
**INSTALLATION OF THREE GROUNDWATER
MONITORING WELLS, SOIL AND
GROUNDWATER SAMPLING AND
ANALYSES**

*1630-162nd Avenue
San Leandro, California
(STID 1361)*

Prepared for:

*Mr. Hiro Fukushima
1301 Hilliker Place
Livermore, CA 94550*

June 6, 1995



ALFA ENVIRONMENTAL REMEDIATION SERVICES



ALFA ENVIRONMENTAL REMEDIATION SERVICES

June 6, 1995

Mr. Hiro Fukushima
1301 Hilliker Place
Livermore, CA 94550

Subject: *Installation of three (3) groundwater monitoring wells, soil and groundwater sampling and analyses at 1630-162nd Avenue, San Leandro, California (STID 1361).*

Dear Mr. Fukushima:

Enclosed is the subject report required by the Alameda County Department of Environmental Health for the above mentioned address.

Copies of this report have been enclosed and should be send to Mr. Scott O. Seery at the Alameda County, and to the Regional Water Quality Control Board.

We appreciate the opportunity to provide our consulting engineering and geologic/hydrogeologic services to Hiro's Nursery. Please contact either of the undersigned if you have questions or require additional information.

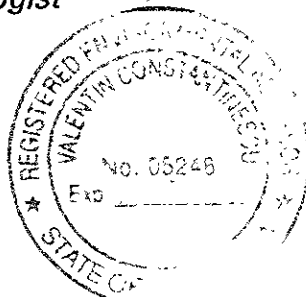
Sincerely,

ALFA ENVIRONMENTAL REMEDIATION SERVICES

Valentin Constantinescu

Valentin Constantinescu, R.E.A., C.E.C.M.
Senior Environmental Geologist

VNC/MDK/avc
Enclosure



Marvin D. Kirkeby

Marvin D. Kirkeby, P.E.
Registered Civil Engineer



INTRODUCTION

ALFA Environmental Remediation Services (ALFA) installed, developed, and sampled three (3) groundwater monitoring wells at the above referenced site on May 9, 15 and 22, 1995. The tasks described were undertaken in response to requirements set forth by Mr. Scott O. Seery, Senior Hazardous Materials Specialist with the Alameda County Health Services Agency (ACHSA) and are intended to comply with standards for such work established by the ACHSA and the San Francisco Bay Regional Water Quality Control Board (RWQCB). Work was performed in accordance with the September 25, 1994 Work Plan and the December 15, 1994 Addendum prepared by John P. Cummings and Associates (JPCA).

OVERVIEW OF RELEVANT ENVIRONMENTAL COMPLIANCE ACTIVITIES

In front of one of the site garages (see Plate 1) was a gasoline pump which serviced a 550 gallon underground storage tank (UST) (northern tank). This tank was installed in the 1970's. A second underground storage tank (southern tank) was located adjacent to the small nursery office, on the west side of the property. This gasoline underground storage tank was removed in 1992.

Four soil borings were drilled in the vicinity of the two USTs and tested for total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and xylenes. Soil samples taken from the soil borings designated SB1 and SB2, located near the east and west ends of the northern UST, presented TVH concentrations at 230 and 79 parts per million (ppm), respectively, p-xylene level was 3 ppm in SB1 and 3ppm in SB2. In addition, m-xylene was detected in SB2 at 7 ppm, making the total xylenes in SB2 equal to 10 ppm. No other BTEX compounds were detected in SB1 and SB2.

On August 31, 1989 a second soil and groundwater sampling event was performed in the area of northern UST. Two soil borings were drilled; SB-5 was drilled slightly upgradient of the tank and SB-6 was drilled approximately 30 feet in the presumed downgradient direction. Analytical results for soil samples collected from SB5 and SB6 indicated that TVH/BTEX compounds were not present above detection limits in the soil beneath the saturated zone in SB5, or in the unsaturated soil in SB-6. Analytical results of grab water samples collected from SB-5 and SB-6 showed 4.5 parts per billion (ppb) of benzene, 9.9 ppb of p-xylene, 0.8 ppb of m-xylene, and 290 ppb of TVH in SB-5. Benzene was the only compound detected in the grab water sample collected from SB-6, at a concentration of 1.6 ppb. However, these samples may not be representative of groundwater quality, since these are grab samples collected through the augers.

On September 3, 1992 the southern tank was removed. Two soil samples acquired from the tank pit and one composite soil sample from the excavated soil stockpile were tested for Total Petroleum Hydrocarbons as Gasoline (TPH-G), for Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX) and for Total Lead. TPH-G and BTEX compounds were below the reporting limit (not detected). Total Lead was present in all soil samples at low levels (5.4 to 6.9 ppm). The former tank pit was backfilled with the excavated soil from the stockpile in accordance with the September 17, 1992 letter signed by Mr. Robert Weston, Hazardous Materials Specialist with Alameda County-Health Care Services Agency.

The northern tank, a 500-gallon underground storage tank (UST) containing gasoline was removed from this site in August of 1994. At the time of the removal the UST was very rusty and pitted over much of the exterior. Holes were found on the upper/lower surfaces and the ends of the tank. One soil sample collected from the bottom of the excavation contained up to 18 parts per million (ppm) of total petroleum hydrocarbon as gasoline (TPH-G) and 0.45 ppm of benzene, 0.025 of toluene, 0.66 ppm of ethylbenzene, and 1.3 ppm of xylenes.

INSTALLATION, DEVELOPMENT AND SAMPLING OF THREE (3) GROUNDWATER MONITORING WELLS

Prior to initiation of field work, ALFA acquired well-installation permits from the Alameda County Zone 7 Water Agency, and notified the ACHCSA. ALFA notified Underground Storage Allert to request delineation of public underground utilities. As a further precaution, each boring location was probed to a depth of 4 feet with a hand auger before drilling.

The site wells were constructed on May 9, 1995 at those locations shown in Plate 1, attached, in the soil borings advanced using a truck-mounted drill rig equipped with 8-inch outside diameter, continuous-flight, hollow-stem augers by employees of Bayland Drilling (drilling license C57-374152), under the direction of an ALFA geologist. Soil samples were obtained at 5 ft intervals, for logging using the Unified Soil Classification System and for analyses. Lithologic boring logs are presented in Attachment B. The samples were acquired within a California Modified Split-Spoon Sampler driven 18 inches into undisturbed soil using a standard 30-inch drop of a 140-pound hammer. The number of blows needed to drive the sampler each 6-inch increment were counted and recorded to evaluate the relative consistency of the soil. The sampler was fitted with clean brass sleeves 1.9 inches in diameter by 6.0 inches in length. Upon opening the sampler the lowermost sample tube (with no headspace) contained within was removed and its ends promptly covered with teflon pads fitted with plastic caps, and sealed with duct tape. Selected sample tubes were labeled, placed on ice in a cooler at a temperature of 4 degrees Celsius, for transport to a State Certified hazardous waste analytical laboratory under chain of custody. Soil samples were field screened for the presence or absence of volatile hydrocarbon contamination utilizing a portable field photoionization detector (PID).

The wells were advanced to 20 ft, ten feet into the saturated zone. The wells were developed on May 15, 1995 and sampled on May 22, 1995 in accordance with protocol set forth by the RWQCB in the document titled "Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks...Tri-Regional Recommendations".

The wells were constructed of two-inch inside-diameter threaded blank Schedule 40 PVC risers attached to 0.01-inch slotted PVC well screen. The slotted screen extended approximately five foot above the groundwater surface in the well to account for fluctuations in groundwater elevation. Monterey silica sand #3 was used to pack the screened interval and one foot of bentonite seal composed of 1/4" pellets hydrated with distilled water was placed above the screened interval to preclude surface water infiltration. Well construction details are presented in Attachment B.

The wells were finished with neat cement grout to grade and fitted with a locking well cap and "christy box" traffic cover. The newly installed wells were allowed to equilibrate, developed on May 15, 1995 using a dedicated surge block and by pumping more than five volumes from each well, and then sampled on May 22, 1995. Depth to static groundwater within each well was measured with an electrical tape prior to purging. Following calculations to determine well casing volumes, each well was then purged of more than three well volumes using a peristaltic pump and a dedicated tubing until temperature, pH, and electrical conductivity measurements stabilized and the water was observed to be relatively non-turbid. Measurements of pH, conductivity and temperature were acquired and recorded as referenced within Attachment B.

After the wells have been purged, recharged, and stabilized, water samples were acquired within a clean, disposable polyethylene bailer lowered to a point just below the surface of the water table. Upon bringing the bailer to grade, the sample was promptly transferred to Volatile Organic Analysis (VOA) vials containing sufficient HCl preservative to reduce the sample pH to <2.0, and to 1-liter plastic bottles preserved with HNO₃, with care given to minimize off-gassing. The water sample for Lead analysis was filtered in the field. The vials were filled so no headspace bubbles formed when inverted.

Each container was labeled, placed in a cooler on ice at a temperature of 4 degrees Celsius, for transport to a State Certified hazardous waste analytical laboratory under chain of custody. The samples thus acquired were free of sheen or other evidence of free product.

Soil and groundwater samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G), for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTE&X), and for Total Lead using EPA-approved Methods.

Drill cuttings were placed on visqueen and covered with visqueen. The soil cuttings will be stored on-site pending development of an appropriate disposal protocol. The surge and purge water from each well was stored in a labeled 55-gallon drum. This drum will be stored on-site pending development of an appropriate disposal protocol.

GROUNDWATER LEVEL MEASUREMENTS

On May 22, 1995 the elevations of the well heads were surveyed using an Alameda County benchmark located in the South-East corner of intersection of Maubert Avenue and 162nd Avenue (see Table 1 and Attachment D). Groundwater levels were measured by ALFA in the monitoring wells designated MW-1, MW-2, and MW-3. Groundwater level data as measured on May 22, 1995 are presented in Table 1.

On May 22, 1995 the groundwater flow direction was N82W and the gradient value was 0.014 ft/ft (see Plate 1, and Table 1).

Field Quality Assurance/Quality Control

Drilling and sampling equipment was steam cleaned or thoroughly scrubbed with alconox solution followed by a distilled water rinse prior to being brought on site and between samplings. Sample blank was taken prior to water sampling and analyzed by the lab.

Site Safety

Because of the sampling methods employed during this phase of investigation, exposure to any contaminated soil was kept to a minimum. As a precaution a Site Safety Plan was prepared and signed in the field (see Attachment D).

RESULTS OF LABORATORY ANALYSES

Copies of the reports of certified laboratory analyses are attached hereto as Attachment C.

CONCLUSIONS AND RECOMMENDATIONS

Soil and groundwater analytical results indicate that TPH-G, and BTEX compounds are below the level of detection. Traces of Total Lead were detected in soil. These values for Total Lead are well below any regulatory level.

To comply with standards established by the ACHCSA and the San Francisco Bay Regional Water Quality Control Board (RWQCB) quarterly groundwater sampling will be performed during the next nine months.

TABLE 1
GROUNDWATER ELEVATION DATA (a,b)
May 1995

<i>Well No.</i>	<i>Elevation of MP (ft, NGVD of 1929)(c)</i>	<i>Depth to Water Below MP (ft)</i>	<i>Water-level Elevation (ft NGVD of 1929)</i>
<i>MW-1</i>	<i>38.86</i>	<i>7.88</i>	<i>30.98</i>
<i>MW-2</i>	<i>39.35</i>	<i>8.02</i>	<i>31.33</i>
<i>MW-3</i>	<i>39.63</i>	<i>8.13</i>	<i>31.50</i>

(a) Survey Benchmark: a standard Alameda County bronze disk near the southeasterly corner of intersection of Maubert Avenue and 162nd Avenue. Disc is stamped "Mau-162""1978", elevation 64.3746 feet. Elevations are relative to the National Geodetic Vertical Datum (NGVD) of 1929.

(b) Measurements taken in May 22, 1995 by ALFA's personnel.

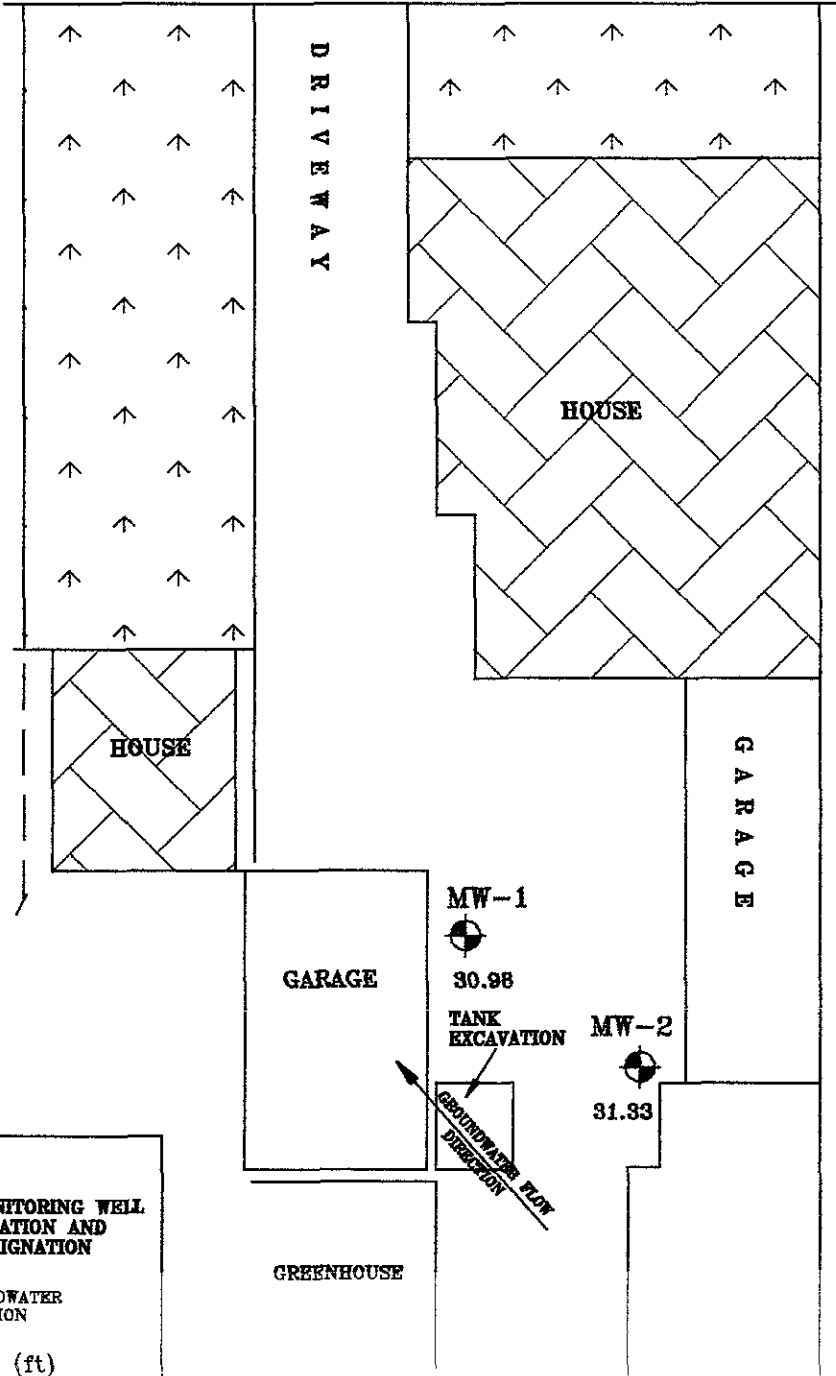
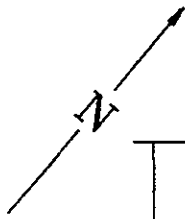
(c) MP = Measuring point, north rim of well casing.

ATTACHMENT A

SITE MAP

C/L

162nd AVENUE



LEGEND:

MW-1 MONITORING WELL
LOCATION AND
DESIGNATION

30.98 GROUNDWATER
ELEVATION

SCALE (ft)

0 20

MW-1



30.98

TANK
EXCAVATION

MW-2



31.33

GROUNDWATER FLOW
DIRECTION

31.50

NOTE: GROUNDWATER FLOW DIRECTION N 82° W
GRADIENT VALUE = 0.014 FT/FT



ALFA ENVIRONMENTAL REMEDIATION SERVICES

Project No. 95023

Drawn by: V.N.C.

Date: 5/28/95

Checked by: M.D.K.

HIRO'S NURSERY
1630 162nd AVENUE,
SAN LEANDRO, CALIFORNIA
SITE MAP

Plate
1

ATTACHMENT B

**LITHOLOGIC LOGS, WELL CONSTRUCTION DETAILS,
AND WELL MONITORING FORMS**

SOIL BORING LOG

LOCATION: 1630-162nd AVENUE, SAN LEANDRO, CA

CLIENT: HIRO FUKUSHIMA

BORE HOLE: MW-3

DATE DRILLED: 5/9/95 DRILLED BY: BAYLAND DRILLING

LOGGED BY: VALENTIN CONSTANTINESCU

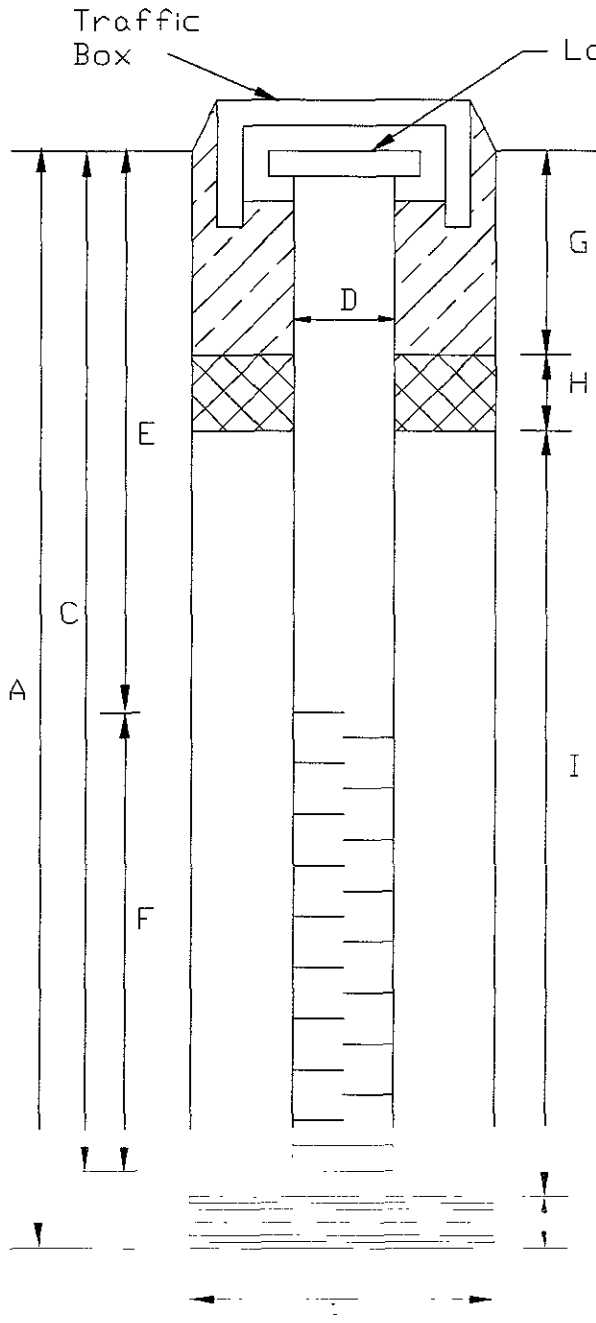
Depth Below Surface	Samples Collected		SOIL DESCRIPTION Color, Grain size, Texture, Moisture, Consistency, Odor	Unified Soil Classification	Log	Penetration Collected Blows / 18"	PID Readings
	INT	Sample No.					
0			ASPHALT (3") AND FILL MATERIAL				
5		MW3-5'	CLAY, BLACK, (10YR2/1), LOW DILATANCY, MEDIUM TOUGHNESS, STIFF, DAMP, NO ODOR.	CL		4, 5, 8	0 PPM
10		MW3-10'	CLAY, VERY DARK GRAYISH BROWN, (10YR3/2), LOW DILATANCY, MEDIUM TOUGHNESS, VERY STIFF, MOIST, NO ODOR. GROUNDWATER ENCOUNTERED AT APPROX. 10 FT.			5, 7, 10	0 PPM
15			CLAYEY SAND, BROWN, (10YR5/3), 20% CLAY, SAND: FINE TO COARSE, POORLY SORTED, SUBANGULAR TO ROUNDED, LOOSE TO MEDIUM DENSE, WET, NO ODOR.	SC		3, 4, 6	0 PPM
20			CLAYEY SAND, GRAYISH BROWN, (10YR5/2), 15% CLAY, SAND: FINE TO MEDIUM, POORLY SORTED, SUBROUNDED TO ROUNDED LOOSE WET, NO ODOR.			2, 4, 5	0 PPM
25							

WELL DETAILS

Client: HIRO FUKUSHIMA

Site Location: 1630-162nd AVENUE, SAN LEANDRO, CALIFORNIA

Monitoring Well Number: MW-1, MW-2, AND MW-3



- A. Total Depth: 20 FT BGS
- B. Boring Diameter: 8"
Drilling Method: HSA
- C. Casing Length: 20 FT
Material: 40 PVC
- D. Casing Diameter: 2"
- E. Depth to Screen: 5 FT
- F. Screened Length: 15 FT
Screened Interval: 5 TO 20 FT BGS
Slot width: 0.01"
- G. Surface Seal: 0 TO 2 FT BGS
Material: CEMENT
- H. Seal: 2 TO 3 FT BGS
Material: BENTONITE
- I. Filter Pack: 3 TO 20 FT BGS
Material: SAND #3
- J. Bottom Seal: CLAY

WELL MONITORING FORM:

CLIENT: HIRO FUKUSHIMA DATE: 5/22/95SITE
ADDRESS: 1630-162nd AVENUESAN LEANDRO, CALIFORNIA

Note 1: TOTAL WELL DEPTH & DEPTH TO WATER measurements are read to an accuracy of .01' from a straight edge placed in a north-south orientation on top of the christy box.

Note 2: The 0.17 figure used below to convert WATER COLUMN HEIGHT to gallons has units of gallons/linear foot, and is for a 2" diameter, Schedule 40 PVC pipe with an inside diameter of 2.067". Similarly, use a conversion factor of 0.66 for a 4" pipe, which has a 4.026" I.D.

TOTAL WELL DEPTH 19.92' MONITORING WELL # MW-1- DEPTH TO WATER 7.88'= WATER COLUMN HEIGHT 12.04' X 0.17 = 2.05 Gallons (1 well volume)

Multiply 1 well volume by 3 to obtain the minimum number of gallons of water to be purged from monitoring well prior to taking samples.

3 X 2.05 = 6.15 Gallons (3 Well Volumes)

VOLUME	pH	TEMPERATURE °F	CONDUCTIVITY µmhos/cm
1	6.21	66.4	1.42
2	6.40	66.2	1.47
3	6.56	65.6	1.51
4	6.47	66.5	1.54
5	6.50	66.7	1.57
6	6.48	66.3	1.54
7	6.49	66.2	1.55

CONTAMINANT ODOR? NO TIME OF SAMPLE COLLECTION: 17:03TURBIDITY LEVEL: LOWSHEEN ON WATER? NO SAMPLER'S SIGNATURE: _____

WELL MONITORING FORM:

CLIENT: HIRO FUKUSHIMA DATE: 5/22/95

SITE
 ADDRESS: 1630-162nd AVENUE

SAN LEANDRO, CALIFORNIA

Note 1: TOTAL WELL DEPTH & DEPTH TO WATER measurements are read to an accuracy of .01' from a straight edge placed in a north-south orientation on top of the christy box.

Note 2: The 0.17 figure used below to convert WATER COLUMN HEIGHT to gallons has units of gallons/linear foot, and is for a 2" diameter, Schedule 40 PVC pipe with an inside diameter of 2.067". Similarly, use a conversion factor of 0.66 for a 4" pipe, which has a 4.026" I.D.

TOTAL WELL DEPTH 19.83' MONITORING WELL # MW-2
 - DEPTH TO WATER 8.02'

= WATER COLUMN HEIGHT 11.81' X 0.17 = 2.01 Gallons (1 well volume)

Multiply 1 well volume by 3 to obtain the minimum number of gallons of water to be purged from monitoring well prior to taking samples.

3 X 2.01 = 6.03 Gallons (3 Well Volumes)

VOLUME	pH	TEMPERATURE °F	CONDUCTIVITY µmhos/cm
1	6.42	66.2	1.52
2	6.45	66.4	1.50
3	6.52	66.2	1.47
4	6.55	66.5	1.61
5	6.54	67.1	1.60
6	6.52	66.4	1.62
7	6.53	66.5	1.61

CONTAMINANT ODOR? NO TIME OF SAMPLE COLLECTION: 17:52

TURBIDITY LEVEL: LOW

SHEEN ON WATER? NO SAMPLER'S SIGNATURE: _____

WELL MONITORING FORM:

CLIENT: HIRO FUKUSHIMA DATE: 5/22/95

SITE
 ADDRESS: 1630-162nd AVENUE

SAN LEANDRO, CALIFORNIA

Note 1: TOTAL WELL DEPTH & DEPTH TO WATER measurements are read to an accuracy of .01' from a straight edge placed in a north-south orientation on top of the christy box.

Note 2: The 0.17 figure used below to convert WATER COLUMN HEIGHT to gallons has units of gallons/linear foot, and is for a 2" diameter, Schedule 40 PVC pipe with an inside diameter of 2.067". Similarly, use a conversion factor of 0.66 for a 4" pipe, which has a 4.026" I.D.

TOTAL WELL DEPTH 19.87 MONITORING WELL # MW-3
 - DEPTH TO WATER 8.13'

= WATER COLUMN HEIGHT 11.74 X 0.17 = 2.00 Gallons (1 well volume)

Multiply 1 well volume by 3 to obtain the minimum number of gallons of water to be purged from monitoring well prior to taking samples.

3 X 2.00 = 6.00 Gallons (3 Well Volumes)

VOLUME	pH	TEMPERATURE °F	CONDUCTIVITY µmhos/cm
1	5.67	65.8	1.61
2	6.71	65.4	1.58
3	6.58	65.3	1.64
4	6.71	65.8	1.66
5	6.70	65.4	1.65
6	6.72	65.7	1.67

CONTAMINANT ODOR? NO TIME OF SAMPLE COLLECTION 18:10

TURBIDITY LEVEL LOW

SHEEN ON WATER? NO SAMPLER'S SIGNATURE: _____

ATTACHMENT C
CERTIFIED ANALYTICAL RESULTS
AND CHAIN OF CUSTODY

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Alfa Environmental
P.O. Box 1630
Pleasanton, CA 94566
Attn: Valentin Constantinescu

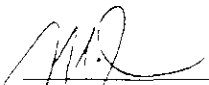
Date:	05/16/95
Date Received:	05/09/95
Date Analyzed:	05/12/95
Project:	HIRO
Sampled By:	Client

Certified Analytical Report

Soil Sample Analysis:

Test	MW3-5'	MW3-10'	Method Blank	Units	MDL	EPA Method #
Sample Matrix	Soil	Soil				
Sample Date	05/09/95	05/09/95	05/12/95			
Sample Time	14:01	14:17				
Lab #	B4983	B4984	MB051295*			
Lead (Total)	1.15	1.19	ND	mg/kg	0.50 mg/kg	7420
DF-Gas/BTEX	1	1	1			
TPH-Gas	ND	ND	ND	mg/kg	1.0 mg/kg	8015M
Benzene	ND	ND	ND	mg/kg	0.005 mg/kg	8020
Toluene	ND	ND	ND	mg/kg	0.005 mg/kg	8020
Ethyl Benzene	ND	ND	ND	mg/kg	0.005 mg/kg	8020
Xylenes	ND	ND	ND	mg/kg	0.005 mg/kg	8020

1. $PQL = DF \times MDL$
2. *MB051295: Method Blank
3. Analysis performed by Hull Development Labs, Inc. (CAELAP #1369)


Michael N. Golden, Lab Director

DF=Dilution Factor
MDL=Method Detection Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above PQL

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Alfa Environmental
P.O. Box 1630
Pleasanton, CA 94566
Attn: Valentin Constantinescu


Date:	05/16/95
Date Received:	05/09/95
Date Analyzed:	05/12/95
Project:	HIRO
Sampled By:	Client

Certified Analytical Report

Soil Sample Analysis:

Test	MW1-5'	MW1-10'	MW2-5'	MW2-10'	Units	MDL	EPA Method #
Sample Matrix	Soil	Soil	Soil	Soil			
Sample Date	05/09/95	05/09/95	05/09/95	05/09/95			
Sample Time	9:12	9:28	11:50	12:03			
Lab #	B4979	B4980	B4981	B4982			
Lead (Total)	0.78	3.54	1.08	1.10	mg/kg	0.50 mg/kg	7420
DF-Gas/BTEX	1	1	1	1			
TPH-Gas	ND	ND	ND	ND	mg/kg	1.0 mg/kg	8015M
Benzene	ND	ND	ND	ND	mg/kg	0.005 mg/kg	8020
Toluene	ND	ND	ND	ND	mg/kg	0.005 mg/kg	8020
Ethyl Benzene	ND	ND	ND	ND	mg/kg	0.005 mg/kg	8020
Xylenes	ND	ND	ND	ND	mg/kg	0.005 mg/kg	8020

1. $PQL = DF \times MDL$
2. Analysis performed by Hull Development Labs, Inc. (CAELAP #1369)


Michael N. Golden, Lab Director

DF=Dilution Factor
MDL=Method Detection Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above PQL

HULL DEVELOPMENT LABS INC.

1149 Minnesota ave
San Jose. CA 95125

QUALITY CONTROL RESULTS SUMMARY
FOR GASOLINE ANALYSIS

GASOLINE

QC sample No.: BLANK SPIKE & DUP

Date analyzed: 05-11-95

Matrix: WATER

Units: ug/L

Dilution factor: 1

COMPOUND	SA	SR	MS	MS	MSD	MSD	RPD	QC LIMITS	
	ug/L	ug/L	ug/L	PR	ug/L	PR		RPD	PR
GASOLINE	358	0	315	88	306	85	4	25	50-150

MS = Spike sample

MSD = Spike sample duplicate

SR = Sample result

SA = Spike added

NC = Not calculated

** = Out of limits

$$RPD = 100 \times (MS - MSD) / ((MS + MSD) / 2)$$

$$PR = 100 \times ((MS \text{ or } MSD) - SR) / SA$$

HULL DEVELOPMENT LABS INC.

1149 Minnesota ave
San Jose. CA 95125

QUALITY CONTROL RESULTS SUMMARY
BTEX

QC sample No.: BLANK SPIKE & DUP Date analyzed: 05-11-95

Matrix: WATER

Units: ug/L

Dilution factor: 1

COMPOUND	SA	SR	MS	MS	MSD	MSD	RPD	QC LIMITS	
	ug/L	ug/L	ug/L	PR	ug/L	PR		RPD	PR
BENZENE	20	0	19	95	20	100	5	25	50-150
TOLUENE	20	0	16	80	17	85	6	25	50-150

MS = Spike sample

MSD = Spike sample duplicate

SR = Sample result

SA = Spike added

NC = Not calculated

** = Out of limits

$$RPD = 100 \times (MS - MSD) / ((MS + MSD) / 2)$$

$$PR = 100 \times ((MS \text{ or } MSD) - SR) / SA$$



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

May 26, 1995

PEL # 9505071

HIRO FUKUSHIMA

Attn: Valentin Constantinescu

Re: Four water samples for Gasoline/BTEX analysis.

Project name: Hiro

Date sampled: May 22, 1995

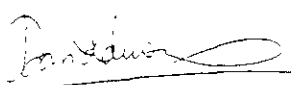
Date submitted: May 23, 1995

Date extracted: May 24-25, 1995

Date analyzed: May 24-25, 1995

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
MW-1	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2	N.D.	N.D.	N.D.	N.D.	N.D.
MW-3	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	83.7%	86.1%	94.2%	88.4%	102.9%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602


David Duong
Laboratory Director

Attachment



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

May 24, 1995

PEL # 9505071

HIRO FUKUSHIMA

Attn: Valentin Constantinescu / Hiro Fukushima

Re: Four water samples for total Lead analysis.

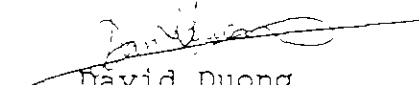
Project name: Hiro

Date sampled: May 22, 1995
Date extracted: May 23-24, 1995

Date submitted: May 23, 1995
Date analyzed: May 23-24, 1995

RESULTS:

SAMPLE I.D.	Lead (mg/L)
Blank	N.D.
MW-1	N.D.
MW-2	N.D.
MW-3	N.D.
Blank	N.D.
Detection limit	0.01
Method of Analysis	7420


David Duong
Laboratory Director

PRIORITY ENVIRONMENTAL LABS

Chain of Custody

1764 Houret Ct. Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9665

DATE: 5/23/95 PAGE: 1 OF 1

PROJECT MGR: <u>VALENTIN CONSTANTINE</u>				ANALYSIS REPORT										NUMBER OF CONTAINERS	
COMPANY: <u>ALFA ENVIRONMENTAL</u>				IPH-Gasoline (EPA 50.30.8015)	IPH-Gasoline (50.30.8015) w/8TEX (EPA 602.8020)	IPH-Diesel (EPA 3510/3550.8015)	PURGEABLE AROMATICS 8TEX (EPA 602.8020)	TOTAL OIL & GREASE (EPA 5520 C.D&F)	PESTICIDES/PCB (EPA 608.8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	CHLORINATED HYDROCARBONS (EPA 601.8010)	TOTAL LEAD	PEL # 9505071		INV # 25976
ADDRESS: <u>P.O. BOX 1630</u> <u>FLEASANTON, CA 94506</u>															
SAMPLE ID	DATE	TIME	MATRIX												
BLANK	5/23/95	16:40	WATER	X								X		2+1	
MW-1	↓	17:03	↓	X								X		2+1	
MW-2	↓	17:52	↓	X								X		2+1	
MW-3	↓	18:40	↓	X								X		2+1	
<p style="font-size: 1.2em;">Samples received in good condition, cold, no head space and preserved.</p> <p style="font-size: 1.2em;">Valentin Constantine</p>															

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1		RECEIVED BY: 2		RELINQUISHED BY: 2		RECEIVED BY: 2	
PROJECT NAME: <u>HIRO</u>	TOTAL # OF CONTAINERS: <u>12</u>			SIGNATURE: <u>Valentin Constantine</u>	SIGNATURE: <u>VICTOR DUONG</u>			SIGNATURE:	SIGNATURE:		
PROJECT NUMBER:	RECD GOOD COND./COLD:			Date: <u>5/23/95</u> Time: <u>10:45</u>	Date: <u>5/23/95</u> Time: <u>10:45</u>			Date:	Time:	Date:	Time:
INSTRUCTIONS & COMMENTS: <u>SAMPLE BOTTLES PRESERVED WITH NUCLEONOR WATER SAMPLES FOR METAL PD FILTERED IN THE FIELD</u>				COMPANY: <u>ALFA ENV.</u>	COMPANY: <u>PEL</u>			COMPANY:	COMPANY:		

PRIORITY ENVIRONMENTAL LABS

Chain of Custody

1764 Houret Ct. Milpitas, CA 95035 Tel: 408-946-9636 Fax: 408-946-9663

DATE: 5/9/95 PAGE: 1 OF 1

PROJECT MGR: VALNTIN CONSTANTINESCU				ANALYSIS REPORT													NUMBER OF CONTAINERS					
COMPANY: ALFA ENVIRONMENTAL				TPH-Gasoline (EPA 5030.8015)	TPH-Gasoline (5030.8015) w/BIEX (EPA 602.8020)	TPH-Diesel (EPA 3510/3550.8015)	PURGEABLE AROMATICS BIEX (EPA 602.8020)	TOTAL OIL & GREASE (EPA 5520 C.D&T)	PESTICIDES/PCB (EPA 608.8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	CHLORINATED HYDROCARBONS (EPA 601.8010)	TOTAL LEAD (PP)										
SAMPLE ID.	DATE	TIME	MATRIX																			
MW 1-5'	5/9/95	9:12	SOIL		X							X										1
MW 1-10'	5/9/95	9:28	SOIL		X							X										1
MW 2-5'	5/9/95	11:50	SOIL		X							X										1
MW 2-10'	5/9/95	17:03	SOIL		X							X										1
MW 3-5'	5/9/95	14:01	SOIL		X							X										1
MW 3-10'	5/9/95	14:17	SOIL		X							X										1
BI. AIR	5/9/95	14:30	AIR		X							X										1

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
PROJECT NAME: HIRU	TOTAL # OF CONTAINERS: 7	RECD GOOD COND./COLD		VALENTIN C.	[Signature]		
PROJECT NUMBER:				[Signature]	FRANK KOTZ		
INSTRUCTIONS & COMMENTS: RECORDED IN GOOD				Date: 5/9/95 Time: 13:00	Date: 5-9-95 Time: 15:00		
				COMPANY: ALFA ENV.	COMPANY: AERO		

ATTACHMENT D

**DRILLING PERMIT, HEALTH & SAFETY PLAN,
AND SURVEY DATA**



ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE

PLEASANTON, CALIFORNIA 94588

VOICE (510) 484-2600

FAX (510) 482-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 1630-162ND AVENUE
SAN LEANDRO, CA 94578

PERMIT NUMBER 95276
LOCATION NUMBER _____

CLIENT HIRO FUKUSHIMA
Address 1301 HILLIKER PL. Voice 510-880-1666
LIVERMORE Zip 94550

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT ALFA ENVIRONMENTAL
REMEDICATION SVCS. Fax 510-462-9726
Address P.O. BOX 1630 Voice 510-462-9763
PLEASANTON Zip CA 94566

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.

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

PROPOSED WATER SUPPLY WELL USE
Residential _____ Industrial _____ Other _____
Municipal _____ Irrigation _____

DRILLING METHOD:
Rotary _____ Air Rotary _____ Auger X
Other _____

DRILLER'S LICENSE NO. C57-374152

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum _____
Casing Diameter 2 in. Depth 40 ft.
Surface Seal Depth 23 ft. Number 3

TECHNICAL PROJECTS
Number of Borings _____ Maximum _____
Hole Diameter _____ ft. Depth _____ ft.

ESTIMATED STARTING DATE 5/19/95
ESTIMATED COMPLETION DATE 5/19/95

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 79 88.

Approved Wyman Hong Date 5 May 95
Wyman Hong

APPLICANT'S SIGNATURE Albertin Gordon Date 4/15/95
ALFA ENVIRONMENTAL

SITE SPECIFIC HEALTH & SAFETY PLAN

ALFA Environmental Remediation Services (ALFA) does not guarantee the health or safety of any persons entering this site. Due to the potential hazards of this site and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards which may be encountered. Strict adherence to the HEALTH & SAFETY guidelines set forth herein will reduce, but not eliminate, the potential for injury at this site. The HEALTH & SAFETY guidelines in this plan were prepared specifically for this site and should not be used on any other site without prior research and evaluation by personnel trained in HEALTH & SAFETY practices. The ALFA Project manager will be responsible for implementing this plan. Both the ALFA Project manager and the Health & Safety Manager have the authority to audit site activities for compliance with this plan and may suspend, modify or halt contractors' work practices whose conduct does not meet ALFA's minimum requirements specified in this plan.

•DATE 5/9/95 and 5/10/95
•PROJECT NAME Hiro's Nursery
•PROJECT NUMBER 8911
•LOCATION 1620 - 162nd Avenue
San Leandro, CA 94578

ENTRY OBJECTIVES

ALFA and Bayland Drilling plan to drill three soil borings, collect soil samples, and construct three groundwater monitoring wells.

ON-SITE ORGANIZATION AND COORDINATION

The following personnel are designated to carry out the stated job function(s) on site:

Project Manager: Marvin D. Kirkeby, P.E.
Project Geologist: Valentin Constantinescu
Health & Safety Manager: Valentin Constantinescu
Contractor(s): Bayland Drilling
Other Personnel Scheduled to be on Site: Alameda County
Inspector, Hiro Fukushima, owner.

All personnel arriving/departing the site will notify the Project Manager or the Site Foreman.

SITE BACKGROUND

- Site Status Active Inactive
- Site Description

The site is presently a nursery. Tank existed at the site. Gasoline reportedly were stored in the tank.
- Waste Types Gas Liquid Solid Sludge
- Waste Characteristics

Corrosive Flammable Inert Reactive
Volatile Combustible Toxic Other
- Waste Categories

Waste types which may be encountered include soil and groundwater containing petroleum, and metals (Lead). The metals, if present, would be associated with the leaded gasoline storage.

HAZARDS

- Rating High Moderate Low
- Hazards/Toxic Substances Likely To Be Encountered

Hazards which may be encountered on site include toxic metals (lead), and/or gasoline compounds. Observe the necessary precautions while boring in the area. Wear gloves to avoid contact of soil with exposed skin.
- Information Presently Available of Substance(s) as They Exist on Site

Gasoline compounds were detected in soil samples collected beneath and around the tank upon the tank removal. Significant levels of TPH- Gasoline were detected.

- Area(s) Affected

The area which may be affected is unknown.

- Weather Conditions Anticipated

Weather conditions anticipated on site are clear skies and moderate temperatures with moderate swirling winds.

PERSONAL PROTECTION

The level of personal protection designated here should be considered the minimal acceptable level. Project personnel may elect to upgrade the level of protection at their discretion.

- Level of Protection Required A ____ B ____ C ____ D X

Level D Protection includes hard hat, safety glasses, and steel toed boots.

- Personal Protective Equipment

A minimum of Level D, protection will be required on site for all personnel. ALFA recommends persons engaged in handling soil or groundwater of the site wear Tyvek coveralls.

- Rationale

Standard policy requires a minimum of Level D protection to be employed by all personnel on a specific site.

- Equipment

Health and Safety related equipment to be used on site includes:

- Photo Ionization Detector (P.I.D.)
- Fire Extinguisher

DECONTAMINATION AND DISPOSAL

- Decontamination Procedures

- A. Personnel

- Respirator cartridges should be disposed of as necessary; respirators should be washed thoroughly with soap and water followed by extensive distilled water rinse.
 - Disposable tyveks, gloves and booties should be changed at the discretion of the designated on site Health and Safety Manager. Tyveks will be discarded at the end of each work day.
 - It is recommended that work clothes be separated from other clothes prior to washing.

- B. Equipment

- Sampling equipment and other work gear will be washed thoroughly with soap and water. This should be followed by a thorough rinse with tap water.

- C. Disposal Procedures

- Bag all disposable clothing/equipment etc., and dispose of on site if possible.

GENERAL PROJECT SAFETY REQUIREMENTS

Project activities will be conducted in accordance with the following minimum safety requirements:

- Eating, drinking, and smoking will be restricted to a designated area.
- Gross decontamination and removal of all personal protective equipment will be performed prior to leaving the site.
- Shaking or blowing of potentially contaminated clothing or equipment to remove dust or other materials is not permitted.

- All job site personnel are responsible for taking necessary steps to protect employees from physical hazards, including
 - Falling objects, such as tools or equipment
 - Falls from elevations
 - Tripping over hoses, pipes, tools, or equipment
 - Slipping on wet or oil surfaces
 - Insufficient or faulty protective equipment
 - Insufficient or faulty equipment or tools
- All personnel will be required to wash hands and faces before eating, drinking, or smoking.
- Field operations personnel will be cautioned to inform each other of the non-visual effects of the presence of toxics, such as
 - Headaches
 - Dizziness
 - Nausea
 - Blurred vision
 - Cramps
 - Irritation of eyes, skin, or respiratory tract
 - Changes in complexion or skin discoloration
 - Changes in apparent motor coordination
 - Changes in personality or demeanor
 - Excessive salivation or changes in pupillary response
 - Changes in speech ability or pattern

MEDICAL SURVEILLANCE

Personnel and subcontractors engaged in project activities must be participants in a medical surveillance program and must be cleared by the examining physician(s) to wear respiratory protection devices and protective clothing for working with hazardous materials. The applicable requirements under Title 8, Section 5216, of the California Administrative Code will be observed. The applicable requirements under 29 CFR 1910.120 of the Federal Administrative Code will be observed.

SAFETY AND ORIENTATION MEETING

Field personnel will attend a project-specific training meeting for safety issues and review the project tasks before beginning work. The meeting will be led by the Field Superintendent.

WORK ZONES AND SECURITY MEASURES

The area where the work is performed will be designated as an Exclusion Zone. Only essential personnel will be allowed into an Exclusion Zone. When it is practical and local topography allows, approximately 25 to 75 feet of space surrounding the Exclusion Zone will be designated as a Contamination Reduction Zone.

Cones, wooden barricades, or a suitable alternative will be used to deny the public access to these Contamination Reduction Zones. The public will not be allowed close to the work area under any conditions. If for any reason the safety of a member of the public (E.G., motorist or pedestrian) may be endangered, work will cease until the situation is remedied. Cones and warning signs will be used when necessary to redirect motorists or pedestrians.

EMERGENCY RESPONSE PROCEDURES

In the event of an accident resulting in physical injury, first aid will be administered and the injured worker will be transported to the nearest hospital or emergency medical clinic for emergency treatment. A physician's attention is required regardless of the severity of the injury. In the event of a fire, explosion, or property damage, the closest ALFA office will be immediately notified. If necessary, local fire or response agencies will be called. A map showing the site's location and nearest hospital providing emergency care is attached.

• EMERGENCY TELEPHONE NUMBERS

Fire and Police	911
Ambulance	911
Fairmont Hospital	
(see attached map)	(510) 667-7800
ALFA	(510) 462-9763

• ADDITIONAL CONTINGENCY TELEPHONE NUMBERS

Poison Control Center	(800)523-2222
CHEMTREC	(800)425-9300

NOTE: Only call CHEMTREC in an emergency. CHEMTREC is an acronym for Chemical Transportation Emergency Center, a public service of the Chemical Manufacture's Association. CHEMTREC can usually provide hazard information warnings and guidance when given the identification number or the name of the product and the nature of the problem. CHEMTREC can also contact the appropriate experts.

ALL SITE PERSONNEL HAVE READ AND DISCUSSED THE ABOVE PLAN AND ARE FAMILIAR WITH ITS PROVISION.

VACONTIN CONSTANTINE John 5/19/95
Project Manager/Site Safety & Health Officer

Maurel Brooke
Brooke, MRE BAYLAND DRILLING 5/19/95
Contractor and Firm Name

Bass John BAYLAND DRILLING 5-9-95
Contractor and Firm Name

Other Site Personnel

Other Site Personnel

Other Site Personnel

Other Site Personnel

28

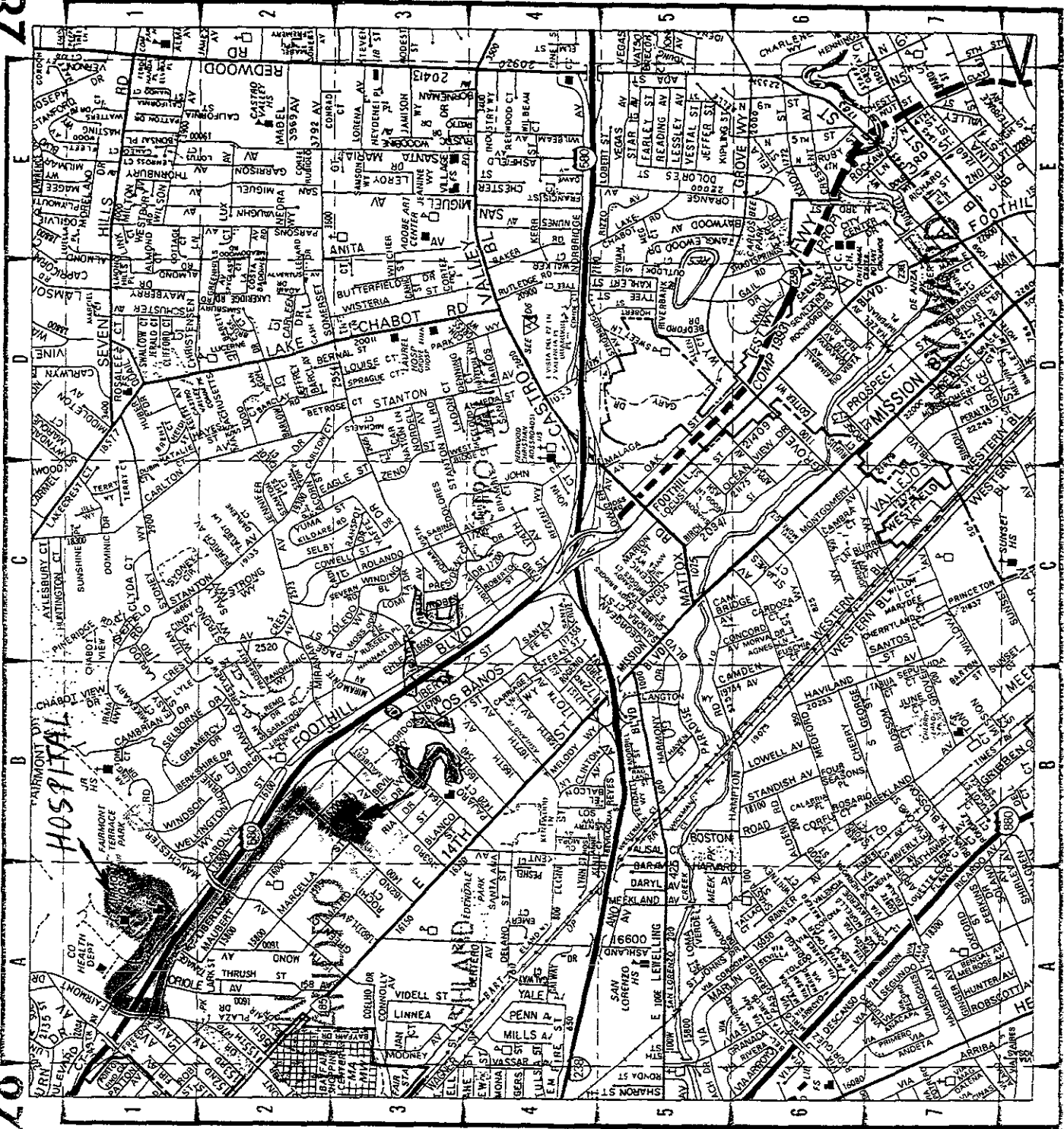
ROUTE 10 COAST TO STATE

FOR CONTINUATION SEE MAP 26

28

FOR CONTINUATION SEE MAP 31

FOR CONTINUATION SEE MAP 27



1,545.

1,542.

58

FOR CONTINUATION SEE MAP

1,530.

1,530.

1,530.

1,530.

1,530.

1,530.

1,530.

HOSPITAL'S PHONE# (510) 667-7100

MONUMENT RECORD CALIFORNIA COORDINATE SYSTEM

SHEET
1 OF 1

HORIZONTAL CONTROL DATA	
TYPE -	SCALED
ORDER -	
AGENCY COP	

LATITUDE	Y (NORTH) 441,1XX
LONGITUDE	X (EAST) 1,534,5XX
STATION (NAME, SET BY, YEAR SET) (YEAR RECOVERED)	
M-1256, NGS 1977	
INDEX SHEET (QUADRANGLE SHEET)	
HAYWARD 24D	
ALAMEDA COUNTY	CONTRA COSTA COUNTY
X	OTHER COUNTY

VERTICAL CONTROL DATA	
ELEVATION IN FEET	DATUM
73.413	MEAN SEA LEVEL
ORDER -	
FIRST	
1974 NGS Adj.	
AGENCY COP	
NGS	

TO STATION OR MARK	AZIMUTH CLOCKWISE FROM GRID SOUTH	GRID DISTANCE IN FEET
	GRID NORTH	
TRUE NORTH		

DESCRIPTION, PLAT, REMARKS, ETC.:

M-1256

0.85 miles north along Interstate Highway 580 from the junction of State Highway 238 at San Lorenzo, at the "T" junction of 163rd Avenue and Liberty Street, 280 feet southwest of the southwest centerline of the southbound lanes of the highway 104.2 feet southeast of the extended southeast curb of the avenue, 1.5 feet southwest of the southwest curb of the street, 74.7 feet southeast of the center of a metal pile supporting a street light #D6465, 1.5 feet northwest of a powerline pole with 3 guy wires, 1.3 feet northeast of the northeast edge of the sidewalk, a disc on top of a 5/8 inch copper coated steel rod driven to gradual refusal at a depth of 24 feet, and encased in concrete around a 4 inch plastic pipe.

NE
 H
 HAYWARD
 L
 HORIZONTAL DATA
 H
 E
 T
 B
 HORIZONTAL DATA
 74
 596
 HORIZONTAL DATA
 NGS
 M-1
 6-53

MONUMENT RECORD

CALIFORNIA COORDINATE SYSTEM

VERTICAL DATA
 LL 603-7
 HORIZONTAL DATA
 LL-269-29
 1978

HORIZONTAL CONTROL DATA	
TYPE -	
ORDER -	
SCALED	
AGENCY	COP

LATITUDE	Y (NORTH)
	441,4XX
LONGITUDE	X (EAST)
	1533,7XX
STATION (NAME, SET BY, YEAR SET)	
"MAU-162"	ALA. CO 1978
INDEX SHEET (QUADRANGLE SHEET)	
HAYWARD	24 D
ALAMEDA COUNTY	CONTRA COSTA COUNTY
X	OTHER COUNTY

VERTICAL CONTROL DATA	
ELEVATION IN FEET	DATUM
64.3748 1/79	-MEAN-SEA-LEVEL
64.3787	NGVD 1929
ORDER -	
SECOND 1974 NGS 1ST ADJUSTMENT	
AGENCY	COP
ALA CO.	M. BOYLE

TO STATION OR MARK	AZIMUTH CLOCKWISE FROM GRID SOUTH	GRID DISTANCE IN FEET
GRID NORTH	180°00'00"000	
TRUE NORTH		

DESCRIPTION, PLAT, REMARKS, ETC.:

A STD. ALA-CO. BRONZE DISC. NEAR S'LY RETURN OF THE S-E'LY COR OF INTERSECTION OF MAUBERT AVE & 162ND AVE. DISC. IS 05'± W'LY OF BACK OF SIDEWALK & 65'± N'LY OF S'LY RETURN OF S-E'LY COR. DISC IS STAMPED.
 "MAU-162" "1978"

VERTICAL DATA
 HORIZONTAL DATA