ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

REMEDIAL ACTION COMPLETION CERTIFICATION

StID 4139 - 1000 North Vasco Road, Livermore, CA
(3-10K gallon gasoline and 1-10K gallon diesel USTs removed on 10/6/94))

May 22, 2000

Mr. Geno Macedo
Geno's Deli
1000 N. Vasco Road
Livermore, CA 94550

Dear Mr. Macedo:

This letter confirms the completion of site investigation and corrective for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung

Mee Ling Tung, Director

cc: Ariu Levi, Chief of Division of Environmental Protection
Chuck Headlee, RWQCB
Allen Patton, SWRCB
Danielle Stefani, Livermore-Pleasanton FD
files-ec (geno's-6)

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StID 4139

May 23, 2000

Mr. Geno Macedo
Geno's Deli
1000 N. Vasco Road
Livermore, CA 94550

Re: Fuel Leak Site Case Closure for 1000 N. Vasco Road, Livermore, CA

Dear Mr. Macedo:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Protection Division is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- up to 160ppm TPH as gasoline and diesel, and 0.34ppm benzene exists in soil beneath the site;
- up to 228ppb TPHd exists in groundwater beneath the site; and,
- structural integrity of sanitary seals and well heads must be maintained.

If you have any questions, please contact me at (510) 567-6762.

eva chu
Hazardous Materials Specialist

enlosures: 1. Case Closure Letter 2. Case Closure Summary

c: Dave Clemens, City of Livermore, Planning Div., 1052 S. Livermore Ave., Livermore, CA 94550
files (geno's-7)

RB #01-2030

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: August 12, 1998

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Pkwy**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **Eva Chu** Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: **Geno's Deli**
Site facility address: **1000 N. Vasco Road, Livermore, CA 94550**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **4139**
URF filing date: **7/26/96** SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
1. Geno Macedo Geno's Deli	1000 N. Vasco Rd Livermore, CA 94550	510/449-3838

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	10,000	Gasoline	Removed	10/6/94
2	10,000	"	"	"
3	10,000	"	"	"
4	10,000	Diesel	Removed	10/6/94

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Leaking product piping**
Site characterization complete? **YES**
Date approved by oversight agency: **6/25/96**
Monitoring Wells installed? **Yes** Number: **3**
Proper screened interval? **Yes, 5 to 15' bgs**
Highest GW depth below ground surface: **7.58** Lowest depth: **8.75' in MW-1**
Flow direction: **Northwest**
Most sensitive current use: **Altamont Creek**
Are drinking water wells affected? **No** Aquifer name: **Spring Subbasin**
Is surface water affected? **No** Nearest affected SW name: **NA**
Off-site beneficial use impacts (addresses/locations): **None**
Report(s) on file? **YES** Where is report(s) filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda, CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	4 USTs	H & H, in San Francisco	10/6/94
Soil	600 cy	Bioremediated and will be re-used onsite after Aug 1998	

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before[1]	After[2]	Before[3]	After
TPH (Gas)	2,500	160	4,400	ND
TPH (Diesel)	1,400[4]	160	64,000	228[5]
Benzene	9.5	0.34	91	ND
Toluene	130	0.10	65	ND
Ethylbenzene	86	1.2	4.2	ND
Xylenes	680	17	120	ND
MTBE	NA	NA	NA	NA[6]
Heavy metals Lead	14		ND	

NOTE:
1 soil sample S-4-FD1 from below fuel dispensers
2 soil sample from dispenser pit after overexcavation; diesel result from diesel pit
3 "grab" groundwater collected from diesel and gasoline pits at time of UST removal
4 soil sample from diesel pit at time of UST removal
5 this sample was collected in 8/96 and did not match the pattern of Chromalab's diesel standard. Groundwater did not contain TPHd in 11/95 or 2/96.
6 since water samples did not contain BTEX constituents, it is assumed there is no MTBE

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does corrective action protect public health for current land use? **YES**
Site management requirements: **None**
Should corrective action be reviewed if land use changes? **YES**
Monitoring wells Decommissioned: **None, the wells will be retained for future monitoring, if needed, since the site currently has permitted USTs**
Number Decommissioned: 0 Number Retained: 3
List enforcement actions taken: **None**
List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu** Title: **Haz Mat Specialist**

Signature: [signature] Date: 8/18/98

Reviewed by

Name: **Barney Chan** Title: **Haz Mat Specialist**

Signature: [signature] Date: 8/17/98

Name: **Thomas Peacock** Title: **Supervisor**

Signature: [signature] Date: 8-18-98

VI. RWQCB NOTIFICATION

Date Submitted to RB: 8/19/98 RB Response: 9/2/98

RWQCB Staff Name: **Chuck Headlee** Title: **EG**

Signature: [signature] Date: 9/2/98

VII. ADDITIONAL COMMENTS, DATA, ETC.

The site is currently an active service station and food facility. On October 6, 1994 three 10K gasoline USTs in a common pit and a 10K diesel UST in a separate pit were removed. Groundwater was observed in the pits at ~7' to 9' bgs. Sidewall soil appeared stained mainly at the southwest corner of the gasoline pit and on all four sidewalls of the diesel pit.

Soil samples collected (samples a through h) from the sidewalls of the gasoline pit contained low levels of TPHg and BTEX. Elevated hydrocarbon concentrations were detected in soil from the product piping and fuel dispenser areas (samples i, o, p, and q). Soil collected from the diesel pit (samples j through n) contained moderate levels of TPHg, TPHd, and BTEX. "Grab" groundwater from both pits contained elevated levels of TPHg, TPHd, and BTEX. (See Figs 1 and 2, and Tables 1 and 2)

The gasoline dispenser island area was overexcavated to a depth of 7.5' bgs. And the diesel pit was only overexcavated along the southern sidewall where the former dispenser was located. Confirmatory soil samples (samples r through w from the gasoline pit and sample x from the diesel pit) contained low levels of TPHg, BTEX and no TPHd. (See Fig 3, Table 3)

Overexcavation of diesel-impacted soil was limited because of the proximity of the tank pit to the flood control channel. Instead, prior to backfilling the diesel pit, five gallons of a bio-enzyme product and five gallons of bionutrient formula were added to the groundwater in order to enhance bacterial biodegradation of hydrocarbons in groundwater. In addition, two 2" diameter slotted PVC lines were

laced at the base of the excavation and extended to the surface with blank casing so that compressed air could be delivered to the subsurface for subsequent active remediation, if deemed necessary. Pea gravel was used to backfill the pit up to the groundwater elevation line. The pea gravel layer was covered with an impermeable fabric and the remaining excavation was backfilled with clean overburden soil to grade. The gasoline pit was similarly backfilled, except without the enzyme-nutrient product and piping.

Three groundwater monitoring wells (MW-1 through MW-3) were installed in July 1995 to determine groundwater flow direction and if the fuel release at the site had impacted groundwater quality. (See Fig 4). Soil from boring MW-1, collected at the capillary fringe contained low levels of TPHd and xylenes. The other two borings (MW-2 and MW-3) did not identify petroleum hydrocarbons in soil from the capillary fringe.

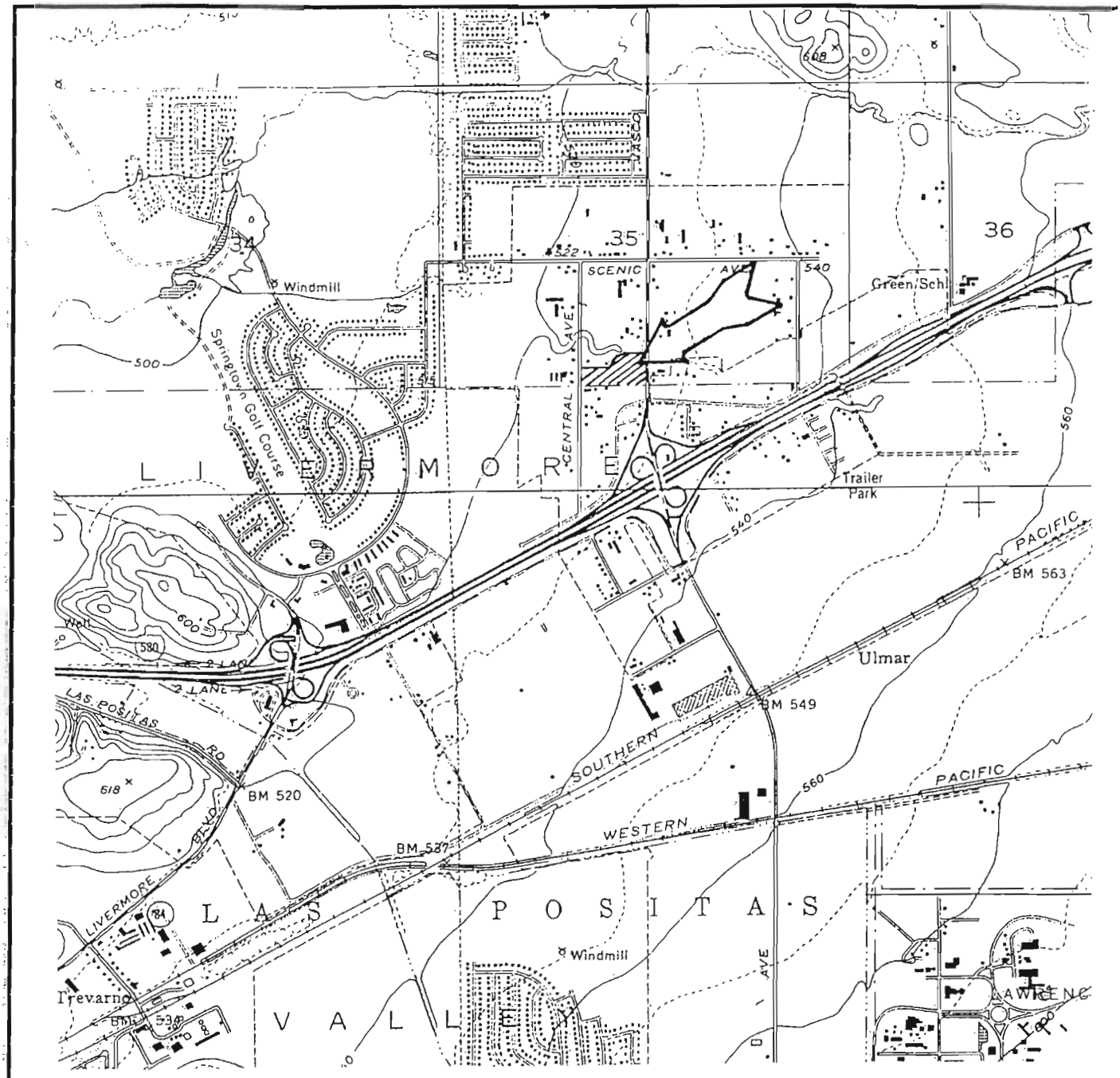
During the initial groundwater sampling event, water from well MW-1 contained 910ppb TPHd. TPHg and BTEX were not identified in any of the wells. After three subsequent quarterly sampling events, TPHg and BTEX have not been detected in any of the wells. Most recently, 228 ppb TPHd was identified in well MW-1 but the chromatogram did not match the pattern of the lab's diesel standard. (See Table 4)

The former diesel UST and well MW-1 are located at the northern end of the property, immediately south of the Altamont Creek-Arroyo Seco Piedmont which has been modified as a flood control channel. The first encountered groundwater in clayey sand at 7' bgs is a shallow portion of the Altamont Creek alluvial fan aquifer. The clay content decreased with depth, becoming a well graded sand at 10' to 12' bgs (see boring logs). After four quarters of sampling, it does not appear the fuel release has significantly impacted groundwater quality beneath the site. And with the removal of the diesel UST and overexcavation of contaminated soil, it is assumed that the adjacent Altamont Creek has not been significantly impacted either. Continued monitoring is not warranted.

Approximately 600 cy of hydrocarbon-impacted soil was bioremediated at the site. The soil was sampled in July 1996 and analyzed for TPHg, TPHg, and BTEX. TPHg and BTEX were not found above the detection limits. TPHd concentrations ranged from ND to 410ppm (see Fig 5). Only one of the twelve samples (SP-8) contained TPHd in excess of the draft Tier 1 Petroleum Hydrocarbon Screening Level established by the RWQCB for Saltwater Ecological Protection Zone and Adjacent Surface Waters (which is 267ppm TPHd for soils (see Fig 6)). Thus, the stockpiled soil can be re-used onsite as structural or landscape fill.

In summary, case closure is recommended because:

- the leak and ongoing sources have been removed;
- the site has been adequately characterized;
- the dissolved plume is not migrating;
- no water wells, surface water, or other sensitive receptors are likely to be impacted; and,
- the site presents no significant risk to human health or the environment.



Base from U.S. Geological Survey Altamont 7.5 Minute Series Topographic Map

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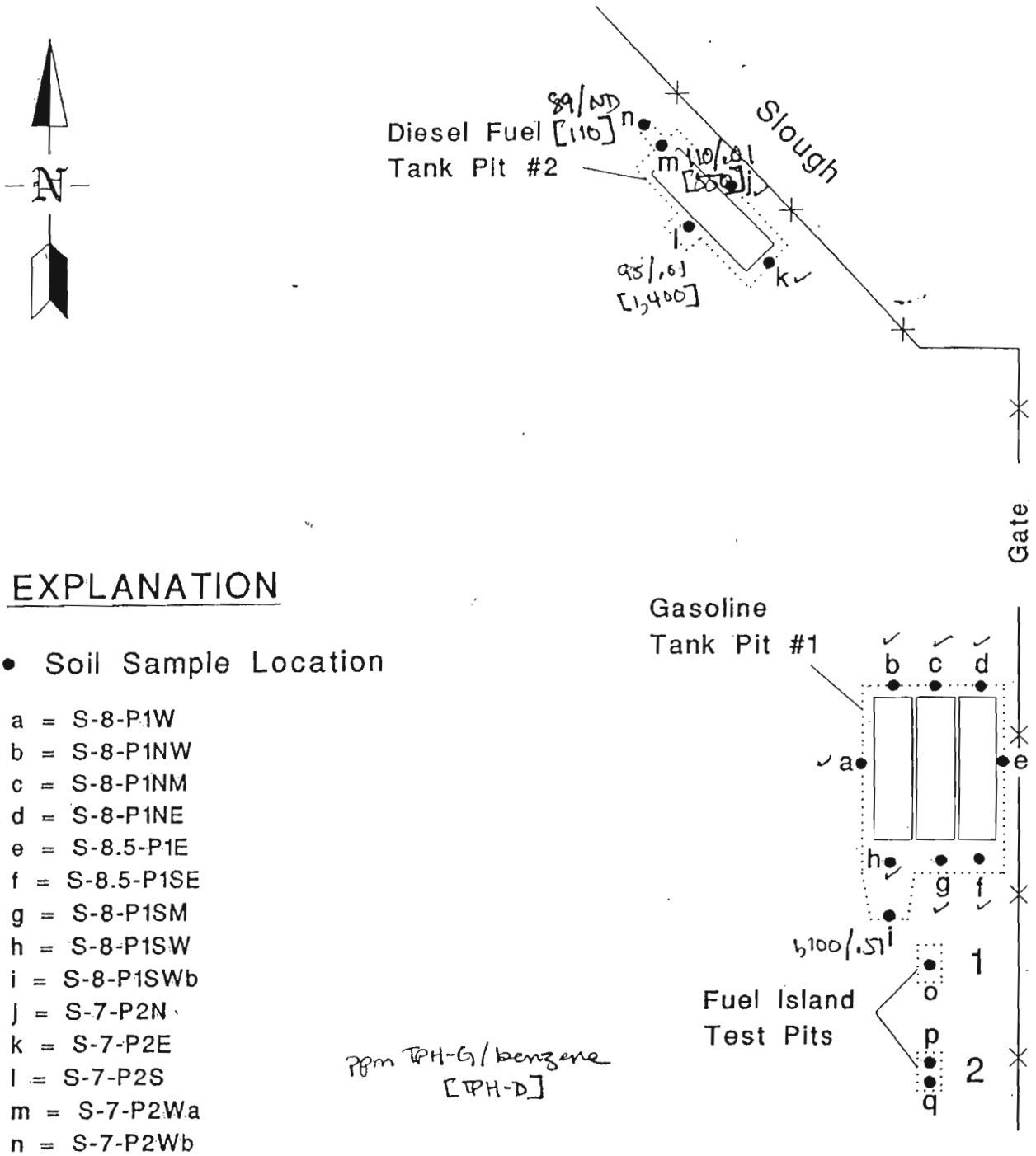
SITE LOCATION MAP
GENO'S COUNTRY STORE
1000 NORTH VASCO ROAD
LIVERMORE, CALIFORNIA

FIGURE
1

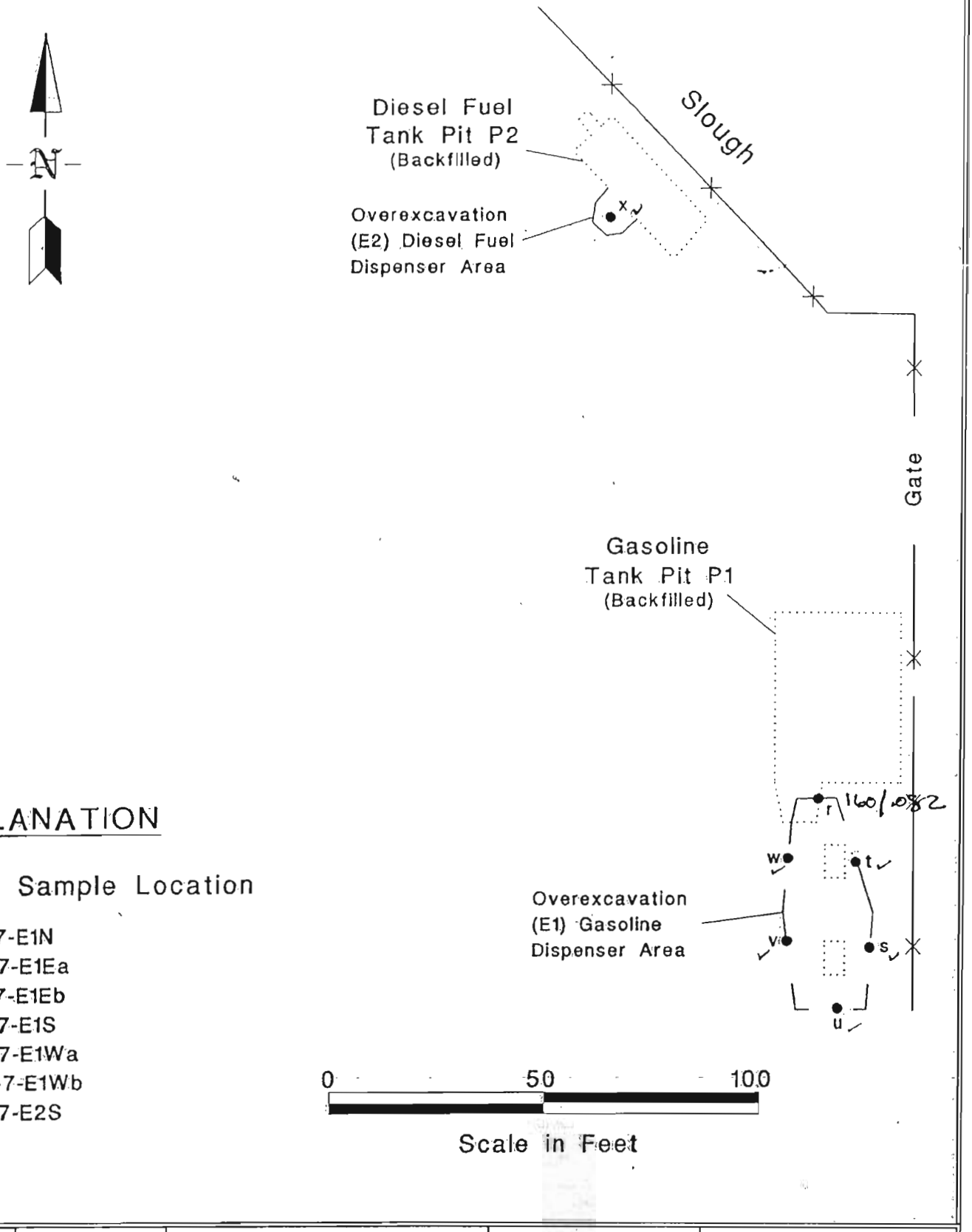


EXPLANATION

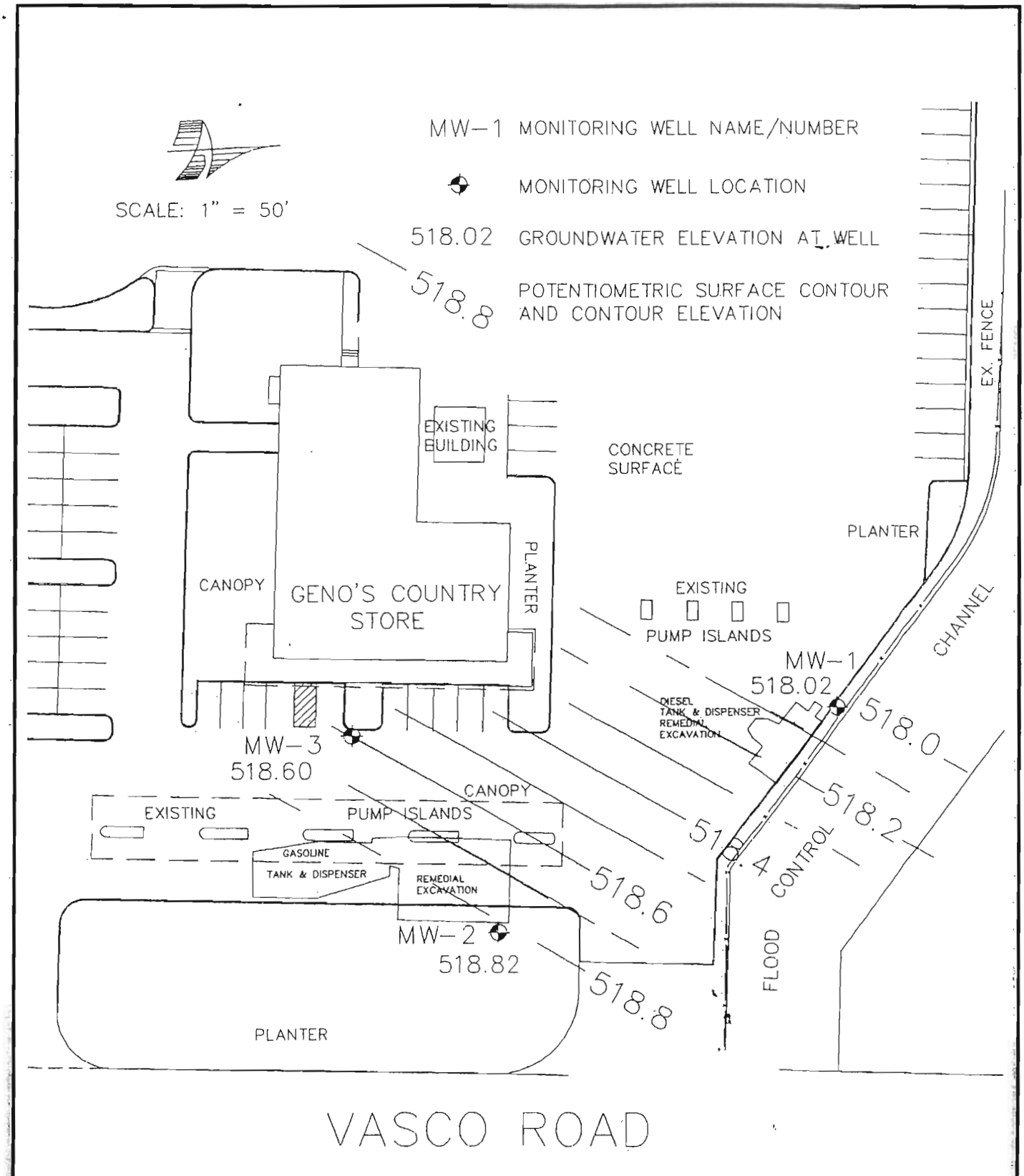
- Soil Sample Location

a = S-8-P1W
b = S-8-P1NW
c = S-8-P1NM
d = S-8-P1NE
e = S-8.5-P1E
f = S-8.5-P1SE
g = S-8-P1SM
h = S-8-P1SW
i = S-8-P1SWb
j = S-7-P2N
k = S-7-P2E
l = S-7-P2S
m = S-7-P2Wa
n = S-7-P2Wb
o = S-4-FD1
p = S-4-FD2
q = S-10-Fd2

DRAFTED BY: JAC	CHECKED BY: JAC	PROJECT NO. 022-030	SCALE: 1:400	*GRAYLAND ENVIRONMENTAL*
DWG. DATE: 10-6-94	REV. DATE: 10-7-94	GENO'S COUNTRY STORE	FIGURE 2	
MAP SOURCE: Site Visit Sketch		1000 N. VASCO ROAD LIVERMORE, CALIFORNIA	SOIL SAMPLE LOCATION MAP	2731 Quail Street Davis, CA 95616



DRAFTED BY: JAC	CHECKED BY: JAC	PROJECT NO. 022-030	SCALE: 1:400	GRAYLAND ENVIRONMENTAL
DWG. DATE: 10-06-94	REV. DATE: 12-23-94	GENO'S COUNTRY STORE	FIGURE 3	
MAP SOURCE: Site Visit Sketch		1000 N. VASCO ROAD LIVERMORE, CALIFORNIA	EXCAVATION SOIL SAMPLE LOCATION MAP	2731 Quail Street Davis, CA 95616



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POTENTIOMETRIC SURFACE MAP FOR 05/08/96

GENO'S COUNTRY STORE
1000 NORTH VASCO ROAD
LIVERMORE, CALIFORNIA

FIGURE 4

TABLE 1
LABORATORY RESULTS OF TANK REMOVAL SOIL SAMPLES
GINO'S COUNTRY STORE
LIVERMORE, CALIFORNIA

	Sample Number	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHd
	Gasoline Tank Excavation						
a	S-8-P1W	6.2	0.0087	0.0083	<0.005	0.018	NA
b	S-8-P1NW	28	0.054	0.43	0.19	2	NA
c	S-8-P1NM	2.1	0.0093	0.032	0.014	0.13	NA
d	S-8-P1NE	6	0.0064	0.015	0.0069	0.054	NA
e	S-8-P1E	<1	<0.005	0.009	<0.005	0.038	NA
f	S-8.5-P1SE	<1	<0.005	<0.005	<0.005	<0.015	NA
g	S-8-P1SM	8.7	0.04	0.082	0.018	0.13	NA
h	S-8-P1SW	22	0.03	0.024	0.022	0.057	NA
i	S-8-P1SWb	1,100	0.51	0.82	2.7	17	NA
	Diesel Tank Excavation						
j	S-7-P2N	23	0.011	0.017	0.036	0.25	160
k	S-7-P2E	<1	<0.005	0.0081	<0.005	0.02	<1
l	S-7-P2S	95	0.01	0.16	0.74	2.9	1,400
m	S-7-P2Wa	110	0.01	0.15	0.63	3.1	550
n	S-7-P2Wb	89	<0.005	0.061	0.21	2.0	110
	Fuel Dispensers						
o	S-4-FD1	4.8	<0.005	<0.005	0.023	0.083	NA
p	S-4-FD2	2,500	9.5	130	86	680	NA
q	S-10-FD2	40	0.32	3	1.7	13	NA
	Stockpile						
	S-SP1A	61	0.023	0.12	0.31	2.3	320
	S-SP1B	82	0.014	0.15	0.44	2.9	1,100
	S-SP1C	57	0.012	0.086	0.36	1.4	280

Laboratory results reported in mg/kg (parts per million)
TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel fuel
<1.0 = Less than the laboratory method detection limits
NA = Not Analyzed

TABLE 2
LABORATORY RESULTS OF TANK REMOVAL GROUNDWATER SAMPLES
GINO'S COUNTRY STORE
LIVERMORE, CALIFORNIA

Sample Number	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHd
Gasoline Tank Excavation						
W-9-P1	3,200	91	65	<15	120	NA
Diesel Tank Excavation						
W-7-P2	4,400	1.1	0.51	4.2	12	64,000

Laboratory results reported in ‖g/kg (parts per billion)
TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel fuel
<15 = Less than the laboratory method detection limits
NA = Not Analyzed

LABORATORY ANALYSES AND RESULTS

The soil samples collected from the former gasoline dispenser area were analyzed by the environmental laboratory for TPHg and BTEX using the aforementioned EPA methods. The single soil sample collected from overexcavation E2 was analyzed for TPHg, BTEX, and TPHd. The chain of custody record and laboratory reports are presented in Appendix A.

The results of the laboratory analyses indicated that only low concentrations of TPHg and BTEX remain in the subsurface transition zone soil beneath the former gasoline dispensers everywhere except at the north end of overexcavation E1 (Figure 4). Soil collected from the north end of overexcavation E1 contained a somewhat elevated concentration of TPHg with slightly elevated concentrations of BTEX (see S-7-E1N on Table 3). No TPHd was detected in the soil sample collected from overexcavation E2 where the former diesel fuel dispenser was located (Figure 4).

TABLE 3
LABORATORY RESULTS OF OVEREXCAVATION SOIL SAMPLES
GINO'S COUNTRY STORE
LIVERMORE, CALIFORNIA

	Sample Number	TPHg	Benzene	Toluene	Ethyl benzene	Total Xylenes	TPHd
	Fuel Dispenser Overexcavation						
r	S-7-E1N	160	0.082	0.1	1.2	17	NA
s	S-7-E1Ea	4.6	0.048	<0.005	0.018	0.24	NA
t	S-7-E1Eb	2.3	0.017	<0.005	<0.005	<0.015	NA
u	S-7-E1S	3	0.079	0.0068	0.015	0.051	NA
v	S-7-E1Wa	28	0.34	0.025	0.053	0.39	NA
w	S-7-E1Wb	2.9	0.051	0.0093	0.0075	0.06	NA
x	S-7-E2S	2.3	0.016	<0.005	<0.005	<0.015	<1

Laboratory results reported in mg/kg (parts per million)
TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel fuel
<1 = Less than the laboratory method detection limits
NA = Not Analyzed

Both of the tank excavations P1 and P2 were backfilled with pea gravel up to the depth which coincided with groundwater elevation at the time of backfilling. The pea gravel layer was covered with an impermeable fabric and the remaining excavation was backfilled with clean overburden soil to grade. The upper five feet of soil was compacted using a track-mounted excavator and sheep's foot soil compactor to greater than 90% of ASTM D 1557 maximum dry density.

Prior to backfilling the former diesel fuel tank pit, five gallons of a bio-enzyme product and five gallons of a bio-nutrient formula were added to the groundwater in the pit in order to stimulate existing bacteria to biodegrade hydrocarbons present in the groundwater. In addition, two 2-inch diameter polyvinyl chloride (PVC) lines were slotted and placed at the base of the excavation beneath the groundwater. The lines were extended to the surface with blank casing so that compressed air could be delivered to the subsurface where the contaminated groundwater and pea gravel are present.

Groundwater samples for TPH-D were collected directly from the end of the pump discharge tubing at the final purging rate of about two liters per minute into a one liter amber glass bottle. Groundwater samples for TPH-G plus BTEX were collected using a pump discharge rate of less than one liter per minute in 40-mL glass vials with Teflon™ septum lids, in duplicate.

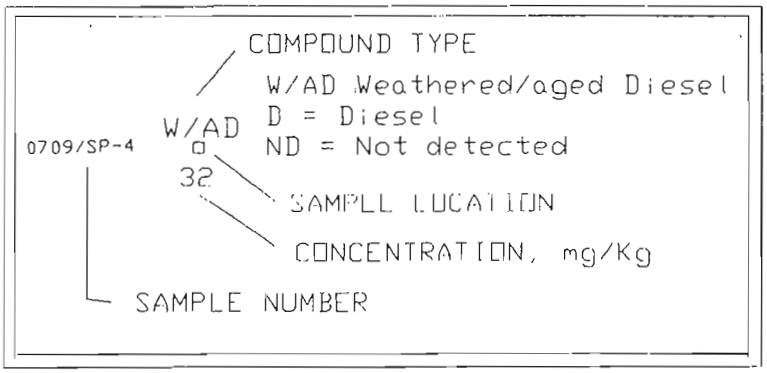
Groundwater sample bottles were labeled and placed in an ice chest with 2 Liter plastic bottles containing ice. Chain-of-Custody forms were filled out and were delivered with the ice chest to Chromalab, Inc. of Pleasanton, California, a state certified laboratory.

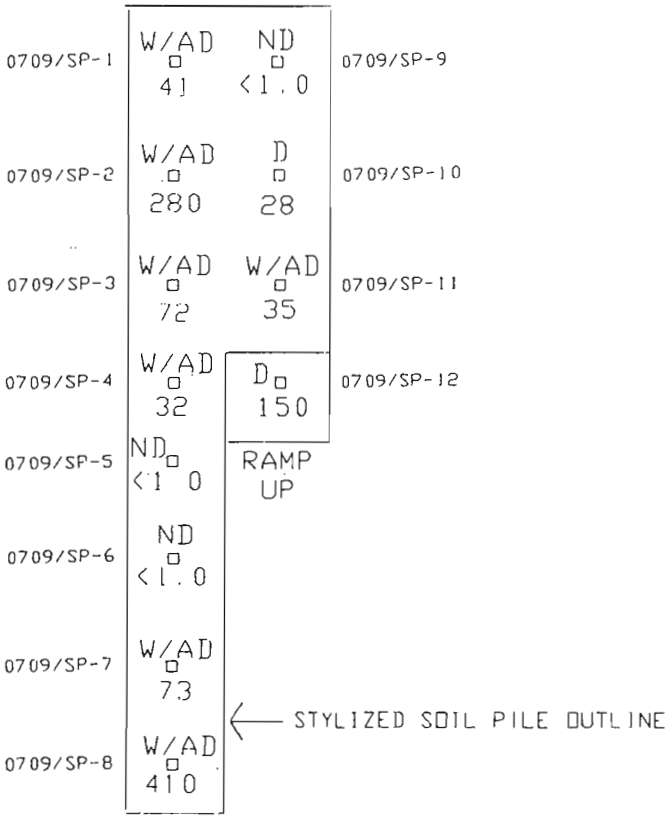
Groundwater samples from all three monitoring wells were found not to contain detectable concentrations of petroleum hydrocarbons. MW-1 was found to contain 220 µg/L of hydrocarbons in the diesel range that do not match the pattern of their Diesel standard. These could be organic acids or other biodegradation products or naturally occurring hydrocarbons form the soil and vegetation. The laboratory report and Chain-of-Custody documentation is contained in Attachment B. The historic groundwater sample analytical results are summarized below.

Table 4

All concentrations are expressed in micrograms per liter (µg/L).

Well	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-1						
07/24/95	910	<50	<0.5	<0.5	<0.5	<0.5
11/06/95	<50	<50	<0.5	<0.5	<0.5	<0.5
02/05/96	<50	<50	<0.5	<0.5	<0.5	<0.5
05/08/96	228[NOTE]	<50	<0.5	<0.5	<0.5	<0.5
(Note: Does not match the pattern of Chromalab's Diesel standard).						
MW-2						
07/24/95	<50	<50	<0.5	<0.5	<0.5	<0.5
11/06/95	<50	<50	<0.5	<0.5	<0.5	<0.5
02/05/96	<50	<50	<0.5	<0.5	<0.5	<0.5
05/08/96	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-3						
07/24/95	<50	60	<0.5	<0.5	<0.5	<0.5
11/06/95	<50	<50	<0.5	<0.5	<0.5	<0.5
02/05/96	<50	<50	<0.5	<0.5	<0.5	<0.5
05/08/96	<50	<50	<0.5	<0.5	<0.5	<0.5





CENTRAL AVENUE

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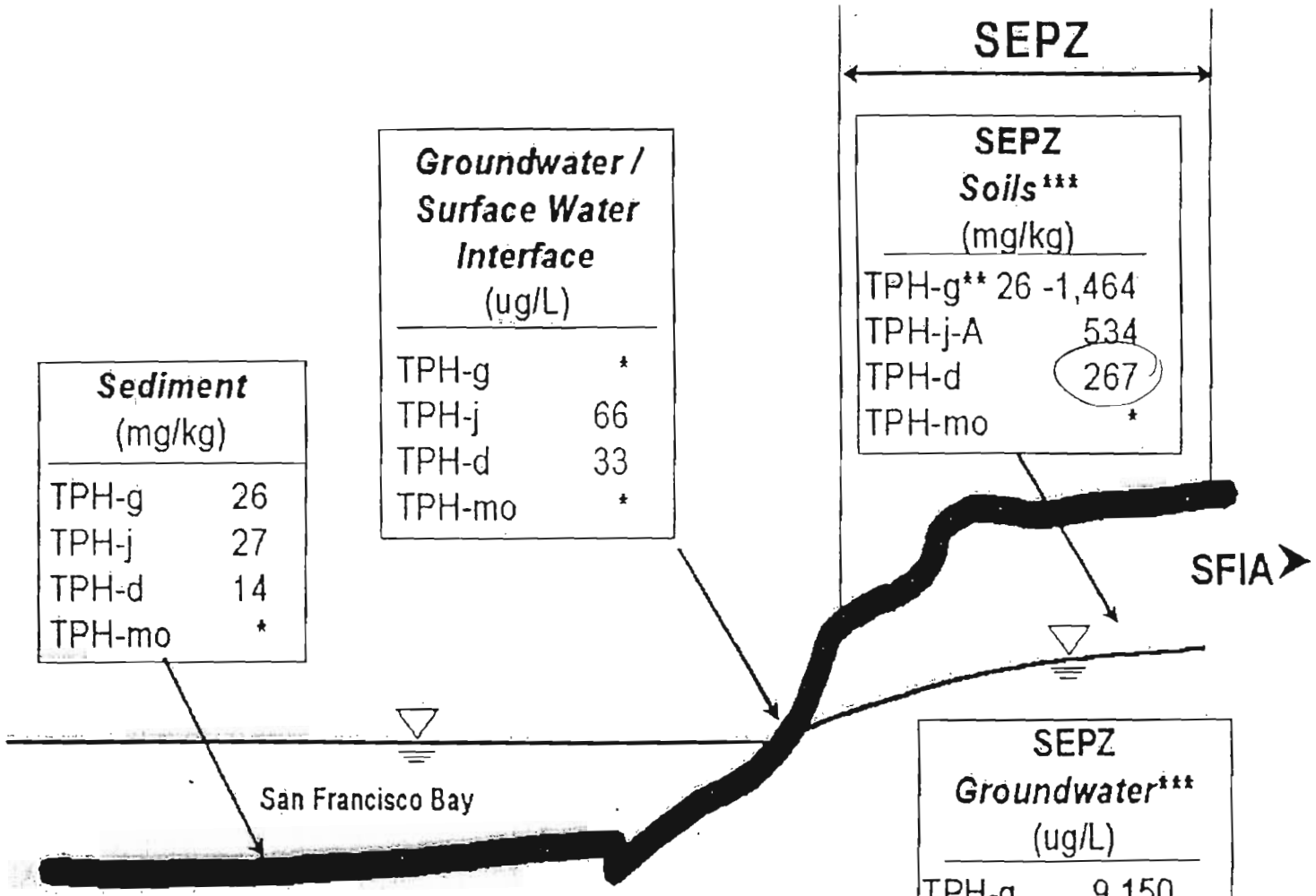
TPH-DIESEL (EPA 3510/8015M) ANALYTICAL RESULTS
SOIL SAMPLES COLLECTED JULY 09, 1996
AERATION/PASSIVE BIOREMEDIATION SOIL PILES
FROM GENO'S COUNTRY STORE
1000 VASCO ROAD, LIVERMORE, CALIFORNIA

FIGURE 5

Fig 6

DRAFT Revised Tier 1 Petroleum Hydrocarbon (TPH) Screening Levels for the Saltwater Ecological Protection Zone (SEPZ) and Adjacent Surface Waters at the San Francisco International Airport (SFIA) -- December 11, 1997



* = site specific
** = increasing landward
*** = see special conditions for 10ft adjacent to Bay

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BOREHOLE LITHOLOGIC LOG

BOREHOLE No. MW-1 Sheet 1 of 1

Project No.:	Date: 07/17-18/95
Client: Geno's Country Store	
Location: 1000 North Vasco Road	
Livermore, California	
Logged by: GDL	Driller: RCV/GDL
Drilling Co. ASE Drilling	Drill Model Iwan Auger
Drilling Method - Hand Operation	Borehole Diameter 6.25-in
Ground Surface Elevation 526.3	Datum: ground surface
Borehole MW-1 was completed as a monitoring well MW-1	

Water Level	8.68			
Time	8:45			
Date	7/24/95			

Sampling Blowcounts	PID/FID HNu/OVA reading	Depth test	Sample	Soil Sample Number	Graphic Soil Symbol	USCS Soil Symbol	Field Soil Description
		1				CL	Landscape fill. dark brown 7.5YR 3/4 very sandy silty clay.
		2				CL/CH	Olive 5Y 4/3 gravelly sandy silty clay, pebbles to 2 cm
		3					Neat Cement Grout
		4					Dark yellowish brown 10YR 3/4 silty stiff clay. Faint diesel odor.
		5				CH	Bentonite Seal
		6					Trace gravels
		7					
		8		7-7.5 Ft.			Greenish gray 5G 5/1 mottled yellowish brown 10YR 5/6 gravelly very clayey very fine to medium sand. Faint diesel odor.
		9					First Encountered Water at 8.8 Feet. ▽
		10					Decreasing clay with depth
		11				SC	No odor from 10 foot to total depth.
		12					LONESTAR No. 3 Sand
		13					Yellowish brown 10YR 5/6 clayey very fine to medium sand.
		14				SW	Yellowish brown 10YR 5/6 very fine to medium sand.
		15				CH	Yellowish brown 10YR 5/6 stiff clay.
		16				SC	Yellowish brown 10YR 5/6 very clayey very fine to medium sand.
		17					Total Well Depth = 15.68 Feet.
		18					(below reference mark)
		19					Well completed with 6-inch stove pipe type cover.
		20					
		21					
		22					
		23					
		24					
		25					

Total Depth 15.8 (below grade)

2-inch PVC casing and screen.

screen openings = 0.020 inch

H2OGEOL
A GROUND WATER CONSULTANCY

BOREHOLE LITHOLOGIC LOG

BOREHOLE No. MW-2 Sheet 1 of 1

Project No.: Date: 07/17-18/95
Client: Geno's Country Store
Location: 1000 North Vasco Road
Livermore, California
Logged by: GDL Driller: RCV/GDL

Drilling Co. ASE Drilling Drill Model Iwan Auger
Drilling Method - Hand Operation Borehole Diameter 6.25-in
Ground Surface Elevation 526.6 Datum: ground surface
Borehole MW-2 was completed as a monitoring well MW-2

Water Level	8.17			
Time	8:43			
Date	7/24/95			

Sampling Blowcounts	PID/FID HNu/OVA reading	Depth feet	Sample	Soil Sample Number	Graphic Soil Symbol	USCS Soil Symbol	Field Soil Description
						CL	Landscape fill, dark brown 7.5YR 3/4 very sandy silty clay.
		1					Dark yellowish brown 10YR 3/4 silty stiff clay.
		2					
		3					
		4				CH	
		5					Trace gravels
		6					
		7					
		8	7-7.5 Ft.				Dark yellowish brown 10YR 3/4, gravelly very clayey very fine to medium sand.
		9					
		10				SC	
		11					
		12					
		13					Dark yellowish brown 10YR 4/4 sandy clay.
		14				CL	
		15					
		16					Total Depth 16.1 (below grade)
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

Neat Cement Grout
Bentonite Seal
First Encountered Water at 8.35 Feet. ▽
LONESTAR No. 3 Sand
Total Well Depth = 15.26 Feet (below reference mark)
Well completed with 6-inch stove pipe type cover.

2-inch PVC casing and screen, screen openings = 0.020 inch

H2OGEOL
A GROUND WATER CONSULTANCY

BOREHOLE LITHOLOGIC LOG

BOREHOLE No. MW-3 Sheet 1 of 1

Project No.:	Date: 07/18-19/95	Drilling Co. ASE Drilling	Drill Model Iwan Auger
Client: Geno's Country Store		Drilling Method - Hand Operation	Borehole Diameter 6.25-in
Location: 1000 North Vasco Road		Ground Surface Elevation 526.3	Datum: ground surface
Livermore, California		Borehole MW-3 was completed as a monitoring well MW-3	
Logged by: GDL	Driller: RCV/GDL		

Water Level	7.60			
Time	8:40			
Date	7/24/95			

Sampling Blowcounts	PID/FID HNu/OVA reading	Depth	Sample	Soil Sample Number	Graphic Soil Symbol	USCS Soil Symbol	Field Soil Description
							Concrete 0.5 feet, baserock 0.3 feet
		1					Dark yellowish brown 10YR 3/4 stiff clay.
		2				CH	
		3				CH	Yellowish brown 10YR 5/6 sandy stiff clay.
		4					Increasing sand content with depth.
							Yellowish brown 10YR 5/6 clayey sand.
		5					
						SC	Yellowish brown 10YR 5/4 clayey sand.
		6					Decreasing clay with depth.
		7		7-7.5 Ft.			
						SC/	
		8				SW	Yellowish brown 10YR 5/4 very clayey pebbly fine to coarse sand.
		9					Pebbles to 1 cm.
		10				SW	Yellowish brown 10YR 5/4 pebbly fine to coarse sand.
							Pebbles to 2X7 cm.
		11					
		12					Yellowish brown 10YR 5/4 stiff sandy clay.
		13				CH	
		14					
		15					
		16			Total Depth 15.5 (below grade)		
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

First Encountered Water at 7.85 Feet. ▽

Neat Cement Grout

Bentonite Seal

LONESTAR No. 3 Sand

2-inch PVC casing and screen, screen openings = 0.020 inch

Total Well Depth = 15.05 Feet (below reference mark)

Well completed with 8-inch flush box.