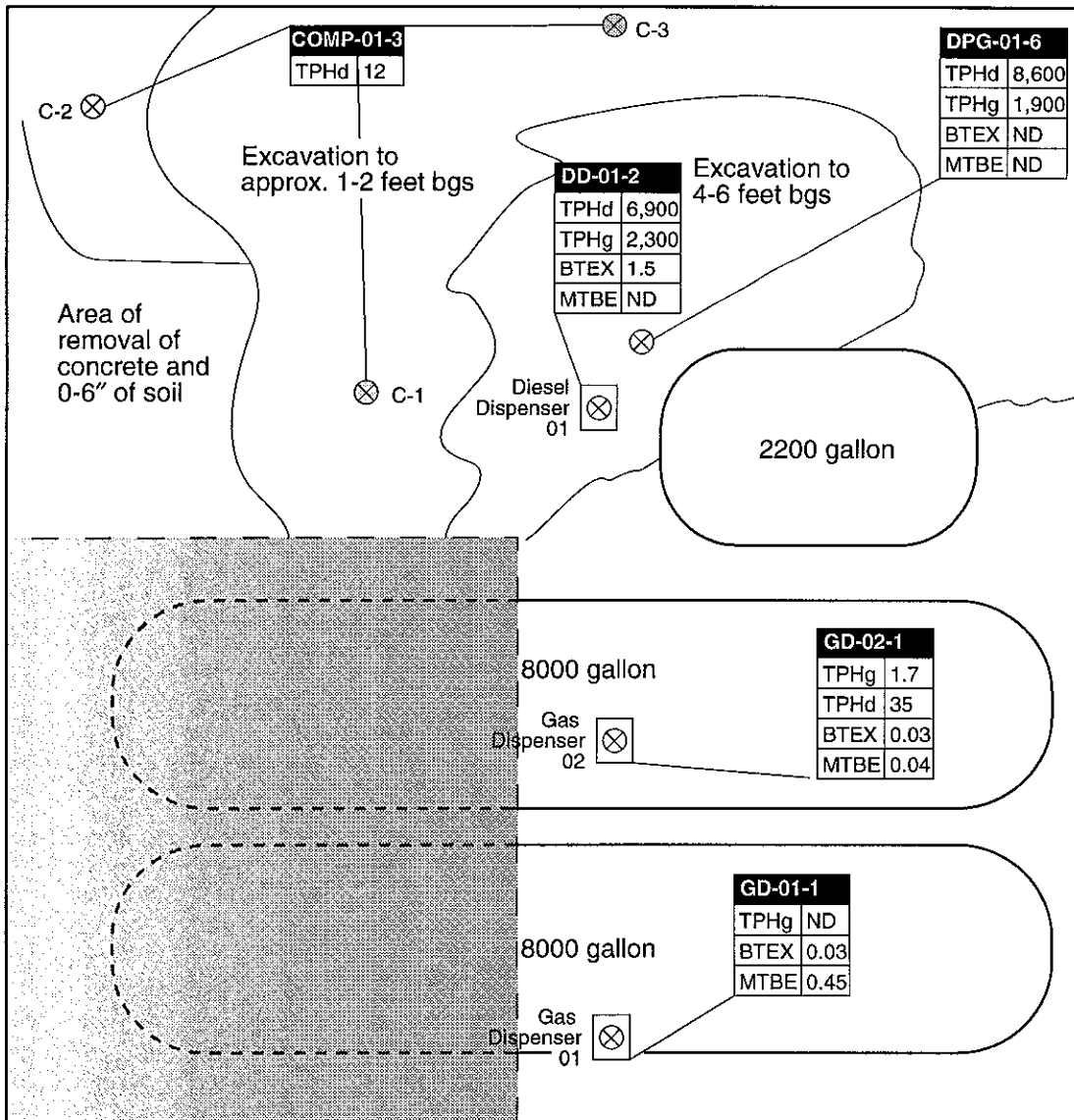
Following the initial exposure of the tank fill pipes, vent pipes and vapor monitoring wells, Richard Makdisi of SES, Stephen Gehrett and Gil Lopez of the District, Rob Williams of ACHCSA, and VCI personnel met to discuss procedures for the then-anticipated retrofit. Mr. Williams of ACHCSA requested that a minimum of one sample be collected beneath each of the product line areas. In addition, he requested that additional samples be collected as needed to characterize any soil contamination that may be encountered. At this initial field meeting, before the concrete slabs overlying the product lines were removed, there was no indication of subsurface contamination at the site. Figure 3 shows the locations and results of the sampling completed during the preliminary UFST excavation.

Waste?

what about the pipe union?

The removal of the concrete slab covering the two gasoline UFST fill pipes showed no obvious contamination and the FID showed no response. SES collected one soil sample at each of these locations ("Gas Dispenser 01-1" and "Gas Dispenser 02-1") at a depth of approximately 1 foot bgs. Following removal of the concrete slab overlying the diesel line, petroleum odor was noted, indicating leakage. SES collected a soil sample for placement in a plastic bag for 5 minutes in the sun, and the response showed 40 parts per million as vapor (ppmv). A soil sample was collected for laboratory analysis adjacent to the diesel UFST piping ("Diesel Dispenser 01-2").

Two additional soil samples were collected during the November 9, 1998 event to document the extent and character of the contamination. One 3-point composite sample ("Comp. Sample 01-(3)") was collected at approximately 1 to 2 feet bgs in the sidewalls of the excavation to document the inferred absence of contamination in the clean overburden and sidewalls. One sample ("Diesel Pea Gravel 01") was collected from the apparently contaminated backfill material around the top of the diesel UFST, at a depth of approximately 6.5 feet bgs. The migrational pattern of contamination could be seen to run down the fill pipe to the top of the UFST and down either side of the UFST at the pipe entry point. Visual, odor and FID evidence suggested soil contamination at this location. Given that the backfill and originally excavated area was common to all three UFSTs, it appeared obvious that the contaminated backfill could not be fully removed without removing the UFSTs. The excavation was discontinued at the end of the day, and because of the need to evaluate options and present the initial findings to the District and the ACHCSA.



LEGEND

- Area of remaining concrete cover
- Composite sample location
- Single sample location

Notes: Scale of UFSTs estimated; all analytical concentrations in mg/kg
 Scale approximately 1" = 5'



DETAIL OF PRELIMINARY (Nov. 9, 1998) UFST EXCAVATION SAMPLING RESULTS

**East Bay Park District
 17930 Lake Chabot Rd.**

By: **MJC**

NOVEMBER 1998

Figure 3

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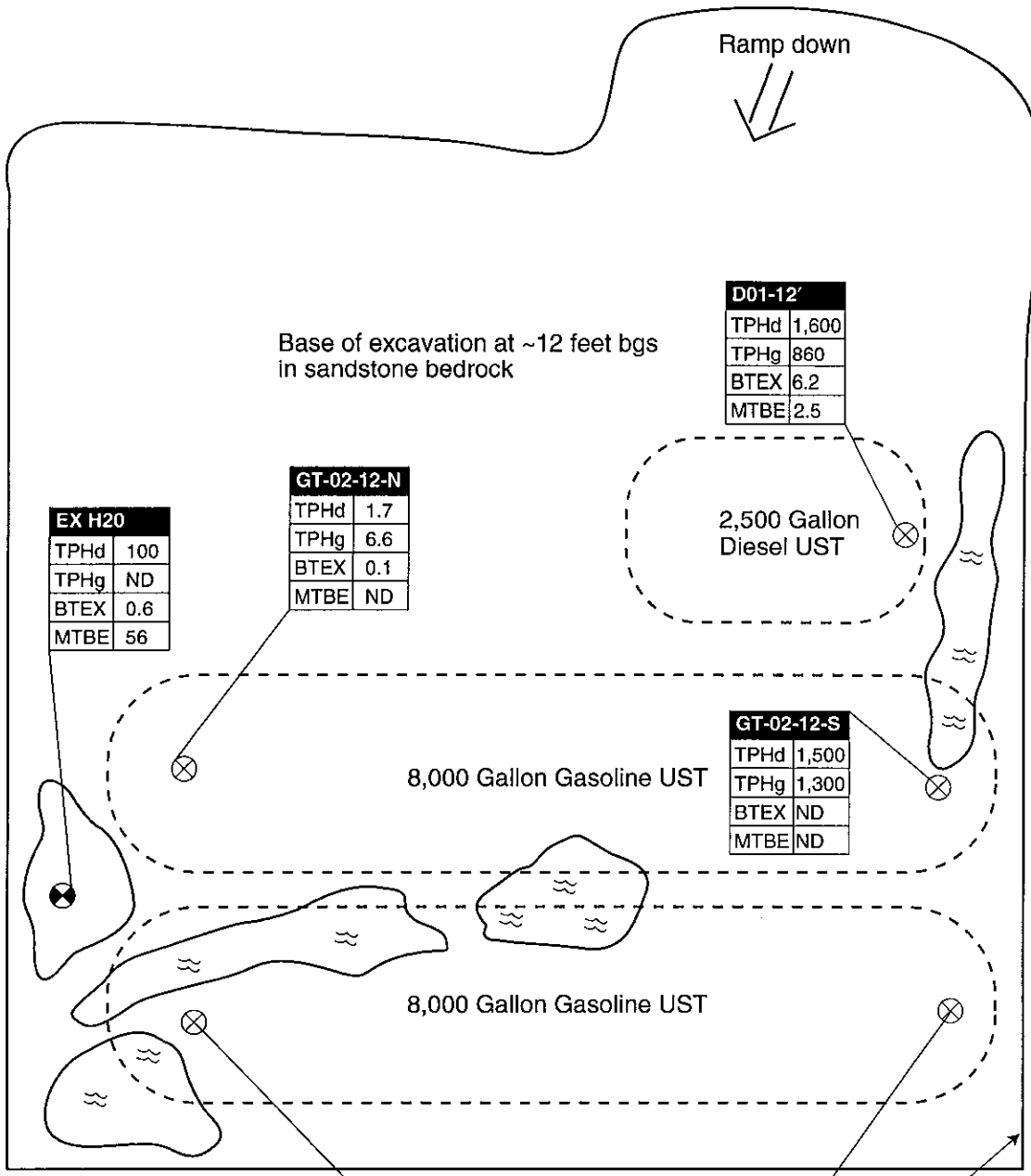
November 18, 1998 Soil and Water Sampling

Following the removal of the UFSTs on November 18, 1998, additional soil and water samples were collected to document residual contamination concentrations in the excavation and to evaluate disposal options for the excavated backfill materials. Five excavation confirmation soil samples were collected at the base of the common excavation at approximately 12.5 feet bgs, including one beneath each end of the two gasoline UFSTs and one beneath the diesel UFST. One grab water sample ("Excavation H2O") was collected from the accumulated water in the base of the excavation. At the time of water sampling, there were pockets of standing water approximately 6 inches deep in areas of greater depth where the bedrock was excavated deeper. Based on the elevation of the site and the presence of shallow bedrock, it is inferred that this water was infiltrated rainwater, not groundwater. The water sample was collected by directly filling the sampling containers. Figure 4 shows the locations and results of the sampling completed after the removal of the three UFSTs from the excavation. One 4-point composite soil sample ("Clean Backfill Comp.") was collected from the approximately 100 CY of inferred clean backfill material to evaluate disposal or re-use options for that material (see Figure 2 for location). Figure 4 shows the final UFST excavation and location of confirmation samples.

December 10, 1998 Contaminated Soil Stockpile Sampling

The approximately 120 CY of inferred contaminated soil was stockpiled in a bermed pad approximately 1,200 feet east of the UFST excavation on District property, near the Park Police headquarters. The stockpile was underlain by and covered with plastic sheeting to prevent infiltration by precipitation. The methodology for contaminated soil stockpile sampling, analysis and aeration was submitted to ACHCSA on December 7, 1998. On behalf of the District, SES submitted to the Bay Area Air Quality Management District a completed Notification Form (for excavation of contaminated soil). Copies of these documents are included in Appendix D. The District proposes to treat the contaminated soil by onsite aeration until contaminant levels are below ACHCSA criteria for re-use. Figure 5 shows the general location of the contaminated soil treatment area in relation to the Corporation Yard, and Figure 6 shows a detail of the contaminated soil stockpile and the general locations of the composite samples.

On December 10, 1998, two 4-point composite soil samples were collected from the approximately 120 CY of contaminated, stockpiled soil (sample I.D.s "CS-Comp-01" and "CS-Comp-02"). Four discrete soil samples were collected in each of two approximately equal volumes of the pile, with each 4-point sample set to be composited by the laboratory prior to analysis. Each sample was collected by removing the upper 6 to 12 inches of soil and using a trowel to collect the soil sample, which was then placed in a glass sampling jar and labeled.



D01-12'
TPHd 1,600
TPHg 860
BTEX 6.2
MTBE 2.5

Base of excavation at ~12 feet bgs in sandstone bedrock

2,500 Gallon Diesel UST

EX H2O
TPHd 100
TPHg ND
BTEX 0.6
MTBE 56

GT-02-12-N
TPHd 1.7
TPHg 6.6
BTEX 0.1
MTBE ND

GT-02-12-S
TPHd 1,500
TPHg 1,300
BTEX ND
MTBE ND

8,000 Gallon Gasoline UST

8,000 Gallon Gasoline UST

Stable vertical excavation walls with bedrock at 6 feet bgs

GT-01-12-N
TPHd 2.1
TPHg ND
BTEX ND
MTBE 0.2

GT-01-12-S
TPHd ND
TPHg 2.3
BTEX ND
MTBE 0.02

LEGEND

- Area of UFST before Nov. 18, 1998 removal
- Soil sampling location after UFST removal (data in mg/kg)
- Grab water sample location (data in mg/L)
- Pooled water (suggested to be rainwater versus groundwater)

Notes: Scale of UFSTs estimated
Scale approximately 1" = 5'

DETAIL OF FINAL (NOV. 18, 1998) UFST EXCAVATION SAMPLING RESULTS AFTER UFST REMOVALS

East Bay Park District
17930 Lake Chabot Rd.

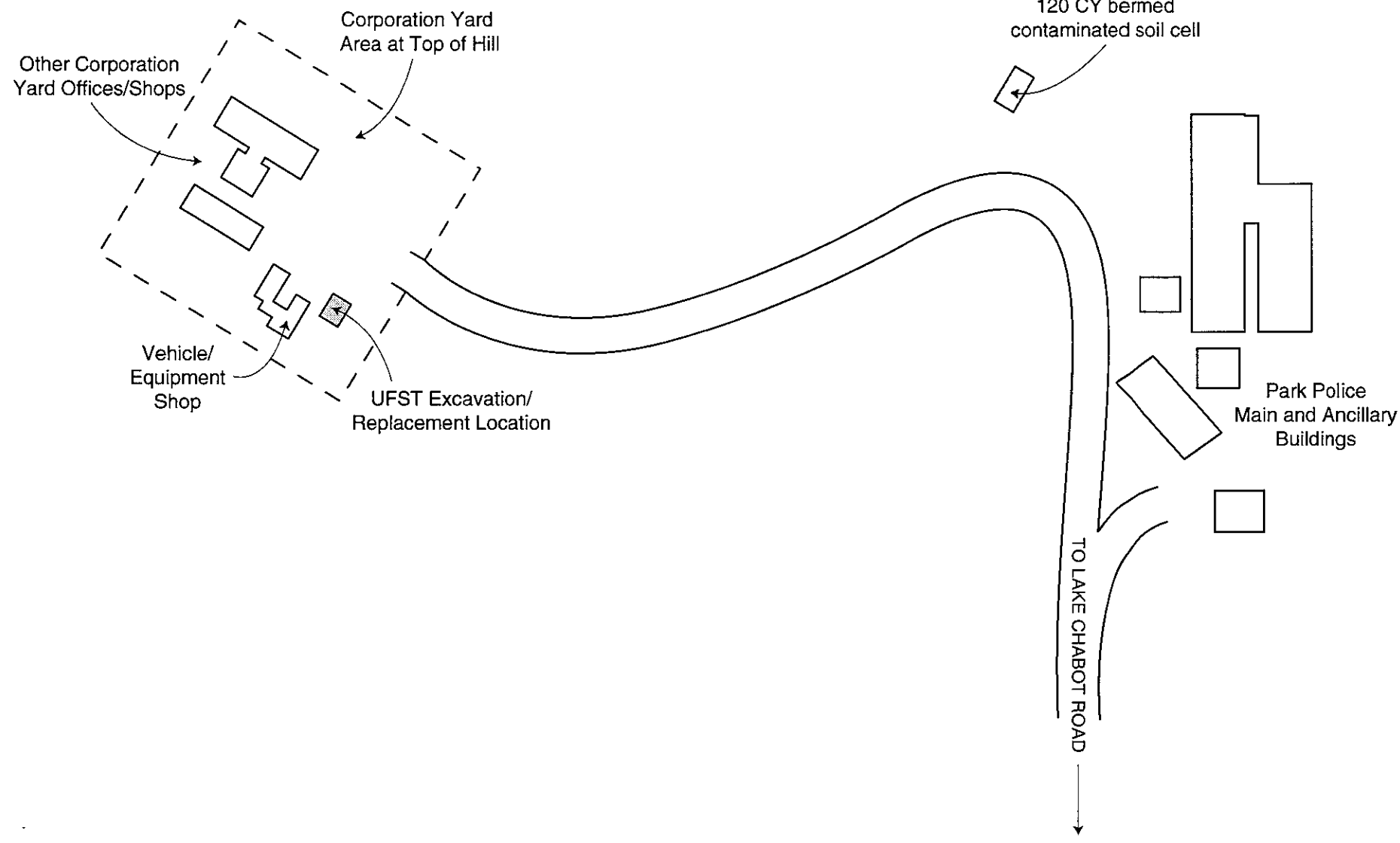
By: MJC

NOVEMBER 1998

Figure 4

Stellar Environmental Solutions
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98039-3-b



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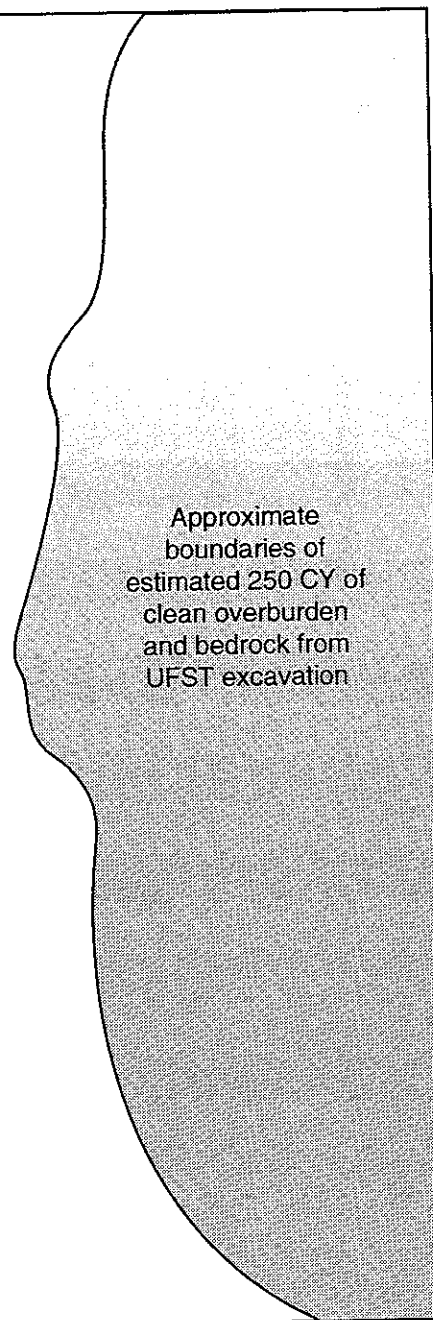
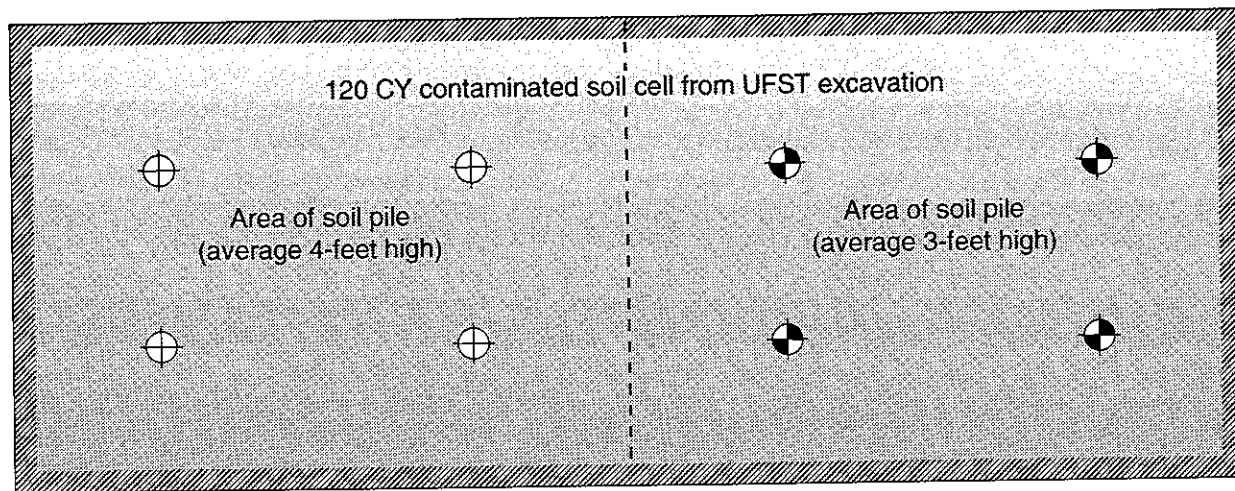
Site Plan Showing USFT Excavation and Contaminated Soil Cell
East Bay Regional Park District, 17930 Lake Chabot Road

Figure 5

by: MJC

JANUARY 1999


98039-5-a




CS-Comp 01	
TPHd	2,000
TPHg	79
BTEX	ND
MTBE	ND

CS-Comp 02	
TPHd	590
TPHg	21
BTEX	ND
MTBE	ND

LEGEND

 Sample CS-Comp 01 (results in mg/kg)

 Sample CS-Comp 02 (results in mg/kg)

 5-foot wide, 2-foot high berm area

ND = not detected



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Contaminated Soil Treatment Storage Pile Near Park Police

Facilities Showing Composite Sampling Locations

Figure 6

by: MJC

JANUARY 1999

The two composite samples contained concentrations ranging from 590 to 2,000 mg/Kg TPHd and 21 to 79 mg/Kg TPHg. Neither BTEX nor MTBE were detected above the laboratory detection limits.

WASTE DISPOSAL

Offsite Disposal

The three removed UFSTs were transported offsite for scrapping. Prior to transport, a Uniform Hazardous Waste manifest was completed and then signed by Mr. Gil Lopez of the District. The UFSTs were transported on November 18, 1998 by Trident Trucklines (EPA transporter I.D. number CAD982484370) to Erickson, Inc. (a subsidiary of Ecology Control Industries) (EPA I.D. CAD009466392). The U.S. Department of Transportation proper shipping name and hazard class assigned to the UFSTs on the manifest were "Waste Empty Storage Tank" and "Non-RCRA hazardous waste solid," respectively. The State of California waste code assigned to the UFSTs was "512" (for containers larger than 30 gallons). Copies of the hazardous waste manifests are included in Appendix E. Following arrival at Erickson's facility, Erickson completed the hazardous waste manifests (signed to acknowledge receipt of the UFSTs and assigned a handling code – "01" for recyclable material) and sent copies of the manifests to the California Department of Toxic Substances Control (DTSC). The UFSTs were then cleaned and destroyed on November 20, 1998. The UFST certificates of destruction are included in Appendix E.

Onsite Disposal

All contaminated soil was stockpiled in the bermed soil treatment area approximately 1,200 feet from the UFST excavation, as discussed in a previous section. Non-contaminated UFST-related debris—such as the metal traffic posts, pump island forms, level sensors, conduit, and concrete—was stockpiled adjacent to the bermed contaminated soil treatment stockpile.

UFST REPLACEMENTS AND EXCAVATION BACKFILLING

The replacement UFST system was installed between November 17, 1998 and January 7, 1999. Prior to replacement, the District submitted to ACHCSA a completed Application for Underground Storage Tank Installation (copy included in Appendix G). The replacement system consists of:

- One 12,000-gallon fiberglass gasoline UFST and one 2,500-gallon fiberglass diesel UFST, each with spill and overflow protection
- Dispenser island and dispensing pumps/equipment

- Double-walled fiberglass and plastic piping with corrosion protection (approximately 20 feet of piping between each tank and the dispensing equipment)
- Vent piping from each UFST that is tied into the existing vertical vent piping on the side of the project site maintenance building
- Interstitial liquid continuous leak detection monitoring system with alarms

In addition to the monitoring devices built into the new double walled tanks, VCI installed a slotted 4-inch diameter PVC casing into the backfill adjacent to the 12,000-gallon gasoline tank. The objective of this "well" was to utilize it for dewatering infiltrating rainwater, if needed, prior to the final restoration. SES requested that the well be left in place, and completed with a traffic-rated Christy Box to be used as a monitoring device for conditions in the base of the excavation.

Figure 7 is an as-built plan for the replacement UFSTs. Appendix G contains installation specifications for the replacement UFST system. The as-built is substantially the same as the plan drawing for the two new tanks approved by ACHCSA on November 23, 1998. The main difference in the as-built drawing is the more extensive excavation area and the location of the one monitoring "well" in the backfill area near the new gasoline tank.

The UFST removal excavation was left open until the replacement tanks were put in place on November 19, 1998. After setting the two tanks, backfilling began. Heavy rainfall during the following week, however, resulted in the tanks floating out of position; they were repositioned on December 7, 1998.

On December 10, 1998 the approximately 100 cubic yards of excavated clean backfill followed by imported backfill (aggregate base II) was emplaced around the UFSTs to their tops, about 6 feet bgs. A slotted 4-inch PVC pipe was also placed into the backfill to facilitate any additional dewatering at the base of the excavation that might be needed prior to the completion of the site restoration.

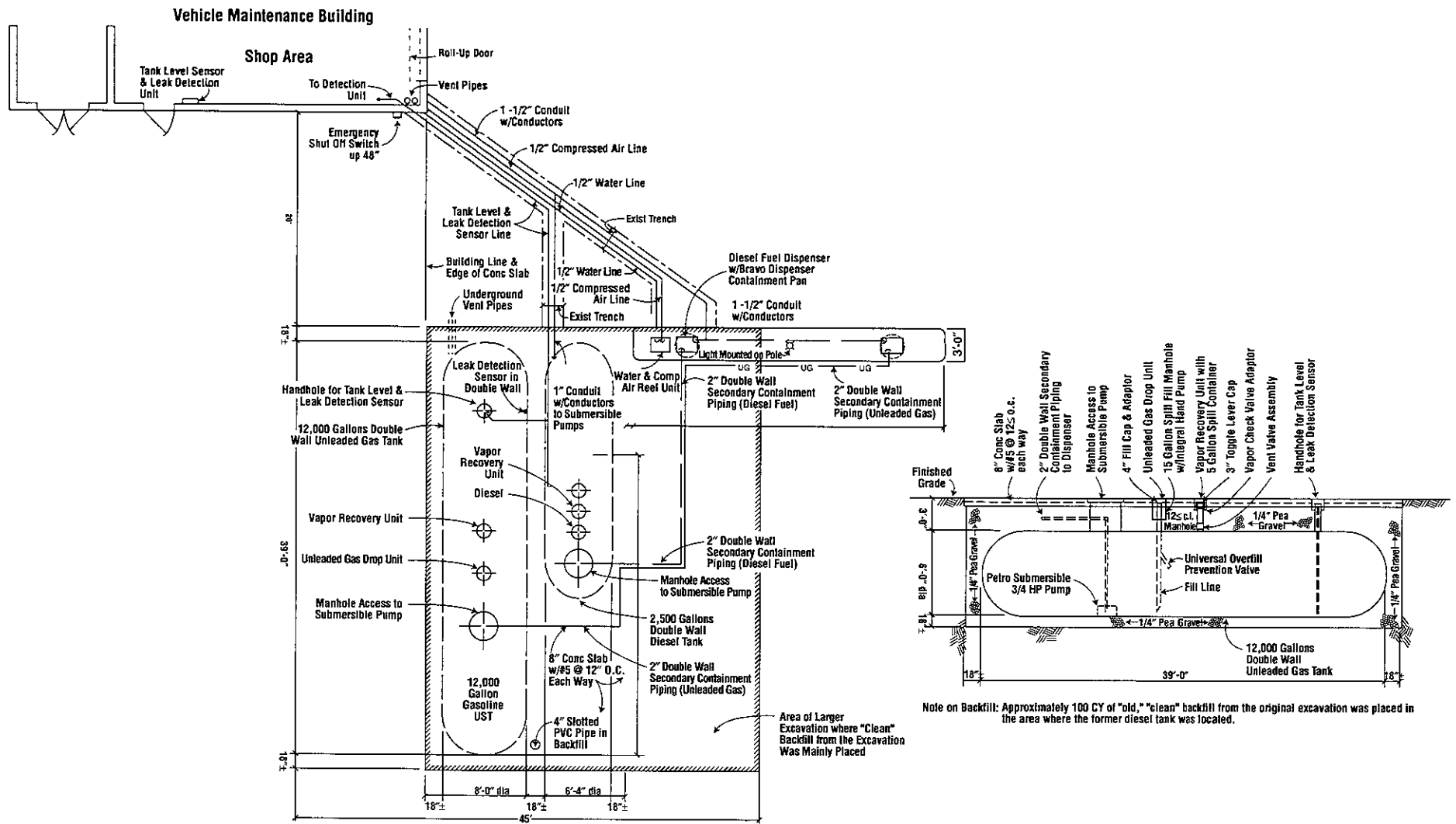
Approximately 3 feet of engineered pea gravel backfill was emplaced above the top of the tanks in approximately 1-foot lifts. The backfill was compacted by VCI with a vibrating tamper. Backfill compaction testing was conducted by Construction Materials Testing on January 5 and January 12, 1999. The testing demonstrated over 95% relative compaction. A copy of the compaction test results is included in Appendix F.

Following system installation, hydrostatic testing of the dispenser sumps, piping sumps and overflow buckets was conducted under ACHCSA supervision (all test results were satisfactory to ACHCSA). A copy of the ACHCSA inspection report is included in Appendix G. Primary piping pressure

testing in accordance with ACHCSA requirements will be performed following installation of separation between the piping and the turbines.

FINAL SITE RESTORATION

Final site restoration will include installation of fuel dispensing equipment and surface paving. It is anticipated that those activities will be conducted by February 1999.



LEGEND

////// Boundaries of excavation to take out former UFSTs and place new UFSTs

★ Stellar Environmental Solutions
Geoscience & Engineering Consulting

Site Plan Showing New USFT As-Builts With Cross-Section
East Bay Regional Park District, 17930 Lake Chabot Road

Figure 7

by: MJC

JANUARY 1999

3.0 REGULATORY CONSIDERATIONS, RESIDUAL CONTAMINATION DISTRIBUTION & FATE

INTRODUCTION

The Alameda County Health Care Services Agency (ACHCSA) is the lead regulatory agency for UFST issues at this site. The ACHCSA is a Local Oversight Program (LOP) to the RWQCB, which has ultimate decision-making authority regarding contamination issues affecting groundwater. The ACHCSA has no published guidance regarding TPH. They generally adhere to the State of California's policy of non-degradation of groundwater specified in the Porter Cologne Water Quality Act. However, they recognize that some degradation is unlikely to be irreversible, and therefore they will accept case closures where it can be demonstrated that no public health or ecological risks will occur as a result of the residual contamination.

The following summarizes applicable, relevant and appropriate regulations (ARARs) and guidance governing petroleum contamination in soil and groundwater.

SOIL CONTAMINATION CLEANUP AND FURTHER ASSESSMENT CRITERIA

Hazardous Waste. Materials or waste (including soil and groundwater) are classified as hazardous, depending on a property or combination of properties they potentially manifest. These properties include toxicity, corrosivity, ignitability, and/or reactivity. The California Code of Regulations (CCR) presents California's toxic waste laws. Under California law, approximately 780 substances are listed as potentially hazardous by virtue of these properties (CCR, Section 66680). California law requires that the generator of a potentially hazardous waste determine if said material is, in fact, hazardous (CCR, Section 66471), and stipulates the criteria and analytical methods for the determination of a waste as hazardous (CCR, Section 66680 and 66693 et seq.). Designation of a waste as hazardous requires that it be transported under manifest by a licensed hauler and disposed of in a permitted Class I facility. While not a codified regulation, regulatory agencies will likely require remediation of an in situ hazardous waste (e.g., contaminated soil).

None of the detected petroleum or aromatic hydrocarbons are listed as a potentially hazardous waste; therefore, these soils would be classified as a hazardous waste based on toxicity or ignitability. The California Department of Toxic Substance Control (DTSC) uses 1,000 mg/Kg TPH in soil, based

on the potential ignitability of TPH as gasoline, as a guideline minimum concentration for remediation and for designating petroleum-contaminated soil as a hazardous waste.

Designated Waste. Contaminants that are neither hazardous nor potentially hazardous by the criteria explained above may be classified as a designated waste due to the substances' potential impact to groundwater on a case-by-case basis. A designated waste is subject to State of California Waste Discharge Requirements (WDRs) governing measures that must be implemented to ensure that the waste does not impact groundwater. The California Regional Water Quality Control Board (RWQCB) uses a Designated Level Methodology (DLM) as a guide in determining if a waste at a given site should be classified as a designated waste and, if so, what cleanup level is needed. The DLM calculations are site-specific and consider the depth to groundwater, type of soil, total pollutant load, amount of rainfall, and attenuation factors. Relevant criteria for soil contamination by the regulatory environment for TPH contamination are generally evaluated on a case-by-case basis, most often using some form of the RWQCB's DLM discussed above. In the past, the RWQCB used 100 mg/Kg in soil as a general criterion for assessing impacts to groundwater in their Leaking Underground Fuel Storage Tank (LUFT) investigation guidance. The LUFT manual uses the DLM approach which is recommended to evaluate the likelihood of impacts to groundwater from contaminated soil.

While not directly applicable to this site, the LUFT manual guidance provides the only published regulatory guidance on allowable TPH concentrations in soil, and utilizes a screening-level methodology that accounts for site-specific factors related to the ability of soil contamination to migrate to groundwater. That guidance stipulates the allowable concentrations of soil contamination that can be left in place without impacting groundwater are as follows:

- TPH-gasoline: 10 mg/kg to 1,000 mg/kg
- TPH-diesel: 100 mg/kg to 10,000 mg/kg
- BTEX: must be determined by a site-specific risk assessment methodology

GROUNDWATER CONTAMINATION CLEANUP AND FURTHER ASSESSMENT CRITERIA

As discussed above, the ACHCSA and the RWQCB, will evaluate groundwater on a case-by-case basis using the DLM methodology, considering such criteria as designated land use, sensitive biological receptors, depth to groundwater and beneficial use of groundwater. There are no established numerical standards for TPH in groundwater, although concentrations of less than 5 mg/L in the absence of TPHg and BTEX concentrations of significance will not often require cleanup action unless sensitive receptors, such as proximity to sensitive aquatic life, are apparent. Criteria that are favorable for receiving case closure by the RWQCB include:

- The source area (i.e., contaminated soil) has been remediated to the extent that is cost-effective;
- Groundwater contamination is immobile;
- Contaminant concentrations are stable or reducing sufficiently such that biodegradation is at work on the residual soluble fraction; and
- Contaminant toxicity is low (e.g., extractable-range hydrocarbons only and little or no TPHg and BTEX) and there are no sensitive receptors.

CONTAMINATION SOURCE(S)

Early in the excavation process of the three former UFSTs, it became clear that a certain amount of fuel product had leaked into the surrounding media. The location of one area of an obvious leak was observed to be associated with the diesel tank. The leak was along the piping into the UFST. Product could be seen to flow down around the outside of the approximately 5 feet of product piping and along the outside of the tank where the product piping entered the tank. The common area of backfill in the excavation holding the three tanks, with no dividers between them, allowed some of the diesel leakage to migrate beneath the diesel tanks and into the areas beneath the gasoline tanks. A strong diesel smell was noted throughout the excavation work. Subsequent analytical results from samples collected at the base of the excavation per the requirements of ACHCSA showed that gasoline contamination had also occurred but was less pervasive, and there was no visible indication of the leakage location. The following subsections discuss the analytical results, the distribution of the contaminated soil and its inferred fate.

RESULTS OF LABORATORY ANALYSES

Soil and water samples were analyzed by Sequoia Analytical and by Curtis & Tompkins, Ltd. (Berkeley, California). Both are state of California-certified hazardous waste laboratories.

The majority of soil samples were analyzed for total petroleum hydrocarbons-gasoline range (TPHg), total petroleum hydrocarbons-diesel range (TPHd), and for the fuel-related aromatic hydrocarbons benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE). Selected samples were analyzed only for specific contaminants anticipated to occur at those locations. Table 1 summarizes the analytical results of excavation soil and water samples. Table 2 summarizes the analytical results of contaminated soil stockpile samples. Key analytical results are also shown on Figures 3 and 4. Appendix F contains the certified analytical laboratory reports and chain-of-custody records.

Table 1
Summary of Analytical Results – Excavation Sampling
November and December 1998 UFST Removal/Replacement Project
East Bay Regional Park District, South County Corporation Yard, Castro Valley, California

Sample I.D. and Description	Sample Depth (ft. bgs)	TPH Gasoline (EPA 8015M)	TPH Diesel (EPA 8015M)	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Soil Samples (all concentrations in mg/Kg)								
<i>November 9, 1998 Soil Samples</i>								
Diesel Dispenser 01-2' (DD-01-2)	2'	2,300	6,900	ND	ND	ND	1.5	ND
Diesel Pea Gravel-01 (DPG-01-6)	6.5'	1,900	8,600	< 1.2	< 1.2	< 1.2	< 1.2	< 6.2
Comp. Sample 01-3	1-2'	NA	12	NA	NA	NA	NA	NA
Gas Dipenser 01-1' (GD-01-1)	1'	< 1	NA	< 0.005	0.007	< 0.005	0.028	0.45
Gas Dipenser 02-1' (GD-02-1)	1'	1.7	35	< 0.005	0.009	< 0.005	0.028	0.037
<i>November 18, 1998 Soil Samples</i>								
GT-01-BASE-12.5 N	12.5'	< 1	2.1	< 0.005	< 0.005	< 0.005	< 0.005	0.20
GT-02-BASE-12.5 N	12.5'	6.6	1.7	< 0.005	0.065	0.0057	0.029	< 0.025
GT-01-BASE-12.5 S	12.5'	< 1	2.3	< 0.005	< 0.005	< 0.005	< 0.005	0.025
GT-02-BASE-12.5 S	12.5'	1,300	1,500	< 2.5	< 2.5	< 2.5	< 2.5	< 12
Diesel-BASE-12.5 (D01-12')	12.5'	860	1,800	1.1	1.2	0.7	3.2	2.5
"Clean" Backfill Comp.	Not Applicable	1.6	18	< 0.005	0.0076	< 0.005	0.0054	0.098
Soil ARAR ¹		10 to 1,000	100 to 10,000					

Table continued on next page

Table 1 (Continued)

Sample I.D. and Description	Sample Depth (ft. bgs)	TPH Gasoline (EPA 8015M)	TPH Diesel (EPA 8015M)	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Excavation Water Sample (all concentrations in µg/L)								
Excavation H ₂ O (Ex H ₂ O)	12.5'	< 20,000	100,000	300	280	< 200	< 200	56,000
Groundwater ARAR		NE	NE	1.0 ^(a)	1,000 ^(b)	680 ^(a)	1,750 ^(a)	14 ^(c)

ARAR = Applicable, Relevant and Appropriate Regulation; NA = Not Analyzed; NE = Not Established

¹ ARAR from the RWQCB LUFT Manual guidance

^(a) California Maximum Contaminant Level (MCL); ^(b) Proposed Federal Primary MCL; ^(c) Proposed California Primary MCL

Table 2

Summary of Analytical Results – Contaminated Stockpile Samples

December 10, 1998

East Bay Regional Park District, South County Corporation Yard, Castro Valley, California

Sample I.D. and Description	TPH Gasoline (EPA 8015M)	TPH Diesel (EPA 8015M)	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
4-point Composite Soil Samples (all concentrations in mg/Kg)							
CS-COMP-01 (stockpile)	79	2,000	<50	<50	<50	<50	<200
CS-COMP-01 (stockpile)	21	590	<5	<5	<5	<5	<20

Laboratory quality control samples (e.g., method blanks, matrix spikes, surrogate spikes, etc.) were analyzed by the laboratory in accordance with requirements of each analytical method. All laboratory QC sample results and sample holding times were within the acceptance limits of the methods (Appendix F).

GROUNDWATER HYDROLOGY

It is unclear whether the water encountered at the base of the excavation that was sampled on November 10, 1998 is primarily groundwater or surface water runoff into the open excavation during the rain. VCI maintains that water rose in the excavation and resulted in the replacement UFSTs floating off their positions in early December 1998. However, the extensive rains around that time may also have accounted for the floating of the tanks. Given the shallow fine-grained sandstone bedrock nature of the area, groundwater is likely to move along the bedding planes and fractures. The groundwater will generally follow the contours of the land at variable depth depending on the rate of recharge.

Groundwater velocity is calculated as hydraulic conductivity (K) times the hydraulic gradient (i). A representative K value for fine-grained sandstone (unfractured) is 0.08 ft/day (Todd, 1980). A very conservative hydraulic gradient for the vicinity of the project site would assume groundwater occurs just beneath the former excavation, at an elevation of 300 feet above Lake Chabot. Hydraulic gradient would then be groundwater elevation (300 feet) divided by horizontal distance from the excavation to Lake Chabot (approximately 2,000 feet) which would equal 0.15 ft/ft. This is a very conservative gradient since true groundwater is likely at a greater depth and because the flowpath is through bedrock, not a uniform alluvial aquifer. Using the conservative assumptions, the calculated flow velocity of the groundwater would therefore be $V = Ki$ or $0.08 \times 0.15 = 0.012$ ft/day or approximately 10 ft/yr. Assuming no contaminant retardation, it would thus take over 200 years for the groundwater to migrate downslope to Lake Chabot.

GROUNDWATER HYDROCHEMISTRY

The maximum concentrations detected in excavation water samples were 100 mg/L TPHd, < 200 mg/L TPHg, 0.3 mg/L benzene, 0.28 mg/L toluene, and 56 mg/L for MTBE. These results indicate that there is significant residual contamination, especially the MTBE, in the dissolved phase. However, the location of this water in the base of excavation which is fractured sandstone bedrock, should significantly inhibit the ability of the contamination to migrate to sensitive receptors such as Lake Chabot. Lake Chabot is located approximately 300 vertical feet below the excavation and about 2,000 lateral feet to the northwest of the excavation.

VOLUME AND EXTENT OF CONTAMINATED SOIL REMEDIATED

The UFST site excavation of TPH contaminated soil resulted in approximately 120 cubic yards being removed for onsite aeration (discussed in previous section). The concentration of hydrocarbons in the two composite samples collected show a range of between 590 and 2,000 mg/Kg TPHd and 21 to 79 mg/kg TPHg. No BTEX or MTBE concentrations were detected. The extent of the contaminated soil appears to have been primarily through a leakage at the fill pipe in the diesel UFST as discovered during the diesel tank removal. The diesel product migrated along the sides of the diesel tank and some spread laterally beneath the diesel and gasoline tanks at the base of the excavation.

RESIDUAL SOIL CONTAMINATION

As shown in Table 1 and on Figures 3 and 4, maximum contaminant concentrations of residual material in the base of the excavation are as follows. While greater concentrations were detected in other excavation material soil samples, that material was excavated and was not returned to the excavation.

TPHd	1,800 mg/kg
TPHg	1,300 mg/kg
Benzene	1.1 mg/kg
Toluene	1.2 mg/kg
Ethylbenzene	0.7 mg/kg
Total xylenes	3.2 mg/kg
MTBE	2.5 mg/kg

The five samples representing these maximum concentrations were all collected at the base of the UFST excavation at a depth of 12.5 feet, and were collected from the residual fill material overlying the fractured bedrock, which could not be reasonably sampled for laboratory analysis.

Discussions with Mr. Rob Weston of ACHCSA established no regulatory cleanup goals, but there was concurrence in site discussions between SES and ACHCSA that the base of the excavation was bedrock, and that the migration of the residual TPH contamination through the bedrock would be self-limiting. While the residual TPH at the base of the excavation is relatively high, the penetration

into the bedrock is expected to be low and the migration of contamination to the groundwater is likely to be limited.

The TPH residual contaminated soil is estimated to be minor in volume; is low in residual concentration; has low vapor pressure and solubility; has an impermeable cover (asphalt and concrete); and rests on a relatively impermeable base (sandstone). All this suggests that the residual TPH will remain in place, slowly degrading by microbial utilization of the hydrocarbons as a carbon food source to break it down into benign byproducts of carbon dioxide, water and biomass. The soil in this area should be rich in TPH-degrading microbes, based on the general soil profiles suggesting adequate nutrients and moisture. Typical in situ biodegradation rates calculated from respiration tests at bioventing pilot tests in the literature are between 500 to 2,000 mg/kg TPHd per year (Makdisi et al., 1992). In this environment, where there is no supplied oxygen as there is in the case of a bioventing system, the degradation rates will be slower.

SOIL REMEDIATION METHOD EFFECTIVENESS

The majority of the contaminated soil (120 CY) is being treated by aeration in the onsite bermed soil stockpile. This aeration of the soil over time should result in decreases in the TPH concentration through the processes of volatilization and biodegradation. The TPH-contaminated soil in the soil aeration pile is very permeable because of the high percentage of inter-mixed pea gravel. Indigenous microbes common to the type of soils found, in combination with the low concentrations of residual contamination at the site, should result in reduction of the TPH to non-detectable levels over time, even with relatively low biodegradation rates (Howard et al., 1991).

The minor volume (estimated at 10 CY) of residual TPH-laden soil at the base of the excavation should not prove a public health or environmental concern based on its low volume, minor concentrations, diesel fuel properties, and the ability of TPH to biodegrade. The overlying permeable backfill material should allow the oxygen transfer critical to aerobic degradation.

GROUNDWATER IMPACTS AND BENEFICIAL USES

In general, impacts of contamination on the environment by TPH products, BTEX and MTBE are evaluated on a case-by-case basis with consideration given to MCLs and Action Levels (ALs) when designated. There are no MCLs or ALs for TPHd or TPHg, but there are MCLs for BTEX and MTBE. However, because there is no water-bearing zone or aquifer in this area that is in use for drinking or other types of water use, application of the drinking water standard does not appear to be appropriate. During site activities, SES, ACHCSA and the District discussed the benefit of drilling an exploratory bore 20 or more feet towards the slope from the excavation to collect

groundwater samples at depth that would indicate any contamination migration. Mr. Weston of ACHCSA concluded that this evaluation was unnecessary.

When numerical cleanup standards are not available, impacts are sometimes evaluated qualitatively based on the dissolved contaminant concentrations, their potential for migration and the proximity of the site to sensitive ecological or public health receptors. The closest sensitive receptor to the project site is Lake Chabot, located approximately 300 vertical feet and 2,000 lateral feet from the UFST excavation. As discussed above, assuming continuous flow and no retardation, the groundwater would take over 50 years to migrate to Lake Chabot. Within that time period, the hydrocarbons would be attenuated through a process of volatilization, sorption and biodegradation.

Groundwater beneath the project site is not utilized as a source of drinking water or industrial water due to the low yield expected from the fine-grained sandstone bedrock. There is no direct beneficial use of the groundwater, although the RWQCB general policy of non-degradation of groundwater and the Bay Area RWQCB Basin Plan are generally predicated on the idea that groundwater has long-term beneficial use, even in areas of marginal natural quality.

IMPACTS OF RESIDUAL CONTAMINATION ON BENEFICIAL USES

The site data suggest that there will be insignificant impacts to groundwater receptors based on the sandstone bedrock base of the excavation, the lack of a definable groundwater aquifer in the near surface, hydrocarbon nature of the contaminants, and the distance to the closest sensitive receptor (Lake Chabot).

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

The summary and conclusions presented in this section are based on the data delineated in the body of this report.

- The East Bay Regional Park District retained SES to provide oversight assistance for the removal of three UFSTs from the South County Corporation Yard and their replacement with two new UFSTs that meet the 1998 Federal and State UFST requirements. This work included the documentation of the extent of hydrocarbon contamination in the soil and water of the tank removal excavation, sampling of the contaminated soil treatment stockpile, the installation of the two replacement UFSTs, and associated site restoration.
- The three former UFSTs (one diesel and two gasoline tanks) and associated piping, contaminated soil and monitoring systems were removed between November 6 and 17, 1998. The two fuel replacement tanks (12,000-gallon fiberglass containing gasoline and 2,500-gallon fiberglass containing diesel) and associated site restoration was completed between November 17, 1998 and January 7, 1999. Final restoration (installation of dispensing equipment and paving) should be completed by February 1999.
- Regulatory oversight of the Lake Chabot UFST removals and replacements was provided by the Alameda County Health Care Services Agency (ACHCSA). Mr. Rob Weston of the ACHCSA was onsite periodically, and was conferred with as the project progressed.
- The base of the UFST removal excavation was approximately 12 feet bgs, with the last 6 feet in fractured sandstone bedrock.
- Confirmation soil samples were collected for analyses from the backfill material as the excavation proceeded, as well as from the sidewalls and base of excavation. These showed significant residual contamination indicated to be mainly from the diesel tank leak. Excavation water (inferred to be infiltrating precipitation as opposed to groundwater) samples contained 100 mg/L TPHd, < 20 mg/L TPHg, 0.3 mg/L benzene, 0.28 mg/L toluene and 56 mg/L MTBE.
- Based on the contaminant release occurring in bedrock, the inferred depth to groundwater (approximately 150 feet) and the distance to Lake Chaabot, the nearest sensitive receptor

(approximately 2,000 feet), it is very unlikely that residual soil contamination could impact Lake Chabot, as any fuel contamination in groundwater would attenuate by sorption and/or biodegradation.

- The UFSTs were transported offsite for scrap metal recycling, and all construction debris—such as the concrete, pump island and various piping and conduit—was disposed of as solid waste near the bermed soil treatment pile located adjacent to the Park Police headquarters.
- The excavation and piping trenches where new UFSTs were backfilled at their base with the clean backfill removed from the initial excavation and then with new imported backfill. The backfill was compacted by VCI with a vibrator plate attached to the backhoe. All paved areas impacted by the excavations were re-paved with asphalt.

RECOMMENDATIONS

Based on the data collected, no additional site investigation or remediation associated with the former UFST system is warranted. SES recommends that the replacement UFST leak detection system be maintained in good working order and that regulatory agency-required leak detection monitoring results be transmitted to those agencies.

6.0 LIMITATIONS

This report has been prepared for the exclusive use of the East Bay Regional Park District and their authorized representatives or the Regulators. No reliance on this report shall be made by anyone other than the client and regulators for whom it was prepared.

The findings and conclusions presented in this report are based on the UFST removal activities conducted by SES. This report provides neither a certification nor guarantee that the property is free of hazardous substance contamination. This report has been prepared in accordance with generally accepted methodologies and standards of practice of the area. The SES personnel who performed this limited remedial investigation are qualified to perform such investigations and have accurately reported the information available but cannot attest to the validity of that information. No warranty, expressed or implied, is made as to the findings, conclusions and recommendations included in the report.

The findings of this report are valid as of the date of this report. Site conditions may change with the passage of time, natural processes or human intervention, which can invalidate the findings and conclusions presented in this report. As such, this report should be considered a reflection of the current site conditions as based on the investigation and remediation completed.

7.0 REFERENCES

Howard, P.H., R.S. Boethling, W.F. Jarvis, W.M. Meylan, and E.M. Michalenko, 1991. Handbook of Environmental Degradation Rates, Lewis Publishers, Inc.

Makdisi, Richard S., D.C. Downey, and Dave A. Baskin, 1992. In-Situ Bioventing Technology at Federal Facilities, Hazardous Materials Control Research Institute Superfund Conference Proceedings, Washington D.C.

Todd, D.K., 1980, Groundwater Hydrology, John Wiley and Sons, 535 p.

**STATE OF CALIFORNIA
TANK FORMS A & B -
JULY 1998 (PERMIT RENEWAL)**

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM A
COMPLETE THIS FORM FOR EACH FACILITY/SITE



MARK ONLY ONE ITEM	<input type="checkbox"/> 1 NEW PERMIT	<input checked="" type="checkbox"/> 3 RENEWAL PERMIT	<input type="checkbox"/> 5 CHANGE OF INFORMATION	<input type="checkbox"/> 7 PERMANENTLY CLOSED, SITE
	<input type="checkbox"/> 2 INTERIM PERMIT	<input type="checkbox"/> 4 AMENDED PERMIT	<input type="checkbox"/> 6 TEMPORARY SITE CLOSURE	

I. FACILITY/SITE INFORMATION & ADDRESS - (MUST BE COMPLETED)

DBA OR FACILITY NAME SOUTH COUNTY CORPORATION YARD		NAME OF OPERATOR EAST BAY REGIONAL PARK DISTRICT		
ADDRESS 17930 LAKE CHABOT ROAD		NEAREST CROSS STREET ARCADIAN DRIVE	PARCEL # (OPTIONAL)	
CITY NAME CASTRO VALLEY		STATE CA	ZIP CODE 94546	SITE PHONE # WITH AREA CODE (510)881-1833 X-3212
<input checked="" type="checkbox"/> BOX TO INDICATE <input type="checkbox"/> CORPORATION <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP <input checked="" type="checkbox"/> LOCAL-AGENCY DISTRICTS <input type="checkbox"/> COUNTY-AGENCY* <input type="checkbox"/> STATE-AGENCY* <input type="checkbox"/> FEDERAL-AGENCY*		* If owner of UST is a public agency, complete the following: name of supervisor of division, section or office which operates the UST		
TYPE OF BUSINESS <input type="checkbox"/> 1 GAS STATION <input type="checkbox"/> 2 DISTRIBUTOR <input type="checkbox"/> 3 FARM <input type="checkbox"/> 4 PROCESSOR <input checked="" type="checkbox"/> 5 OTHER		<input type="checkbox"/> IF INDIAN RESERVATION OR TRUST LANDS	# OF TANKS AT SITE 3	E. P. A. I. D. # (optional)

EMERGENCY CONTACT PERSON (PRIMARY)

EMERGENCY CONTACT PERSON (SECONDARY) - optional

DAYS: NAME (LAST, FIRST) GEHRETT, STEPHEN		PHONE # WITH AREA CODE (510) 843-8314		DAYS: NAME (LAST, FIRST) LOEZZ, GIL		PHONE # WITH AREA CODE (510) 881-1833 X-3212	
NIGHTS: NAME (LAST, FIRST) PUBLIC SAFETY DISPATCH		PHONE # WITH AREA CODE (510) 881-1833		NIGHTS: NAME (LAST, FIRST) PUBLIC SAFETY DISPATCH		PHONE # WITH AREA CODE (510) 881-1833	

II. PROPERTY OWNER INFORMATION - (MUST BE COMPLETED)

NAME EAST BAY REGIONAL PARK DISTRICT		CARE OF ADDRESS INFORMATION STEPHEN GEHRETT, EQUIPMENT MANAGER		
MAILING OR STREET ADDRESS P.O. Box 5381		<input checked="" type="checkbox"/> box to indicate <input type="checkbox"/> INDIVIDUAL <input checked="" type="checkbox"/> LOCAL-AGENCY <input type="checkbox"/> STATE-AGENCY <input type="checkbox"/> CORPORATION <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> COUNTY-AGENCY <input type="checkbox"/> FEDERAL-AGENCY		
CITY NAME OAKLAND		STATE CA	ZIP CODE 94605-0381	PHONE # WITH AREA CODE (510) 635-0135

III. TANK OWNER INFORMATION - (MUST BE COMPLETED)

NAME OF OWNER EAST BAY REGIONAL PARK DISTRICT		CARE OF ADDRESS INFORMATION STEPHEN GEHRETT		
MAILING OR STREET ADDRESS P.O. BOX 5381		<input checked="" type="checkbox"/> box to indicate <input type="checkbox"/> INDIVIDUAL <input checked="" type="checkbox"/> LOCAL-AGENCY <input type="checkbox"/> STATE-AGENCY <input type="checkbox"/> CORPORATION <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> COUNTY-AGENCY <input type="checkbox"/> FEDERAL-AGENCY		
CITY NAME OAKLAND		STATE CA	ZIP CODE 94605-0381	PHONE # WITH AREA CODE (510)635-0135

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER - Call (916) 322-9669 if questions arise.

TY (TK) HQ **44-001511**

V. PETROLEUM UST FINANCIAL RESPONSIBILITY - (MUST BE COMPLETED) - IDENTIFY THE METHOD(S) USED

<input checked="" type="checkbox"/> box to indicate	<input checked="" type="checkbox"/> 1 SELF-INSURED	<input type="checkbox"/> 2 GUARANTEE	<input type="checkbox"/> 3 INSURANCE	<input type="checkbox"/> 4 SURETY BOND	<input type="checkbox"/> 5 LETTER OF CREDIT	<input type="checkbox"/> 6 EXEMPTION	<input type="checkbox"/> 7 STATE FUND
	<input type="checkbox"/> 8 STATE FUND & CHIEF FINANCIAL OFFICER LETTER	<input type="checkbox"/> 9 STATE FUND & CERTIFICATE OF DEPOSIT	<input type="checkbox"/> 10 LOCAL GOVT. MECHANISM	<input type="checkbox"/> 99 OTHER			

VI. LEGAL NOTIFICATION AND BILLING ADDRESS Legal notification and billing will be sent to the tank owner unless box I or II is checked.

CHECK ONE BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR LEGAL NOTIFICATIONS AND BILLING:	I. <input type="checkbox"/>	II. <input type="checkbox"/>	III. <input checked="" type="checkbox"/>
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THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE) Stephen Gehrett for EBRPD	TANK OWNER'S TITLE <i>Stephen Gehrett</i>	DATE MONTH/DAY/YEAR 15 July 1998
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LOCAL AGENCY USE ONLY

COUNTY # <input type="text"/>	JURISDICTION # <input type="text"/>	FACILITY # <input type="text"/>
LOCATION CODE - OPTIONAL <input type="text"/>	CENSUS TRACT # - OPTIONAL <input type="text"/>	SUPVISOR - DISTRICT CODE - OPTIONAL <input type="text"/>

**THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE PERMIT APPLICATION - FORM B, UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.
OWNER MUST FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS**

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B



COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONLY ONE ITEM	<input type="checkbox"/> 1 NEW PERMIT	<input checked="" type="checkbox"/> 3 RENEWAL PERMIT	<input type="checkbox"/> 5 CHANGE OF INFORMATION	<input type="checkbox"/> 7 PERMANENTLY CLOSED ON SITE
	<input type="checkbox"/> 2 INTERIM PERMIT	<input type="checkbox"/> 4 AMENDED PERMIT	<input type="checkbox"/> 6 TEMPORARY TANK CLOSURE	<input type="checkbox"/> 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED: **SOUTH COUNTY CORPORATION YARD, LAKE CHABOT**

I. TANK DESCRIPTION COMPLETE ALL ITEMS -- SPECIFY IF UNKNOWN	
A. OWNER'S TANK I. D. # 2	B. MANUFACTURED BY: CENTURY FIBERGLASS
C. DATE INSTALLED (MO/DAY/YEAR) 1978	D. TANK CAPACITY IN GALLONS: 8,000

II. TANK CONTENTS IF A-1 IS MARKED, COMPLETE ITEM C.		
A. <input checked="" type="checkbox"/> 1 MOTOR VEHICLE FUEL <input type="checkbox"/> 2 PETROLEUM <input type="checkbox"/> 3 CHEMICAL PRODUCT	<input type="checkbox"/> 4 OIL <input type="checkbox"/> 80 EMPTY <input type="checkbox"/> 95 UNKNOWN	B. <input checked="" type="checkbox"/> 1 PRODUCT <input type="checkbox"/> 2 WASTE
C. <input checked="" type="checkbox"/> 1a REGULAR UNLEADED <input type="checkbox"/> 1b PREMIUM UNLEADED <input type="checkbox"/> 1c MIDGRADE UNLEADED <input type="checkbox"/> 2 LEADED		<input type="checkbox"/> 3 DIESEL <input type="checkbox"/> 4 GASAHOL <input type="checkbox"/> 5 JET FUEL <input type="checkbox"/> 6 AVIATION GAS <input type="checkbox"/> 7 METHANOL <input type="checkbox"/> 8 M85 <input type="checkbox"/> 99 OTHER (DESCRIBE IN ITEM D. BELOW)
D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED		C. A. S. #:

III. TANK CONSTRUCTION MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E		
A. TYPE OF SYSTEM <input type="checkbox"/> 1 DOUBLE WALL <input checked="" type="checkbox"/> 2 SINGLE WALL	<input type="checkbox"/> 3 SINGLE WALL WITH EXTERIOR LINER <input type="checkbox"/> 4 SINGLE WALL IN A VAULT	<input type="checkbox"/> 5 INTERNAL BLADDER SYSTEM <input type="checkbox"/> 95 UNKNOWN <input type="checkbox"/> 99 OTHER
B. TANK MATERIAL (Primary Tank) <input type="checkbox"/> 1 BARE STEEL <input type="checkbox"/> 5 CONCRETE <input type="checkbox"/> 9 BRONZE	<input type="checkbox"/> 2 STAINLESS STEEL <input type="checkbox"/> 6 POLYVINYL CHLORIDE <input type="checkbox"/> 10 GALVANIZED STEEL	<input checked="" type="checkbox"/> 3 FIBERGLASS <input type="checkbox"/> 7 ALUMINUM <input type="checkbox"/> 95 UNKNOWN <input type="checkbox"/> 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC <input type="checkbox"/> 8 100% METHANOL COMPATIBLE W/FRP <input type="checkbox"/> 99 OTHER
C. INTERIOR LINING OR COATING <input type="checkbox"/> 1 RUBBER LINED <input type="checkbox"/> 5 GLASS LINING	<input type="checkbox"/> 2 ALKYD LINING <input checked="" type="checkbox"/> 6 UNLINED	<input type="checkbox"/> 3 EPOXY LINING <input type="checkbox"/> 95 UNKNOWN <input type="checkbox"/> 4 PHENOLIC LINING <input type="checkbox"/> 99 OTHER
IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___		
D. EXTERIOR CORROSION PROTECTION <input type="checkbox"/> 1 POLYETHYLENE WRAP <input type="checkbox"/> 5 CATHODIC PROTECTION	<input type="checkbox"/> 2 COATING <input type="checkbox"/> 91 NONE	<input type="checkbox"/> 3 VINYL WRAP <input type="checkbox"/> 95 UNKNOWN <input checked="" type="checkbox"/> 4 FIBERGLASS REINFORCED PLASTIC <input type="checkbox"/> 99 OTHER
E. SPILL AND OVERFILL, etc. SPILL CONTAINMENT INSTALLED (YEAR) 1994 OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) 1994 DROP TUBE YES <input checked="" type="checkbox"/> NO ___ STRIKER PLATE YES ___ NO <input checked="" type="checkbox"/> DISPENSER CONTAINMENT YES ___ NO <input checked="" type="checkbox"/>		

IV. PIPING INFORMATION CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE					
A. SYSTEM TYPE	A U <input checked="" type="checkbox"/> 1 SUCTION	A U <input type="checkbox"/> 2 PRESSURE	A U <input type="checkbox"/> 3 GRAVITY	A U <input type="checkbox"/> 4 FLEXIBLE PIPING	A U <input type="checkbox"/> 99 OTHER
B. CONSTRUCTION	A U <input checked="" type="checkbox"/> 1 SINGLE WALL	A U <input type="checkbox"/> 2 DOUBLE WALL	A U <input type="checkbox"/> 3 LINED TRENCH	A U <input type="checkbox"/> 95 UNKNOWN	A U <input type="checkbox"/> 99 OTHER
C. MATERIAL AND CORROSION PROTECTION	A U <input type="checkbox"/> 1 BARE STEEL	A U <input type="checkbox"/> 2 STAINLESS STEEL	A U <input type="checkbox"/> 3 POLYVINYL CHLORIDE (PVC)	A U <input checked="" type="checkbox"/> 4 FIBERGLASS PIPE	A U <input type="checkbox"/> 8 100% METHANOL COMPATIBLE W/FRP
	A U <input type="checkbox"/> 5 ALUMINUM	A U <input type="checkbox"/> 6 CONCRETE	A U <input type="checkbox"/> 7 STEEL W/ COATING	A U <input type="checkbox"/> 95 UNKNOWN	A U <input type="checkbox"/> 99 OTHER
D. LEAK DETECTION	<input type="checkbox"/> 1 MECHANICAL LINE LEAK DETECTOR	<input type="checkbox"/> 2 LINE TIGHTNESS TESTING	<input type="checkbox"/> 3 CONTINUOUS INTERSTITIAL MONITORING	<input type="checkbox"/> 4 ELECTRONIC LINE LEAK DETECTOR	<input type="checkbox"/> 5 AUTOMATIC PUMP SHUTDOWN
	<input type="checkbox"/> 6 ANNUAL TANK TESTING	<input type="checkbox"/> 7 CONTINUOUS INTERSTITIAL MONITORING	<input type="checkbox"/> 8 SIR	<input type="checkbox"/> 9 WEEKLY MANUAL TANK GAUGING	<input type="checkbox"/> 10 MONTHLY TANK TESTING
	<input checked="" type="checkbox"/> 99 OTHER LOSS OF SUCTION				

V. TANK LEAK DETECTION		
<input type="checkbox"/> 1 VISUAL CHECK <input type="checkbox"/> 7 CONTINUOUS INTERSTITIAL MONITORING	<input checked="" type="checkbox"/> 2 MANUAL INVENTORY RECONCILIATION <input type="checkbox"/> 8 SIR	<input type="checkbox"/> 3 VADOZE MONITORING <input type="checkbox"/> 9 WEEKLY MANUAL TANK GAUGING
<input type="checkbox"/> 4 AUTOMATIC TANK GAUGING <input type="checkbox"/> 10 MONTHLY TANK TESTING		<input type="checkbox"/> 5 GROUND WATER MONITORING <input type="checkbox"/> 95 UNKNOWN <input checked="" type="checkbox"/> 6 ANNUAL TANK TESTING <input type="checkbox"/> 99 OTHER

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)		
1. ESTIMATED DATE LAST USED (MO/DAY/YR)	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING _____ GALLONS	3. WAS TANK FILLED WITH INERT MATERIAL? YES <input type="checkbox"/> NO <input type="checkbox"/>

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE) EBRPD by Stephen Gehrett <i>Stephen Gehrett</i>	DATE 07/15/98
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LOCAL AGENCY USE ONLY THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW				
STATE I.D.#	COUNTY #	JURISDICTION #	FACILITY #	TANK #
PERMIT NUMBER	PERMIT APPROVED BY/DATE		PERMIT EXPIRATION DATE	

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED. FORM C MUST BE COMPLETED FOR INSTALLATIONS. THIS FORM SHOULD BE ACCOMPANIED BY A PLOT PLAN. FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS



Subject: View of backhoe breaking up and scraping away concrete cover before starting to excavate

Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA

Date Taken: November 9, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 01



Subject: View of "L" shaped area to be excavated looking southward with Iland area UFST piping covered with tarp against rain

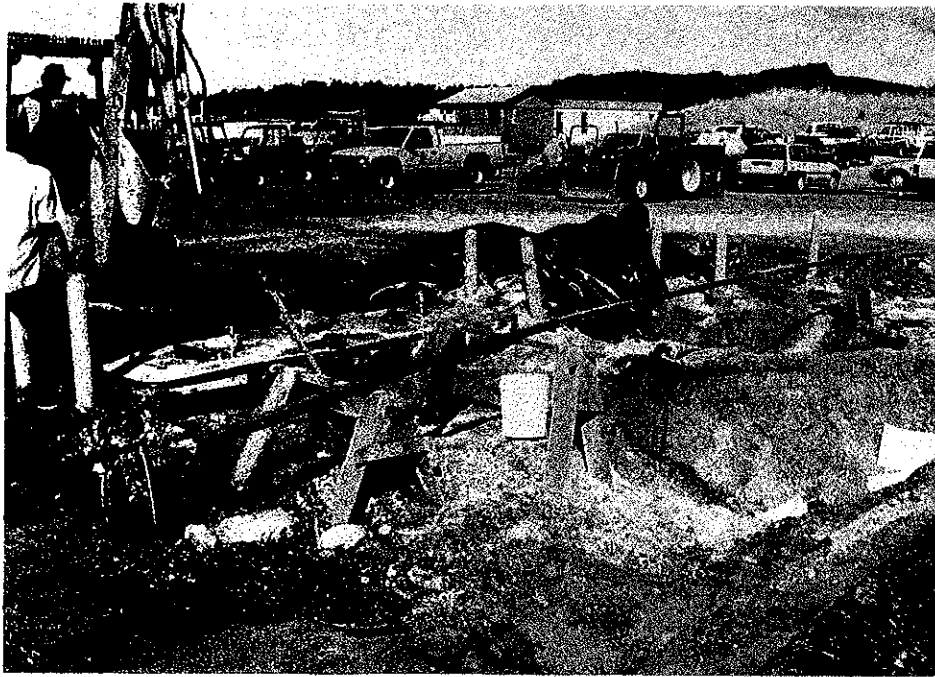
Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA

Date Taken: November 9, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 02



Subject: View of backhoe preparing to remove the "Island" where the three pumps (2 gasoline and 1 diesel) were located

Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA

Date Taken: November 9, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 03



Subject: View of initial excavation showing the location of the drain along its southern boundary

Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA

Date Taken: November 9, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 04



Subject: First evidence of contamination encountered while exposing the diesel piping to the UFST: product seen along piping

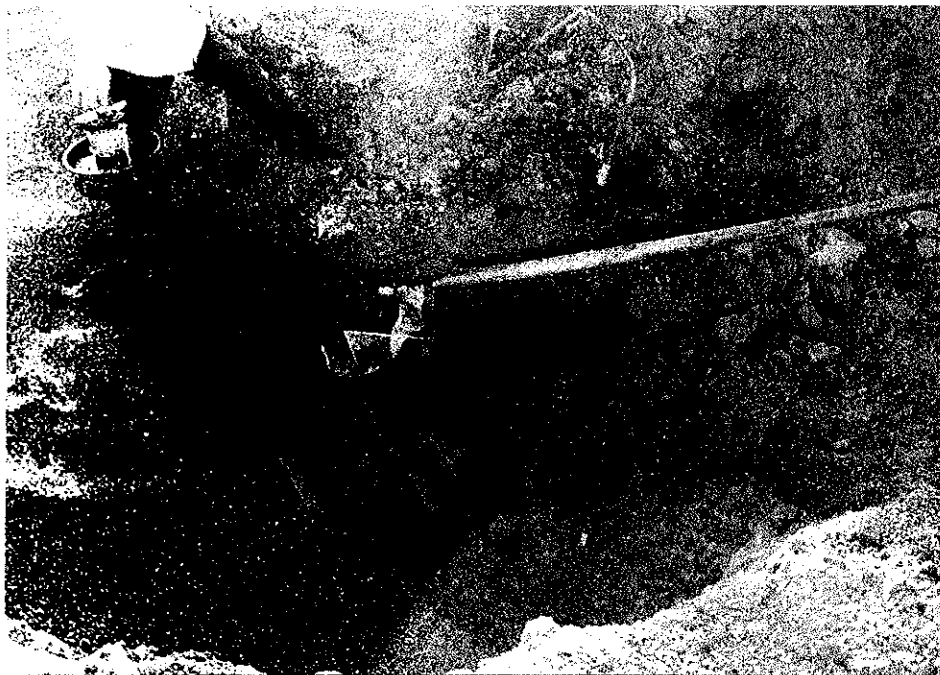
Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA

Date Taken: November 9, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 05



Subject: Detail of diesel piping to the 2200 diesel tank where evidence of contaminated backfill is observed at depths of > 3feet bgs

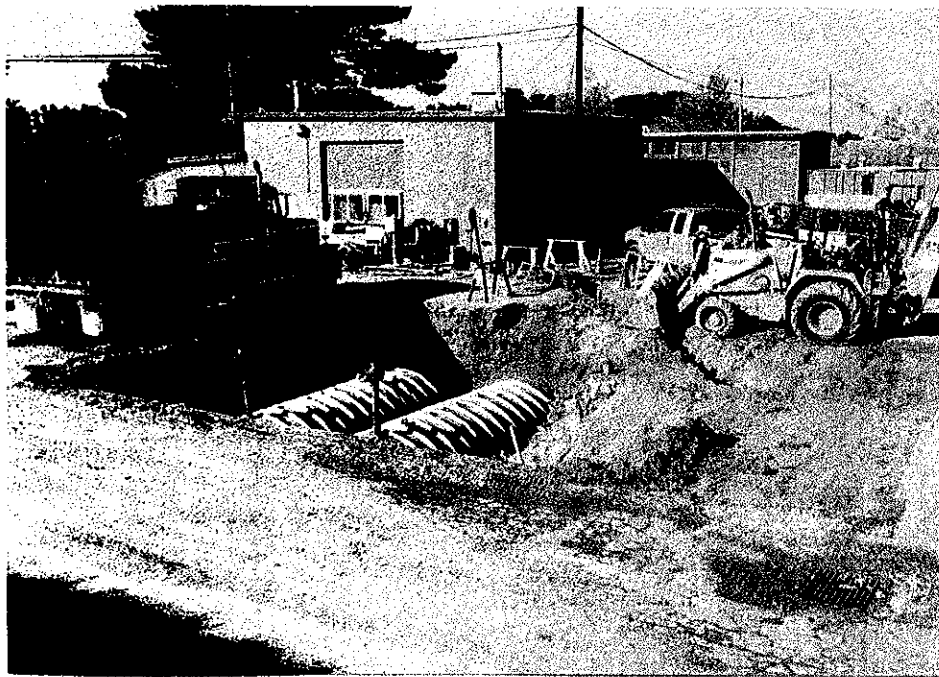
Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA

Date Taken: May 27, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 06



Subject: The excavation and three exposed UFSTs (Two 8,000 gallon gasoline; one 2,200 gallon diesel) looking toward EBP building

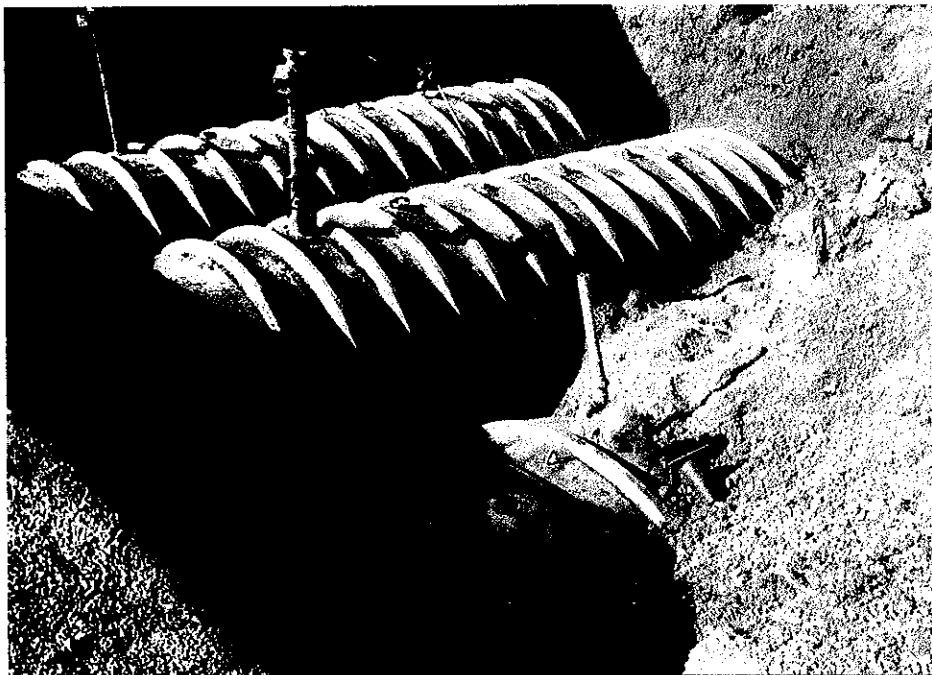
Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA

Date Taken: November 18, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 07



Subject: Close up of three UFSTs in excavation after putting dry ice in them and waiting for tanks to become inert re. LEL/Oxygen

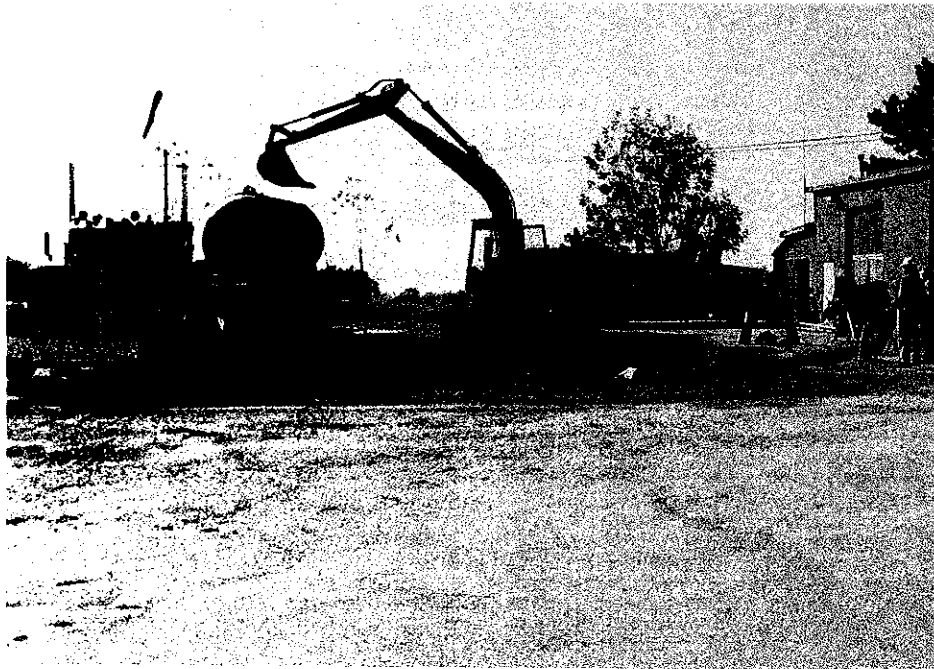
Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA

Date Taken: November 18, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 08



Subject: Removing tanks and loading onto truck to haul off for destruction.

Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA.

Date Taken: November 18, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 09



Subject: Base of excavation after the UFST & further backfill removal showing bedrock sidewalls/base and water at base sampled

Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA.

Date Taken: November 18, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 10



Subject: View of new 12,000 gallon gasoline and 2,500 gallon diesel tanks being installed in excavation, looking north

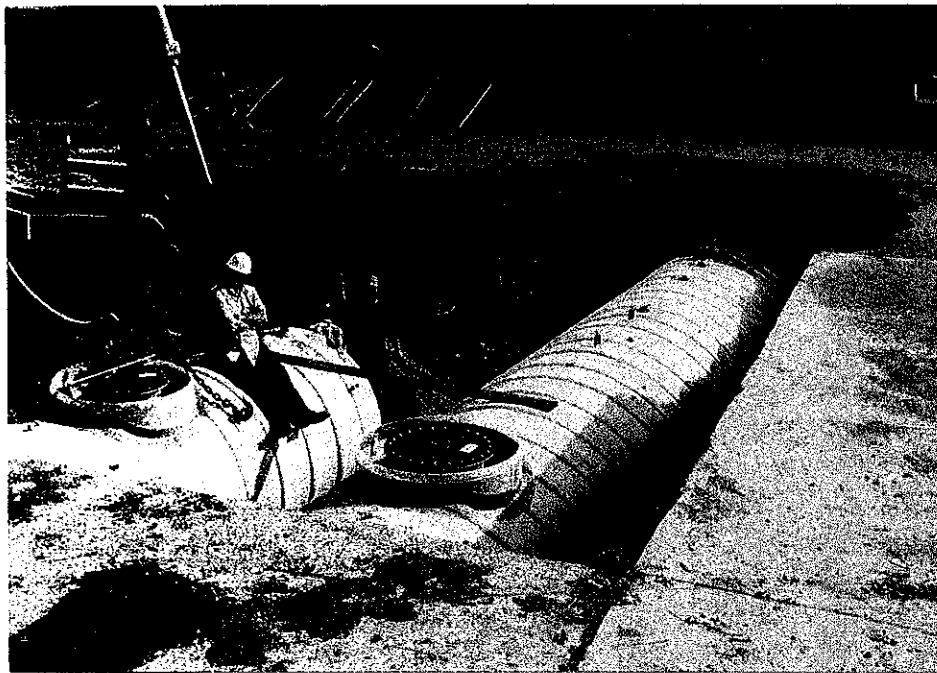
Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA.

Date Taken: November 24, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 11



Subject: View of new 12,000 gallon gasoline and 2,500 gallon diesel tanks being installed in excavation, looking south

Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA.

Date Taken: November 24, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 12



Subject: "clean" soil/backfill stockpile (overburden and clean backfill) that went back into excavation around new tanks

Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA.

Date Taken: November 24, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 13



Subject: Location near Parks police main building showing general construction debris and bermed contaminated soil from excavation

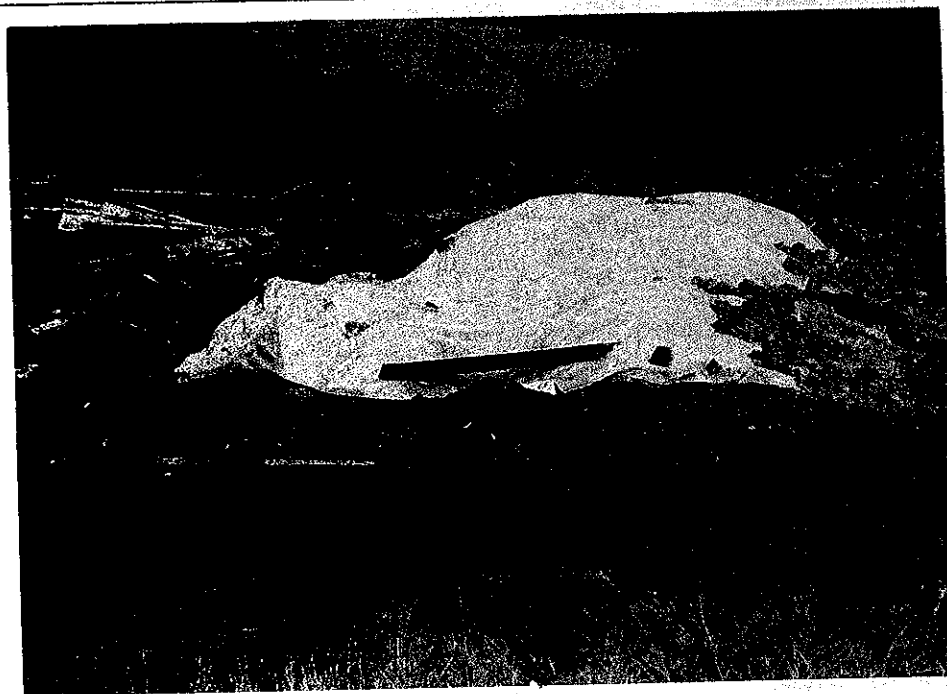
Site: East County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA.

Date Taken: November 24, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 14



Subject: View of contaminated soil stockpile (estimated at 120 CY) where the two 4 to 1 composite samples were collected 12/10/98.

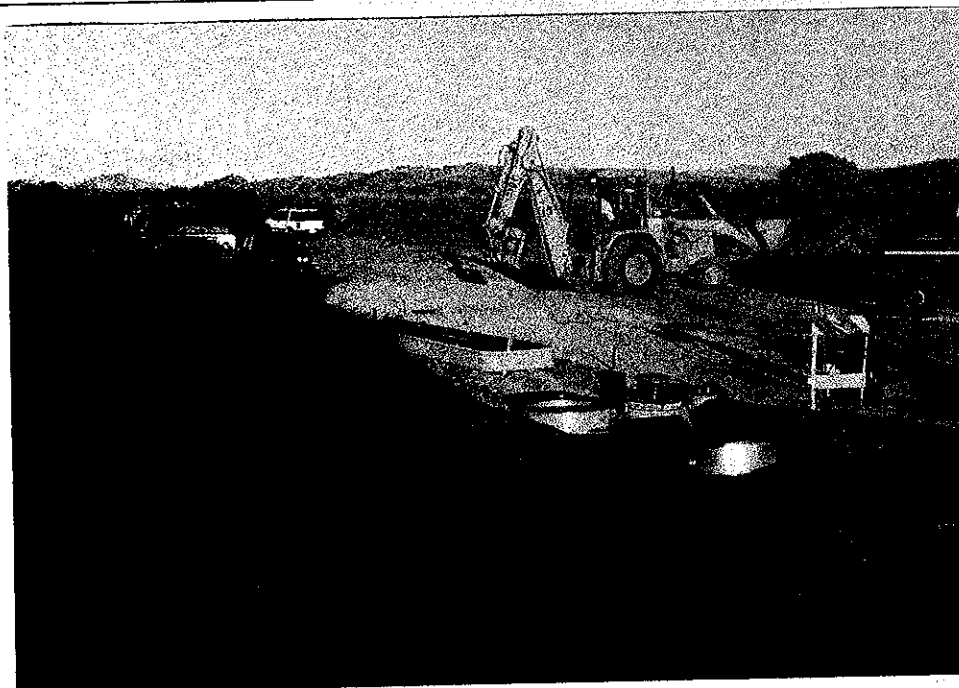
Site: East Bay Parks County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA.

Date Taken: December 10, 1998

Project No.: SES98016

Photographer: Richard S. Makdisi

Photo No.: 15



Subject: View of site restoration progress January 8, 1999.

Site: East Bay Parks County Corporation Yard UFST Removal/Replacement Site, 17930 Chabot Road, Castro Valley, CA.

Date Taken: January 8, 1998

Project No.: SES98039

Photographer: Richard S. Makdisi

Photo No.: 16

State of California

Contractors State License Board

Pursuant to Chapter 9 of Division 3 of the Business and Professions Code
and the Rules and Regulations of the Contractors State License Board,
the Registrar of Contractors does hereby issue this license to:

VCI OF CALIFORNIA * VERL'S CONSTRUCTION INC



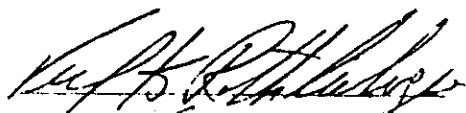
to engage in the business or act in the capacity of a contractor
in the following classification(s):

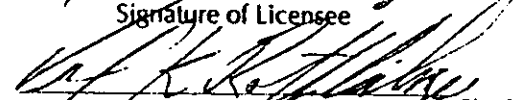
- A - General Engineering Contractor
- B - General Building Contractor
- HAZ - Hazardous Substances Removal

Witness my hand and seal this day,

October 10, 1990

Issued February 25, 1986
CERTIFIED COPY


Signature of Licensee


Signature of License Qualifier

This license is the property of the Registrar of Contractors, is not
transferrable, and shall be returned to the Registrar upon demand
when suspended, revoked, or invalidated for any reason. It becomes
void if not renewed.




Registrar of Contractors

487537

License Number



State of California
CONTRACTORS STATE LICENSE BOARD
ACTIVE LICENSE



License Number **487537**

Entity **CORP**

Business Name **V C I OF CALIFORNIA**

Classifications **A B HAZ C21**

Expiration Date **02/29/2000**

