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SAN ANDREAS MOUNTAINS

THE ENVIRONMENTAL CONSTRUCTION CO.
259 Kinney Drive
San Jose, CA 95112
408 997 1505

4/11/94

Mr. Scott O. Seery
Senior Hazardous Material Specialist
CHMM
80 Swan Way Suite # 200
Oakland, CA 94621

Dear Mr. Seery:

Enclosed please find documentation
relating to case # STID 27 #
discussed with you last week.

Please advise if these materials
are sufficient to my case.

Sincerely

Sam Tan

GERMAN AUTOCRAFT
301 E. 14th St.
San Leandro, CA 94577
(510) 638-5473

ALCO
HAZMAT
94 APR 12 PM
202

DRAFT

REPORT OF FINDINGS
Preliminary Soil and Groundwater
Contamination Assessment

German Autocraft
301 East 14th Street
San Leandro, California 94577

Prepared For:

Mr. SUENG LEE
GERMAN AUTOCRAFT
301 EAST 14th STREET
SAN LEANDRO, CA 94577

Prepared By:

THE ENVIRONMENTAL CONSTRUCTION COMPANY
259 KINNEY DRIVE
SAN JOSE, CA 95112

FEBRUARY 1991

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**Report of Findings
Preliminary Soil and Groundwater Subsurface
Hydrocarbon Contamination Assessment**

**German Autocraft
301 East 14th Street
San Leandro, Ca. 94577**

INTRODUCTION

From December 10, 1990 through January 20, 1991 **THE ENVIRONMENTAL CONSTRUCTION COMPANY** performed a groundwater investigation at 301 East 14th Street, San Leandro, California. This investigation has been performed in accordance with the Alameda County Health Agency and the Regional Water Quality Control Board guidelines for subsurface investigations involving leaking underground fuel tanks.

The purpose of this work was to investigate the extent of any soil and groundwater contamination beneath the subject property in the area of the removed USTs (Underground Storage Tanks). The completed work includes:

1. The installation of 3 soil borings near the backfilled area where 5 underground storage tanks (USTs) were formerly located.
2. The installation of one groundwater monitoring well. The well location was selected following the guidelines of the Alameda County Water District and the Regional Water Quality Control Board as outlined in the Regional Board Staff Recommendations for Preliminary site Investigations involving Leaking Underground Storage Tanks (LUST).
3. The collection of soil samples from the 3 soil borings, including the soil interval immediately above the saturated zone.
4. The proper development and sampling of the soil and groundwater contained in the monitor well.
5. The laboratory analysis, by a State-certified analytical laboratory, of the soil and water samples from the 3 soil borings and monitor well.
6. The preliminary determination of vertical and horizontal extent of hydrocarbon contamination in the soil and groundwater.
7. The provision of preliminary recommendations for remedial investigation and action of the soils and groundwater.

SITE DESCRIPTION

The site is an automotive repair shop, owned by Mr. Sueng Lee of 301 East 14th Street, San Leandro, California 94577. The site is located in the northern part of the city of San Leandro, near the intersection of Garcia and 14th Streets. Nearby property usage includes residences and small to medium-sized businesses.

Topography and General Geology

The topography of the immediate area is relatively flat and lies approximately 50 feet above mean sea level. Figure 1 is a regional site map of the immediate area. A U.S. Geological Survey Topographic map, the San Leandro 7.5 Minute Quadrangle, was used for this figure. The map scale is 1:2000. The Las Trampas Ridge lies approximately 4 miles east of the site. The hills are composed of Upper Jurassic and Cretaceous cherts, sandstones, shales and partially metamorphosed rocks of the Franciscan complex. Some Mesozoic volcanic and metavolcanic rocks make up the eastern portion of the hills. Figure 2 is a geologic map of the San Leandro area. This figure is an enlarged map of the 1977 Geologic map of California, compiled by William Jennings from the 1970 U.S.G.S. Map of California. The site lies approximately 1 mile west of the northwest-trending Hayward Fault that parallels the San Andreas Fault which lies on the western side of the San Francisco Bay.

General Hydrogeologic Setting

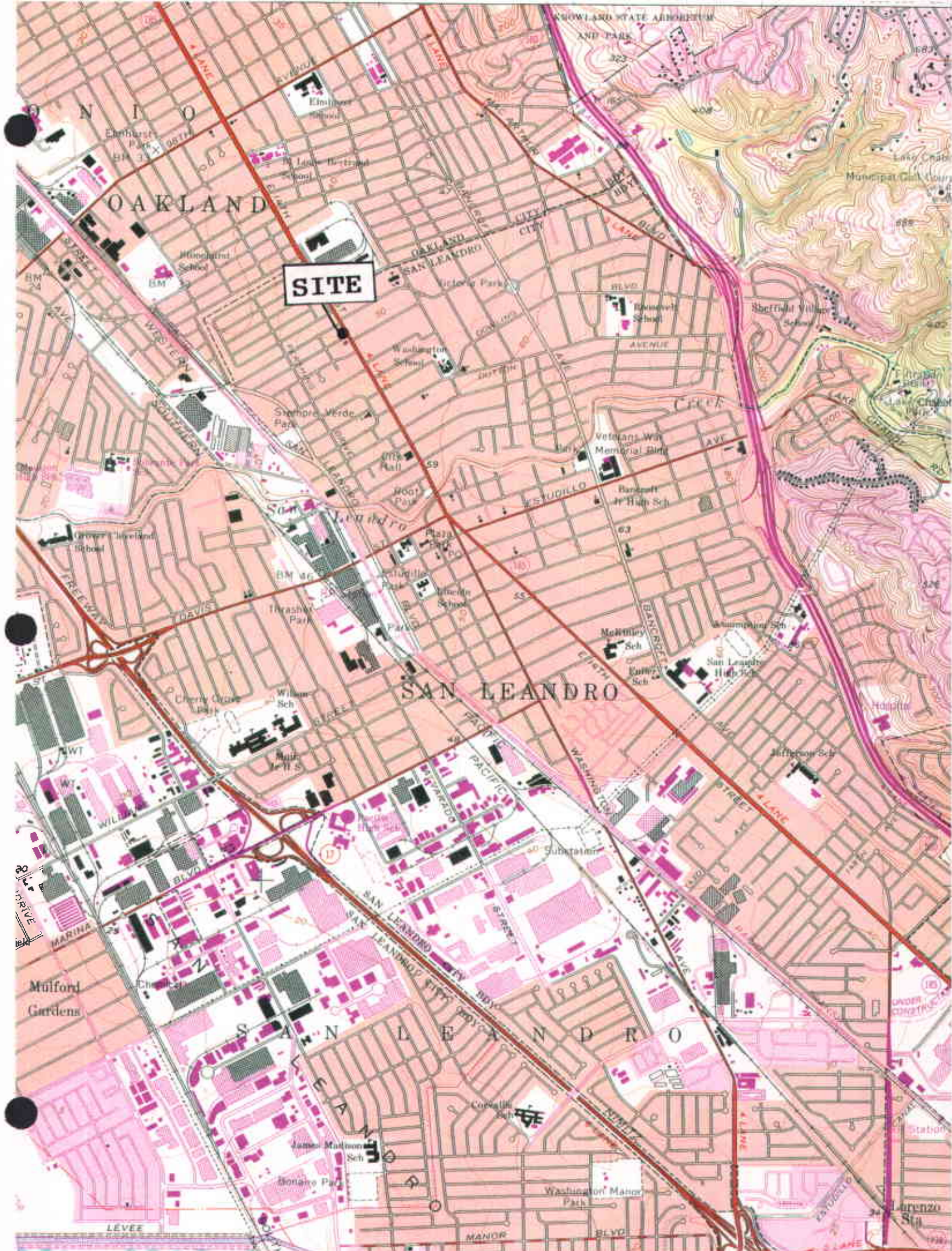
The site lies approximately 3 miles east of the central portion of the San Francisco Bay and National Wildlife Refuge. Land classified as wetlands begin approximately 2 miles to the west. San Leandro Creek drains west from the Las Trampas Ridge area and lies approximately 3000 feet to the east. An Alameda County Water District survey of water wells in the area indicates that there are 2 abandoned shallow wells, 4 active shallow wells, 2 abandoned deep wells and 2 active deep wells within a one mile radius of the site. The depth to the saturated zone is approximately 34 to 35 feet below surface grade. The preliminary direction of groundwater flow appears to be to the west-southwest, based on topographic and surface drainage patterns.

FIGURE 1

SAN LEANDRO

7.5 minute USGS Quadrangle

Scale 1:2000



SITE

OAKLAND

SAN LEANDRO

SAN LEANDRO

LEVEE

Mulford Gardens

8.1 DRIVE

MARINA

Station

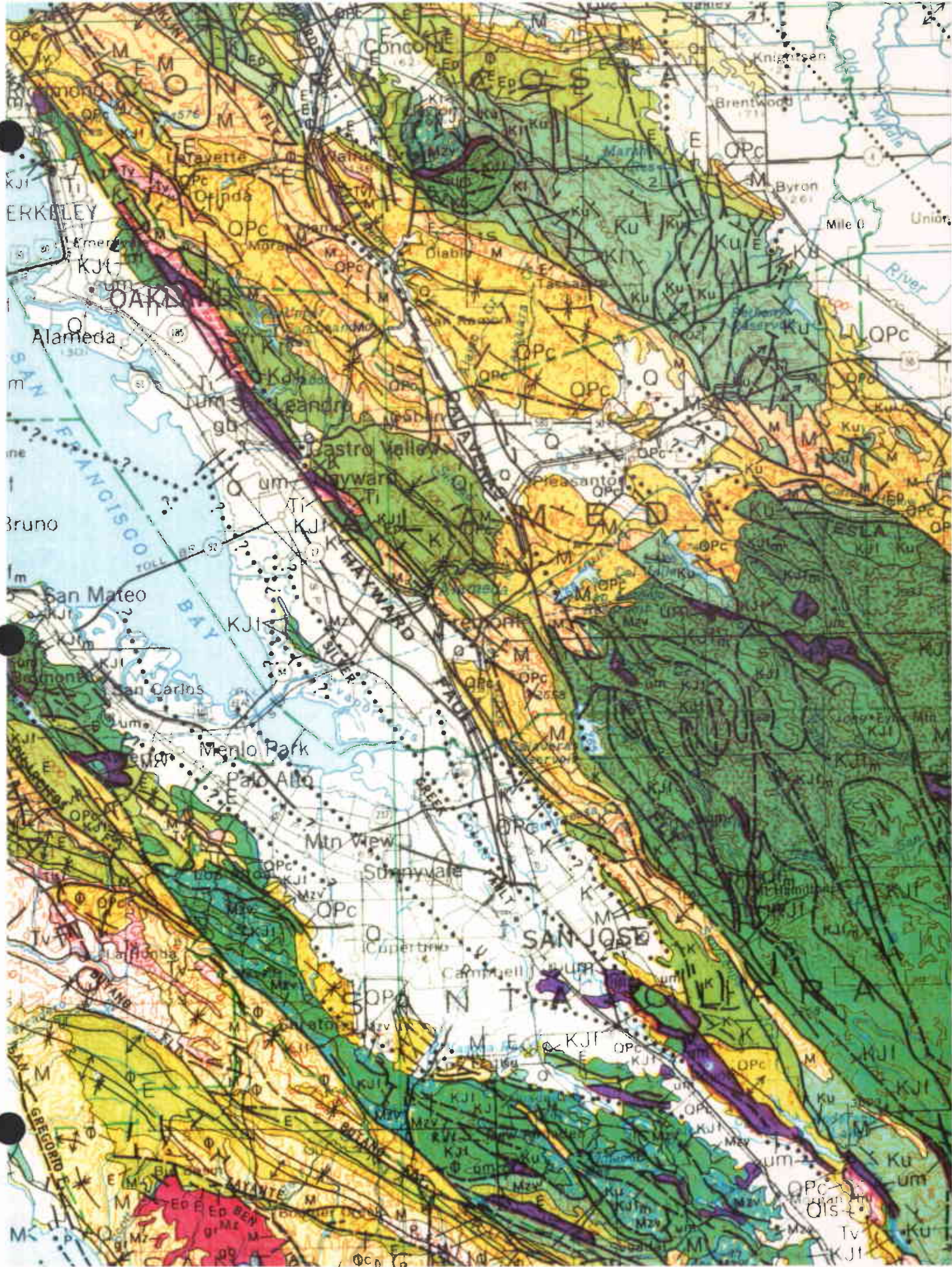
Lorenzo Sta

FIGURE 2

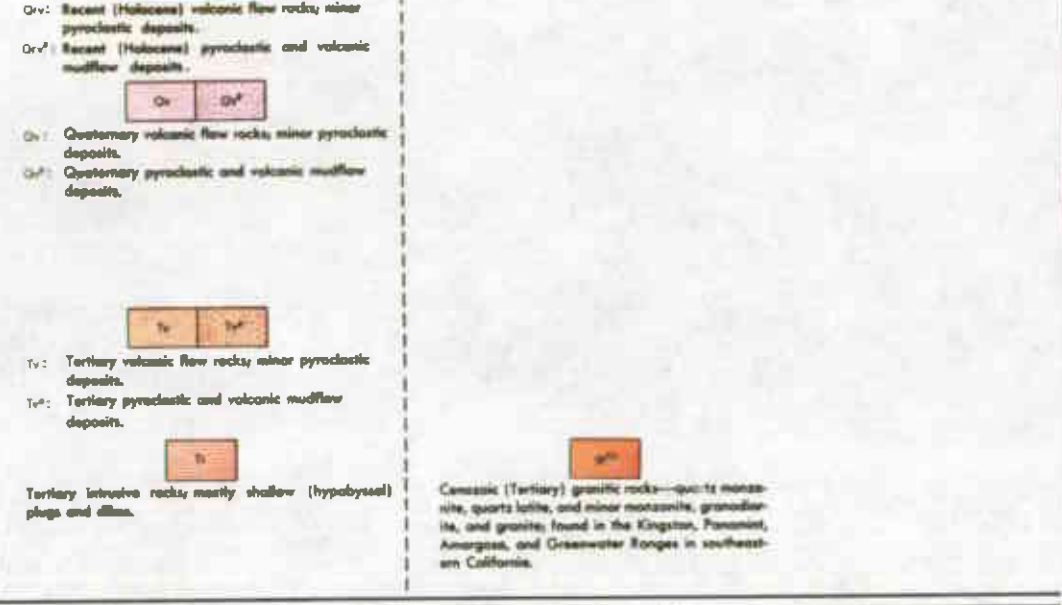
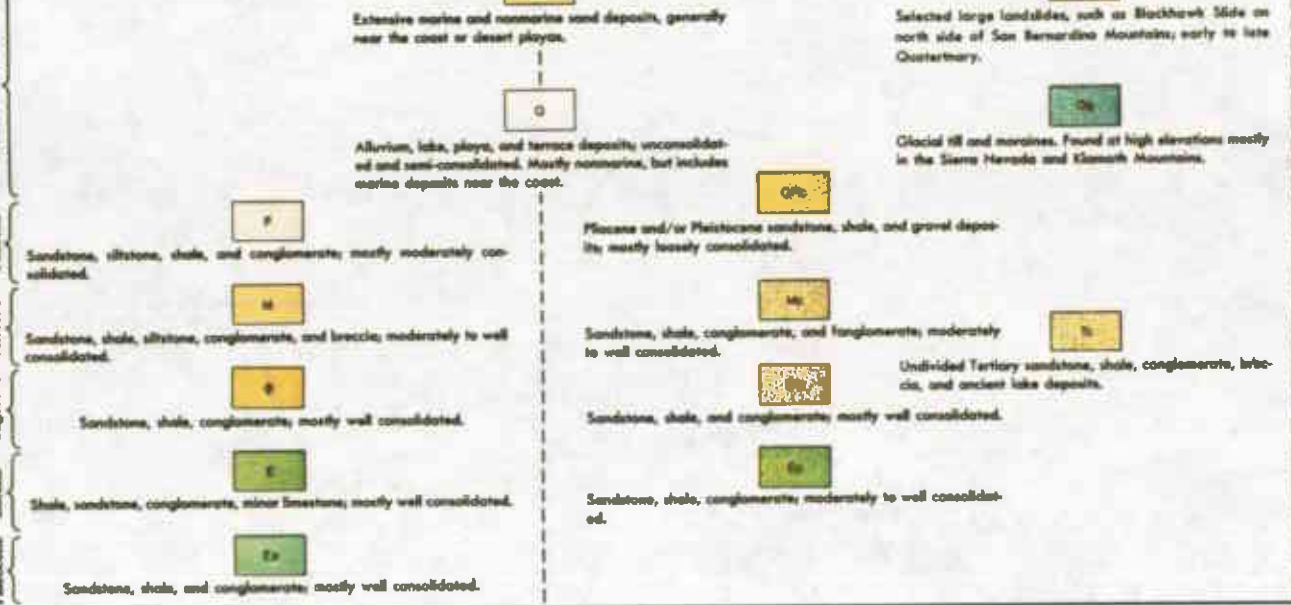
1977 Geologic Map of California

Compiled by William Jennings

Scale 1:125000

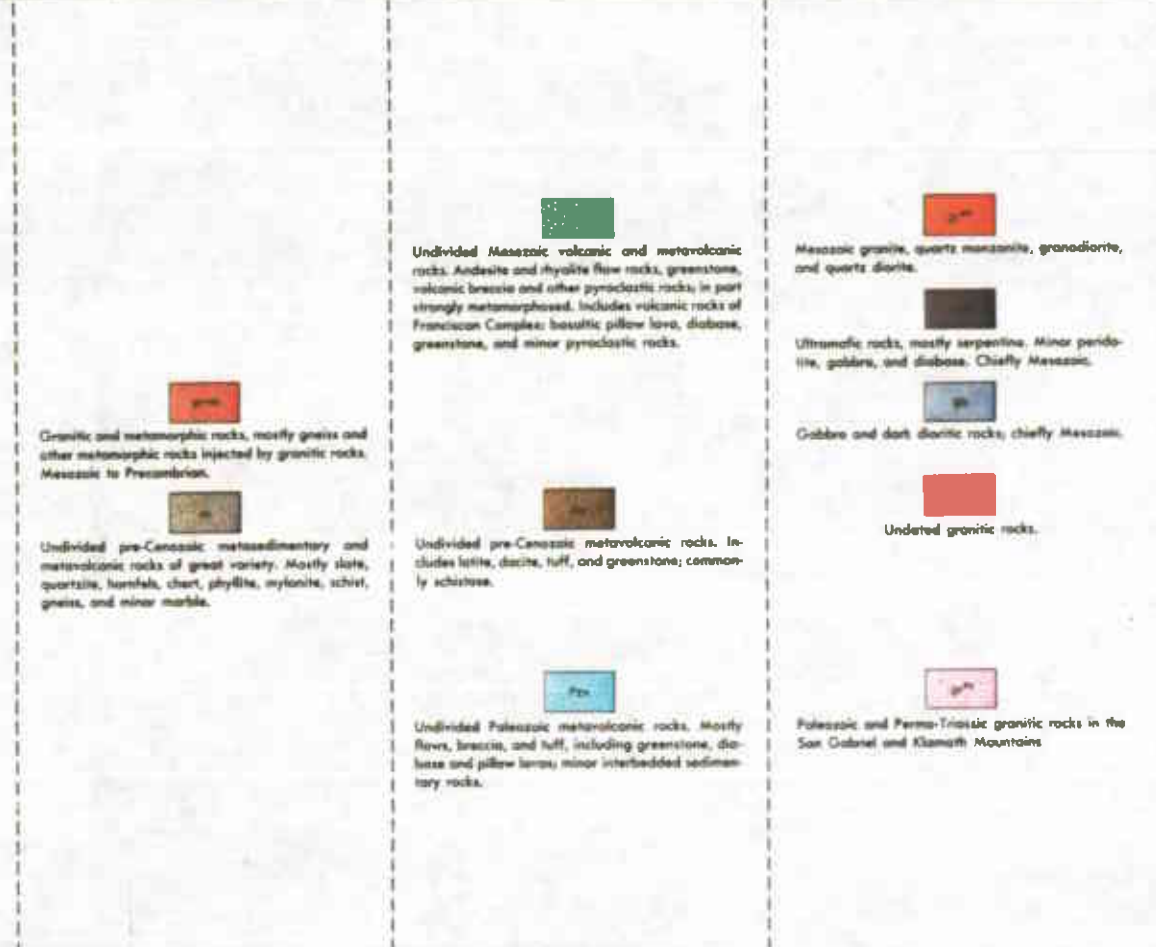
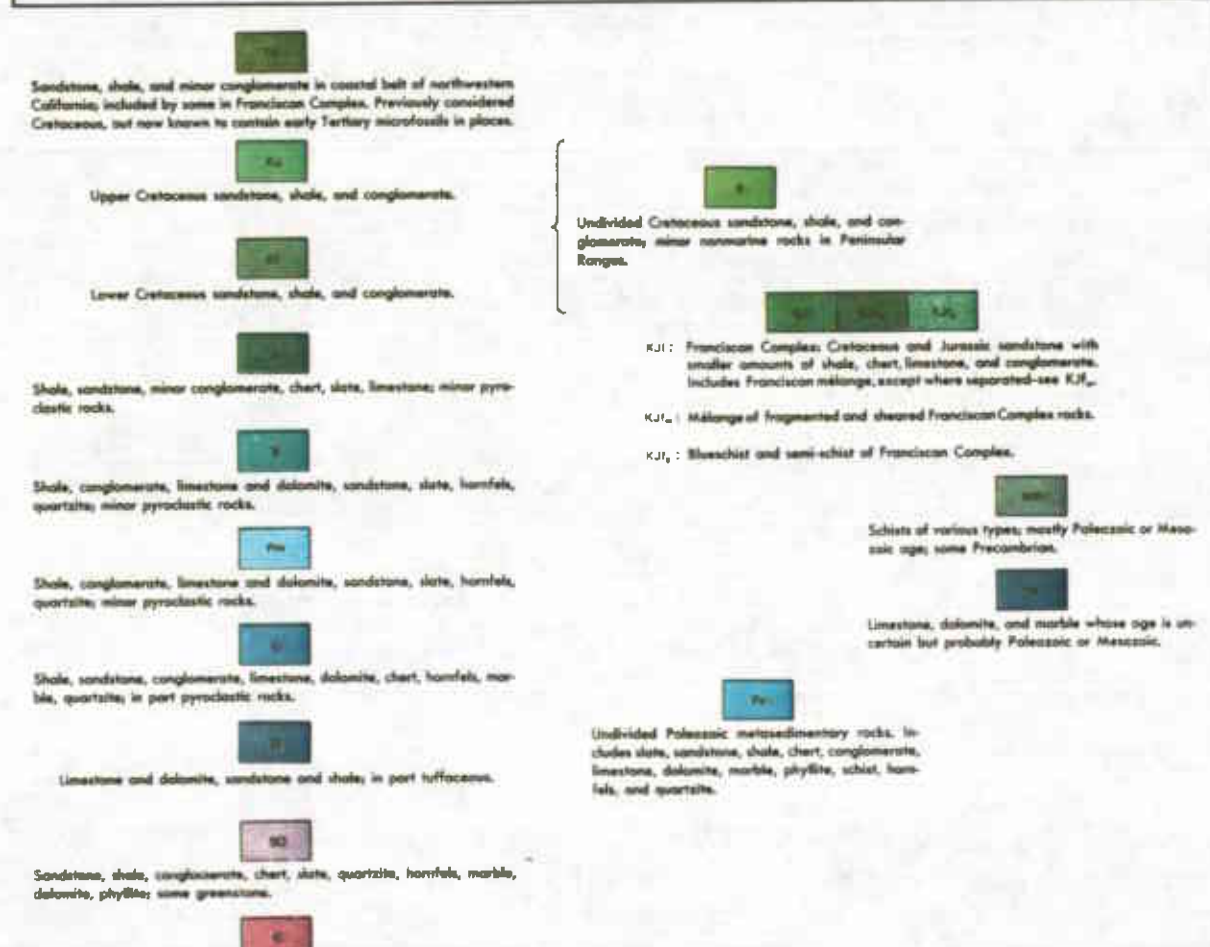


QUATERNARY
 CENOZOIC
 TERTIARY
 PALEOZOIC



TERTIARY-CRETACEOUS
 MESOZOIC
 CRETACEOUS
 JURASSIC
 TRIASSIC
 PERMIAN
 CARBONIFEROUS
 PALEOZOIC
 SILURIAN-ORDOVICIAN
 DEVONIAN

MARINE SEDIMENTARY AND METASEDIMENTARY ROCKS **MIXED ROCKS** **METAVOLCANIC ROCKS** **PLUTONIC ROCKS**



SITE HISTORY/BACKGROUND

On September 28, 1990, TECC removed six USTs from the subject property located at 301 East 14th Street, San Leandro, California. Ten soil samples from beneath the base of the tanks, one soil sample from the product line area near a former pump island and three composite grab samples from the excavated soils were collected and sent to a State-certified analytical laboratory. These samples were analyzed, following the LUFT Manual sampling guidelines for TPH(g)/BTEX (EPA methods 5030-8015/8020). The soils sampled from the waste oil tank was analyzed for TPH(g), TPH (as diesel), Oil & Grease, and Purgeable Halocarbons.

Concentrations of TPH(g) ranged from N.D. (not detected above test method detection levels) to 840 ppm (parts per million) whereas BTEX concentrations ranged from N.D. to 25,710 ppb (parts per billion).

Tanks #1, #2, and #3 were noted to have holes in them and showed obvious signs of serious corrosion. They appeared to have leaked sometime prior to their removal.

The site is an automotive repair shop located in the north-central part of San Leandro near the intersection of Garcia and East 14th Streets. It is the understanding of The Environmental Construction Company that the age of the subject tanks is unknown and that as-built plans were not available. The former usage of the site was a retail gasoline station. It was reported to TECC that the tanks had been used last in 1981. The property was purchased on June 17, 1977 by Mr. Wilhelm who sold the property to Mr. Andrati on October 16, 1983. Mr. Andrati sold the property to Mr. Lee on April 15, 1985. The current property owner has never used the USTs for the storage of fuels.

EXCAVATION OF SOILS

Hydrocarbon staining and odor was present in the tank pit during the removal of tanks #1, #2, #3, #4, and #5. A strong gasoline odor and dark-gray stain were apparent in the tank pit area adjacent to tanks #1, #2, #3, and #4. The soils underneath tank #6 (waste oil tank) had a faint oily odor and dark-gray stain. A dark-gray stain was present on the east wall of the tank pit area of tank #6 at a depth of 3 feet to 5 feet below surface grade. The depth of the tank pit containing tanks #1, #2, #3, #4, and #5 was approximately 8 feet below surface grade. The excavation area was approximately 44 long and 16 feet wide. The excavation area for tank #6 (waste oil) was approximately 6 feet below surface grade, 6 feet long and 5 feet wide. A total of approximately 15 cubic yards of soil was excavated from the pit of tank #6. No groundwater was contacted during the excavation of the tanks to a depth of at least 10 feet. The pit holes were lined with plastic and the soil put back then covered with plastic as a temporary containment measure to prevent any off-site migration of contamination.

SOIL SAMPLING PROTOCOL -- September 28, 1990 sampling

As per instruction of Mr. Michael Bakaldin of the San Leandro Fire Department (SLFD), on September 28, 1990 TECC recovered 9 samples from the soils taken 2 feet below the base of tanks #1, #2, #3, #4, and #5, at depths of 10 feet below grade and at 7 feet below grade of tank #6. The composite grab samples, CGS-1, CGS-2, CGS-3, were acquired from the excavated soils. A sample also was taken adjacent to the pump island on the north end of the property. A total of 14 samples were collected. The sample locations are shown in the attached Figures 3 and 4 of the TECC UST Removal Report of November 26, 1990. The title of figures is TPHg Concentration Map and BTEX Concentration Map. The soil sample methods used to collect these samples was the grab sample method. In this method a clean 6-inch long and 2-inch diameter brass tube was driven into the pile of excavated soils. Immediately upon recovery of the soil sample, the ends of the brass tube were sealed with aluminum tape and labelled. The label included date, time, sample name sample identification number, project identification number, and analysis requested. The sample then was placed on ice inside a thermally-insulated cooler for transport to a Chromalab, a State-certified analytical laboratory (State-certification #238 and #655) in San Ramon, California. At the request of the SLFD and the sampling guidelines of the CAL-LUFT manual, all samples were tested for Total Petroleum Hydrocarbons (as gasoline) [TPH(g); EPA method 5030-8015] and Benzene, Toluene, Ethylbenzene, and Xylenes [(BTEX); EPA method 8020]. The sample collected from below the waste oil tank, T6-1, and from its excavated soils, CGS-3, was analyzed additionally for Oil & Grease (Standard method 503 D&E), TPH (as diesel) [TPH(d); EPA method 3550/8015], and Purgeable Halocarbon Compounds (EPA method 8010). The test method detection levels are 10mg/Kg, 5.0mg/Kg, and 5 ug/Kg, respectively.

ANALYTICAL RESULTS -- UST Removals Report

The laboratory analytical results are presented in the attached Table 1. TPH(as gasoline) and BTEX concentrations also are displayed in Figures #3 and #4. The analytical results indicate that the highest concentrations of TPH (as gasoline)/BTEX appear to be localized in the soils immediately below the center of tank #1 (samples T1-1), and of tank #3 (soil sample T3-1). Analytical results of CGS-3 (waste oil excavated soils) also showed high concentrations of Oil & Grease. The analytical results of only one sample, T5-2, indicated concentrations of TPH (as gasoline)/BTEX below test method detection levels of 2.5 ppm/5 ppb. Samples T6-1 and CGS-3 also were analyzed for Volatile Organic Compounds (EPA method 8240) and results indicated no concentrations of Purgeable Halocarbon compounds above test method detection levels of 5 ppb. The analytical results indicated TPH(d) and TPH(g)/BTEX contamination in samples CGS-1, CGS-2, and CGS-3. These analytical results indicated that the excavated soils from the waste oil tank pit are above State and local corrective action levels (CAL) for TPH(g)/BTEX, TPH(d), and in CGS-3, Oil & Grease contamination. Further investigative action for the soils and groundwater was recommended by TECC in the November 26, 1990 TECC Report of Findings.

FIGURE 3

TPH(g) Concentration Map

UST Removals

The Environmental Construction Company

... WORKING TOWARDS A CLEANER ENVIRONMENT

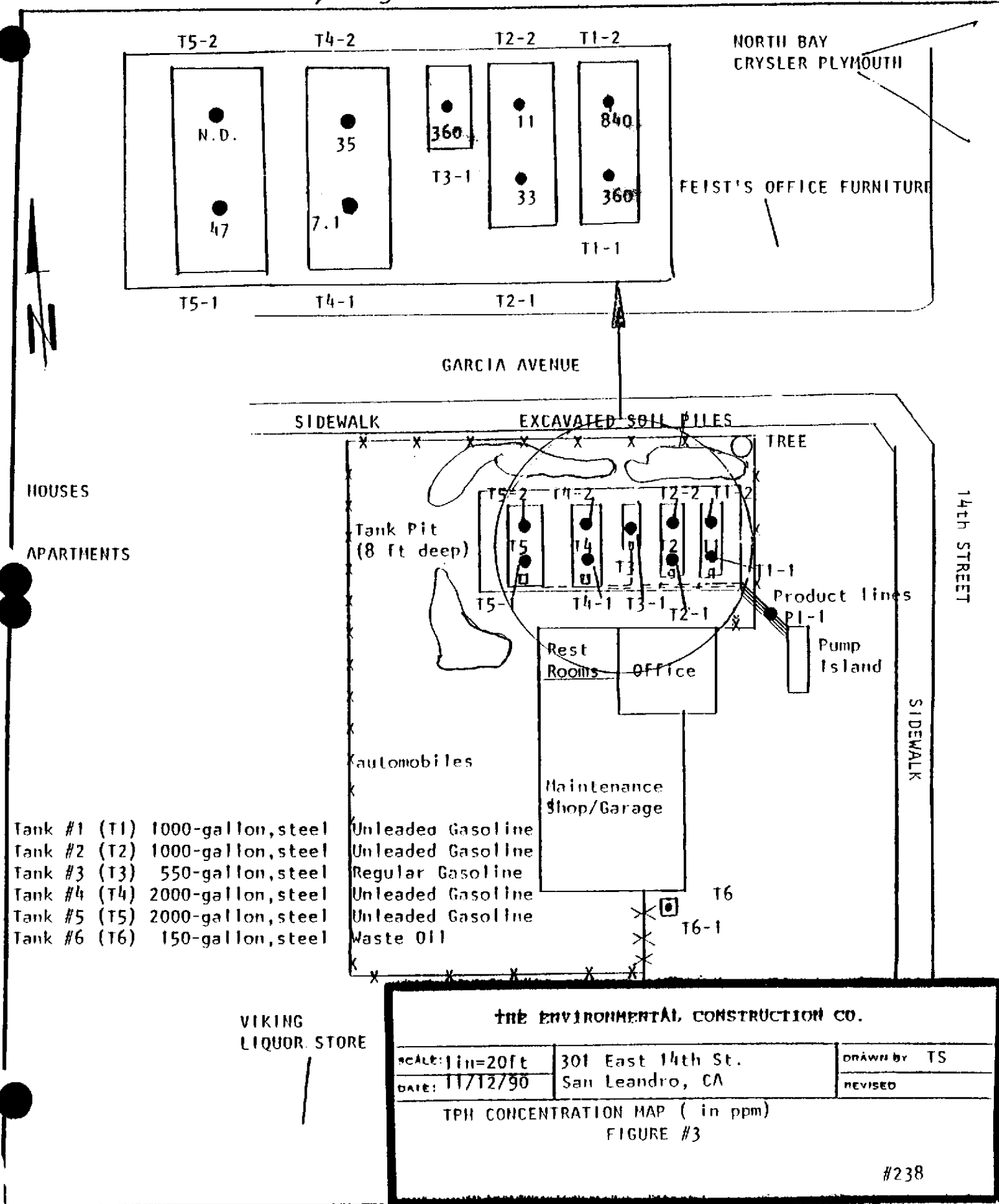


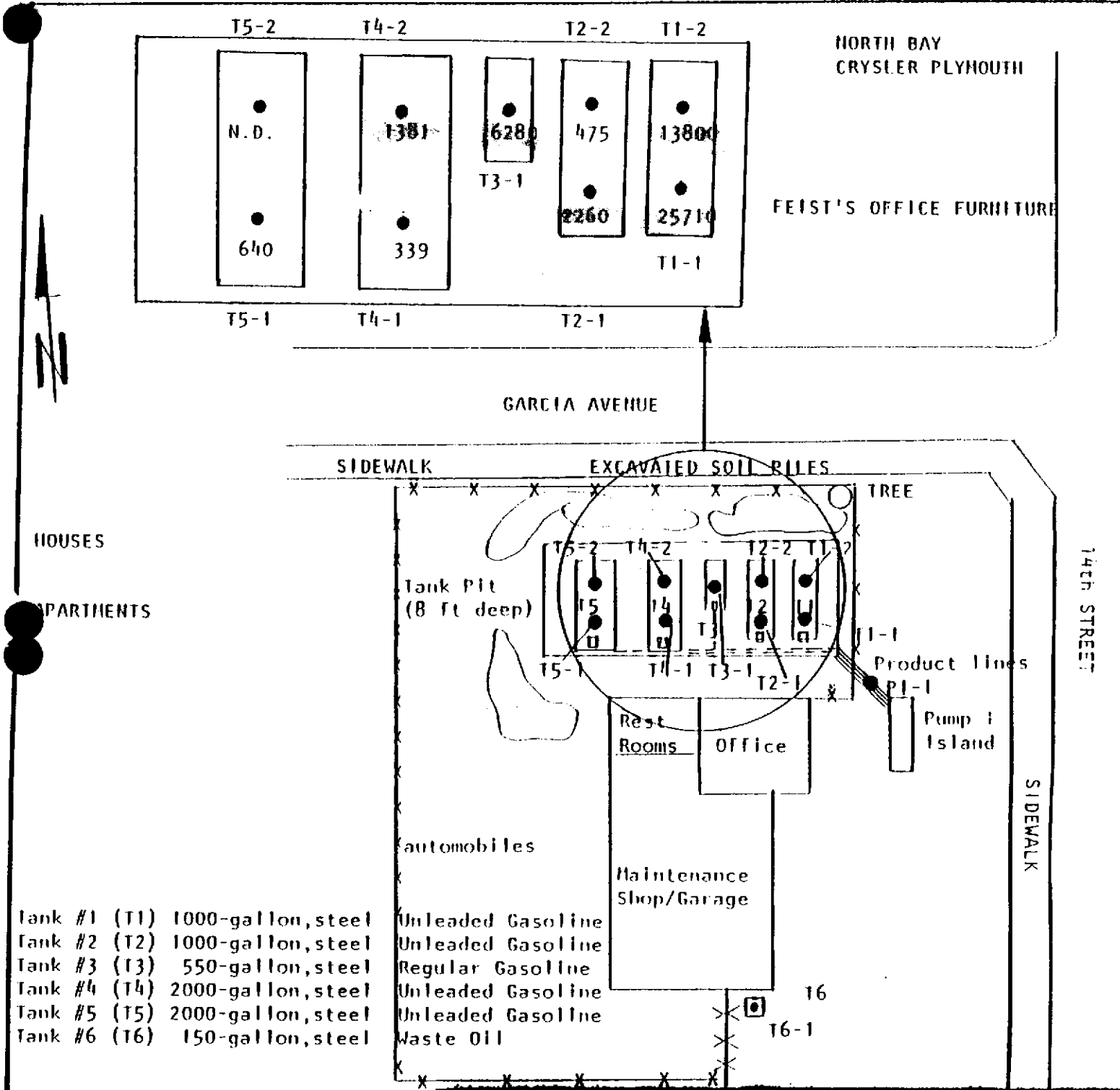
FIGURE 4

BTEX Concentration Map

UST Removals

The Environmental Construction Company

... WORKING TOWARDS A CLEANER ENVIRONMENT



VIKING LIQUOR STORE

THE ENVIRONMENTAL CONSTRUCTION CO.		
SCALE: 1 in = 20 ft	301 East 14th St.	DRAWN BY TS
DATE: 11/12/90	San Leandro, CA	REVISED
BTEX CONCENTRATION MAP (in ppb)		
FIGURE #4		
#238		

UST Removals

TABLE 1 ANALYTICAL RESULTS

Sample Number	TPHg in ppm	TPHd in ppm	BTEX in ppb	Oil & Grease in ppm	Purgeable Halocarbons
T1-1	840	N.A.	25,710	N.A.	N.A.
T1-2	360	N.A.	13,800	N.A.	N.A.
T2-1	33	N.A.	2,260	N.A.	N.A.
T2-2	11	N.A.	475	N.A.	N.A.
T3-1	360	N.A.	6,280	N.A.	N.A.
T4-1	7.1	N.A.	339	N.A.	N.A.
T4-2	35	N.A.	1,381	N.A.	N.A.
T5-1	47	N.A.	640	N.A.	N.A.
T5-2	N.D.	N.A.	N.D.	N.A.	N.A.
T6-1	N.D.	N.D.	N.D.	N.D.	N.D.
PI-1	N.D.	N.A.	N.D.	N.A.	N.A.
CGS-1	36	N.A.	1,810	N.A.	N.A.
CGS-2	75	N.A.	579	N.A.	N.A.
CGS-3	N.D.	N.D.	71.1	970	N.D.
DETECTION LIMIT	2.5 ppm	5 ppm	5 ppb	5 ppm	5 ppb
METHOD OF ANALYSIS	5030 8015	3550 8015	8020	503 D & E	8010

MDL=Method Detection Limit

ND=Not Detected

NA=Not Analyzed

SITE STATUS

Three soil borings and one 2-inch groundwater monitoring well was recommended by TECC in the attached November 26, 1990 TECC "Report of Findings - UST Removals, 301 East 14th Street, San Leandro, California". As part of the conclusions and recommendations of this preliminary Report of Findings, TECC suggested a more detailed remedial investigation prior to remedial action. This current report describes the results of the soil borings and well installation.

SOIL BORING INSTALLATION

On December 10, 1990 THE ENVIRONMENTAL CONSTRUCTION COMPANY personnel oversaw the installation of three 35 feet deep, 8 1/2 inch diameter soil borings. The locations of the soil borings are shown in figure 5. Advance Drilling (State license C57 # 607458) of San Jose, California, was the drilling company used to install these soil borings. These borings were installed under permit # 90701 issued by Alameda County Flood Control and Water Conservation District--Zone 7. A copy of this permit is attached in Appendix A of this report. The soil borings were drilled using a H-51 Mobil drill rig with an 8 1/2-inch diameter hollow-stem auger. All down-hole equipment was decontaminated by steam cleaning prior to their use. The soils were sampled using a California-modified split-spoon sampler and in accordance with the TECC Drilling, Sealing, and Sampling Protocol in the attached Appendix C. The boring logs are presented in the attached Appendix A.

SOIL BORING #1

Soil boring #1 (B-1) contained a damp, stiff, medium to dark-brown, slightly plastic clay from surface grade to approximately 8 feet below grade. From a depth of 8 feet to approximately 18 feet, a damp, soft, plastic, light-brown to tan clay was encountered. From approximately 18 to 23 feet a damp, soft, slightly plastic, mottled, light-gray to tan clay was encountered. At a depth of approximately 23 feet to 34 feet a damp to moist, tan to brown clay with occasional pebbles and gravel was observed. This interval was considered to be the saturated zone. Groundwater was encountered at approximately 34 feet. Two samples were collected for laboratory analysis from depths of 12 feet to 13 feet and 34.5 feet to 35 feet. A moderate gasoline odor was evident in the saturated zone.

The boring was backfilled with a mixture of portland type I/II cement and grout then capped with a combination of grout and bentonite to seal the hole and prevent the possibility of vertical migration of hydrocarbon contamination from the surface.

SOIL BORING #2

Soil boring #2 (B-2) contained a damp, stiff, medium to dark-brown, slightly plastic clay from surface grade to approximately 8 feet below grade. From a depth of 8 feet to approximately 18 feet a damp, soft, plastic, medium-brown clay was encountered. From approximately 18 to 23 feet a damp, soft, slightly plastic, mottled, light-gray to tan clay was encountered. At a depth of approximately 23 feet to 34 feet, damp to moist, tan to olive-brown clay with occasional pebbles and gravel was encountered. No odor or staining was present in either split-spoon samples or cuttings brought up by the hollow-stem auger from surface grade to 34 feet;

Soil Boring cont'd

however, a moderately strong gasoline odor prevailed in the soil samples from 24 feet to 24.5 feet, 27.5 feet to 29 feet and 33.5 feet to 35 feet. Groundwater was encountered at approximately 34 feet. A moderate gasoline odor was apparent in this saturated zone. Two samples were collected for laboratory analysis from depths of 12 to 13 feet and 34 to 35 feet. Additionally, a grab sample of the water from the saturated zone was collected with a disposable bailer after sheen and odor was evident.

The boring was backfilled with a mixture of portland type I/II cement and grout then capped with a combination of grout and bentonite to seal the hole and prevent the possibility of vertical migration of hydrocarbon contamination from the surface.

SOIL BORING #3

Soil boring #3 (B-3) contained a damp, stiff, medium to dark-brown, slightly plastic clay from surface grade to approximately 8 feet below grade. From a depth of 8 feet to approximately 18 feet a damp, soft, plastic, medium-brown clay was encountered. No odor or staining was apparent in either split-spoon samples or cuttings brought up by the hollow-stem auger from surface grade to 10 feet. From approximately 18 to 23 feet a damp, soft, slightly plastic, mottled, light-gray to tan clay was encountered. At a depth of approximately 23 feet to 34 feet a damp to moist, light olive-brown to olive-brown clay with occasional pebbles and gravel was observed. The saturated zone was encountered at 34 feet and contained more gravel than B-1 and B-2. A faint gasoline odor was present in soil samples and cuttings from 14 feet to 27 feet. A strong gasoline odor was present from 27.5 feet to 35 feet. A gray stain was evident in the sample from the saturated zone (34 feet). Two samples were collected for laboratory analysis from depths of 27.5 feet to 29 feet and 34 feet to 35.5 feet.

The boring was backfilled with a mixture of portland type I/II cement and grout then capped with a combination of grout and bentonite to seal the hole and prevent the possibility of vertical migration of hydrocarbon contamination from the surface.

FIGURE 5

**Site Map with Soil Borings and
Monitor Well Locations**

NORTH BAY
CRYSLER PLYMOUTH

APARTMENTS

FEIST'S OFFICE FURNITURE

GARCIA AVENUE

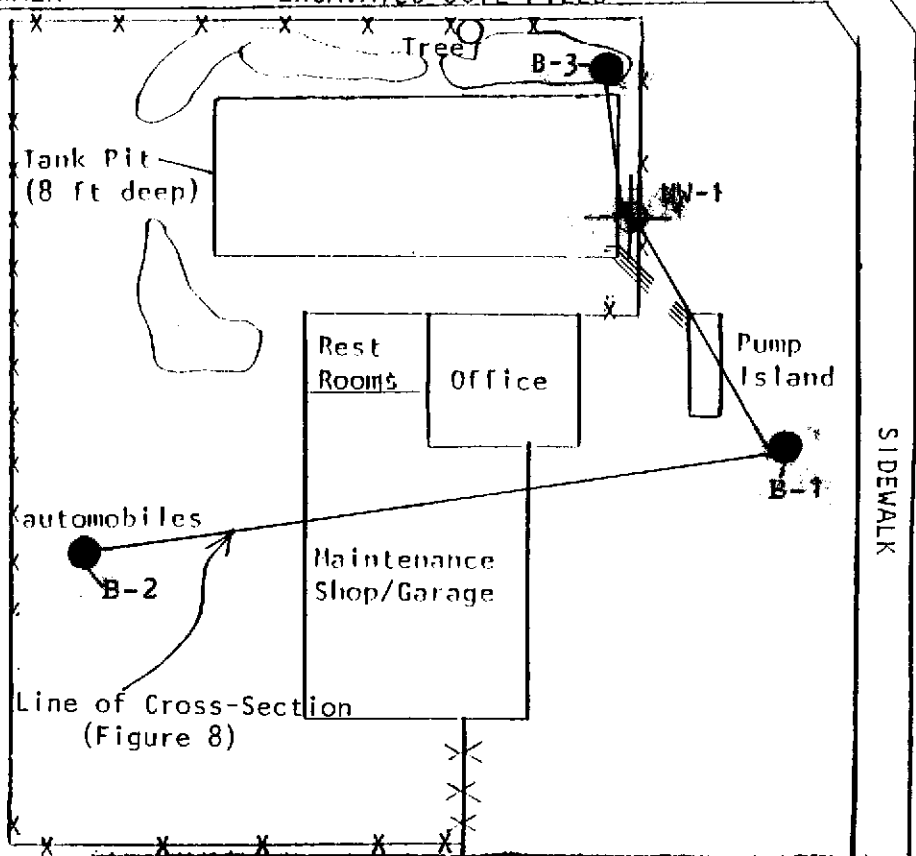
SIDEWALK

EXCAVATED SOIL PILES

HOUSES

APARTMENTS

*Is B2
correctly
located?*



VIKING
LIQUOR STORE

THE ENVIRONMENTAL CONSTRUCTION CO.

SCALE: 1 in = 20 ft

301 East 14th St.

DRAWN BY TS

DATE: 11/12/90

San Leandro, CA

REVISED

- Boring Location SITE MAP-Monitor Wells & Soil Borings
- ⊕ SITE MAP-Monitor Wells & Soil Borings
- ⊕ Monitor Well Location

FIGURE 5

Job #267

MONITOR WELL INSTALLATION

MONITOR WELL #1

Monitor well #1 was installed on December 27, 1990. Advance Drilling (State license C57 #607458) of San Jose, California, was the drilling company used to install the groundwater monitoring well. The well was installed under permit #90711 issued by Alameda County Flood Control and Water Conservation District--Zone 7. A copy of this permit is attached in Appendix A. The soil boring was drilled using a H-51 Mobil drill rig with an 8 1/2 -inch diameter hollow-stem auger. All down-hole equipment was decontaminated by steam cleaning prior to their use. The soil was sampled using a California-modified split-spoon sampler and in accordance with the TECC Drilling, Sealing, and Sampling Protocol in the attached Appendix C. The boring log is presented in the attached Appendix A. This well is located on the southeast corner of the tank pit. The location for this well was selected because its close proximity to the area where the highest TPH(g)/BTEX concentrations were found in the soils analyzed after the UST removals. A slightly damp, stiff, dark-brown clay was encountered from surface grade to a depth of approximately 8 feet below grade. From 8 feet to approximately 23 feet a mottled-brown, light to tan silty clay was observed. A faint to moderate gasoline odor and stain was present from 12 to 23 feet. At 23 feet to 34 feet a moist, greenish-gray, very soft, plastic clay was encountered. The saturated zone was contacted at 34 feet in a gravelly clay; the gravel content increased in depth to 45 feet. Twenty feet of 0.02 inch, slotted PVC well screen was installed between 45 feet and 25 feet. Monterey #3 sand was poured in the annular space of the well, through the augers, to a height of 23 feet. The sand was followed by placing 2 feet of bentonite clay to a height of 21 feet. The remainder of the annular space was filled with a portland type I/II cement and grout mixture.

SOIL SAMPLING

All soil boring samples were collected and handled according to sampling protocol guidelines included in Appendix C: Drilling, Sealing, and Sampling Protocol. This protocol follows guidelines set forth by the Alameda County Water District and the Regional Water Quality Control Board. These samples were collected using an 18-inch California-modified split-spoon sampler. Three clean, 6-inch long, 1.5-inch diameter brass tubes were placed inside the split-spoon assembly and lowered inside the hollow-stem auger flight to the designated sampling point. Upon retrieval of the sample, the middle and/or top tube was sealed in aluminum foil, capped, labelled, and placed, under chain of custody, in a thermally-insulated cooler with ice. The samples were kept under ice until relinquished to Chromalab, Inc. (State-certification #694 and #955).

SOIL BORING #1

Two soil samples were collected from Soil Boring #1. These samples are labelled B-1 (12'-13') and B-1 (34.5'-35'). The depths of these samples are 12 feet to 13 feet and 34.5 feet to 35 feet, respectively, below grade. Because this boring location was in the area of a recently removed UST, both samples were analyzed for TPH(g)/BTEX (EPA methods 5030-8015/8020).

SOIL BORING #2

Two soil samples were collected from Soil Boring #2. These samples are labelled B-2 (12') and B-2 (34'-35'). The depths of samples B-2 (12') and B-2 (34'-35') are 12 feet and 34 to 35 feet, respectively, below grade. The samples were collected to determine if contamination existed in or near the saturated zone. The two soil samples were analyzed for TPH (as gasoline)/BTEX (EPA methods 5030-8015/8020).

SOIL BORING #3

Two soil samples were collected from Soil Boring #3. These samples are labelled B-3 (27.5'-29') and B-3 (34'-35.5'). The depths of these samples are 27.5 feet to 29 feet and 34 feet to 35.5 feet, respectively, below grade. The two samples were analyzed for TPH (as gasoline)/BTEX (EPA methods 5030-8015/8020).

MONITOR WELL #1

Two soil samples were collected from monitor well #1 during its installation. These samples are labelled M-1 (25') and M-1 (34'-35.5'). The depths of these samples are 25 feet and 34 feet to 35 feet, respectively, below grade. The two samples were analyzed for TPH(as gasoline)/BTEX (EPA methods 5030-8015/8020).

WATER SAMPLING

A grab water sample was collected from B-2 on December 10, 1990. On December 27, 1990 TECC developed the one monitoring well using a clean 1.5-inch diameter, 50-inch long PVC bailer. The bailer was washed with soapy (TSP) water, rinsed with tap water, rinsed with distilled water then air-dried prior to its use in the well. Approximately 6 well volumes (15 gallons) was extracted from the well. The well was developed until moderately clear water was produced. A moderate gasoline odor was observed emanating from the well. The water produced from the well was placed in a labelled, 55-gallon drum and will have to be disposed of off site.

On December 31, 1990, 72 hours after development, the well was purged and sampled. The water sample from MW-1 was collected in 40 ml VOA (Volatile Organic Analysis) bottles, labelled and stored on ice in a thermally insulated cooler. Approximately 4 well volumes (10 gallons) from the well was containerized in a 55-gallon drum and stored on site. The water level prior to purging was 30.46 feet below the top of the well casing.

All samples were handled and preserved according to Regional Water Quality Control Board guidelines. The proper Chain of Custody protocol was followed. Analytical methods requested for MW-1 and B-2 (from soil boring #2) were Total Petroleum Hydrocarbons (as gasoline) [TPH(g)]/Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), EPA methods 5030-8015/602.

ANALYTICAL RESULTS -- Soil Samples

The analytical results of the soils sampled from the three borings and the monitoring well are presented in the attached table II and figures 6 and 7 [TPH(g) and BTEX concentration maps]. These results also are illustrated in figure 8, a north-south cross section through borings B-1, B-2, and B-3 and MW-1. Table III presents analytical results of water sampled from the monitoring well and one grab water sample from Boring #2.

BORING #1

Analytical results received by TECC on December 18, 1990 indicated TPH(g) concentrations above test method detection levels of 2.5 ppm. Sample B-1 (12'-13') showed TPH(g) concentrations of 1.7 ppm; sample B-1 (34.5' to 35') showed TPH(g) concentrations 510 ppm. BTEX concentrations were detected above test method detection levels of 5 ppb at 38.8 ppb and 25,700 ppb, respectively.

BORING #2

Analytical results for samples B-2 (12') and B-2 (34'-35') indicated TPH(g) concentrations above test method detection levels of 2.5 ppm. Sample B-2 (12') showed TPH(g) concentrations of 4.7 ppm; sample B-2 (34'-35') showed TPH(g) concentrations of 10 ppm. BTEX concentrations were detected above test method detection levels of 5 ppb at 273 ppb and 2450 ppb, respectively. Analytical results for B-2, the grab water sample from this boring, indicated TPH(g) and BTEX concentrations above test method detection levels of 50 ppb and 0.5 ppb, respectively. TPH(g) concentrations were measured at of 28,000 ppm whereas BTEX concentrations were measured at 8560 ppb.

BORING #3

Analytical results for samples B-3 (27.5'-29') and B-3 (34'-35.5') indicated TPH(g) concentrations above test method detection levels of 2.5 ppm. Sample B-3 (27.5'-29') showed TPH(g) concentrations of 2100 ppm; sample B-3 (34'-35') showed TPH(g) concentrations of 1700 ppm. BTEX concentrations were detected above test method detection levels of 5 ppb at 31,300 ppb and 22,500 ppb, respectively.

Analytical Results cont'd

MONITOR WELL #1

Analytical results for samples W-1 (25') and W-2 (34'-35.5') indicated concentrations of TPH(g) above test method detection levels of 2.5 ppm. Sample W-1 showed TPH(g) concentrations of 40 ppm; sample W-2 (34'-35.5') showed TPH(g) concentrations of 6.6 ppm. BTEX concentrations were detected above test method detection levels of 5 ppb at 741 ppb and 73 ppb, respectively. Analytical results of water sample MW-1 indicated concentrations of TPH(g) above test method detection levels of 50 ppb at 51,000 ppb; BTEX concentrations were detected above test method detection levels of 0.5 ppb at 4140 ppb.

TABLE II
ANALYTICAL RESULTS -- SOIL SAMPLES

SAMPLE	DEPTH in feet	TPH(g) in ppm	BTEX in ppb
B-1(12'-13')	12-13	1.7	38.8
B-1(34.5'-35')	34.5-35	[REDACTED]	[REDACTED]
B-2(12')	12	4.7	273
B-2(34'-35')	34-35	10	2450
B-3(27.5'-29')	27.5-29	[REDACTED]	[REDACTED]
B-3(34'-35')	34-35	[REDACTED]	[REDACTED]
M-1(25')	25	40	741
M-1(34'-35.5')	34-35.5	6.6	73
DETECTION LIMIT		2.5	5.0
METHOD OF ANALYSIS		5030- 8015	8020

*strong HC odors
between 25-28'
no sample analyzed*

ppm=parts per million (mg/Kg equivalent)
ppb=parts per billion (ug/Kg equivalent)

ANALYTICAL RESULTS -- Water Samples

Analytical results of the water sampled from MW-1 and B-2 are presented in the attached table III. MW-1 results indicated a concentration of TPH(g)/BTEX of 5100 ppb and 4160, respectively. These results are above test method detection levels of 50 ppb/0.5ppb. B-2 results indicated a concentration of TPH(g)/BTEX of 28,000 ppb and 8560 ppb, respectively. These results are above test method detection levels of 50 ppb/0.5 ppb.

TABLE III

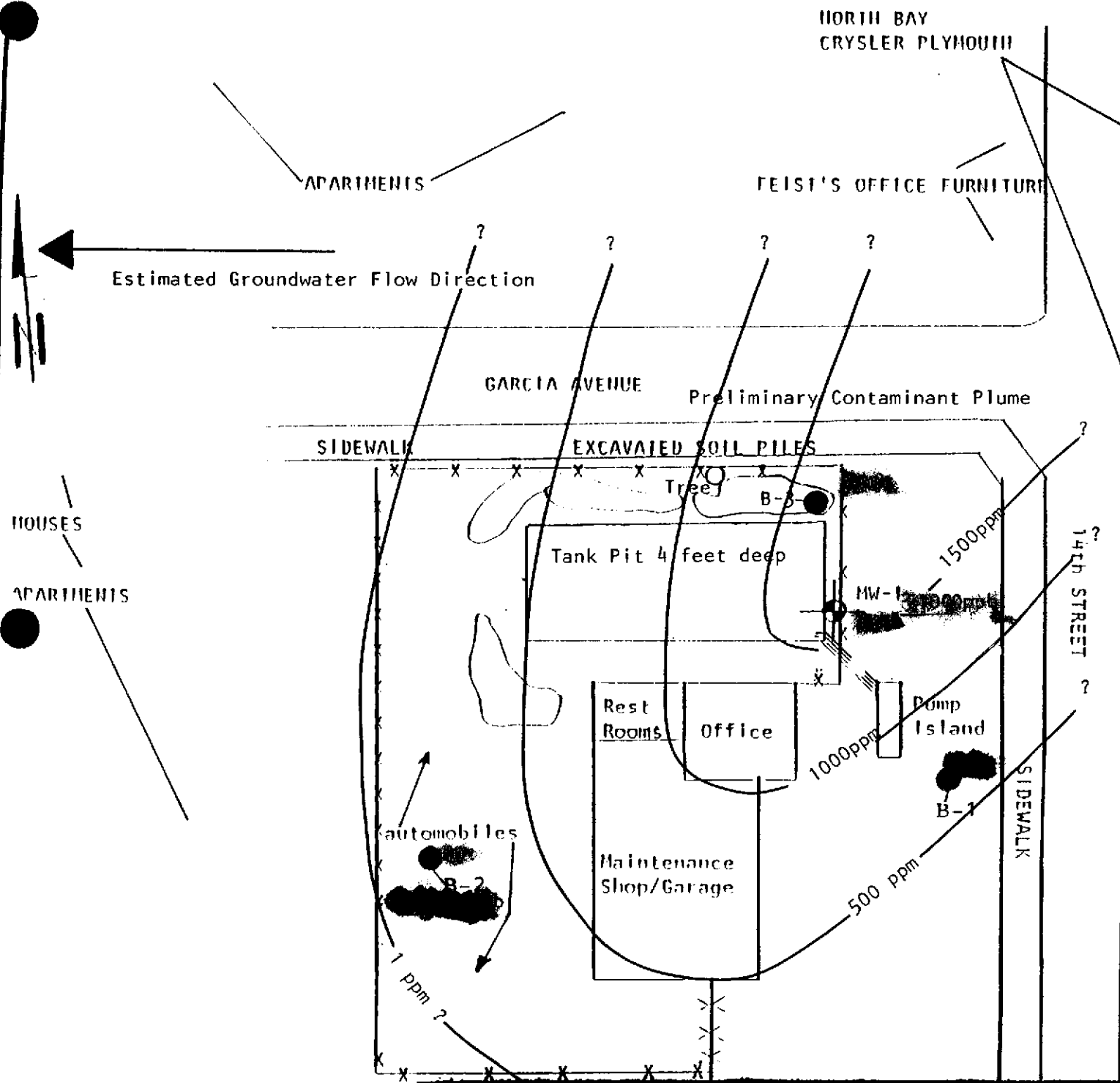
ANALYTICAL RESULTS -- WATER SAMPLES

IDENTIFICATION NUMBER	TPH(g) in ppb	BTEX in ppb
MW-1	51,000	4160
B-2	28,000	8560
DETECTION LIMIT	50 ppb	0.5 ppb
METHOD OF ANALYSIS	5030/ 8015	602

ppb=parts per billion (ug/KG equivalent)

FIGURE 6

**TPH(g) Concentration Map
Saturated Zone**



THE ENVIRONMENTAL CONSTRUCTION CO.

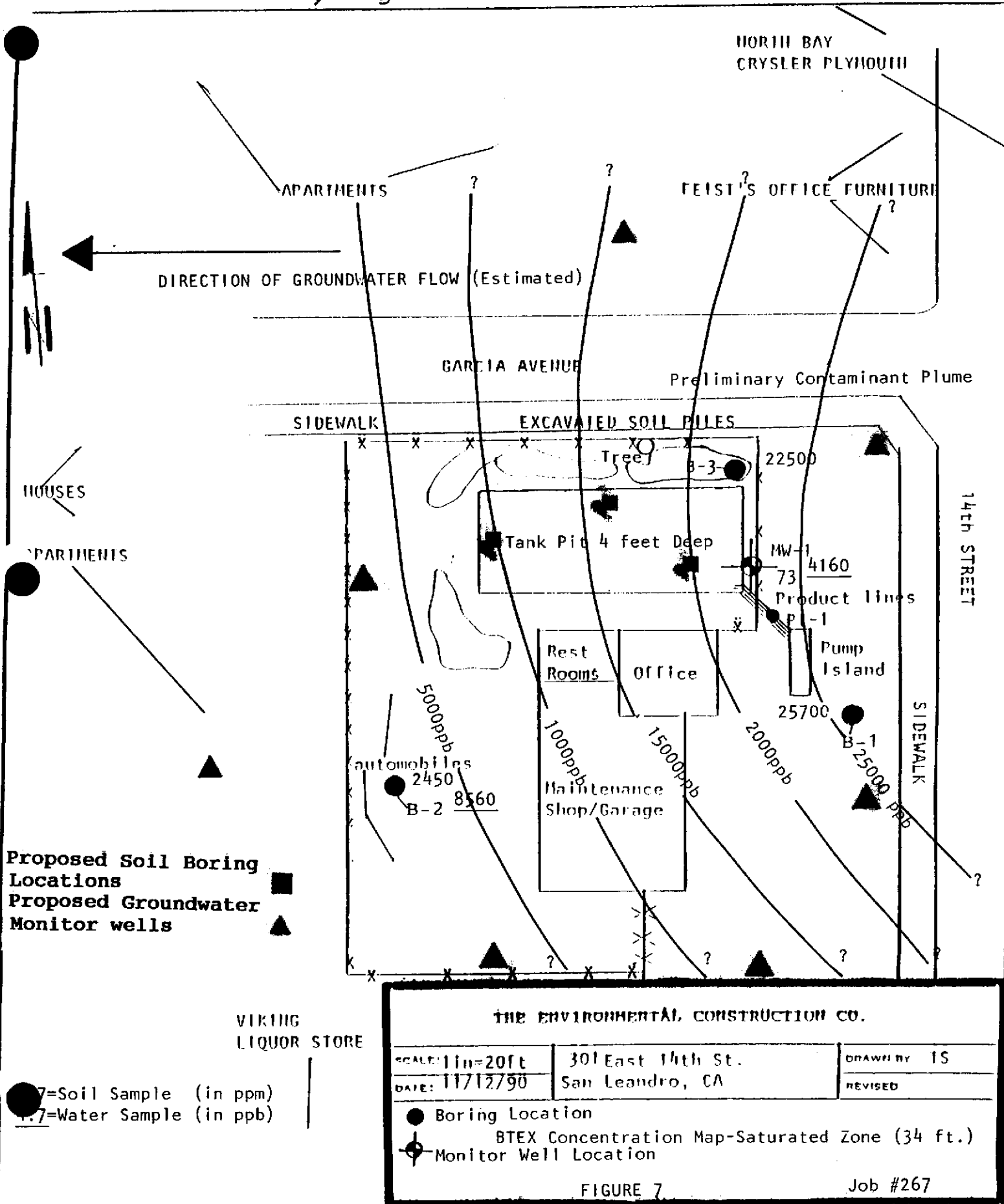
SCALE: 1 in = 20 ft	301 East 14th St.	DRAWN BY TS
DATE: 11/12/90	San Leandro, CA	REVISED

● Boring Location 4.7=soil sample 4.7=water sample
 ⊕ TPH Concentration Map Saturated Zone (34 ft.)
 ⊕ Monitor Well Location (in ppm)
 (in ppb) water (in ppb)

FIGURE 6 Job #267

FIGURE 7

**BTEX Concentration Map
Saturated Zone**



SUMMARY OF FINDINGS

1. Figure 8 illustrates the subsurface stratigraphy in the area of the site where the USTs were previously stored. It is underlain by clays and clays with occasional gravels to a depth of at least 45 feet below surface grade. The gravel content increased in MW-1 beginning at approximately 35 feet.
2. The groundwater saturated zone was encountered at approximately 34 feet below surface grade in a gravelly clay.
3. A faint to moderate hydrocarbon odor and faint surficial staining was present in the water sampled from B-2 and MW-1.
4. Stronger hydrocarbon odor and staining was evident in soils from W-1 and B-3 at depths between 12 feet and 35 feet.
5. Faint hydrocarbon odor and stain only was present in the soils collected from B-1 at a depth of 34 to 35.5 feet. No odor or stains were observed at any shallower depths at the boring location.
6. Analytical results indicate TPH(g)/BTEX contaminated soils in all soil borings and the monitor well soil at depths of 12 to 13 feet, 25 feet, 28 feet to 30 feet, and 34 feet to 35 feet.
7. Analytical results indicate concentrations of TPH(g)/BTEX in the samples from B-1 and B-2 at depths of 12 feet to 13 feet.
8. Based on surface topography and nearby wells, the direction of groundwater flow (groundwater gradient) appears to be to the west-southwest.

FIGURE 8

**North-South Cross Section
of Borings and Monitor Well**

NORTH

NORTH to SOUTH C Section

UTH

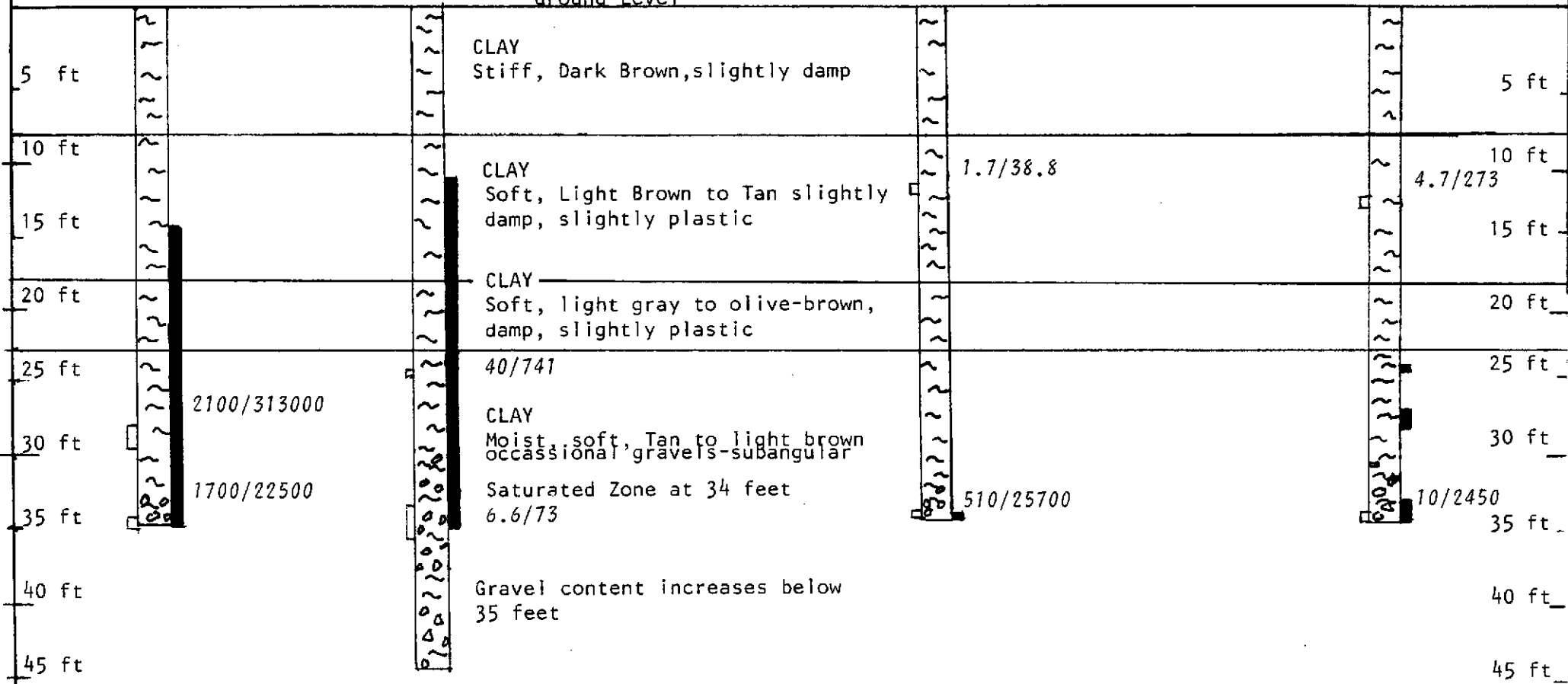
B-3

MW-1

B-1

B-2

Ground Level



TPHg/BTEX in PPM and PPB (Parts per Million and Parts per Billion)

PLEASE NOTE: Soil Boring B-2 is out of the plane of the Cross-Section and lies to the west of the line of Cross-Section.

□ = Sample interval

■ = odor and/or stain

THE ENVIRONMENTAL CONSTRUCTION COMPANY

FIGURE 8

2/10/91

Relative Scale (Horizontal)
1 inch = 10 feet (Vertical)

CONCLUSIONS

1. TPH(g)/BTEX contaminated soils remain in the subsurface below and adjacent to W-1, B-1, B-2, and B-3 at depths of 12 to 13 feet, 25 feet, 28 feet, 30 feet, and 34 to 35 feet. This concentration of TPH(g)/BTEX contamination increases with depth.
2. As shown in Figures 6, 7, and 8, the highest TPH(g) contaminated soils remain in the subsurface below and adjacent to the former UST locations, in particular, tanks #1, #2, and #3.
3. The highest amounts of BTEX contaminated soils remain in the subsurface below and adjacent to the former UST locations, in particular, tanks #1, #2, and #3.
4. Based on analytical results of soils sampled from the saturated zone in the monitoring well, this zone has been adversely impacted with TPH(g)/BTEX.
5. The groundwater in MW-1 has been impacted by TPH(g)/BTEX contamination at a concentration of 51,000/4160 ppb which is above the Regional Water Quality Control Board's practical qualification reporting limits.
6. The levels of TPH(g)/BTEX will require further remedial investigation and action.
7. Based on the subsurface data collected from soil and water sampling during this preliminary phase of investigation, it appears highly likely that the contaminant plume may extend beyond the property boundary off-site. The limits of the plume may extend especially to the west, north, and south.

RECOMMENDATIONS

1. A copy of this Report of Findings should be sent to Mr. William Faulhaber of the Alameda County Health Care Services Agency, Department of Environmental Health (ACHCSA-DEH), located at 80 Swan Way, Room 200, Oakland, California, 94621. A copy also should be sent to Mr. Steven Morris of the San Francisco Bay Area Regional Water Quality Control Board (SFBRWQCB) located at 1800 Harrison Street, Room 700, Oakland, California, 94612.
2. In order to better define the horizontal and vertical extent of the hydrocarbon contaminated soils, the installation of three soil borings in the tank pit area is recommended. The proposed locations are shown in figure 7. The samples will be collected at 5 foot intervals. These soil samples should be analyzed for TPH(g)/BTEX and Total Lead.
3. Excavate soils in the tank pit area to a depth immediately above the water table, if TPH(g)/BTEX concentrations are determined to be of actionable levels. This determination usually is made on a site by site basis by the ACHA-DEH and the RWQCB.
4. To determine more precisely the extent of the contaminant plume in the saturated zone, five on-site and two off-site groundwater monitoring wells are strongly recommended. The proposed locations are shown in figure 7. Soil samples should be collected at 5 foot intervals and analyzed for TPH(g)/BTEX and Total Lead.
5. Because the groundwater table has been adversely impacted with hydrocarbons, a groundwater treatment system eventually will be needed. A 4-inch recovery well should be installed north of the former UST's tank pit. This well should be drilled to a depth of approximately 55 feet below surface grade. The design of the recovery system is contingent upon the results of the remedial investigation.
6. Present a plan for remedial action to the Alameda County Health Care Services Agency, Division of Hazardous Materials, 80 Swan Way, Room 200, Oakland, California, 94621 and to Mr. Steven Morris of the San Francisco Bay Area Regional Water Quality Control Board at 1800 Harrison Street, Room 700, Oakland, California, 94612.

LIMITATIONS

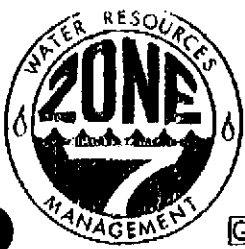
The conclusions and professional guidelines presented herein were developed in accordance with generally accepted practice for addressing fuel leaks from underground storage tanks (USTs). These guidelines are directed by the Regional Water Quality Control Board throughout the state of California. Because analytical results are based on data collected from the sampling locations only, TECC cannot have full knowledge of the underlying conditions. Conditions at the project site may change due to the works of man and/or the acts of nature. Accordingly, the findings of this report may be subject to change in light of new information.

Please feel free to contact The Environmental Construction Company at (408) 283-8150 if you should have any questions. TECC has been very pleased in providing its full range of environmental solutions to your site.

Sincerely,

Thomas A. Smith
Hydrogeologist/S.A.-R.A. Director
THE ENVIRONMENTAL CONSTRUCTION COMPANY

APPENDIX A
Well Permits, Boring Logs



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94586 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT German Auto Craft
301 East 14th Street
San Leandro, CA.

PERMIT NUMBER _____
LOCATION NUMBER _____

CLIENT
Name Sueng Lee
Address 301 East 14th Street Phone (415) 683-5473
City San Leandro, CA zip 94577

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT
Name The Environmental Construction Company

A. GENERAL

Address 259 Kinney Drive Phone (408) 283-8150
City San Jose, CA zip 95112

1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

TYPE OF PROJECT

Well Construction	Geotechnical Investigation
Cathodic Protection _____	General _____
Water Supply _____	Contamination <u>X</u>
Monitoring _____	Well Destruction _____

B. WATER WELLS, INCLUDING PIEZOMETERS

PURPOSED WATER SUPPLY WELL USE

Domestic _____	Industrial _____	Other <u>NONE</u>
Municipal _____	Irrigation _____	

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

DRILLING METHOD:

Mud Rotary _____	Air Rotary _____	Auger <u>X</u>
Cable _____	Other _____	

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DRILLER'S LICENSE NO. _____

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

WELL PROJECTS

Drill Hole Diameter _____ in.	Maximum
Casing Diameter _____ in.	Depth _____ ft.
Surface Seal Depth _____ ft.	Number _____

E. WELL DESTRUCTION. See attached.

GEOTECHNICAL PROJECTS

Number of Borings <u>3</u>	Maximum
Hole Diameter <u>8 1/2 in.</u>	Depth <u>30 ft.</u> or above

groundwater, whichever occurs first.

ESTIMATED STARTING DATE 12/6/90 or 12/7/90
ESTIMATED COMPLETION DATE 12/6/90

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

Approved _____ Date _____

APPLICANT'S SIGNATURE Thomas Smith Date 12/3/90



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 301 East 14th Street San Leandro, Ca.

PERMIT NUMBER 90711 LOCATION NUMBER

CLIENT Name German Autocraft-Sueng Lee Address 301 East 14th St. Phone City San Leandro, Ca. Zip

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT Name The Environmental Construction Company Address 259 Kinney Drive Phone (408) 283-8150 City San Jose, Ca Zip 95112

TYPE OF PROJECT Construction Geotechnical Investigation Cathodic Protection General Water Supply Contamination X Monitoring X Well Destruction

PROPOSED WATER SUPPLY WELL USE Domestic Industrial Other Municipal Irrigation

DRILLING METHOD: Mud Rotary Air Rotary Auger X Cable Other

DRILLER'S LICENSE NO. 057-607458

WELL PROJECTS Drill Hole Diameter 8.5 in. Maximum Depth 45 ft. Casing Diameter 2 in. Surface Seal Depth 22 ft. 23'

GEOTECHNICAL PROJECTS Number of Borings Hole Diameter Maximum Depth

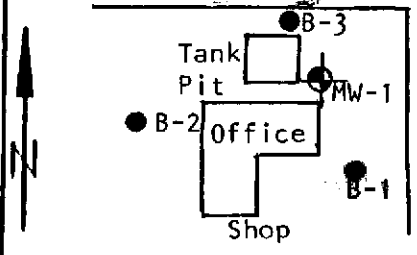
ESTIMATED STARTING DATE 12/17/90 ESTIMATED COMPLETION DATE 12/17/90

I hereby agree to comply with all requirements of this Ordinance and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Thomas A. Smith Date 12/13/90

- (A) GENERAL 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date. 2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects. 3. Permit is void if project not begun within 90 days of approval date. (B) WATER WELLS, INCLUDING PIEZOMETERS 1. Minimum surface seal thickness is two inches of cement grout placed by tremie. 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet. C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings. D. CATHODIC. Fill hole above anode zone with concrete placed by tremie. E. WELL DESTRUCTION. See attached.

Approved Todd N. Wendler Date 14 Dec 90



WELL NUMBER B-1	LOCATION 301 E. 14th Street San Leandro, Ca
DATE 12/11/90	WEATHER Overcast 50's
LOGGED BY Tom Smith	DRILLED BY Advance Drilling
DRILLING METHOD 8 1/2 inch Hollow-stem Auger	SAMPLING METHOD 1 1/2 inch split-spoon
GRAVEL PACK NONE	SEAL Portland Type I/II cement/grout

CASING TYPE NONE	DIAMETER	LENGTH	HOLE DIA. 8 1/2"
SCREEN TYPE NONE	DIAMETER	LENGTH	TOTAL DEPTH 35'

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS	WELL COMPLETION
						0				
						1				
						2				
						3				
dmp		stf	spl	1	CL	4	1.5		0.00'-1.50' Clay, dark brown to 5.5'	
						5				
						6				
						7				
						8				
dmp		sft	vpl	2	CL	9	1.5		0.00'-1.50' Clay, light brown	
						10				
						11				
dmp		vry sft		3	OL	13	1.5		0.00'-1.50' Clay, light brown, tan	
						14				
						15				
						16				
						17				
						18				
dmp		sft	pl	4	OL	19	1.5		0.00'-1.50' Clay, mottled, light gray to tan	
						20				

EXPLANATION	GROUT	SAND	SCREEN
	BENTONITE	CASING	WATER LEVEL

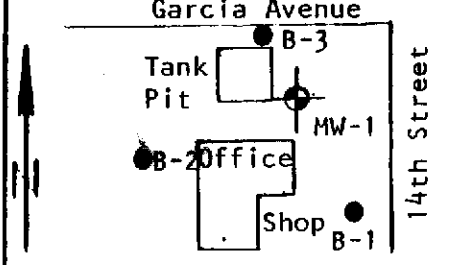


WELL NUMBER B-1	LOCATION
DATE	WEATHER
LOGGED BY	DRILLED BY
DRILLING METHOD	SAMPLING METHOD
GRAVEL PACK	SEAL

CASING TYPE	DIAMETER	LENGTH	HOLE DIA.
SCREEN TYPE	SLOT	DIAMETER	LENGTH

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS	WELL COMPLETION
						20				
						1				
						2				
						3				
mst		vry sft	pl	5	CL	4	1.5		0.00'-1.50' Clay, greenish gray	
						5				
						6				
						7				
						8				
mst		vry sft	pl	6	CL	9	1.5		0.00'-1.50' Clay, greenish tan	
						30				
						1				
						2				
						3				
						4			Saturated zone 34 feet	
sat		lse	pl	7	CL	5	1.5		0.00'-1.50' Clay, tan, very soft, trace of pebbles, moderate gasoline odor	
						6				
						7			Groundwater at 30.8 feet, after 30 minutes	
						8				
						9				
						10				

EXPLANATION		GROUT		SAND		SCREEN
		BENTONITE		CASING		WATER LEVEL



WELL NUMBER B-2
 DATE 12/10/90
 LOGGED BY Tom Smith
 DRILLING METHOD 8 1/2 inch Hollow-stem Auger
 GRAVEL PACK NONE
 LOCATION 301 East 14th Street San Leandro, Ca
 WEATHER Rainy (heavily)
 DRILLED BY Advance Drilling
 SAMPLING METHOD 18 inch sp. lit-spoon
 SEAL Portland Type 1/11 Cement/Grout

CASING	TYPE	NONE	DIAMETER	LENGTH	FILE DIA. 8 1/2
SCREEN	TYPE	NONE	SLOT	DIAMETER	LENGTH
					TOTAL DEPTH 35'

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS	WELL COMPLETION
						0				
						1				
						2				
						3				
						4				
						5				
						6				
						7				
						8				
dmp		sft	vpl	1	CL	9	1.5		0.00'-1.50' Clay, medium brown	
						10				
						11				
						12				
						13				
dmp		v sft	vpl	2	CL	14	1.5		0.00'-1.50' Clay, medium brown	
						15				
						16				
						17				
						18				
mst		vry sft	pl	3	CL	19	1.5		0.00'-1.50' Clay, olive brown	
						20				

EXPLANATION: GROUT, BENTONITE, SAND, CASING, SCREEN, WATER LEVEL



WELL NUMBER B-2
 DATE
 LOGGED BY
 DRILLING METHOD
 GRAVEL PACK

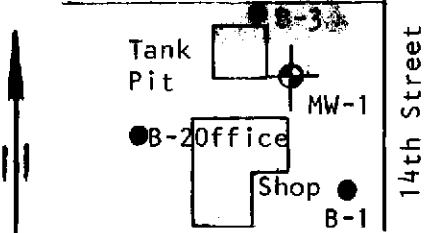
LOCATION
 WEATHER
 DRILLED BY
 SAMPLING METHOD
 SEAL

CASING		TYPE		DIAMETER		LENGTH		HOLE DIA.		
SCREEN		TYPE		DIAMETER		LENGTH		TOTAL DEPTH		
MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS	WELL COMPLETION
						20				
						1				
						2				
						3				
						4				
mst		vry sft	pl	4	OL	5	1.5		0.00'-1.50' Clay, light olive brown, moderately strong odor, trace of well rounded pebbles	
						6				
						7				
mst		vry sft	pl	5	OL	8	1.5		0.00'-1.50' Clay, light olive brown, strong odor	
						9				
						30			Water level at 30.43	
						1				
						2				
						3				
sat	vry sft	lse	spl	6	GO	4			0.00'-1.50' Clay, tan, trace of gravels, odor	
						5			Odor & stain in saturated zone, sample at 34 feet to 35 feet	
						6				
						7				
						8				
						9				
						10				

EXPLANATION

	GROUT		SAND		SCREEN
	BENTONITE		CASING		WATER LEVEL

LOCATION MAP
Garcia Avenue



THE ENVIRONMENTAL CONST.CO BORING LOG

WELL NUMBER B-3
 DATE 12/10/90
 LOGGED BY Tom Smith
 DRILLING METHOD 8 1/2 inch Hollow-stem Auger
 GRAVEL PACK NONE

LOCATION 301 East 14th Street San Leandro, CA
 WEATHER Overcast
 DRILLED BY Advance Drilling
 SAMPLING METHOD split-spoon 18-inch
 SEAL Portland 1/11 cement grout

CASING	TYPE	NONE	DIAMETER	LENGTH	HOLE DIA. 8 1/2
SCREEN	TYPE	NONE	DIAMETER	LENGTH	TOTAL DEPTH 35 FT.

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS	WELL COMPLETION
						0				
						1				
						2				
						3				
dry		stf	spl	1	CL	4	1.0		0.00'-1.00' CLAY, dark brown to 6 feet.	
						5				
						6				
						7				
						8				
dmp		sft	vpl	2	CL	9	1.5		0.00-1.50' Clay, medium brown	
						10				
						11				
						12				
						13				
dmp		vry sft	vpl	3	CL	14	1.5		0.00-1.50' Clay, medium brown, faint gasoline odor	
						15				
						16				
						17				
						18				
mst		vfy sft	pl	4	CL	19	1.5		0.00-1.50' Clay, olive brown, faint gasoline odor	
						20				

EXPLANATION: GROUT, BENTONITE, SAND, CASING, SCREEN, WATER LEVEL



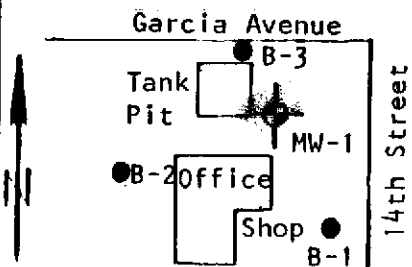
WELL NUMBER **B-3**
 DATE
 LOGGED BY
 DRILLING METHOD
 GRAVEL PACK

LOCATION **301 East 14th San Leandro**
 WEATHER
 DRILLED BY
 SAMPLING METHOD
 SEAL

CASING		TYPE		DIAMETER		LENGTH		HOLE DIA.			
SCREEN		TYPE		SLOT		DIAMETER		LENGTH		TOTAL DEPTH	
MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS		WELL COMPLETION
						20					
						1					
						2					
mst		vry sft	pl	5	OL	3	1.5		0.00'-1.50' Clay, light olive brown, faint odor, trace of well rounded pebbles		
						4					
						5					
						6					
						7					
mst		vry sft	pl	6	OL	8	1.5		0.00'-1.50' Clay, light olive brown, strong odor		
						9					
						30			Water level at 30.91 After 20 minutes	No water sample obtainable	
						1					
						2					
						3					
						4			Water at 34 feet		
vry sft		lse	sp	7	GC	5	1.5		0.00'-1.50' silt, clay, 60% gravel, gray stain, strong odor		
						6			Poor development of hole TD 35.0'		
						7					
						8					
						9					
						40					

EXPLANATION GROUT SAND SCREEN
 BENTONITE CASING WATER LEVEL

LOCATION MAP



THE ENVIRONMENTAL CONST. CO BORING LOG

WELL NUMBER MW-1
 DATE 12/17/91
 LOGGED BY Tom Smith
 DRILLING METHOD 8 1/2 inch Hollow-stem Auger
 GRAVEL Sand #3 monterey
 PACK 45' to 23'

LOCATION 301 E. 14th Street San Leandro, Ca
 WEATHER Cloudy
 DRILLED BY Advance Drilling
 SAMPLING METHOD 18 inch split-spoon
 SEAL grout 21'-0'
 Bentonite 23'-21'

CASING TYPE PVC Schedule 40 DIAMETER 2" LENGTH 25'
 SCREEN TYPE PVC Sched. 40 SLOT 0.02 DIAMETER 2" LENGTH 20'

WELL DIA. 8 1/2"
 TOTAL DEPTH 45'

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS	WELL COMPLETION
						0				
						1				
						2				
						3				
dmp	stf	spl	1	CL	4	1.5			0.00'-1.50' Clay, dark brown to 5.5'	
					5					
					6					
					7					
					8					
dmp	sft	vpl	2	CL	9	1.5			0.00'-1.50' Clay, light brown	
					10					
					11					
dmp	vry sft	pl	3	OL	13	1.5			0.00'-1.50' Clay, light brown, tan, faint to moderate hydrocarbon odor	
					14					
					15					
					16					
					17					
					18					
dmp	sft	pl	4	OL	19	1.5			0.00'-1.50' Clay, mottled, light gray to tan, faint to moderate hydrocarbon odor	
					20					

EXPLANATION GROUT BENTONITE SAND CASING SCREEN WATER LEVEL



WELL NUMBER MW-1	LOCATION
DATE	WEATHER
LOGGED BY	DRILLED BY
DRILLING METHOD	SAMPLING METHOD
GRAVEL PACK	SEAL

CASING TYPE	DIAMETER	LENGTH	HOLE DIA. TOTAL DEPTH
SCREEN TYPE	DIAMETER	LENGTH	

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS	WELL COMPLETION
						20				
						1				
						2				
						3				
mst		vry sft	pl	5	CL	4	1.5		0.00'-1.50' Clay, [redacted] Moderate-strong hydrocarbon odor and stain	
						5			Screen to 45 feet	
						6				
						7				
						8				
mst		vry sft	pl	6	CL	9	1.5		0.00'-1.50' Clay, [redacted] strong hydrocarbon odor and stain	
						30				
						1				
						2				
						3				
						4			Saturated zone 34 feet	
sat		lse	pl	7	CL	5	1.5		0.00'-1.50' Clay, tan, very soft, trace of pebbles, strong odor and stain.	
						6				
						7			Groundwater at 30.8 feet after 40 minutes	
						8				
						9				
						10				

EXPLANATION	GROUT	SAND	SCREEN
	BENTONITE	CASING	WATER LEVEL

WELL NUMBER MW-1

LOCATION 301 East 14th Street
San Leandro, CA

DATE 12/17/90

WEATHER Cloudy

LOGGED BY Tom Smith

DRILLED BY Advance Drilling

DRILLING METHOD 8 1/2 Inch
Ho. low-stem Auger

SAMPLING METHOD Split-spoon

GRAVEL Sand #3 monterey
PACK 45' to 23'

SEAL grout 23'-0'

CASING TYPE PVC Schedule 40

DIAMETER 2" LENGTH 25'

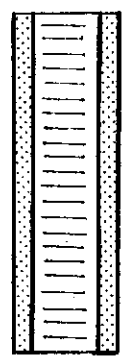
SCREEN TYPE PVC Sched. 40 SLOT 0.02

DIAMETER 2" LENGTH 20'

HOLE DIA. 8 1/2
TOTAL DEPTH 45

WELL COMPLETION

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS
						0			
						1			
						2			
						3			
						4			Clays, silty clays to 43 feet
						5			43 feet to 45 feet gravel & clay
						6			
						7			
						8			
						9			
						10			
						11			
						12			
						13			
						14			
						15			
						16			
						17			
						18			
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						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			
						40			
						41			
						42			
						43			
						44			
						45			TD 45 feet



EXPLANATION
 GROUT/BENTONITE
 SAND/CASING
 SCREEN
 WATER LEVEL

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#E694)
- Drinking Water (#955)
- Waste Water
- Consultation

December 20, 1990

ChromaLab File No.: 1290052

THE ENVIRONMENTAL CONSTRUCTION COMPANY

Attn: Lisa Lang

RE: One water and six soil samples for Gasoline/BTEX analyses

Project Name: GERMAN AUTOCRAFT

Project Number: 261

Date Sampled: Dec.10-11, 1990

Date Submitted: Dec.12, 1990

Date Extracted: Dec. 14-18,1990

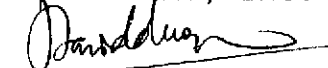
Date Analyzed: Dec.14-18,1990

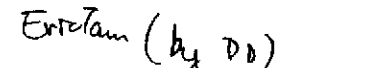
RESULTS:

Sample No.	Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
B-2-WTP	28000	5600	1300	680	980
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/ 8015	602	602	602	602

Sample No.	Gasoline (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
B1-(34.5-35')	510	4800	1700	9600	9600
B1-(12'-13')	1.7	N.D.	N.D.	9.8	29
B2-(34-35')	10	860	900	310	380
B2-(12')	4.7	10	60	83	120
B3-(27.5-29')	2100	63000	130000	50000	70000
B3-(34-35.5')	1700	1400	1900	11000	8200
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	87.2%	88.5%	95.4%	87.1%	96.0%
DUP SPIKE REC	93.9%	84.8%	95.8%	101.8%	93.2%
DETECTION LIMIT	1.0	5	5	5	5
METHOD OF ANALYSIS	5030/ 8015	8020	8020	8020	8020

CHROMALAB, INC.


David Duong
Senior Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#E694)
- Drinking Water (#955)
- Waste Water
- Consultation

January 7, 1991

ChromaLab File No.: 1290116

THE ENVIRONMENTAL CONSTRUCTION COMPANY, INC.

Attn: Lisa Lang

RE: Two soil samples for Gasoline/BTEX analysis

Project Name: GERMAN AUTOCRAFT

Project Number: 261

Date Sampled: Dec. 17, 1990

Date Submitted: Dec. 21, 1990

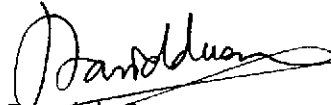
Date Extracted: 12/31/90-1/4/91

Date Analyzed: 12/31/90-1/4/91

RESULTS:

Sample No.	Gasoline (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
W1-25'	40	21	290	150	280
W1-34'-35.5'	6.6	N.D.	35	11	27
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	104.7%	105.5%	98.6%	91.0%	93.0%
DETECTION LIMIT	1.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	5030/ 8015	8020	8020	8020	8020

ChromaLab, Inc.



David Duong
Senior Chemist



Eric Tam
Laboratory Director

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#E694)
- Drinking Water (#955)
- Waste Water
- Consultation

January 14, 1991

ChromaLab File No.: 0191021

THE ENVIRONMENTAL CONSTRUCTION

Attn: Thomas Smith

RE: One water sample for Gasoline/BTEX analysis

Project Name: GERMAN AUTOCRAFT

Project Number: 261

Date Sampled: Dec. 31, 1990

Date Submitted: Jan. 7, 1991

Date Extracted: Jan 10-11, 1991

Date Analyzed: Jan 10-11, 1991

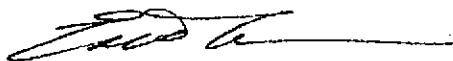
RESULTS:

Sample No.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
MW-1	51000	2200	1200	N.D.	760
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	97.0%	94.5%	92.2%	99.6%	90.3%
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/ 8015	602	602	602	602

ChromaLab, Inc.



David Duong
Chief Chemist



Eric Tam
Laboratory Director

APPENDIX C
DRILLING, SEALING & SAMPLING PROTOCOL

Well Installation
UST Site
301 East 14th Street
San Leandro, California 94577

DRILLING, SEALING AND SAMPLING PROTOCOL

DRILLING AND SEALING

All boring and well construction procedures will follow guidelines recommended by the California Regional Water Quality Control Board.

1. The wells will be installed by a state-licensed (C-57) well contractor. The proper permit will be obtained and an inspector may be present to witness the installation of the wells. The soil borings will be drilled with a continuous-flight, hollow-stem auger of at least 8 1/2 inches outer diameter (OD). All augers and other downhole drilling equipment will be thoroughly steam-cleaned prior to their use on the site. Adequate clean augers will be available to complete all of the wells without reusing auger sections.

2. A geologic drilling (boring) log (see attached Figure 1) will be maintained of the materials encountered and sample locations in the boring. The log will include field descriptions of the soil properties, lithologic variations using the Unified Soil Classification System (USCS), penetration rate of the split-spoon-if applicable-(blows per 6-inch interval), moisture conditions, well construction, and any unusual characteristics noted that may indicate the presence of hydrocarbon contamination. The logs will be signed by a Registered Professional.

3. The boring will be advanced until a saturated water zone is encountered. When the saturated zone is encountered, the boring may extend through the depth of the aquifer to an underlying clay layer or aquitard. If the layer of the saturated zone is more than 20 feet thick, the well will be completed at a depth of up to 15 feet below the depth that the saturated zone was first encountered.

4. During the drilling operations, all drill cuttings will be containerized in 55-gallon drums and stored on site. Three or more 55-gallon drums will be used to containerize any potentially contaminated waters produced from the development of the well.

5. No screening that connects 2 relatively permeable lenses, which appear to be separated by a relatively impermeable layer, shall be allowed. The attached Figure 2 describes the well construction. A clean, inert, 2-inch OD, Schedule 40 PVC, blank pipe will be used as casing in the hole. The well screen will be 2-inch OD Schedule 40 PVC pipe with usually 0.01 or 0.02 inch continuous slot depending on standard design criteria. Sections will be threaded and screwed together without the use of cement. The slotted pipe will extend above the estimated seasonal high groundwater level. The annulus of the perforated section will be packed with clean no.

3 or 4 Monterey sand, or equivalent, for the length of the screen and approximately 2 feet above the uppermost slot. In order to create a spacer between the sand and annular seal two feet of bentonite will be placed on top of the sand envelope pack. An annular seal of cement grout composed of Portland Type I/II cement (94 pounds/5 gallons water) will be placed immediately above the bentonite layer to approximately 3 inches below surface grade. A sand-cement slurry may also be used with a minimum 11 sacks of Portland-Type cement per cubic yard. If a sand-cement slurry is used it must be mixed off-site at a batch plant. If more than 30 feet of seal is required the sealant must be tremie-piped within 3 feet of the underlying material or bottom of the well.

6. An above-grade or at-grade well completion will depend upon the final well location. Above grade completion will require a 8-inch diameter locking, steel, waterproofed, protective casing set into a concrete pad. A sketch of an above-grade completion is shown in Figure 2. An at-grade completion will require a steel casing and a Christy, or equivalent, traffic box and a concrete pad with approximately 3 inches of slope away from the center of the well box. The purpose of this is to prevent surface runoff from entering the well box. A sketch of an at-grade completion is shown in Figure 3. A watertight cap will be installed on the well head and the top of the well will be secured with a locking cap and kept locked.

7. The cover of the well will be marked "Monitoring Well". A small metal tag will be permanently attached to the well or within the well vault. This tag will include the well number, hole and casing diameters, location of screened interval, and total depth of the well.

8. All borings will be sealed with a mixture of Portland Type I/II cement by tremie-piping to within at least 3 feet from the true bottom of the hole.

WELL DEVELOPMENT

1. All wells will be developed no earlier than 72 hours after seal emplacement and no later than a week after initial well installation. The wells will be purged and sampled at least 72 hours after well development.

2. Wells will be developed until water is free of fine-grained sediments and/or until field measurements of Ph, conductivity and temperature stabilize. At least 5 and up to 10 well volumes of water will be removed during the development of the well. This water removal is accomplished by either bailing with a 1.5-inch diameter PVC bailer or using a bottom loading airlift pump. All downhole tubing will be flushed with TSP soapy water, rinsed with tap water, rinsed with distilled water and air dried prior to and after its use.

3. All water produced from the well developments will be collected in 55-gallon drums, labeled, covered and stored on-site for later disposition contingent on analytical results of the water samples. Disposal of the developed waters will conform to applicable hazardous waste requirements and will, at no time, be stored on site more than 60 days after the time of initial placement in the drums. Figure 7 depicts a suitable drum label THE ENVIRONMENTAL CONSTRUCTION COMPANY uses in all their groundwater projects.

SAMPLE HANDLING AND PRESERVATION

1. All chemical sampling, handling, and storage will be conducted in accordance with Regional Water Quality Control Board guidelines for the investigation of suspected underground storage tank leaks.

2. In the field, all sample containers will be properly sealed, labeled and identified. Included in the label will be the date, sampling time, identification number, sample depth, project name, and analytical method requested. An example of a completed sample label is shown in the attached Figure 4.

3. The samples will be delivered to a state-certified analytical laboratory, Chromalab Inc. of San Ramon, California (Certification # E 694 and # 955) within 3 working days of their acquisition. Samples will be kept on ice and/or refrigerated continuously before, during and after transport to the laboratory. Dry ice will be used for all soil sample storage prior to transport to the laboratory.

4. Unless otherwise requested by the laboratory, no preservatives will be added to the sample.

5. The sealed sample will only be opened by laboratory personnel who will perform the chemical analysis.

6. The samples will analyzed within 14 days from their collection date.

7. A chain of custody form (Figure 5) will be properly completed prior to relinquishment of the samples to the analytical laboratory. This chain of custody form will include the site address, project identification name and number, phone number and name of consulting firm, sample identification, date and time of sampling, matrix, preservation method, number and size of containers, analysis requested,

SOIL SAMPLING FOR LABORATORY TESTING

1. The soil sampling will commence at a depth approximately equal to the depth of approximately 10 feet below grade unless a change in lithology occurs. If a lithology change occurs, a sample will be collected. The samples will be taken with a modified California

split-spoon at five-foot increments to a depth directly above the groundwater saturated zone. A sample will also be taken whenever a lithology change is observed while drilling.

2. Clean, 2-inch O.D. 3-inch long brass soil sampler casings will be disassembled, steam-cleaned or cleaned in soapy (TSP) water, rinsed with clean tap water and finally rinsed with de-ionized water, and air-dried prior to taking each sample. The cleaned casings will then be reassembled with other cleaned and dried brass sample liners and carefully lowered through the California-modified mud split spoon.

3. The soil samples in the bottom liner of the sampling casings (if in good condition) will be taken as the sample to be tested. The samples will be labeled and sealed in the field in their original liners. The ends of the sample liners will be capped with aluminum foil, and sealed in place by clean plastic caps and tape.

4. The top liners from the sampler casing will be extruded in the field and examined to help provide information for the boring logs. The cuttings from the borings will also be examined during the drilling to provide a continuous log of the materials encountered. The cuttings and the soils samples not retained for chemical analysis will be placed in 55-gallon drums until their waste classification is determined. The soils will then be properly disposed of at an appropriate landfill or bioremediated on site.

5. All soil samples retained for chemical analysis (at least five per boring) will be stored on ice in a clean, covered thermally-insulated cooler for transport to the analytical laboratory.

6. The center core material will be extracted from the sample liners at the analytical laboratory for chemical testing.

GROUND WATER SAMPLING FOR LABORATORY TESTING

1. The groundwater samples will be recovered from the borings using a disposable bailer. A field log will be maintained of all evacuation procedures. A suitable field log is shown in Figure 8.

2. The bailer will be thoroughly steam-cleaned or cleaned in soapy (TSP) water, rinsed with clean tap water, and finally rinsed with de-ionized water prior to the collection of each set of samples. A separate disposable clean bailer will be used to sample each individual well.

3. All water retained for chemical analysis will be placed in clean Teflon screw cap 40 ml. VOA (Volatile Organic Analysis) vials designated for that purpose. The vials will be topped-off to avoid air space, and screw-cap sealed. All full vials will be inverted

to look for air bubbles, and sampled again if air bubbles are observed in the vial. Samples will be kept under ice at all times after their collection.

4. Water sample blanks will be placed in clean 40 ml. Teflon, screw-cap, VOA bottles designated for that purpose. One water sample blank will be taken for each set of water samples collected from each boring. The water sample blank will be taken from the bailer prior to the collection of the water sample from that well.

5. The wells will be purged of 4-5 well volumes of stale water prior to the collection of the water sample. The wells will be purged with a clean teflon bailer. The purged water will be collected in 55-gallon drums, labeled (as shown in the attached Figure 7-A), and stored on-site no longer than 30 days pending analytical results. Upon receipt of analytical results the waters will be properly disposed of either by emptying them out on site (if not contaminated) or by manifesting them to a certified disposal facility.

6. After submission of this report, the wells will be sampled monthly for three consecutive months and quarterly after that time. Dependent on the results of the Phase 1 soil and groundwater investigation and a formulation of a remedial action plan, more frequent sampling may be required. The scheduling of this phase of sampling will be refined and budgeted upon completion of this Phase 1 soil and groundwater contamination assessment.

SAMPLE RECORDS AND CHAIN OF CUSTODY

1. Sample records for each sample will contain information on sample type and source, job number, sampling date, location, significant conditions that may impact the sampling, laboratory name, sampling method and analysis requested.

2. A chain of positive, signature custody (Figure 5) and transference will be strictly maintained at all times.

3. A hard copy of the laboratory sample results and the completed chain of custody will be provided with the technical report.

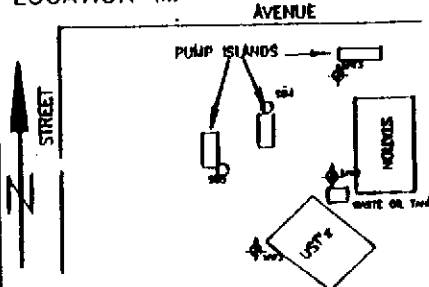
4. Water levels will be measured and recorded to the nearest 0.01 foot by an optical probe or other device which has shown to be of equivalent accuracy. These measurements will be taken before each sampling event and recorded on the water sampling log (Figure 7).

5. The elevation of each well will be surveyed vertically to an average mean sea level (AMSL) and horizontally to a permanent bench mark. This data will be presented on the boring log form.

REPORTING OF DATA

1. The results of the initial soil and water analysis will be reported to the Regional Water Quality Control Board in a timely manner. A timely manner, for the purposes of this site investigation, is considered to be no longer than 21 days after receiving the analytical results of the water sampling event.
2. A Department of Water Resources (DWR) Water Well Drillers Report, Form 188, will be filed with the Alameda County Flood Control and Conservation District within 60 days of completion of the well installation phase of this project.
3. All significant increases in background readings noted in the field is considered indicative of a suspected release of hydrocarbon contamination and will be reported within 24 hours of receipt of analytical results.
4. The report format will be comprehensive and will include all information consistent with that presented in the original proposal presented to the client.

Attachments: Figures 1 through 7A



WELL NUMBER	MW3	LOCATION	AND
DATE	3/9/90	WEATHER	OVERCAST HIGH 30's
LOGGED BY	TOM SMITH	DRILLED BY	
DRILLING METHOD	10 5/8" HOLLOW-STEM AUGER	SAMPLING METHOD	24-INCH SPLIT SPOON
GRAVEL PACK	12'-2" SAND	SEAL	0'-1' GROUT 1'-2' BENTONITE

CASING	TYPE PVC SCHEDULE 40	DIAMETER	4"	LENGTH	2'	HOLE DIA.	12"	
SCREEN	TYPE PVC	SLOT	0.02"	DIAMETER	4"	LENGTH	10.0'	
							TOTAL DEPTH	12'

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NUMBER	USCS	DEPTH	SAMPLE RECOVERY	PENETRATION	RESISTANCE	LITHOLOGY/REMARKS	WELL COMPLETION
						0				1.5'-2.0' Strong gasoline odor in hand augered samples, some dark brown stain.	
damp	soil		pl		CL	1					
moist	soil		pl	1	CL	2	1.86	2		0.00'-1.23' CLAY, dark gray to grayish-brown, slightly silty.	
						3		3		1.23'-1.86' CLAY, grayish-brown, mottled, gray to light gray. Strong hydrocarbon odor.	
						4		6			
						5					
						6					
						7					
dry	still		pl	2	CL	8		6		0.00'-2.00' CLAY, mottled, light brown to tan, trace of subangular pebbles.	
						9	2.00	9			
						10		17			
						11		21			
						12					
						13					
						14					
						15					
						16					
						17					
						18					
						19					
						20					

EXPLANATION	GROUT	SAND	SCREEN
	BENTONITE	CASING	WATER LEVEL

FIGURE 1

TYPICAL WELL CONSTRUCTION DIAGRAM

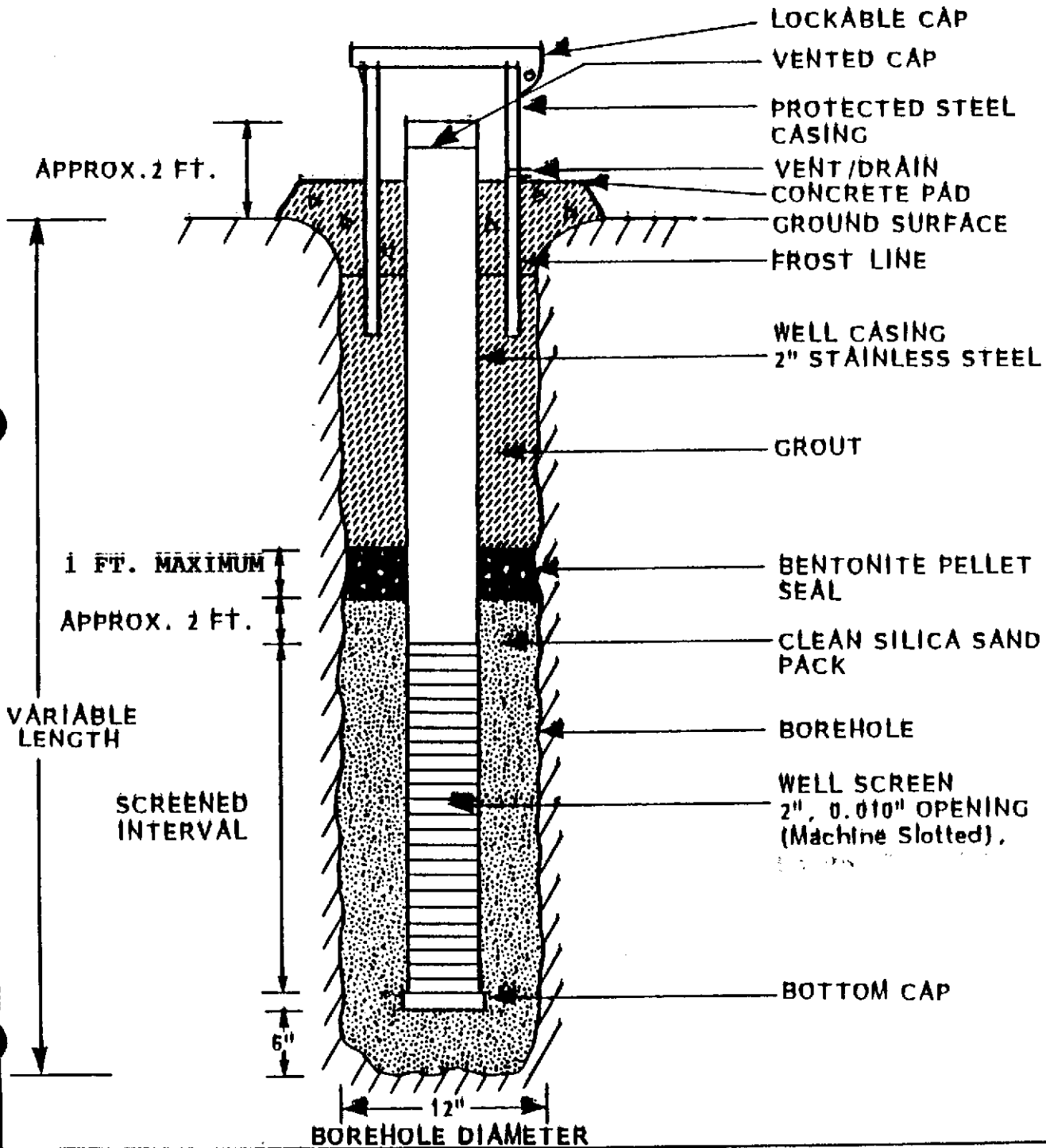


FIGURE 2

TYPICAL WELL CONSTRUCTION DIAGRAM

ABOVE-GRADE MOUNT

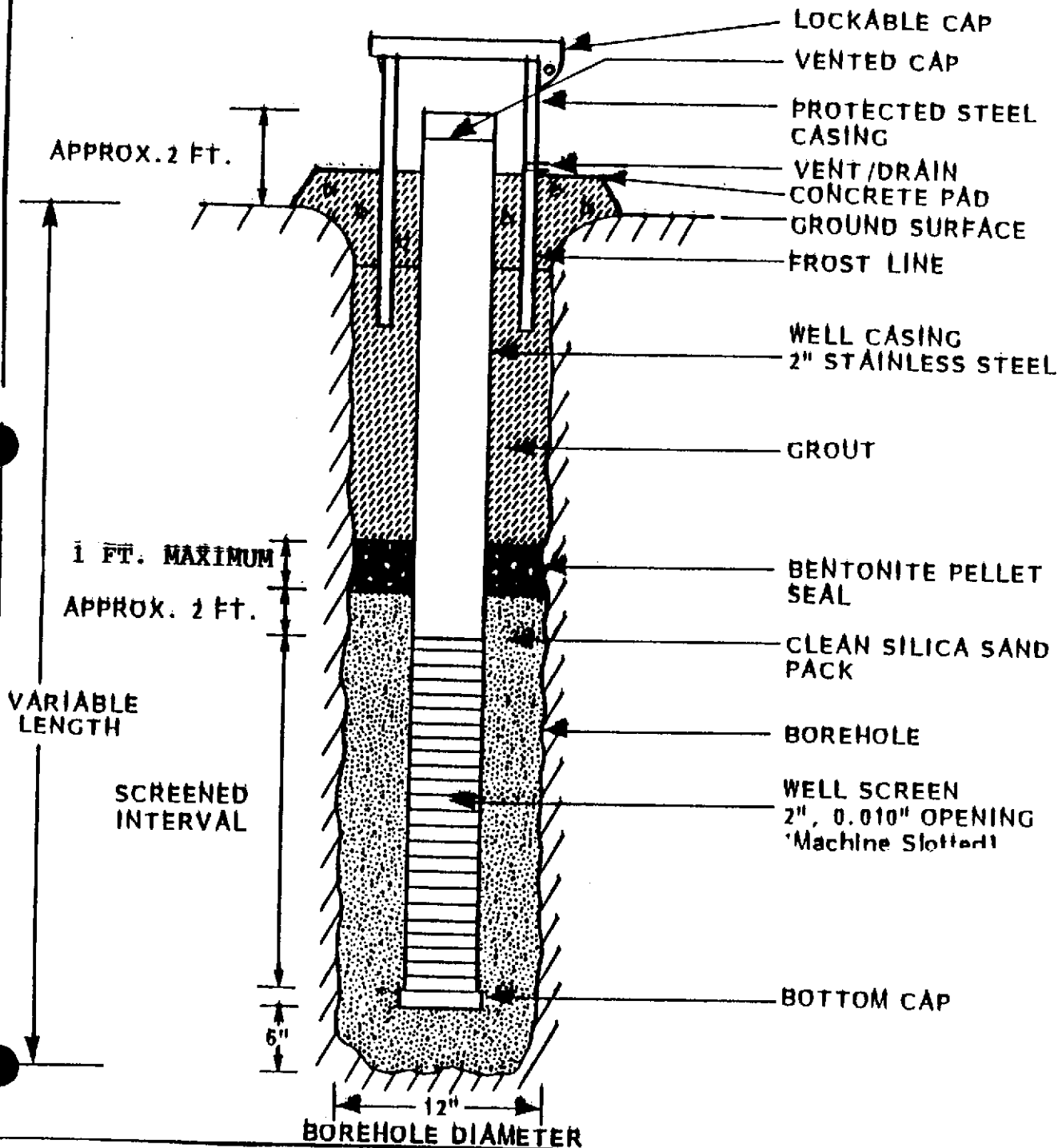


FIGURE 3

TYPICAL WELL CONSTRUCTION DIAGRAM FLUSH MOUNT

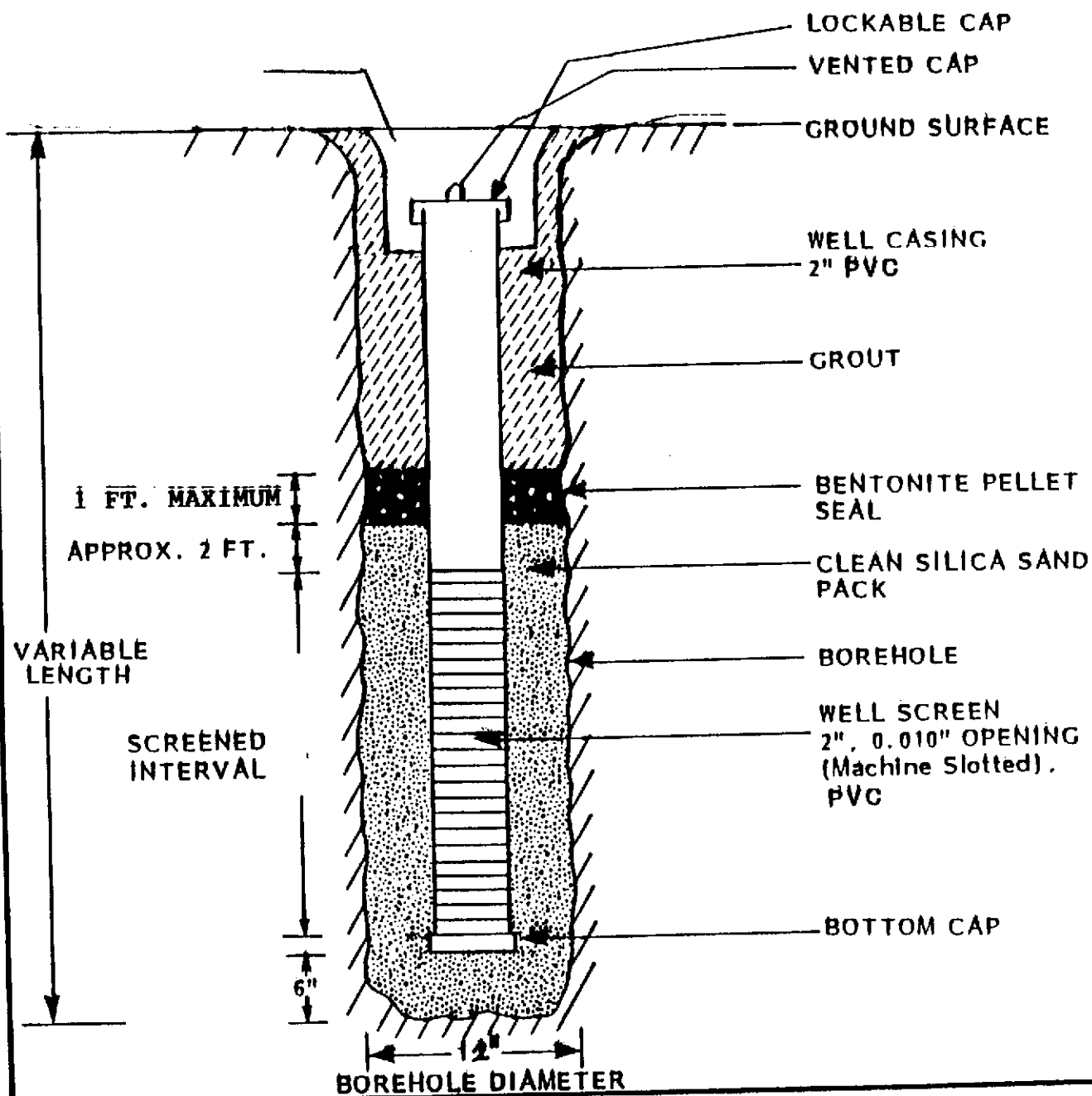


FIGURE 4

GTEL ENVIRONMENTAL LABORATORIES, INC.

Date:

Time:

Job ID:

ID#:

Sampler:

Type of Analysis:

SAMPLE LABEL

FIGURE 5

CONTAINERIZATION LABEL- SOILS

MATERIAL: _____

**KNOWN OR SUSPECTED
CHEMICAL CONTAMINANT:** _____

DATE FILLED: _____

EXPECTED REMOVAL DATE: _____

COMPANY NAME: _____

CONTACT OR CONSULTANT: _____

PHONE: _____

CONTAINERIZATION LABEL- WATER

MATERIAL: _____

**KNOWN OR SUSPECTED
CHEMICAL CONTAMINANT:** _____

DATE FILLED: _____

EXPECTED REMOVAL DATE: _____

COMPANY NAME: _____

CONTACT OR CONSULTANT: _____

PHONE: _____

FIGURE 7 A

APPENDIX D
PREVIOUS REPORTS

LO 2/91 TECC PSA report

REPORT OF FINDINGS

UNDERGROUND STORAGE TANK REMOVALS

**GERMAN AUTO CRAFT
301 EAST 14th STREET
SAN LEANDRO, CALIFORNIA
EPA #CAC000519160**

PREPARED FOR:

**Mr. Seung Lee
301 East 14th Street
San Leandro, CA 94577**

PREPARED BY:

**THE ENVIRONMENTAL CONSTRUCTION COMPANY
259 Kinney Avenue
San Jose, CA 95112**

NOVEMBER, 1990

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APPENDICES

- A Closure Permits
- B Hazardous Waste Manifests and Certificates of Disposal
- C Analytical Results and Chain of Custody

November 26, 1990

Mr. Seung Lee
301 East 14th Street
San Leandro, Ca. 94577
(415)638-5473

**UNDERGROUND TANK REMOVAL
301 EAST 14th STREET
SAN LEANDRO, CA. 994577
USEPA #CAC000519160**

Dear Mr. Lee,

INTRODUCTION:

On September 28, 1990, THE ENVIRONMENTAL CONSTRUCTION COMPANY removed: one, 150-gallon, one, 550-gallon, two, 1000-gallon, and two, 2000-gallon, steel, single-walled, underground storage tanks from the subject property located at 301 East 14th Street, San Leandro, California. The scope of work included: completion and submission of the tank closure permits as required by the San Leandro Fire Department (SLFD), providing for the removal of the tanks and known piping, collecting of appropriate samples from the tank pit excavation and piping areas; providing for proper disposal of the tank and associated piping; this report of findings (closure report) which summarizes the history of the tank, the procedures and results of the inspection and removal, subsurface sampling methods, and analytical results of the samples collected during removal of the tank.

EXECUTIVE SUMMARY

On September 28, 1990, TECC removed 6 UST's from the subject property located at 301 East 14th Street, San Leandro, California. 10 soil samples from beneath the base of the tanks, 1 soil sample from the product line area near former pump island and 3 CGS samples from the excavated soils were collected and sent to a state-certified analytical laboratory. These samples were analyzed, following the LUFT Manual sampling guidelines, for TPHg/BTEX (5030-8015/8020). The soils sample from the waste oil tank was sampled for TPHg, TPHd (as diesel), Oil & Grease, and Purgeable Halocarbons.

Concentrations of TPHg ranging from N.D. (not detected above test method detection levels) to 840 parts per million (ppm). BTEX concentrations ranged from N.D. to 25,710 parts per billion (ppb).

Tanks #1, #2, and #3 were observed to have holes in them and showed obvious signs of serious corrosion. They appeared to have leaked sometime prior to their removal.

RISK

The hydrocarbon contamination at the site represents a moderately high environmental risk for the following reasons:

- o High TPHg concentrations exist in the soils immediately underneath the former location of UST's #1, #2 and #3.
- o Moderate TPHg (as gasoline) concentrations exist in the soils immediately underneath the former location of UST's #4 and #5.
- o High BTEX concentrations also exist in these areas.
- o Separate-phase hydrocarbons were observed as strong odors and staining underneath these areas.
- o This contamination may have impacted the groundwater table.
- o Nearby utility conduits may have acted as a pathway for contamination migration off-site.

TANK HISTORY AND SITE BACKGROUND

The site is an automotive repair shop located in south-central part of San Leandro near the intersection of Garcia and East 14th Streets. It is the understanding of THE ENVIRONMENTAL CONSTRUCTION COMPANY that the age of the subject tank is unknown and that as-built plans were not available. The former usage of the site was a retail gasoline station. It was reported to TECC that the tanks appear to have been last used in 1981. The property was purchased on June 17, 1977 by Mr. Wilhelm who sold the property to Mr. Andrati on October 16, 1983. Mr. Andrati sold the property to Mr. Lee on April 15, 1985. The current property owner has never used the UST's for storage of fuels.

Prior to the excavation, the tanks were reported to be two, 1000-gallon, and two, 2000-gallon steel, single-walled, underground storage tanks (UST's) that had previously contained unleaded gasoline, one 550-gallon UST that had contained regular gasoline, and one 150-gallon UST that had previously been used to store waste oil. The site is paved with asphalt and the tank areas were covered with concrete. Nearby adjacent property usage is commercial with small businesses, and single and multiple occupancy residential building (see Figure 2). The drinking water supply is provided by municipal and private water supply companies. Figure 1 is a regional map that describes the regional setting of the site. Figure 2, a soil sampling location map, shows the adjacent properties and general layout out of the site.

FIGURE 1
REGIONAL SITE MAP

The Environmental Construction Company

... WORKING TOWARDS A CLEANER ENVIRONMENT



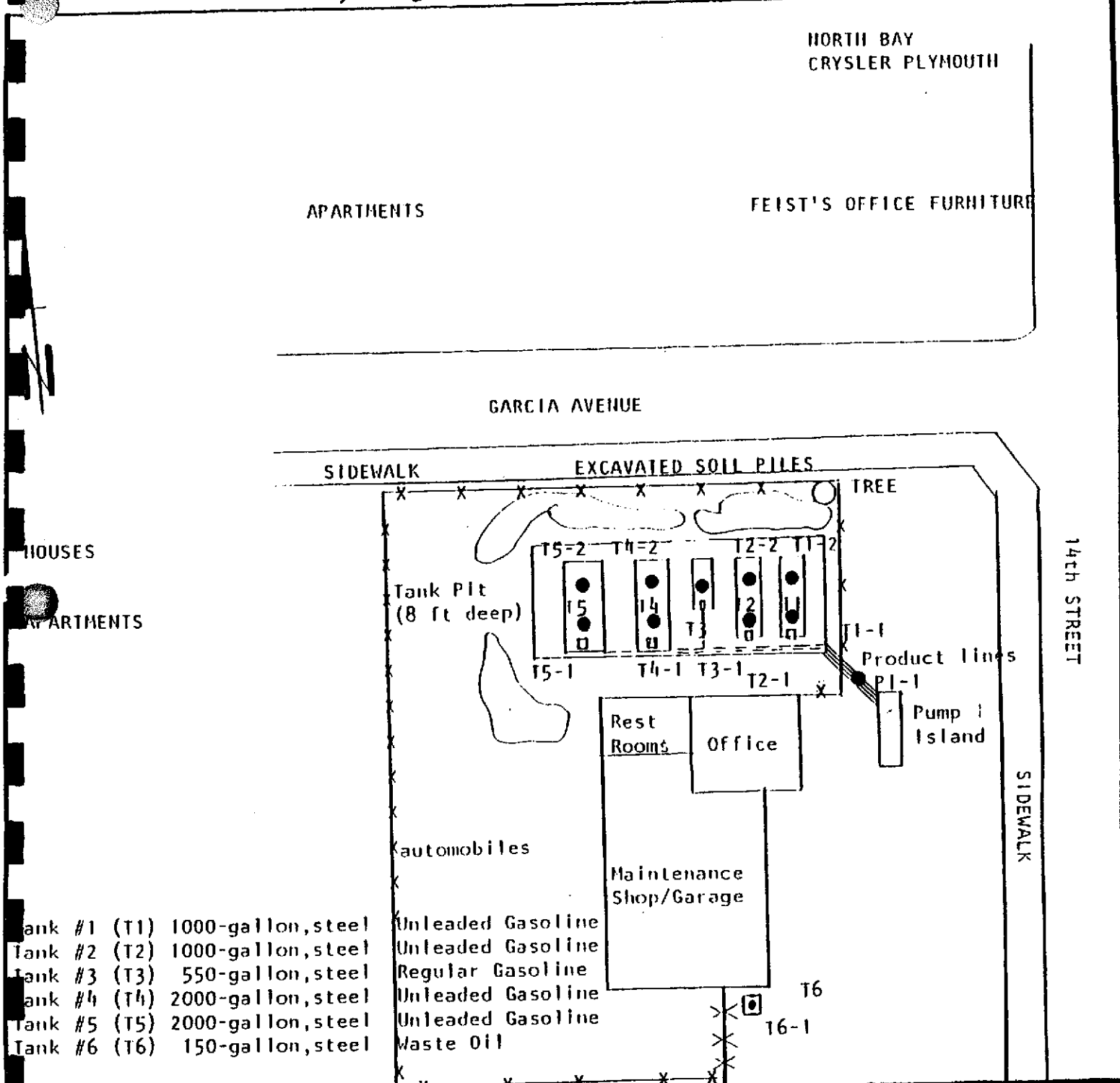
THE ENVIRONMENTAL CONSTRUCTION CO.		
SCALE: 1 in = 1/2 mi	301 East 14th St San Leandro, CA	DRAWN BY TS
DATE: 11/20/90		REVISED
REGIONAL SITE MAP		

FIGURE 2

SAMPLING LOCATION MAP

The Environmental Construction Company

... WORKING TOWARDS A CLEANER ENVIRONMENT



- Tank #1 (T1) 1000-gallon, steel
- Tank #2 (T2) 1000-gallon, steel
- Tank #3 (T3) 550-gallon, steel
- Tank #4 (T4) 2000-gallon, steel
- Tank #5 (T5) 2000-gallon, steel
- Tank #6 (T6) 150-gallon, steel

- Unleaded Gasoline
- Unleaded Gasoline
- Regular Gasoline
- Unleaded Gasoline
- Unleaded Gasoline
- Waste Oil

VIKING LIQUOR STORE

THE ENVIRONMENTAL CONSTRUCTION CO.		
SCALE: 1"=20ft	301 East 14th St.	DRAWN BY TS
DATE: 11/12/90	San Leandro, CA	REVISED
<p>FIGURE 2 SAMPLING LOCATION MAP ● SOIL SAMPLE LOCATIONS</p>		
		#238

TANK AND PIPING REMOVAL (FIELD OBSERVATIONS)

On September 28, 1990, TECC personnel exposed the top and sides of the tanks in preparation for excavation. Mr. Michael Bakaldin of the (SLFD) was on site to witness the devolatilizing of the tanks, removal and disposal of the tanking and piping and backfill material and to review the sampling procedures. TECC personnel removed the soils over and along the perimeter of tanks #1, #2, #3, #4, and #5 to a depth of approximately 10 feet below grade. The excavation depth of tank #6 was 6 feet. The attached sampling location map, Figure 2 shows the location of the UST's and soil samples.

Tanks #1, and #2 had a capacity of 1000-gallons; tank #3 had a capacity of 550-gallons; tanks #4 and #5 were estimated to have a capacity of 2000-gallons; tank #6 was estimated to have a capacity of 150-gallons. The tanks were found to be empty of fluids. The tanks were then purged of volatiles by inserting 900 pounds of dry ice in the fill port end of the tanks. A GasTech Model 1314 explosimeter was placed into the tanks to observe the lower explosive limit (LEL) and oxygen levels inside the tank. For safety guidelines the LEL and oxygen levels must be below 10%. Readings below these levels were observed and the tanks were prepared to be removed from the pit. Tank #1 was removed first, followed by tanks #2, #3, #4, #5, and #6 (waste oil tank). These removals were accomplished by attaching two heavy duty chains to each end of the tank. This assembly was then attached to a lifting crane and the tank was lifted from the excavation pit. The piping associated with the tanks was found to be intact and was removed to a piping and tank staging area away from the excavation.

Hydrocarbon staining and odor was observed in the tank pit during the removal of tanks #1, #2, #3, #4 and #5. The soils underneath tank #6 (waste oil tank) had a faint oily odor and dark gray stain. Groundwater was not encountered to a depth of at least 10 feet. The tanks were loaded onto a transport truck (H & H Ship Service, USEPA, #CAD004771168) and taken to their recycling facility at 220 China Basin Street, San Francisco, California.

EXCAVATION OF SOILS

The depth of the tank pit containing tanks #1, #2, #3, #4, and #5 was approximately 8 feet below surface grade. The excavation area was approximately 44 feet long and 16 feet wide. The excavation area for tank #6 (waste oil) was 6 feet deep, 6 feet long and 5 feet wide. A strong Hydrocarbon odor and dark gray stain was observed in the tank pit area adjacent to tanks #1, #2, #3, and #4. A dark gray stain was observed on the east wall of the tank pit for tank #6 (waste oil tank) at a depth from 3 to 5 feet. A total of approximately 15 cubic yards of soil was excavated from the pit of tank #6. No groundwater was observed during the excavation of the tanks to a depth of at least 10 feet. The pit hole was lined with plastic and the soil was put back in and covered with plastic as a temporary containment measure to prevent any off-site migration of contamination.

SOIL SAMPLING PROTOCOL-September 28, 1990 sampling event

As per instruction of Mr. Michael Bakaldin of the (SLFD) TECC, on September 28, 1990, recovered 9 samples from the soils taken 2 feet below the base of each tank, (#1, #2, #3, #4, and #5) at depths of 10 feet below grade and 7 feet below grade for tank #6. Three composite grab samples (CGS-1, CGS-2, CGS-3) were also taken from the excavated soils. A sample was also taken adjacent to the pump island on the north end of the property. A total of 17 samples were collected. The sample locations are shown in the attached Figure 2, titled "Soil Sampling Location Map". The soil sample method used to collect these samples was the grab sample method. In this method a clean 6-inch long and 2-inch diameter brass tube was driven into the pile of excavated soil. Immediately upon recovery of the soil sample, the ends of the brass tube were sealed with aluminum foil and plastic caps and then secured with aluminized tape and labeled. The label included date, time, sample identification number, analysis requested, sampler name, and project identification number. The sample was then placed on ice inside a thermally-insulated cooler for transport to a State-Certified Analytical Laboratory, Chromalab Inc. of San Ramon, California (State Certification #238 and #655). At the request of the SLFD and the sampling guidelines of the CAL-LUFT manual, all samples were tested for Total Petroleum Hydrocarbons (as gasoline) (TPHg)-(EPA Method 5030/8015)/ Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) (EPA Method 8020). The sample taken from below the waste oil tank and from its excavated soils (CGS-3) (sample T6-1) was also analyzed for Oil and Grease (Standard Method 503 D&E), TPH(as diesel)-EPA Method 3550/8015 and Halogenated Hydrocarbons Compounds (EPA Method 8010). The test method detection levels were 10 mg/Kg, 5.0 mg/Kg, and 5 ug/Kg respectively.

ANALYTICAL RESULTS

The laboratory analytical results are presented in the attached Table 1. TPHg, BTEX and total lead concentrations are also displayed in Figures #3 and #4. The analytical results indicate that the highest concentrations of TPH (as gasoline)/ BTEX appear to be localized in the soils immediately below the center of tank #1, (soil sample T1-1) and of tank #3 (soil sample T3-1). Analytical results of CGS-3 (waste oil tank excavated soils) also showed high concentrations of Oil and Grease. The analytical results of only one sample (T5-2) indicated concentrations of TPH (as gasoline)/BTEX below test method detection limits of 2.5 ppm and 5 ppb. The sample T6-1 and CGS-3 were also analyzed for Volatile Organic Compounds (EPA Method 8240) and the results indicated no concentrations of Purgeable Halocarbon Compounds above test method detection limits of 5 ppb. The analytical results indicated TPHd and TPHg/BTEX contamination in samples CGS-1, CGS-2, and CGS-3. These analytical results indicate that the excavated soils from the waste oil tank pit are above State and Local corrective action levels (CAL) TPHg/BTEX, TPHd and (in CGS-3) Oil and Grease contamination. Further investigative action for the soils and groundwater is being recommended in a forthcoming proposal and work plan.

TABLE 1 ANALYTICAL RESULTS

Sample Number	TPHg in ppm	TPHd in ppm	BTEX in ppb	Oil & Grease in ppm	Purgeable Halocarbons
T1-1	840	N.A.	25,710	N.A.	N.A.
T1-2	360	N.A.	13,800	N.A.	N.A.
T2-1	33	N.A.	2,260	N.A.	N.A.
T2-2	11	N.A.	475	N.A.	N.A.
T3-1	360	N.A.	6,280	N.A.	N.A.
T4-1	7.1	N.A.	339	N.A.	N.A.
T4-2	35	N.A.	1,381	N.A.	N.A.
T5-1	47	N.A.	640	N.A.	N.A.
T5-2	N.D.	N.A.	N.D.	N.A.	N.A.
T6-1	N.D.	N.D.	N.D.	N.D.	N.D.
PI-1	N.D.	N.A.	N.D.	N.A.	N.A.
CGS-1	36	N.A.	1,810	N.A.	N.A.
CGS-2	75	N.A.	579	N.A.	N.A.
CGS-3	N.D.	N.D.	71.1	970	N.D.
DETECTION LIMIT	2.5 ppm	5 ppm	5 ppb	5 ppm	5 ppb
METHOD OF ANALYSIS	5030 8015	3550 8015	8020	503 D & E	8010

MDL=Method Detection Limit

ND=Not Detected

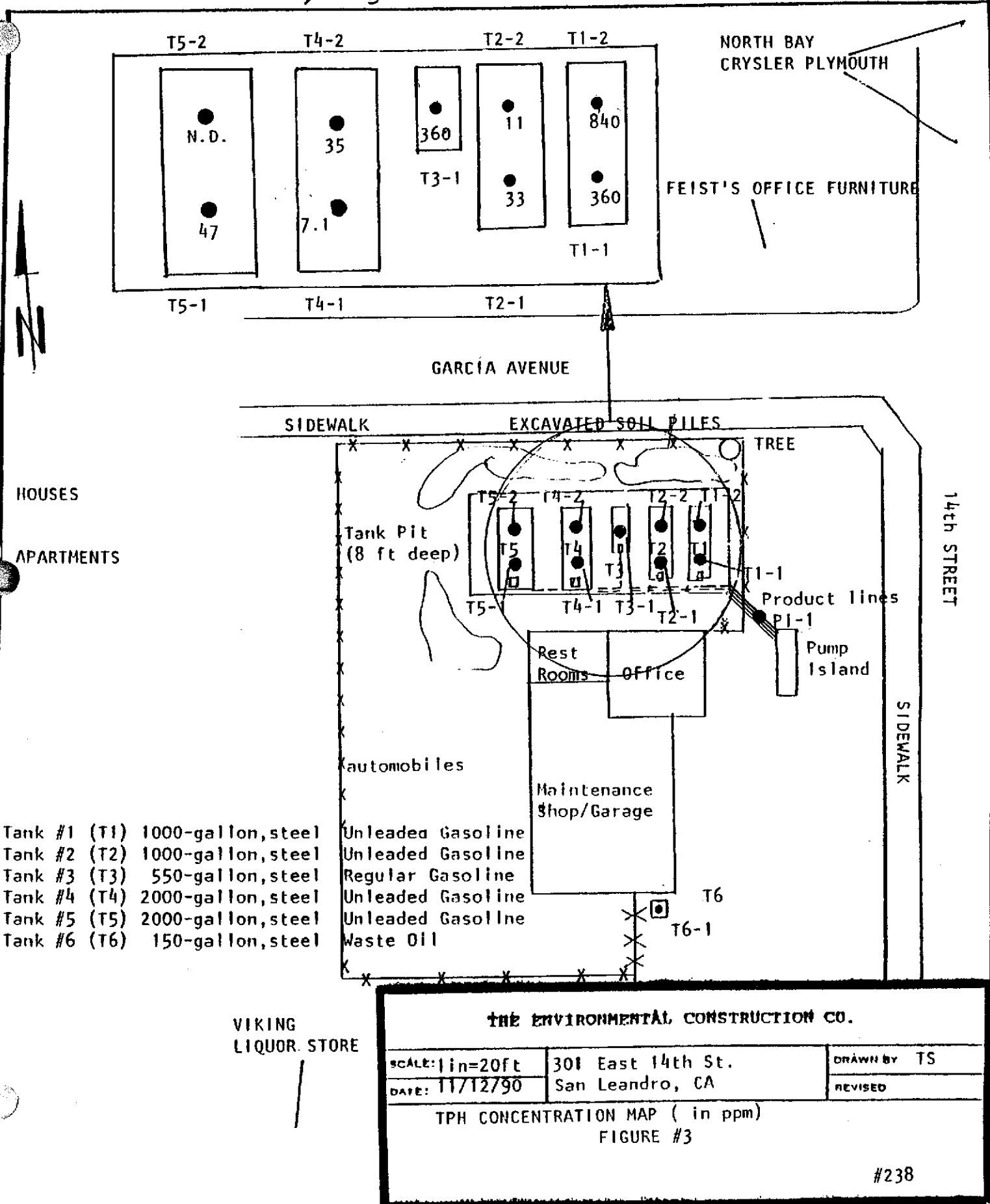
NA=Not Analyzed

FIGURE 3

TPH(g) CONCENTRATION MAP

The Environmental Construction Company

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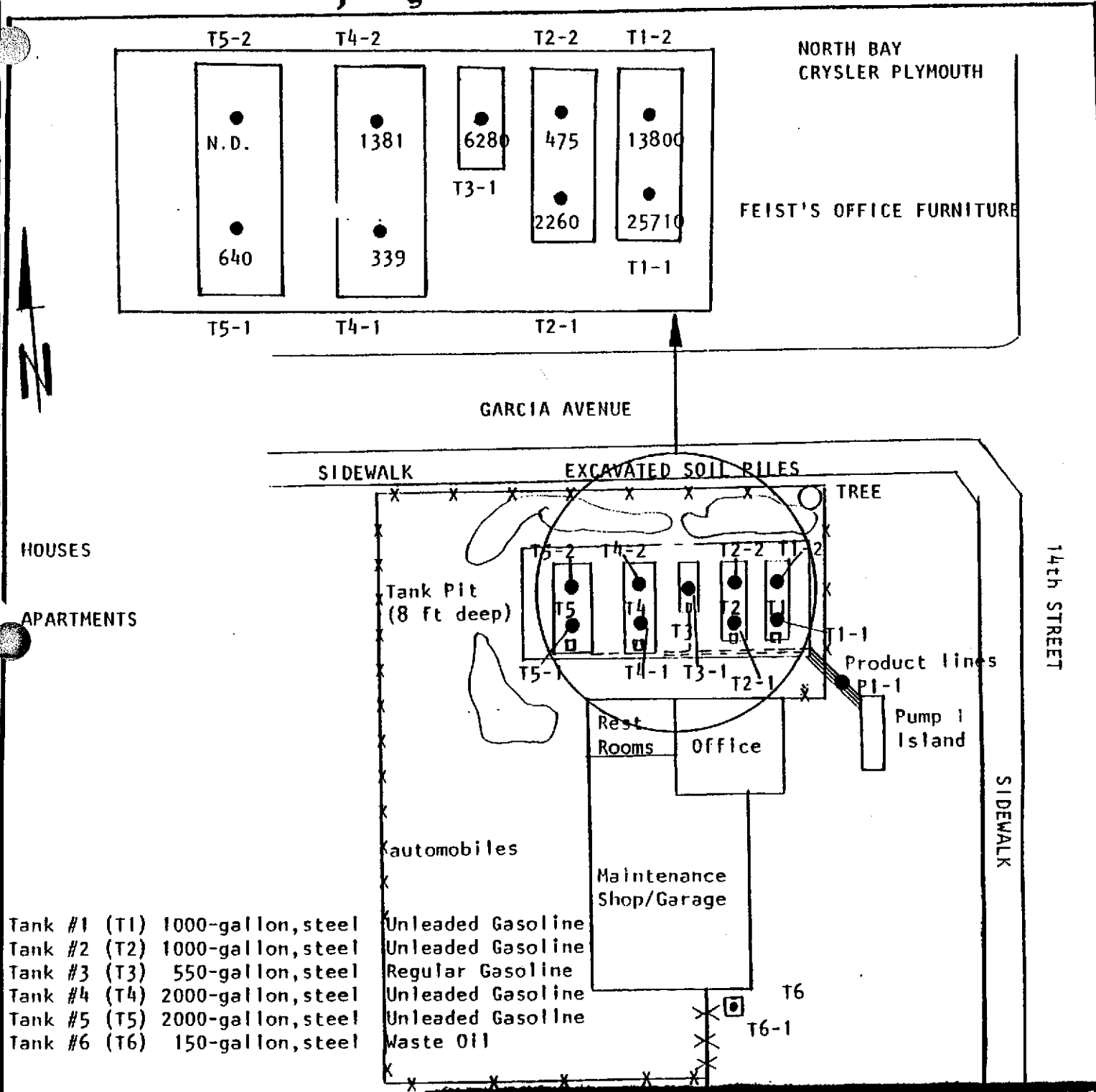
THE ENVIRONMENTAL CONSTRUCTION CO.		
SCALE: 1 in = 20 ft	301 East 14th St.	DRAWN BY TS
DATE: 11/12/90	San Leandro, CA	REVISED
TPH CONCENTRATION MAP (in ppm) FIGURE #3		
#238		

FIGURE 4

BTEX CONCENTRATION MAP

The Environmental Construction Company

... WORKING TOWARDS A CLEANER ENVIRONMENT



THE ENVIRONMENTAL CONSTRUCTION CO.

SCALE: 1in=20ft	301 East 14th St.	DRAWN BY TS
DATE: 11/12/90	San Leandro, CA	REVISED

BTEX CONCENTRATION MAP (in ppb)
FIGURE #4

#238

CONCLUSIONS

1. Total concentrations of TPHg ranging from N.D. (not detected above test method detection levels) to 840 parts per million (ppm).
2. BTEX concentrations ranged from N.D. to 25,710 parts per billion (ppb).
3. Analytical results of the waste oil tank (T6-1) and its excavated soils (CGS-3) indicated no concentrations of Purgeable Halogenated Compounds above detection limits of 5 ppb.
4. UST's #1, #2, and #3 were observed to have holes in them and showed obvious signs of serious corrosion. They appear to have leaked sometime prior to removal.
5. Moderately high to high TPHg and BTEX concentrations exist in the soils immediately underneath the former location of UST's #1, #2, #3, #4, and #5.
6. Separate-phase hydrocarbons were observed as strong odors and staining underneath these areas.
7. The water table underneath the site may have been impacted.

RECOMMENDATIONS

1. Properly dispose of the approximately 15 cubic yards of BTEX/Oil & Grease-contaminated soil excavated during the tank removals.
2. Install 4 temporary borings to a depth of approximately 30 feet or groundwater level, whichever occurs first.
3. Sample soil in the water saturated zone and analyze for TPHg (as gasoline)/BTEX.
4. Sample the groundwater to determine if it has been impacted and analyze for TPHg (as gasoline)/BTEX.
5. Sample the soils and groundwater.
6. Prepare a report of investigation and recommendations for remedial action.

THE ENVIRONMENTAL CONSTRUCTION COMPANY recommends that copies of this report be sent to the San Leandro Fire Department and Alameda County Department of Environmental Health as soon as possible. TECC recommends that all necessary regulatory agencies be kept well-informed of all proposed future work, as a matter of professional courtesy and environmental tactfulness.

LIMITATIONS

The conclusions and professional guidelines presented herein were developed in accordance with generally accepted practice for addressing fuel leaks for underground storage tanks as outlined in the guidelines from the California Water Quality Control Board. Because the analytical results are based on data collected at the sampling locations only TECC cannot have complete knowledge of the underlying conditions. Conditions at the project site may change with time due to the works of man and/or acts of nature. Accordingly, the findings of this report may be subject to revision in light of new information. If you have any questions, please feel free to contact us at (408) 997-1505. THE ENVIRONMENTAL CONSTRUCTION COMPANY was pleased to be of service to you on this project.

Sincerely,

Thomas A. Smith
Hydrogeologist/ S.A-R.A. Coordinator

THE ENVIRONMENTAL CONSTRUCTION COMPANY

APPENDIX A
CLOSURE PERMITS

File 470
CITY OF SAN LEANDRO
FIRE DEPARTMENT
835 East 14th Street
San Leandro, CA 94577
(415) 577-3319

#238

UNDERGROUND TANK CLOSURE PLAN FORM

Date 9/13/90

Fire Permit No. _____

Fee Paid _____

1. Facility Name GERMAN AUTO CRAFT 2. Property Owner MR. SEUNG LEE
Address 301 E. 14th ST. SAN LEANDRO Address 301 E. 14th STREET, SAN LEANDRO
Phone (415) 638-5473 Phone (415) 638-5473
Contact MR. LEE
3. EPA I.D. No. CAC000519160 4. Consultant N/A
Address _____
Phone _____
Professional Registration _____
5. PRIMARY CONTACT/PROJECT MANAGER MR. ROBERT J. WHITMAN
6. Contractor(s) Name THE ENVIRONMENTAL CONSTRUCTION COMPANY
Address 259 KINNEY DRIVE, SAN JOSE,
Phone (408) 997-1505
Contact MR. ROBERT J. WHITMAN
Contractor's License type & No. C6L/D40 / #578789
City Business License No. #8458 Expiration Date 12/31/90
Workmen's Compensation No. WCN-12706-B Expiration Date 11/14/90

(NOTE: Copy of certificates must be enclosed if not on file with the Fire Department.)

7. Empty underground tanks and pipes (unless properly cleaned, see below) are a hazardous waste in California and must be hauled to a certified waste site on certified trucks using a hazardous waste manifest. Appropriate measures must be taken to keep LEL below 10% during and after excavation. Tanks must be removed from the site the same day they are substantially exposed. After removal from the ground and while on-site, tanks must be monitored once per hour for LEL and oxygen levels. Rinsate from underground tanks is also considered to be hazardous waste.

In order to be removed from the site as a non-hazardous waste, the tanks must be cleaned and:

1. Rinsate handled as a hazardous waste.
2. Tank cut open with written approval from the Fire Marshal. Permission to cut on site will be granted only under extraordinary circumstances.
3. The tank must be cut in half.
4. A wipe test analyzed for the former contents of the tank, per RWQCB guidelines, must be made.
5. The interior surface of the tank must have a visual inspection by the Fire Department.

	<u>EPA#</u>	<u>Name</u>	<u>Address</u>	<u>Phone #</u>
Tank Hauler (current certification on trailer required)	CAD0004771168	H&H SHIP SERVICE	220 CHINA BASIN S.F.	(415) 543-4835
Site to Which Tanks taken		H&H SHIP SERVICE, SAN FRANCISCO, CA. 94109		
Product/Rinsate Hauler		H&H SHIP SERVICE		
Site to Which Rinsate taken		H&H SHIP SERVICE		
Site to Which Soil taken		LOKERN, OR BUTTONWILLOW, CA.		

8. A State certified Laboratory must analyze all samples.
 Laboratory Name CHROMALAB
 Address 2239 OMEGA ROAD #1, SAN RAMON, CA. 94583
 Phone (415) 831-1788
 State Certification No. #238

9. Date tanks to be removed 9/18/90 TUE. @ 10:00 am

10. Complete attached chart. Attach additional pages as needed if chart is not large enough.

J. TANKS TO BE REMOVED:

	Size/Capacity	Former Contents of Tank	Construction Material	Age	Material to be Sampled (Sludge, soil, etc.)	Sample Analysis / Preparation Method Numbers*
Tank #1	1-2000 gal.	GASOLINE UNLEADED	STEEL	N/A	SOIL	TPH GAS BTEX / 8015/8020
Tank #2	1-2000 gal.	" "	STEEL	N/A	SOIL	" "
Tank #3	1-1000 gal.	GASOLINE UNLEADED	STEEL	N/A	SOIL	" "
Tank #4	1-1000 gal.	" "	STEEL	N/A	SOIL	" "
Tank #5	1-550 gal.	REG LEAD	STEEL	N/A	SOIL	TOTAL LEAD TPH GAS BTEX/8015/8020+8240-LEAD
Tank #6	1-150 gal.	WASTE OIL	STEEL	N/A	SOIL	TPH DIESEL BTEX /TPH GAS 8240/8020

3.

PIPES TO BE REMOVED:

	Use (i.e. vapor product)	Former Contents	Construction Material	Age	Material to be Sampled (Sludge, soil, etc.)	Sample Analysis / Preparation Method Numbers*
Pipe #1						
Pipe #2						
Pipe #3						

* NOTE: Regional Water Quality Control Board Guidelines for sampling and analysis must be followed.

11. Please attach a drawing showing the location of all tanks and associated underground pipes at the facility indicating ones to be removed/closed, ones to remain, closest streets, North direction, scale and buildings on the site. Include distances to landmarks such as buildings which will allow for exact location of tanks on the site.

12. Why are tanks being removed:

Facility is moving

Avoid monitoring requirements

Suspect tank/line leak*

No longer in use

Other _____

* If leak is suspected, please attach clarification.

13. Explain how samples will be drawn (i.e., by backhoe or by extension poles, etc.). Attach explanation. (Note: A site safety plan must be prepared, kept on site and followed in accordance with OSHA requirements.)

BACKHOE WILL BE USED.

The samples will be taken 2 feet below the base of the tank excavation by inserting a clean, 6-inch, 2-inch diameter brass tube into the native soils retrieved by the backhoe. The samples will then be sealed with aluminum foil, capped with plastic caps, taped, labeled and stored under dry ice in a thermally-insulated cooler and transported, under chain of custody to a state-certified analytical laboratory, Chromalab of San Ramon, California (State Certification # 238).

* SEE ATTACHED "SITE & SAFTY PLAN"*

14. Piping associated with underground tanks must be closed in a manner which will demonstrate whether or not the pipes have leaked. Unless piping is under a building it must be removed and samples taken every 20 feet (additional samples may be required if evidence of contamination is noted). If pipes are located under a building it may be possible to use an inert gas pressure test to confirm the pipes' integrity if no information exists which indicates a leak may have occurred. The acceptability of this option will be determined on a case-by-case basis. A failed pressure test will necessitate further action.

How will pipelines, including fill, vent, vapor recovery, and delivery lines, be handled in accordance with the above requirements:

All piping will be shipped
w/ tanks to H&H for Disp.

15. Describe how the tank will be inerted. The methods used must lower both the flammable vapors and the oxygen content. A riser at least 5 feet high must be placed on all openings during inertings to help keep vapors from accumulating in the excavation.

TANKS WILL BE INERTED WITH 1.5 LBS. DRY ICE PER 100 GAL. CAPACITY.

16. An explosion-proof combustible gas meter must be used to verify tank inertness. LEL and oxygen must both be below 10% prior to removal. Equipment to calibrate instruments must be on site. Give make and model number of instrument to be used.

A GASTECH METER - MODEL #1314 WILL BE ON SITE AT ALL TIMES.

17. If the tanks are to be filled in place, please also fill out and submit the form entitled "Underground Tank Closure Plan Form Supplement - In-Place Closures." Attachment 3 Tanks are allowed to be closed in place only if they are directly adjacent to a building and removal of the tanks will impair the structural integrity of the building.

N/A

Immediate notification of the San Leandro Fire Department is required if any contamination is found during this tank closure.

The preceding information is true and correct. If there is any change which would materially affect any answer above, I will inform the City.

I declare that a post closure report will be filed within thirty (30) days of tank closure in accordance with the attached signed instructions.)

(* Note: Each page has been initialed.)

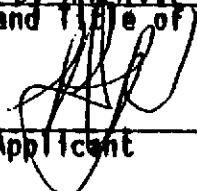
I declare under penalty of perjury that the foregoing information is true and correct.

Execute this 13 day of Sept, 1990 at

THE ENVIRONMENTAL CONSTRUCTION COMPANY - (TECC)
Name of Business

259 KINNEY DRIVE, SAN JOSE, CA. 95112
Address

MR. ROBERT J. WHITMAN - PRESIDENT/OWNER
Printed Name and Title of Applicant


Signature of Applicant

Completed forms should be submitted to:

San Leandro Fire Department
835 East 14th Street
San Leandro, CA 94577

Denied

Approved without modifications

Approved with attached modifications/conditions

Written Confirmation from the Alameda County Water District has been received by the Fire Department regarding the fact the ACWD has determined its requirements pertaining to the tank closure.

Signature of Reviewer

Date

APPENDIX B

HAZARDOUS WASTE MANIFESTS

and

CERTIFICATES OF DISPOSAL

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. C A C 0 0 0 5 1 9 1 6 0 0 0 0 0 1	Manifest Document No. 0 0 0 0 1	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address SEUNG LEE 301 East 14th Street, San Leandro, CA. 94577			A. State Manifest Document Number 90389074		
4. Generator's Phone (415) 638-5473			B. State Generator's ID		
5. Transporter 1 Company Name H & H Ship Service Company		6. US EPA ID Number C A D 0 0 4 7 7 1 1 6 8		C. State Transporter's ID 103594	
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone (415) 543-4835	
9. Designated Facility Name and Site Address H & H Ship Service Company 220 China Basin Street San Francisco, CA 94107		10. US EPA ID Number C A D 0 0 4 7 7 1 1 6 8		E. State Facility's ID	
				F. Facility's Phone (415) 543-4835	

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers		13. Total Quantity	14. Unit WT/Vol	15. Waste No.
	No.	Type			
a. RESIDUE GASOLINE TANK NON-RCRA HAZARDOUS WASTE SOLID	0102	TIP	02101010	P	State 512 EPA/Other
b. RESIDUE GASOLINE TANK NON-RCRA HAZARDOUS WASTE SOLID	0102	TIP	01101010	P	State 512 EPA/Other
c. RESIDUE GASOLINE TANK NON-RCRA HAZARDOUS WASTE SOLID	0101	TIP	010151510	P	State 512 EPA/Other
d. RESIDUE WASTE OIL TANK NON-RCRA HAZARDOUS WASTE SOLID	0101	TIP	01011510	P	State 512 EPA/Other
J. Additional Descriptions for Materials Listed Above PUMPED OUT 2,000, 1,000, 550 and 150 gallon tanks last containing gasoline and waste oil.; Tanks inerted with dry ice for transport.			K. Handling Codes for Wastes Listed Above		
			a. 01	b. 01	
			c. 01	d. 01	

16. Special Handling Instructions and Additional Information
 JOB #6092
 APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR
 JOB SITE: GERMAN AUTOCRAFT
 301 East 14th Street
 San Leandro, California

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
 If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: *Seung Lee* Signature: _____ Month Day Year: 10 9 1 21 81 91 0

17. Transporter 1 Acknowledgement of Receipt of Materials
 Printed/Typed Name: MARTIN J. COSTELLO Signature: _____ Month Day Year: 10 9 1 21 81 91 0

18. Transporter 2 Acknowledgement of Receipt of Materials
 Printed/Typed Name: _____ Signature: _____ Month Day Year: _____

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
 Printed/Typed Name: _____ Signature: _____ Month Day Year: 09 28 90

Do Not Write Below This Line



CERTIFICATE OF DISPOSAL

OCTOBER 03, 1990

H & H Ship Service Company hereby certifies to ENVIRONMENTAL
CONSTRUCTION

1. The storage tank(s), size(s) 2-2,000 GALS., 2-1,000 GALS.,
1-550 GALS. AND 1-150 GALS.

removed from the GERMAN AUTOCRAFT

301 EAST 14TH STREET

SAN LEANDRO, CALIFORNIA

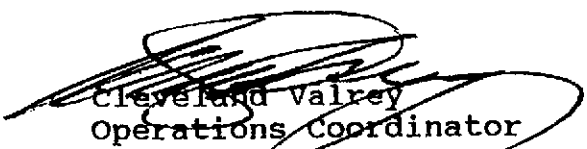
were transported to H & H Ship Service Company, 220 China Basin St.,
San Francisco, California 94107.

2. The following tank(s), H & H Job Number 6092

have been steamed cleaned, cut with approximately 2' X 2' holes,
rendered harmless and disposed of as scrap metal.
3. Disposal site: SCHNITZER STEEL, OAKLAND, CALIFORNIA.

4. The foregoing method of destruction/disposal is suitable for the
materials involved, and fully complies with all applicable
regulatory and permit requirements.
5. Should you require further information, please call
(415) 543-4835.

Very Truly Yours,


Cleveland Valrey
Operations Coordinator

220 CHINA BASIN, SAN FRANCISCO, CA 94107 · DAY AND NIGHT: 543-4835



APPENDIX C

ANALYTICAL RESULTS

and

CHAIN OF CUSTODY

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#E694)
- Drinking Water (#955)
- Waste Water
- Consultation

October 8, 1990

ChromaLab File No.: 0990171

THE ENVIRONMENTAL CONSTRUCTION COMPANY

Attn: Thomas Smith

RE: Thirteen soil samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses

Project Name: GERMAN AUTO CRAFT

Project Number: 238

Date Sampled: Oct. 1, 1990

Date Submitted: Oct. 1, 1990


Date Extracted: Oct. 2-8, 1990

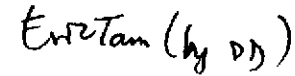
Date Analyzed: Oct. 2-8, 1990

RESULTS:

Sample No.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)	Oil & Grease (mg/Kg)
T-1-1	840	----	510	5400	6800	13000	----
T-1-2	360	----	2600	2900	3200	5100	----
T-2-1	33	----	350	430	550	930	----
T-2-2	11	----	57	38	120	260	----
T-3-1	360	----	410	270	1700	3900	----
T-4-1	7.1	----	18	11	100	210	----
T-4-2	35	----	47	14	470	850	----
T-5-1	47	----	13	17	150	460	----
T-5-2	N.D.	----	N.D.	N.D.	N.D.	N.D.	----
T-6-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
CGS-1	36	----	N.D.	100	1400	310	----
CGS-2	75	----	N.D.	59	130	390	----
CGS-3	N.D.	N.D.	9.8	10	43	8.3	970
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKED RECOVERY	91.7%	97.8%	98.6%	99.1%	103.5%	105.6%	----
DUP SPIKED RECOVERY	91.1%	106.2%	89.3%	89.7%	90.0%	107.6%	----
DETECTION LIMIT	2.5	5	5	5	5	5	10
METHOD OF ANALYSIS	5030/ 8015	3550/ 8015	8020	8020	8020	8020	503 D&E

CHROMALAB, INC.


David Duong
Senior Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

October 8, 1990

- Environmental Analysis
- Hazardous Waste (#E694)
- Drinking Water (#955)
- Waste Water
- Consultation

ChromaLab File # 0990171 J

Client: The Env. Construction Co.
Date Sampled: Oct. 01, 1990
Date of Analysis: Oct. 08, 1990


Attn: Thomas Smith
Date Submitted: Oct. 01, 1990

Project Name: German Auto Craft
Sample I.D.: T-6-1
Method of Analysis: EPA 8010

Project No.: 238
Detection Limit: 5 µg/Kg

COMPOUND NAME	µg/Kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	102.3% 98.6%
1,1-DICHLOROETHENE	N.D.	---
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	95.5% 96.7%
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
TRICHLOROETHENE	N.D.	---
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	102.3% 96.2%
TETRACHLOROETHENE	N.D.	---
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	---
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	98.2% 101.2%

ChromaLab, Inc.


David Duong
Senior Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#E694)
- Drinking Water (#955)
- Waste Water
- Consultation

November 12, 1990

ChromaLab File No.: 1190018

THE ENVIRONMENTAL CONSTRUCTION COMPANY

Attn: Lisa Lang / Thomas Smith

RE: One soil sample for Gasoline/BTEX analysis

Project Name: GERMAN AUTOCRAFT

Project Number: 238

Date Sampled: Nov. 2, 1990

Date Submitted: Nov. 5, 1990


Date Extracted: Nov. 8-12, 1990

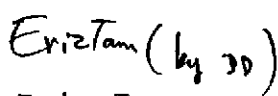
Date Analyzed: Nov. 8-12, 1990

RESULTS:

Sample No.	Gasoline (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
PI-1(3')	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	93.8%	105.5%	98.6%	91.0%	93.0%
DETECTION LIMIT	2.5	5	5	5	5
METHOD OF ANALYSIS	5030/ 8015	8020	8020	8020	8020

ChromaLab, Inc.


David Duong
Senior Chemist


Eric Tam
Laboratory Director

