10/31/86

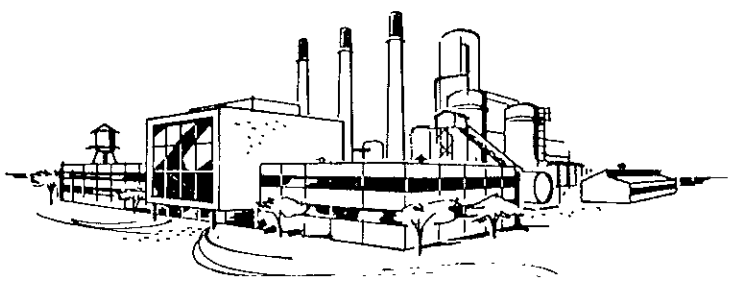
BLYMYER & SONS

ENGINEERS, INC.

NATIONAL POLLUTANT
DISCHARGE ELIMINATION
SYSTEM

PERMIT APPLICATION

P.I.E. NATIONWIDE
EMERYVILLE, CA



#8648

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SUBJECT: P.I.E. - Emeryville, Diesel leak investigation + cleanup

BY: DCB DATE: 11/12/86

INFO FROM

Monitor well #12 at this diesel leak site has ppb concentrations of PAH's Fluorene, phenanthrene, etc. and also 340 ppb of phenol.

I have not undertaken a thorough review of this case, and this is not possible with the paltry info. herein.

I am sending a letter permitting the ~~approx~~ 2 gpm discharge, but asking for very complete analysis and am placing strict limits on PAH + phenol discharge.

15 ppb total PAH by EPA 610

100 ~~200~~ ppb phenol by standard method

Recovery Well near Well 6

TO	INIT.
RBJ	
MAB	
LPK	
DMH	
GJG	
RHW**	
SRR*	
DST	
LF*	D
PWJ	
MHK	
DCB	
DDD**	
MJA*	
RMB	
PCM	
RHC	
HJS**	
WKB*	
BHW	
LWT	
AGL*	
GRF	
KJT	
MDD*	
TEM	
JEC	
LAH	
TS	
TCW**	
RJC*	
RL	
SAH	
ETH	
TGR	
GW	
KWB	
DAM*	
WT	
SRL	
SIM**	
FEJ*	
JLH	
DLH	
BAA	
RKM*	
JYL	
RWM	
FXG	
TJB	
SDI	
HT	
DF	
VJW**	
TMH	
EJ	
AJ	
OT	
DTT	
CDC	

A-2 (REVISED 1/86)

BLYMYER & SONS engineers, inc.

October 31, 1986
BSE Job No. 8648

Mr. Dale Boyer
REGIONAL WATER QUALITY CONTROL
BOARD
1111 Jackson Street
Oakland, CA. 94607

11-3

QUALITY CONTROL BOARD

SUBJECCT: GROUNDWATER CLEANUP
PIE NATIONWIDE
EMERYVILLE, CALIFORNIA

Dear Dale:

Enclosed is PIE Nationwide's application for a National Pollutant Discharge Elimination System permit for the effluent of the groundwater treatment system for the above-referenced facility.

We will install an Oil Recovery System's double pump system inside a twelve inch recovery well. A product pump will pump the free product off the groundwater into an aboveground tank that will be periodically replaced. A groundwater pump will pump groundwater at a rate of two gallons per minute, to depress the groundwater table. The groundwater will be piped through an airstripper to remove dissolved contaminants and then the effluent will be discharged to a storm drain.

In accordance with your instructions we will hold the initial effluent for a 24 hour period so that a sample of the effluent can be analyzed before the discharge is released. We will analyze for all constitutents required by the permit, as well as total hydrocarbons, ethyl dibromide, and lead. All laboratory analyses will be sent to the Regional Water Quality Control Board as soon as they are received by this office.

Enclosed are the laboratory results of the soil and water samples taken so far, as well as site plans indicating the locations of the bores.

If you have any questions, please call.

Cordially yours,

BLYMYER & SONS ENGINEERS, INC.

Chris Falbo

CF/ds

Attachments

cc: Mr. Bob Weaver -PIE NATIONWIDE, JACKSONVILLE, FL.
Ms. Jan Jacobson-GROUNDWATER TECHNOLOGY

"total responsibility engineering"

1829 Clement Avenue, Alameda, California 94501-1396 • Phone (415) 521-3773 • TLX 364412 INTR

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, e, 12 characters/inch)

Form Approved OMB No 2000-0474 Approval expires 4-30-85

FORM 1 GENERAL

U S ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully, if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: PIE NATIONWIDE

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 FALBO, JAMES C. ENVIRONMENTAL SPECIALIST	415 | 521 | 3773

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 1829 CLEMENT AVENUE

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 ALAMEDA	CA	94501

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 5500 EASTSHORE HIGHWAY

B. COUNTY NAME

ALAMEDA

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 EMERYVILLE	CA	94608	

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
0042 (specify) COMMON FREIGHT CARRIER	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: PIE NATIONWIDE

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)
P (specify) PRIVATE

D. PHONE (area code & no.): 904 798 2380

E. STREET OR P.O. BOX: P.O.BOX 2408

F. CITY OR TOWN: JACKSONVILLE

G. STATE: FL

H. ZIP CODE: 32203

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N	D. PSD (Air Emissions from Proposed Sources): P
B. UIC (Underground Injection of Fluids): U	E. OTHER (specify): (specify)
C. RCRA (Hazardous Wastes): R	E. OTHER (specify): (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Location was used as a freight transfer, warehouse office and truck maintenence facility. Currently site is abandoned pending sale and and conversion to another land use

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Jim Skelton Area Vice President	James C. Skelton	October 30, 1986

COMMENTS FOR OFFICIAL USE ONLY

#1 37 50 0 122 17 30 TEMESCAL CREEK

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. *(list)*	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION *(list)*	b. AVERAGE FLOW *(include units)*	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
#1	GROUNDWATER TREATMENT	2880 GPD	PUMPED GROUNDWATER	1	K
		6500 GPD *	STORMWATER RUNOFF	4	A
	* ASSUMING A MAXIMUM OF 1in. DURING A 24 HOUR PERIOD				

OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items III-A or B intermittent or seasonal?

__ YES (complete the following table) X NO (go to Section III)

1. OUTFALL NUMBER (list)	2. OPERATION(S) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				
		a. DAYS PER WEEK (specify average)	b. MONTHS PER YEAR (specify average)	a. FLOW RATE (in mgd)		b. TOTAL VOLUME (specify with units)		c. DURATION (in days)
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☐ YES *(complete Item III-B)* ☒ NO *(to to Section IV)*

B. Are the limitations in the applicable effluent guideline expressed in terms of production *(or other measure of operation)*?

☐ YES *(complete Item III-C)* ☐ NO *(go to Section IV)*

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS (list outfall numbers)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES *(complete the following table)* ☒ NO *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs *(or other environmental projects which may affect your discharges)* you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

N/A

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ YES *(list all such pollutants below)* ☒ NO *(go to Item VI-B)*

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES *(identify the test(s) and describe their purposes below)* ☒ NO *(go to Section VIII)*

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☐ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☒ NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code & no.)*	D. POLLUTANTS ANALYZED *(list)*

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE *(type or print)*	B. PHONE NO. *(area code & no.)*
Jim Skelton, Area Vice President	415/652-9751
C. SIGNATURE	**D. DATE SIGNED**
James C. Skelton	October 30, 1986

)ED AREAS ONLY. You may report some or all of
ıme format) instead of completing these pages.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*

Form Approved.
OMB No. 2040-0086
Approval expires 7 31-88

RISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO
1

s of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

	2. EFFLUENT					3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
VALUE	b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
ANALYSIS TO BE PERFORMED DURING SYSTEM START UP, BEFORE DISCHARGE IS BEGUN										
2880 Gal	VALUE		VALUE					VALUE		
–	VALUE		VALUE			°C		VALUE		
–	VALUE		VALUE			°C		VALUE		
IUM	MINIMUM	MAXIMUM				STANDARD UNITS				

ı pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark antitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

	3. EFFLUENT						4. UNITS		5. INTAKE *(optional)*		
	DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
	(1)	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
X												
X												
X												
X												
X												
X												

CONTINUE ON REVERSE

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)		X												
h. Oil and Grease	X		ANALYSIS TO BE PERFORMED DURING SYSTEM START UP											
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)		X												
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)		X												
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*	OUTFALL NUMBER
	1

Form Approved
OMB No 2040-0086
Approval expires 7-31-88

this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column
s that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess*
uired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you
umn 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results
pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4
dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in
ater Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to
re 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

		3. EFFLUENT					4. UNITS		5. INTAKE *(optional)*		
AXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANAL-YSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL-YSES
(1) ENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN-TRATION	(2) MASS	
ANALYSIS TO BE PERFORMED DURING SYSTEM START UP											

RIBE RESULTS

CONTINUE ON REVERSE

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V Acrolein (107 02 8)			X												
2V Acrylonitrile (107 13 1)			X												
3V *Benzene* (71 43-2)		X		ANALYSIS TO BE PERFORMED DURING SYSTEM START UP											
4V Bis (*Chloromethyl*) Ether (542 88-1)			X												
5V Bromoform (75 25 2)			X												
6V Carbon Tetrachloride (56-23 5)			X												
7V Chlorobenzene (108 90 7)			X												
8V Chlorodibromomethane (124 48 1)			X												
9V Chloroethane (75 00 3)			X												
10V 2-Chloroethylvinyl Ether (110 75-8)			X												
11V Chloroform (67 66-3)			X												
12V Dichlorobromomethane (75 27 4)			X												
13V Dichlorodifluoromethane (75 71-8)			X												
14V 1,1-Dichloroethane (75-34-3)			X												
15V 1,2 Dichloroethane (107 06 2)			X												
16V 1,1 Dichloroethylene (75 35 4)			X												
17V 1,2 Dichloropropane (78 87-5)			X												
18V *1,3-Dichloropropylene* (542 75-6)			X												
19V Ethylbenzene (100 41-4)			X												
20V Methyl Bromide (74 83 9)			X												
21V Methyl Chloride (74 87 3)			X												

CONTINUE ON PAGE V-5

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
	1

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3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
XIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANAL-YSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL-YSES
(1) NTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN-TRATION	(2) MASS	
DS (continued)											
ANALYSIS TO BE PERFORMED DURING SYSTEM START UP											
ANALYSIS TO BE PERFORMED DURING SYSTEM START UP											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION -- BASE/NEUTRAL COMPOUNDS															
1B Acenaphthene (83-32 9)			X												
2B Acenaphtylene (208 96 8)			X												
3B Anthracene (120-12 7)			X												
4B Benzidine (92 87 5)			X												
5B Benzo (a) Anthracene (56 55 3)			X												
6B Benzo (a) Pyrene (50 32 8)			X												
7B 3,4-Benzo fluoranthene (205 99 2)			X												
8B Benzo (ghi) Perylene (191 24 2)			X												
9B Benzo (k) Fluoranthene (207 08 9)			X												
10B Bis (2 Chloro ethoxy) Methane (111 91-1)			X												
11B Bis (2 Chloro ethyl) Ether (111 44 4)			X												
12B Bis (2 Chloroiso propyl) Ether (102 60-1)			X												
13B Bis (2 Ethyl-hexyl) Phthalate (117 81 7)			X												
14B 4 Bromo phenyl Phenyl Ether (101 55-3)			X												
15B Butyl Benzyl Phthalate (85 68-7)			X												
16B 2 Chloro naphthalene (91 58 7)			X												
17B 4 Chloro phenyl Phenyl Ether (7005 72-3)			X												
18B Chrysene (218 01 9)			X												
19B Dibenzo (a,h) Anthracene (53 70 3)			X												
20B 1,2 Dichloro-benzene (95 50 1)			X												
21B 1,3 Dichloro benzene (541 73 1)			X												

CONTINUE ON PAGE V-7

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
	1

Form Approved.
OMB No. 2040-0086
Approval expires 7-31-88

	3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANAL-YSES	a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL-YSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN-TRATION	(2) MASS	
MPOUNDS (continued)												
X												
X												
X												
X												
X												
X												
X												
X												
X												
X												
X	ANALYSIS TO BE PERFORMED DURING SYSTEM START UP											
X												
X												
X												
X												
X												
X												
X	ANALYSIS TO BE PERFORMED DURING SYSTEM START UP											
X												
X												
X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK X a. TESTING REQUIRED BY EPA	b. BELIEVED PRESENT	c. BELIEVED ABSENT	d. MAXIMUM DAILY VALUE (1) CONCENTRATION	d. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B N Nitro sodiphenylamine (86 30 6)			X												
44B Phenanthrene (85 01 8)		X		ANALYSIS TO BE PERFORMED DURING SYSTEM START UP											
45B Pyrene (129 00 0)		X		ANALYSIS TO BE PERFORMED DURING SYSTEM START UP											
46B 1,2,4 Tri chlorobenzene (120 82-1)			X												
GC/MS FRACTION -- PESTICIDES															
1P Aldrin (309 00 2)			X												
2P α BHC (319 84 6)			X												
3P β BHC (319 85 7)			X												
4P γ BHC (58 89-9)			X												
5P δ BHC (319 86 8)			X												
6P Chlordane (57 74 9)			X												
7P 4,4' DDT (50 29 3)			X												
8P 4,4' DDE (72 55 9)			X												
9P 4,4' DDD (72 54 8)			X												
10P Dieldrin (60 57 1)			X												
11P α Endosulfan (115 29 7)			X												
12P β Endosulfan (115 29 7)			X												
13P Endosulfan Sulfate (1031 07 8)			X												
14P Endrin (72 20 8)			X												
15P Endrin Aldehyde (7421 93 4)			X												
16P Heptachlor (76 44 8)			X												

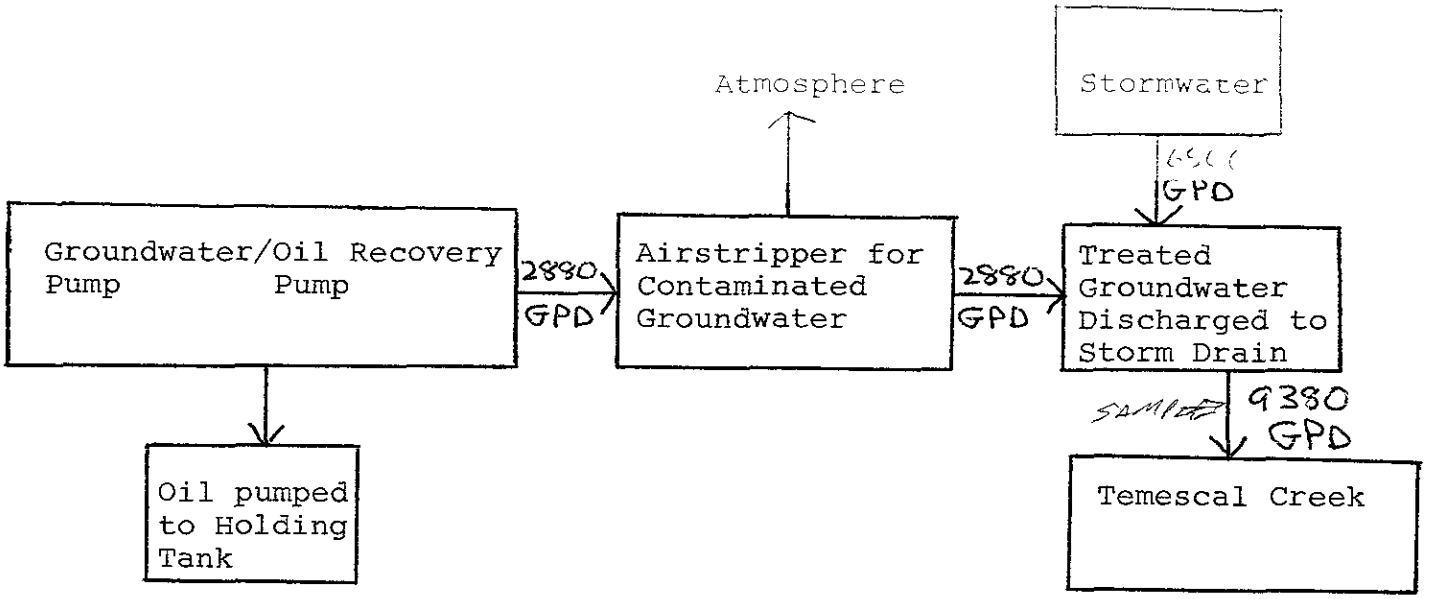
CONTINUE ON PAGE V-9

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
	1

Form Approved.
OMB No. 2040-0086
Approval expires 7-31-88

CONTINUED FROM PAGE V 8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED BY PERMIT	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024 57-3)			X												
18P. PCB 1242 (53469 21 9)			X												
19P. PCB 1254 (11097-69-1)			X												
20P. PCB 1221 (11104 28 2)			X												
21P. PCB 1232 (11141-16-5)			X												
22P. PCB 1248 (12672 29 6)			X												
23P. PCB 1260 (11096 82 5)			X												
24P. PCB 1016 (12674 11 2)			X												
25P. Toxaphene (8001 35 2)			X												



Line diagram showing Groundwater Treatment Facilities-P.I.E. Nationwide, Emeryville

TABLE 1
SOIL ANALYSES RESULTS

SOIL BORING	SAMPLE NUMBER	DEPTH (ft.)	TOTAL FUEL HYDROCARBON (ppm)
1	1	5.5 - 6.0	11,000
1	2	10.0-10.5	2,500
2	1	5.5 - 6.0	26
2	2	10.5-11.0	16,000
2	3	18.0-18.5	30
3	1	5.5 - 6.0	930
4	1	5.5 - 6.0	ND
4	2	10.5-11.0	680
4	3	15.5-16.0	ND
5	1	5.5 - 6.0	110
5	2	10.5-11.0	ND
6	1	5.5 - 6.0	6,800
6	2	10.5-11.0	ND
6	3	15.5-16.0	ND
7	1	5.5 - 6.0	110
7	2	10.5-11.0	1,400
7	3	15.5-16.0	ND
8	1	7.5 - 8.0	3,800

ND = None Detected at 100 ppm.

TABLE 2
WATER ANALYSES RESULTS

SOIL BORING	BENZENE (ppb)	TOLUENE (ppb)	TOTAL XYLENE (ppb)	TOTAL FUEL HYDROCARBON (ppm)
1	2,500	44	490	3,200
2	260	<2	8	16
3	870	4	34	20
4	<2	7	<2	4
5	42	<2	<2	<1
6	<2	<2	5	<1
7	480	40	330	13
8	77,000	56	400	600
Pit TR 1	320	<2	20	2,000
Pit TR 3	33	<2	200	NA

NA = Not Analyzed

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

SOIL BORING GT- 1

Drilli

Project Bluewater/PIE Emeryville Owner PIE Nationwide

Location Emeryville Project Number 20-8124

Date Drilled 8/4/86 Total Depth of Hole 10.5 ft Diameter 8 in.

Surface Elevation _____ Water Level, Initial _____ 24-hrs. _____

Screen: Dia. 4 in. Length 5 ft. Slot Size 0.02 in.

Casing: Dia. 4 in. Length 3.5 ft. Type PVC

Drilling Company Kvilhaug Drilling Drilling Method h.s. Auger

Driller Chris Log by Kent Parrish

Sketch Map

*Well constructed 8/

Notes Natural gravel to 8 ft.

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					0' - 3' Light brown gravel and sand fill, moist, no odor.
1					
2					
3					
4			GT1-1		
5		5.0-5.5	20		Black to dark brown, fine gravelly sand, moist, strong product odor.
6		5.5-6.0	28		
7		6.0-6.5	10		
8		8.5-9.0	GT1-2		▽ 8/4/86
9		9.0-9.5	7		
10		9.5-10.0	9		
11		10.0-10.5	4		Black, plastic clay, strong product odor.
12			2		
13					
14					
15					

NOTE: Samples collected for geologic description and laboratory analyses.

02100144

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

SOIL BORING GT- 2 Drilling

Project Blymyer/PIE Emeryville Owner PIE Nationwide

Location Emeryville Project Number 20-3134

Date Drilled 8/4 86 Total Depth of Hole 19 ft. Diameter 8 in.

Surface Elevation ____ Water Level, Initial ____ 24-hrs. ____

Screen: Dia. 3 in. Length 15 ft. Slot Size 0.02 in.

Casing: Dia. 3 in. Length 3 ft. Type PVC

Drilling Company Kinnaug Drilling Drilling Method h.s. Auger

Driller Chris Log by Kent Parrish

Sketch Map

*Well constructed 8/7/

Notes Natural gravel pa to 10 ft.

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					Light brown gravel and sand fill.
1					
2					
3					
4			GT 2-1		
5		5.0-5.5	6		
6		5.5-6.0	6		Black to dark brown, plastic clay, minor fine gravel decreasing with depth, moist, strong product odor.
7		6.0-6.5	6		
8					
9			GT 2-2		
10		10.0-10.5	1		
11		10.5-11.0	3		
12		11.0-11.5	8		
13					
14					
15		15.0-15.5			
16		15.5-16.0	3		
17		16.0-16.5	4		
			5		
			GT 2-3		▽ 8/4/86
18		17.5-18.0	2		Dark green, fine sandy clay, saturated, product odor.
19		18.0-18.5	2		
20		18.5-19.0	3		

NOTE: Samples collected for geologic descriptions and laboratory analyses.

02100144

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

SOIL BORING GT-3

Drilling

Project Blumyer/PIE Emeryville Owner PIE Nationwide

Location Emeryville Project Number 20-8124

Date Drilled 8/4/86 Total Depth of Hole 11.5 ft Diameter 8 in.

Surface Elevation ____ Water Level, Initial ____ 24-hrs. ____

Screen: Dia. 3 in. Length 5 ft. Slot Size 0.02 in.

Casing: Dia. 3 in. Length 4 ft. Type PVC

Drilling Company Kvilhaug Drilling Drilling Method h.s. Auger

Driller Chris Log by Kent Parrish

Sketch Map

*Well constructed 8/7/8

Notes Natural gravel pa to 7.5 ft.

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					Light brown, gravel and sand fill, moist.
1					
2					
3					
4			GT 3-1		
5		5.0-5.5	7		Black to dark green clay, minor fine sand, moist.
6		5.5-6.0	10		
7		6.0-6.5	11		
8					
9					
10		10.0-10.5	7		▽ 8/4/86
11		10.5-11.0	6		Black to dark green, plastic clay, saturated, str product odor.
12		11.0-11.5	4		
13					
14					
15					

NOTE: Samples were collected for geologic descriptions and laboratory analyses.

02100144

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc

SOIL BORING GT- 4

Drilling L

Project Blumer/PIE Emeryville Owner PIE Nationwide

Location Emeryville Project Number 20-8124

Date Drilled 8/4/86 Total Depth of Hole 16.5 ft Diameter 8 in.

Surface Elevation ____ Water Level, Initial ____ 24-hrs. ____

Screen: Dia. 3 in. Length 10 ft. Slot Size 0.02 in.

Casing: Dia. 3 in. Length 4.5 ft. Type PVC

Drilling Company Kvilhaug Drilling Drilling Method h.s. Auger

Driller Chris Log by Kent Parrish

Sketch Map

*Well constructed 8/7/8

Notes **Natural gravel pa to 10 ft.

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					Light brown, gravel and sand fill, moist,
4			GT 4-1		Dark green, clayey, medium sand, minor medium gravel, moist, slight product odor.
5		5.0-5.5	7		
6		5.5-6.0	5		
		6.0-6.5	8		
9			GT 4-2		Light gray-green, plastic clay, moist, slight product odor.
10		0.0-10.5	4		
11		0.5-11.0	6		
		1.0-11.5	19		
					▽ 8/4/86
14			GT 4-3		Dark gray, fine sandy clay, saturated, slight product odor.
15		5.0-15.5	1		
16		5.5-16.0	1		
		6.0-16.5	2		
20					

NOTE: Samples collected for geologic descriptic and laboratory analyses.

02100144

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

SOIL BORING GT- 5

Drilling

Project Blymyer/PIE Emeryville Owner PIE Nationwide

Location Emeryville Project Number 20-8124

Date Drilled 8/4/86 Total Depth of Hole 16.5 ft. Diameter 8 in.

Surface Elevation _____ Water Level, Initial _____ 24-hrs. _____

Screen: Dia. 3 in. Length 10 ft. Slot Size 0.02 in.

Casing: Dia. 3 in. Length 2.5 ft. Type PVC

Drilling Company Kirkhaug Drilling Drilling Method h.s. Auger

Driller Chris Log by Kent Parrish

Sketch Map

*Well constructed 8/7/

Notes Natural gravel pa to 10 ft.

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					
1					
2					Light brown, gravel and sand fill, moist.
3					
4					
5		5.0–5.5	GT5-1 8		
6		5.5–6.0 6.0–6.6	6 6		
7					
8					Light gray to black, plastic clay, moist, strong product odor.
9					
10		10.0–10.5	GT5-2 3		
11		10.5–11.0	3		
12		11.0–11.5	3		▽ 8/4/86
13					
14					Light green, coarse sand, saturated, product odor
15		15.0–15.5	1		
16		15.5–16.0 16.0–16.5	1 1		
17					
18					
19					
20					

NOTE: Samples collected for geologic description and laboratory analyses.

02100144

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

Drilling Log

Well Number GT-6

Project Blymyer/PIE Owner PIE Nationwide

Location Emeryville Project Number 20-3124

Date Drilled 8/4/86 Total Depth of Hole 16.5 ft Diameter 8 in.

Surface Elevation _____ Water Level, Initial _____ 24-hrs. _____

Screen Dia. 3 in. Length 10 ft. Slot Size 0.02 in.

Casing: Dia. 3 in. Length 2 ft. Type PVC

Drilling Company Kvilhaug Drill. Drilling Method h.s. Auger

Driller Chris Log by Kent Parrish

Sketch Map

* Well constructed 8/7/8

Notes ** Natural gravel pack to 8 ft.

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					Light brown, gravel and sand fill, dry.
5		5.0-5.5	GT 6-1 10		Black, coarse sand, minor fine gravel, product odor
		5.5-6.0	5		
6		6.0-6.5	7		Dark green, clayey, coarse sand, moist, product odo
10		0.0-10.5	GT 6-2 2		Dark green, plastic clay, moist, slight product odo
		0.5-11.0	2		
11		1.0-11.5	3		
12					▽ - 8/4/86
15		5.0-15.5	GT 6-3 2		Dark blue-green, coarse sand, saturated, very sligh product odor.
		5.5-16.0	2		
16		6.0-16.5	4		
20					

NOTE: Samples collected for geologic descriptions and laboratory analyses.

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

Drilling L

Well Number GT-7

Project Bluver/PIE Owner PIE Nationwide

Location Emeryville Project Number 20-3124

Date Drilled 8/4/86 Total Depth of Hole 16.5 ft Diameter 8 in.

Surface Elevation Water Level: Initial 24-hrs.

Screen: Dia. 4 in. Length 10 ft. Slot Size 0.02 in.

Casing: Dia. 4 in. Length 3 ft. Type PVC

Drilling Company Kvilhaug Drill. Drilling Method h.s. Auger

Driller Chris Log by Kent Parrish

Sketch Map

* Well constructed 8/7

Notes ** Natural gravel pack to 7 ft.

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					Light brown, fine sandy silt, minor gravel fill, d
1					
2					
3					
4			GT 7-1		
5		5.0–5.5	5		Dark green to black, coarse sand, minor pebble
6		5.5–6.0	5		gravel, strong product odor.
		6.0–6.5	8		
7					
8					
9					
10			GT 7-2		
		0.0–10.5	4		Black, plastic clay, slight product odor.
11		0.5–11.0	5		
		1.0–11.5	7		
12					▽ 8/4/86
13					
14					
			GT 7-3		
15		5.0–15.5	5		Dark green, medium sand, minor silt, slight produ
		5.5–16.0	7		odor.
16		6.0–16.5	4		
17					
18					
19					
20					

NOTE: Samples collected for geologic description and laboratory analyses.

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

Drilling L

Well Number GT-8

Project Blymyer/BIE Owner BIE Nationwide

Location Emeryville Project Number 20-8124

Date Drilled 8/4/86 Total Depth of Hole 10 ft. Diameter 8 in.

Surface Elevation ____ Water Level, Initial ____ 24-hrs. ____

Screen Dia. 4 in. Length 5 ft. Slot Size 0.02 in.

Casing Dia. 4 in. Length 4 ft. Type PVC

Drilling Company Kvilhaug Drill. Drilling Method h.s. Auger

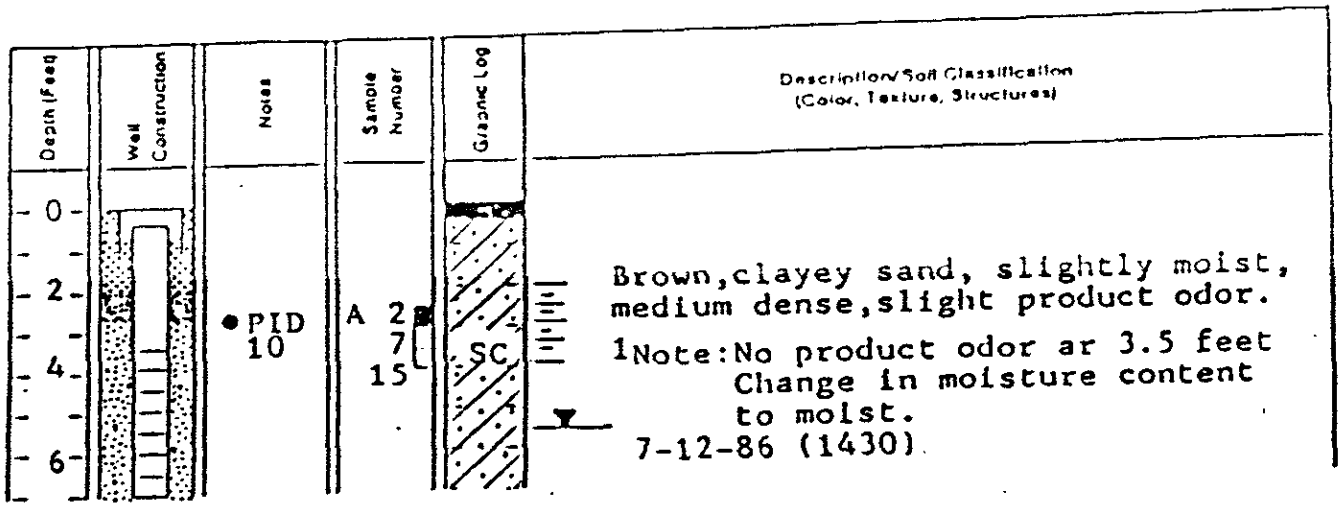
Driller Chris Log by Kent Parrish

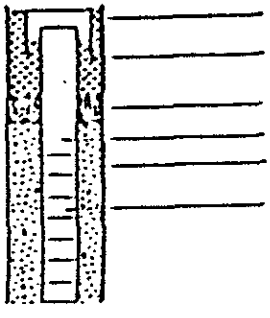
Sketch Map

* Well constructed 8/7

Notes ** Natural gravel pack to 7 ft.

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0–4					Light brown gravel and coarse sand fill, moist.
5–10		5.0–5.5 5.5–6.0 6.0–6.5 7.0–7.5 7.5–8.0 8.0–8.5	6 7 4 2 3 2 GT 8-1		Black coarse sand, minor pebble gravel, strong product odor, ▽ 8/4/86 Dark green, silty, coarse sand, saturated, slight product odor.
11–15					NOTE: Samples collected for geologic descriptions and laboratory analyses.





Street Box
Cement Grout Seal
Bentonite Seal
Well Casing
Sand/Gravel Pack
Well Screen

PID 10 — Vapor Photo Ionizer Detector Reading in Parts Per Million (ppm) From Soil Samples.

A 2 7 15 — A: Sample Identification

2
7
15 — Blow Counts to Drive Type U Sampler Using a 14016 Hammer Falling 30 Inches. Counts Are For Each Six Inch Increment the Sampler is Driven.

Interval Sampled

Sample Increment Retained For Laboratory Analyses.

SC — Soil Classification Graphic/Symbol (See Unified Soil Classification System).

7-12-86 (1430) — Depth to Water, Date, Time

Interval Through Which Product Odor Detected By Field Inspection.

KEY TO BORING LOG

GROUNDWATER TECHNOLOGY

MAJOR DIVISIONS		SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than ½ of soil > no. 200 sieve size)	GRAVELS (More than ½ of coarse fraction > no. 4 sieve size)	GW	Well graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS (More than ½ of coarse fraction < no. 4 sieve size)	SW	Well graded sands or gravelly sands, little or no fines
		SP	Poorly graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS (More than ½ of soil < no. 200 sieve size)	SILTS & CLAYS LL < 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
	SILTS & CLAYS LL > 50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils

CLASSIFICATION CHART
(Unified Soil Classification System)

CLASSIFICATION	RANGE OF GRAIN SIZES	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL	3" to No. 4	76.2 to 4.76
coarse	3" to ¾"	76.2 to 19.1
fine	¾" to No. 4	19.1 to 4.76
SAND	No. 4 to No. 200	4.76 to 0.074
coarse	No. 4 to No. 10	4.76 to 2.00
medium	No. 10 to No. 40	2.00 to 0.420
fine	No. 40 to No. 200	0.420 to 0.074
SILT & CLAY	Below No. 200	Below 0.074

GRAIN SIZE CHART

SANDS AND GRAVELS	BLOWS/FOOT†
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	BLOWS/FOOT†
VERY SOFT	0 - 2
SOFT	2 - 4
MEDIUM STIFF	4 - 8
STIFF	8 - 16
VERY STIFF	16 - 32
HARD	OVER 32

CONSISTENCY

METHOD OF SOIL CLASSIFICATION

†NUMBER OF BLOWS OF 140 POUND HAMMER FALLING 30 INCHES TO DRIVE A 2 INCH O.D. (1-3/8 INCH I.D.) SPLIT SPOON (ASTM D-1586).

GROUNDWATER TECHNOLOGY

TMA
Thermo Analytical Inc.

TMA.ERG
1400 West 53rd Street
Suite 460
Emeryville, CA 94608 2946
(415) 652 2300

RECEIVED
AUG 20 1986

August 11, 1986

Groundwater Technology
4080 Pike Lane, Suite #D
Concord, CA 94520

Attention: Jan Jacobsen

Report #9067 P.O. #554

RE: Twelve (12) soil samples submitted on August 5, 1986 for rush diesel fuel analysis; also six (6) samples for rush waste oil analysis; two (2) soil samples for halocarbon analysis.

Procedure: The samples are analyzed for diesel fuel by following the method described in Attachment 2, Analytical Procedures for Fuel Leak Investigations. The samples are extracted with carbon disulfide and then injected into a gas chromatograph fitted with a flame ionization detector. Quantitation is performed, as total hydrocarbon response, against known concentrations of diesel fuel. The limit of detection for this method of analysis is 100 parts per million (mg/kg).

The samples are analyzed for waste oil by following a modified EPA Method 3510 extraction procedure. The samples are extracted three times with hexane. The solvent is removed from the combined extracts and carbon disulfide is added. The solution is injected into a gas chromatograph fitted with a flame ionization detector. Quantitation is performed, as total hydrocarbon response, against a solution made from a known concentration of light machine oil. The limit of detection for this method of analysis is ten parts per million (mg/kg).

The samples are analyzed for halocarbon comounds by following a modified EPA Method 601 procedure. The chlorinated compounds are analyzed with a Hall detector. Quantitation is performed against solutions made from known concentrations of halocarbon compounds. The limits of detection are higher than those specified in the EPA Methods, because of dilution.

The results of the hydrocarbon and halocarbon analyses, are shown in Tables I and II respectively.

Submitted by:

Robert B. Flay

Robert B. Flay
Manager, Organics Department

RBF:sml

Table I

ERG #	CLIENT ID	WASTE OIL	DIESEL FUEL
9067-1	GT 1-1	11000*	--
9067-2	GT 1-2	2500	--
9067-3	GT 2-1	26	--
9067-4	GT 2-2	16000	--
9067-5	GT 2-3	30	--
9067-6	GT 3-1	930**	--
9067-7	GT 4-1	--	ND(100)
9067-8	GT 4-2	--	680
9067-9	GT 4-3	--	ND(100)
9067-10	GT 5-1	--	110
9067-11	GT 5-2	--	ND(100)
9067-12	GT 6-1	--	6800
9067-13	GT 6-2	--	ND(100)
9067-14	GT 6-3	--	ND(100)
9067-15	GT 7-1	--	110
9067-16	GT 7-2	--	1400
9067-17	GT 7-3	--	ND(100)
9067-18	GT 8-1	--	3800

*reinjected, 7900 ppm

**reinjected, 850 ppm

ND = None detected. The limits of detection are in ( ).

PROJECT #9067

TMA/ERG

Concentration (ug/kg)

CLIENT: Groundwater Technology

	METHOD DETECT. LIMIT	GT 1-1	GT 6-1
Chloromethane	20	ND	ND
Bromomethane	20	ND	ND
Dichlorodifluoromethane	20	ND	ND
Vinyl Chloride	20	ND	ND
Chloroethane	20	ND	ND
Trichlorofluoromethane	NA	ND	ND
Dichloromethane	0.4	ND	ND
1,1-Dichloromethene	0.13	ND	ND
1,1-Dichloroethane	0.07	ND	ND
Trans 1,2-Dichloroethene	0.10	ND	ND
Chloroform	0.1	ND	ND
1,2-Dichloroethane	0.03	ND	ND
1,1,1-Trichloroethane	0.03	ND	ND
Carbon Tetrachloride	0.12	ND	ND
2-Chloroethyl vinyl ether	0.13	ND	ND
Bromodichloromethane	0.10	ND	ND
1,2-Dichloropropane	0.1	ND	ND
Trans 1,3-Dichloropropene	0.4	ND	ND
Trichloroethene	0.2	ND	ND
3 Compounds*	0.1	ND	ND
Bromoform	5.0	ND	ND
2 Compounds**	0.1	ND	ND
Chlorobenzene	0.25	ND	ND
1,3 Dichlorobenzene	2	ND	ND
1,2 Dichlorobenzene	2	ND	ND
1,4 Dichlorobenzene	2	ND	ND

*Co-Elute: CH_3Br_2Cl, 1,1,2TCA, CIS-1,3 DCPE

**Co-lute: PCE 1,1,2,2 Tetrachloroethane

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August 7, 1986
Sample Date: 8/4/86
Sample Received: 8/5/86
Report: 110157

RECEIVED
AUG 1 9 1986
Ans'd.....

Groundwater Technology
5047 Clayton Road
Concord, CA 94521

Sample ID/ANlab #	TOTAL HYDROCARBONS, MG/L BASED ON DIESEL
Well GT 4/110157-01	4
Well GT 3/110157-02	20
Well GT 2/110157-03	16
Well GT 1/110157-04	3200
Well GT 6/110157-05	< 1
Well GT 5/110157-06	< 1
Well GT 8/110157-07	600
Well GT 7/110157-08	13
Pit Samples Tr 3/110157-09	NA
Pit Samples Tr 1/110157-10	2000

NA = Not Analyzed

Data Certified By Anlab Chemist

Report Approved By Roger Elliott

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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 1

SAMPLE DESCRIPTION Well GT 4 ANLAB ID#: 110157-01 UNITS: ug/l

COMPOUND	CONCENTRATION
BENZENE	< 2
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	7
XYLENES	< 2

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
N/D = NONE DETECTED AS SPECIFIED IN THE EPA METHOD

DATA CERTIFIED INIT. _____ REPORT APPROVED INIT. _____

1/86

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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 2

SAMPLE DESCRIPTION Well GT 3 ANLAB ID#: 110157-02 UNITS: ug/l

COMPOUND	CONCENTRATION
BENZENE	870
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	4.3
XYLENES	34

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
N/D = NONE DETECTED AS SPECIFIED IN THE EPA METHOD

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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 3

SAMPLE DESCRIPTION Well GT 2 ANLAB ID#: 110157-03 UNITS: ug/l

COMPOUND	CONCENTRATION
BENZENE	260
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	< 2
XYLENES	8

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
N/D = NONE DETECTED AS SPECIFIED IN THE EPA METHOD

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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 4

SAMPLE DESCRIPTION Well GT 1 ANLAB ID#: 110157-04 UNITS: ug/l

COMPOUND	CONCENTRATION
BENZENE	2500
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	44
XYLENES	490

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
N/D = NONE DETECTED AS SPECIFIED IN THE EPA METHOD

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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 5

SAMPLE DESCRIPTION Well GT 6 ANLAB ID#: 110157-05 UNITS: ug/l

COMPOUND	CONCENTRATION
BENZENE	< 2
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	< 2
XYLENES	5

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
N/D = NONE DETECTED AS SPECIFIED IN THE EPA METHOD

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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 6

SAMPLE DESCRIPTION Well GT 5 ANLAB ID#: 110157-06 UNITS: ug/l

COMPOUND	CONCENTRATION
BENZENE	42
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	< 2
XYLENES	< 2

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
N/D = NONE DETECTED AS SPECIFIED IN THE EPA METHOD

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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 7

SAMPLE DESCRIPTION Well GT 8 ANLAB ID#: 110157-07 UNITS: ug/l

COMPOUND	CONCENTRATION
BENZENE	77,000
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	56
XYLENES	400

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 8

SAMPLE DESCRIPTION Well GT 7 ANLAB ID#: 110157-08 UNITS: ug/l

COMPOUND	CONCENTRATION
BENZENE	480
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	40
XYLENES	330

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
N/D = NONE DETECTED AS SPECIFIED IN THE EPA METHOD

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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 9

SAMPLE DESCRIPTION Pit Samples ANLAB ID#: 110157-09 UNITS: ug/l

Pit TR 3

COMPOUND	CONCENTRATION
BENZENE	33
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	< 2
XYLENES	200

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
N/D = NONE DETECTED AS SPECIFIED IN THE EPA METHOD

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PURGABLE AROMATICS
EPA # 8020

CLIENT: Groundwater Technology REPORT #: 110157 PAGE 10

SAMPLE DESCRIPTION Pit Samples ANLAB ID#: 110157-10 UNITS: ug/l

Pit Tr 1

COMPOUND	CONCENTRATION
BENZENE	320
CHLOROBENZENE	NA
1,2 - DICHLOROBENZENE	NA
1,3 - DICHLOROBENZENE	NA
1,4 - DICHLOROBENZENE	NA
ETHYLBENZENE	NA
TOLUENE	< 2
XYLENES	20

OTHER COMPOUNDS DETECTED OR REQUESTED	CONCENTRATION

N/A = NOT ANALYZED
N/D = NONE DETECTED AS SPECIFIED IN THE EPA METHOD

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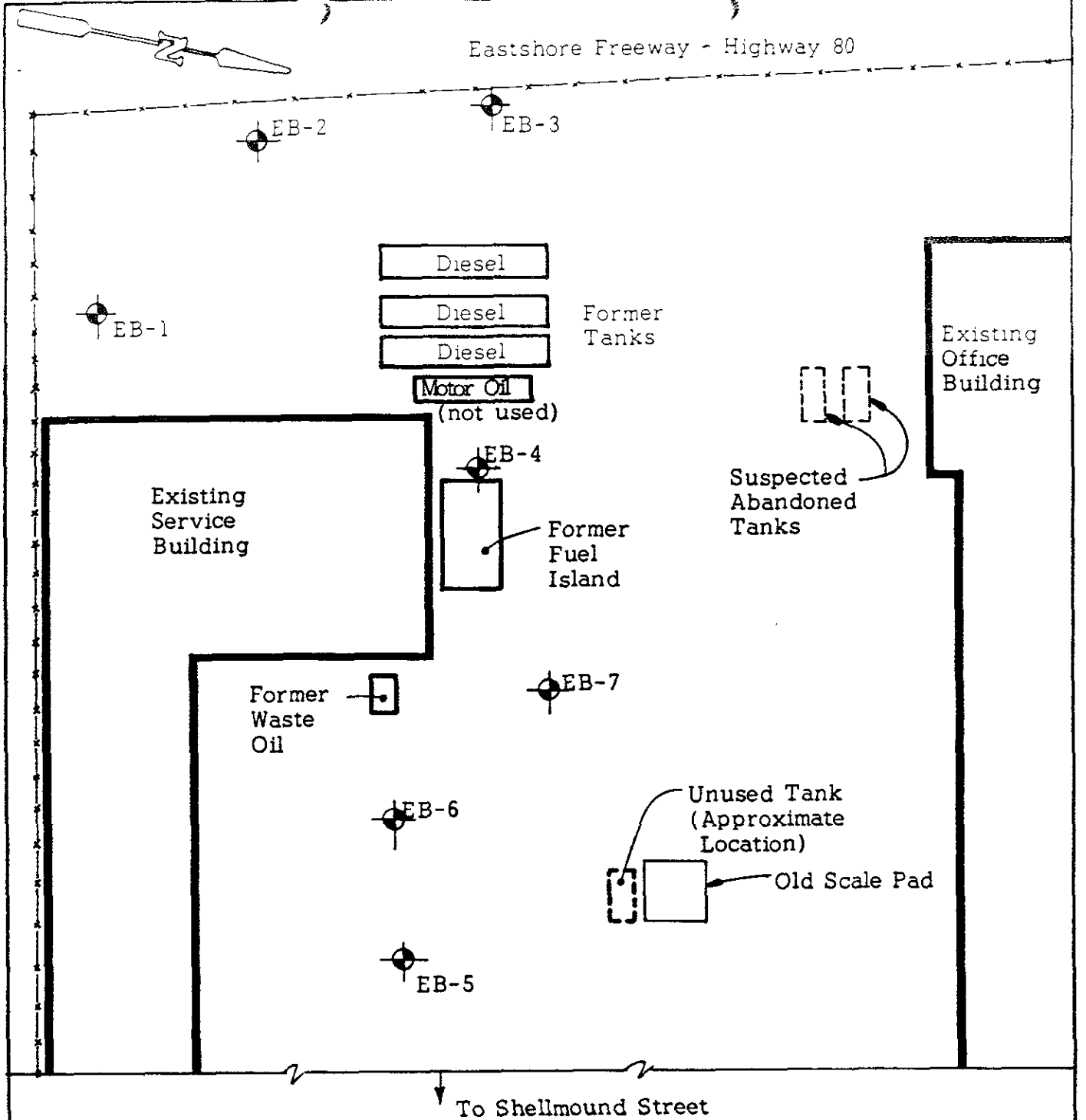

LEGEND

EB-7 — Approximate Location of Exploratory Boring

APPROXIMATE SCALE (Feet)

0 50 100

Base: Untitled, undated Parcel Plan provided by Blymer & Sons.

PETER KALDVEER AND ASSOCIATES, INC.

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SITE PLAN

SOIL AND GROUNDWATER TESTING
PIE TRUCK TERMINAL
Emeryville, California

PROJECT NO.	DATE	Figure
K405-35	August 1986	1

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER 8½' (see note 2)	BORING DIAMETER 8 Inches	DATE DRILLED 8/11/86

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
½' AC									
SAND (fine grained), some clay and silt	tan		SM-SC	1 2 3					
CLAY, silty with sand, glass, nail, wood (FILL)	grey black		CL	4 5 6 7 8 9	X X X		▽		
Bottom of Boring = 9½ Feet				10 11 12 13 14 15 16 17 18 19 20					

Notes:
1. The stratification line represents the approximate boundary between soil types and the transition may be gradual.
2. Groundwater level was measured at time of drilling.

PETER KALDVEER AND ASSOCIATES, INC.
Geotechnical Consultants

EXPLORATORY BORING LOG

SOIL AND GROUNDWATER TESTING
PIE TRUCK TERMINAL
Emeryville, California

PROJECT NO.	DATE	BORING NO.
K405-35	August 1986	1

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY D'R
DEPTH TO GROUNDWATER 10½' (see note 2)	BORING DIAMETER 8 Inches	DATE DRILLED 8/11/86

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
3" AC									
SAND, with some silt and clay, gravels	olive		SM	1 2 3 4					
SAND, with clay, some gravels, pieces of concrete (FILL)	grey		SC	5 6 7 8 9 10					
(grading with less silt and without gravels and clay) (shells, organics)			SM	11 12					
Bottom of Boring = 12½ Feet				13 14 15 16 17 18 19 20					

Notes:
1. The stratification line represents the approximate boundary between soil types and the transition may be gradual.
2. Groundwater level was measured at time of drilling.

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EXPLORATORY BORING LOG

SOIL AND GROUNDWATER TESTING
PIE TRUCK TERMINAL
Emeryville, California

PROJECT NO.	DATE	BORING NO.
K405-35	August 1986	2

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER 14' (see note 2)	BORING DIAMETER 8 Inches	DATE DRILLED 8/11/86

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)
3" AC				
SAND, gravelly, some silt	brown		SM	1
				2
				3
				4
				5
SAND, with some gravel and some clay and silt	grey		SC-SM	6
				7
				8
(grading without clay and less silt)			SM	9
				10
(grading with more silt and clay)			SC-SM	11
				12
				13
				14
(FILL)				15
Bottom of Boring = 15 Feet				16
				17
				18
				19
				20

SAMPLER | PENETRATION RESISTANCE (BLOWS/FT) | WATER CONTENT (%) | DRY DENSITY (PCF) | UNCONFINED COMPRESSIVE STRENGTH (KSF)

Notes:
1. The stratification line represents the approximate boundary between soil types and the transition may be gradual.
2. Groundwater level was measured at time of drilling.

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EXPLORATORY BORING LOG

SOIL AND GROUNDWATER TESTING
PIE TRUCK TERMINAL
Emeryville, California

PROJECT NO.	DATE	BORING NO.
K405-35	August 1986	3

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER 8' (see note 2)	BORING DIAMETER 8 Inches	DATE DRILLED 8/11/86

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE
SAND, some silt, trace of clay	tan		SM
CLAY, sandy	grey black		CL
SAND (fine grained), trace of silt	grey		SM
CLAY, sandy (FILL)	grey black		CL
Bottom of Boring = 12 Feet			

DESCRIPTION AND CLASSIFICATION

DEPTH (FEET) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

SAMPLER

PENETRATION RESISTANCE (BLOWS/FT)

WATER CONTENT (%)

DRY DENSITY (PCF)

UNCONFINED COMPRESSIVE STRENGTH (KSF)

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. Groundwater level was measured after drilling.

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EXPLORATORY BORING LOG

SOIL AND GROUNDWATER TESTING
PIE TRUCK TERMINAL
Emeryville, California

PROJECT NO.	DATE	BORING NO.
K405-35	August 1986	4

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER 7' (see note 3)	BORING DIAMETER 8 Inches	DATE DRILLED 8/11/86

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
3" AC									
SAND, some silt and gravels	tan		SM	1					
SAND, some silt and clay (lenses with gravels)	grey		SM	2 3 4 5		24*			
GRAVEL (fine-coarse grained), with clay	grey brown		GC	6 7			▽		
CLAY, very sandy (FILL)	dark grey		SC-CL	8 9					
Bottom of Boring = 9½ Feet				10 11 12 13 14 15 16 17 18 19 20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values marked with an asterisk (*) see first page, Appendix A.
3. Groundwater level was measured at time of drilling.

PETER KALDVEER AND ASSOCIATES, INC.
Geotechnical Consultants

EXPLORATORY BORING LOG

SOIL AND GROUNDWATER TESTING
PIE TRUCK TERMINAL
Emeryville, California

PROJECT NO.	DATE	BORING NO.
K405-35	August 1986	5

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER 9' (see note 2)	BORING DIAMETER 8 Inches	DATE DRILLED 8/[illegible]/86

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
3" AC									
SAND with silt, some clay and pea gravels	brown		SM	1					
CLAY, silty, sandy	grey black		CL	2					
GRAVEL, sandy, some clay	tan		GC	3	X				
CLAY, sandy, brick, gravels	grey black		CL-SC	4	X				
SAND, some silt, wood	black		SM	5	X				
CLAY, sandy (wood, debris) (FILL)	olive brown		CL	6	X				
				7	X				
				8	X				
				9			▽		
				10					
Bottom of Boring = 10 Feet				11					
				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. Groundwater level was measured after drilling.

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EXPLORATORY BORING LOG

SOIL AND GROUNDWATER TESTING
PIE TRUCK TERMINAL
Emeryville, California

PROJECT NO.	DATE	BORING NO.
K405-35	August 1986	6

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER 10½' (see note 2)	BORING DIAMETER 8 Inches	DATE DRILLED 8/21/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE						
3" AC									
SAND, some silt and clay, with gravels	tan		SM-SC	1 2					
SAND, clayey	grey black		SC	3 4 5 6 7 8	X				
CLAY, silty, with sand (FILL)	grey black		CL	9 10 11 12	X		▽		
Bottom of Boring = 12 Feet				13 14 15 16 17 18 19 20					

Notes:
1. The stratification line represents the approximate boundary between soil types and the transition may be gradual.
2. Groundwater level was measured at time of drilling.

PETER KALDVEER AND ASSOCIATES, INC.
Geotechnical Consultants

EXPLORATORY BORING LOG

SOIL AND GROUNDWATER TESTING
PIE TRUCK TERMINAL
Emeryville, California

PROJECT NO.	DATE	BORING NO.
K405-35	August 1986	7

APPENDIX B

LABORATORY TEST RESULTS

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-08-225

Received: 11 AUG 86
Reported: 15 AUG 86

Ms. Dawn Rinaldi
Peter Kaldveer and Associates
425 Roland Way
Oakland, CA 94621

Project: K405-35

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , SOIL SAMPLES	DATE SAMPLED
08-225-1	EB-1-6'	
08-225-2	EB-1-7.5'	
08-225-3	EB-1-9'	
08-225-4	EB-2-8'	
08-225-5	EB-2-12'	

PARAMETER	08-225-1	08-225-2	08-225-3	08-225-4	08-225-5
Benzene,Toluene,Xylene Isomers					
Benzene, mg/kg	2.3	3.3	5.2	15	24
Toluene, mg/kg	<0.5	18	20	11	5.0
Total Xylene Isomers, mg/kg	1.2	6.2	<1.0	14	14
Total Fuel Hydrocarbons, mg/kg	160	310	290	1200	11000

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-08-225

Received: 11 AUG 86
Reported: 15 AUG 86

Ms. Dawn Rinaldi
Peter Kaldveer and Associates
425 Roland Way
Oakland, CA 94621

Project: K405-35

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , SOIL SAMPLES	DATE SAMPLED
08-225-6	EB-3-8.5'	
08-225-7	EB-3-10'	
08-225-8	EB-3-12'	
08-225-9	EB-4-5.5'	
08-225-10	EB-4-7.5'	

PARAMETER	08-225-6	08-225-7	08-225-8	08-225-9	08-225-10
Benzene,Toluene,Xylene Isomers					
Benzene, mg/kg	140	2.0	<0.5	18	<0.5
Toluene, mg/kg	97	0.8	<0.5	7.5	<0.5
Total Xylene Isomers, mg/kg	99	1.9	1.3	41	<1.0
Total Fuel Hydrocarbons, mg/kg	25000	1900	1700	4600	1.8

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-08-225

Received: 11 AUG 86
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Ms. Dawn Rinaldi
Peter Kaldveer and Associates
425 Roland Way
Oakland, CA 94621

Project: K405-35

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , SOIL SAMPLES	DATE SAMPLED
08-225-11	EB-6-8'	
08-225-12	EB-4-9'	
08-225-13	EB-5-4'	
08-225-14	EB-5-5.5'	
08-225-15	EB-5-7'	

PARAMETER	08-225-11	08-225-12	08-225-13	08-225-14	08-225-15
Benzene,Toluene,Xylene Isomers					
Benzene, mg/kg	47	0.5	14	34	65
Toluene, mg/kg	26	0.7	7.2	9.3	15
Total Xylene Isomers, mg/kg	16	2.2	17	8.5	19
Total Fuel Hydrocarbons, mg/kg	8800	930	7200	8600	17000

BROWN AND CALDWELL BC
ANALYTICAL LABORATORIES

LOG NO: E86-08-225

Received: 11 AUG 86
Reported: 15 AUG 86

Ms. Dawn Rinaldi
Peter Kaldveer and Associates
425 Roland Way
Oakland, CA 94621

Project: K405-35

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , SOIL SAMPLES	DATE SAMPLED
08-225-16	EB-6-4'	
08-225-17	EB-6-6'	
08-225-18	EB-7-4'	
08-225-19	EB-7-6'	
08-225-20	EB-7-8'	

PARAMETER	08-225-16	08-225-17	08-225-18	08-225-19	08-225-20
Benzene,Toluene,Xylene Isomers					
Benzene, mg/kg	1.6	1.7	<0.5	25	<0.5
Toluene, mg/kg	0.6	0.6	<0.5	11	<0.5
Total Xylene Isomers, mg/kg	<1.0	<1.0	<1.0	14	<1.0
Total Fuel Hydrocarbons, mg/kg	230	250	3.8	2500	210

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-08-225

Received: 11 AUG 86
Reported: 15 AUG 86

Ms. Dawn Rinaldi
Peter Kaldveer and Associates
425 Roland Way
Oakland, CA 94621

Project: K405-35

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , GROUND WATER SAMPLES	DATE SAMPLED
08-225-21	EB-1	
08-225-22	EB-2	
08-225-23	EB-3	
08-225-24	EB-4	
08-225-25	EB-5	

PARAMETER	08-225-21	08-225-22	08-225-23	08-225-24	08-225-25
Benzene,Toluene,Xylene Isomers					
Benzene, mg/L	2.0	3.1	0.2	2.4	0.6
Toluene, mg/L	1.3	0.4	<0.1	0.1	<0.1
Total Xylene Isomers, mg/L	<0.2	<0.2	<0.2	0.4	<0.2
Total Fuel Hydrocarbons, mg/L	8.3	6.9	4.6	7.8	41

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-08-225

Received: 11 AUG 86
Reported: 15 AUG 86

Ms. Dawn Rinaldi
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Project: K405-35

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION , GROUND WATER SAMPLES	DATE SAMPLED
08-225-26	EB-6	
08-225-27	EB-7	

PARAMETER	08-225-26	08-225-27
Benzene,Toluene,Xylene Isomers		
Benzene, mg/L	3.3	0.1
Toluene, mg/L	0.9	<0.1
Total Xylene Isomers, mg/L	0.6	<0.2
Total Fuel Hydrocarbons, mg/L	300	<2.0

James Hatfield, Laboratory Director

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

10-17

Groundwater Technology Laboratory
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Jan Jacobson

Date Sampled: 10/09/86
Date Received: 10/09/86
Date Reported: 10/15/86
Proj. #20-8124

Sample Number	Sample Description
6100663	Blymyer-Emeryville, MW-12, Water

ANALYSIS

Phenols, mg/L	0.34

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sls

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Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology Laboratory
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Jan Jacobson

Date Sampled: 10/09/86
Date Received: 10/09/86
Date Extracted: 10/14/86
Date Reported: 10/15/86
Proj. #20-8124

Sample Number: 6100663

Sample Description: Blymyer-Emeryville, MW-12, Water

-OPEN SCAN-

PRIORITY POLLUTANTS

BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 1	Diethylphthalate	< 1
Acenaphthylene	< 1	Dimethylphthalate	<
Anthracene	< 1	Di-n-octylphthalate	<
Benzo (a) anthracene	< 1	Dibutylphthalate	<
Benzo (b) fluoranthene	< 1	Isophorone	<
Benzo (k) fluoranthene	< 1	Benzidine	< 1
Benzo (a) pyrene	< 1	2,4-Dinitrotoluene	<
Benzo (g,h,i) perylene	< 1	2,6-Dinitrotoluene	<
Chrysene	< 1	1,2-Diphenylhydrazine	<
Dibenzo (a,h) anthracene	< 1	Nitrobenzene	<
Fluoranthene	< 1	N-Nitrosodimethylamine	<
→Fluorene	24	N-Nitrosodi-n-Propylamine	<
Indeno (1,2,3-c,d) pyrene	< 1	N-Nitrosodiphenylamine	<
Naphthalene	< 1	2-Chloronaphthalene	<
→Phenanthrene	69	1,3-Dichlorobenzene	<
→Pyrene	4.2	1,4-Dichlorobenzene	<
Bis (2-chloroethyl) ether	< 1	1,2-Dichlorobenzene	<
Bis (2-chloroethoxy) methane	< 1	3,3-Dichlorobenzidine	< 1
Bis (2-ethylhexyl) phthalate	< 1	Hexachlorobenzene	<
Bis (2-chloroisopropyl) ether	< 1	Hexachlorobutadiene	<
4-Bromophenyl phenyl ether	< 1	Hexachloroethane	<
Butyl benzyl phthalate	< 1	Hexachlorocyclopentadiene	<
4-Chlorophenyl phenyl ether	< 1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	<
		1,2,4-Trichlorobenzene	<

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

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NOTE: Method 625 of the EPA was used for this analysis.

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Date Sampled: 10/09/86
Date Received: 10/09/86
Date Reported: 10/15/86
Proj. #20-8124

Sample Number
6100663

Sample Description
Blymyer-Emeryville,
MW-12, Water

ANALYSIS

Cyclohexane, 1,1,3-Trimethyl-, ppb	63
Cyclohexane, 1,3,5-Trimethyl-, ppb	31
Cyclohexane, 1-Ethyl-4-Methyl-, ppb	19
Cyclohexanone, ppb	76
1H-Indene, Octahydro-, Cis- ppb	28
Benzene, 2-Propenyl- ppb	25
Octane, ppb	700
Cyclopropane, 1-Methyl-2-Pentyl, ppb	25
Decane, 3-Bromo- ppb	440
Decane, 2,3,7-Trimethyl-, ppb	210
Undecane, 5,7-Dimethyl-, ppb	87
Undecane, 3,8-Dimethyl-, ppb	150
Heptane, 5-Ethyl-2-Methyl-, ppb	37

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Date Sampled: 10/09/86
Date Received: 10/09/86
Date Extracted: 10/14/86
Date Reported: 10/15/86
Proj. #20-8124

Sample Number
6100663

Sample Description
Blymyer-Emeryville,
MW-12, Water

PRIORITY POLLUTANTS

PESTICIDE AND PCB COMPOUNDS

results in ppb

Aldrin	< 0.1	Endrin	< 0.1
α-BHC	< 0.1	Endrin Aldehyde	< 0.1
β-BHC	< 0.1	Heptachlor	< 0.1
δ-BHC	< 0.1	Heptachlor Epoxide	< 0.1
γ-BHC	< 0.1	Toxaphene	< 0.1
Chlordane	< 0.1	PCB-1016	< 0.1
4,4'-DDD	< 0.1	PCB-1221	< 0.1
4,4'-DDE	< 0.1	PCB-1232	< 0.1
4,4'-DDT	< 0.1	PCB-1242	< 0.1
Dieldrin	< 0.1	PCB-1248	< 0.1
Endosulfan I	< 0.1	PCB-1254	< 0.1
Endosulfan II	< 0.1	PCB-1260	< 0.1
Endosulfan Sulfate	< 0.1		

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

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NOTE: Method 608 of the EPA was used for this analysis.

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Groundwater Technology Laboratory
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Jon Jacobson

Date Sampled: 10/07/86
Date Received: 10/08/86
Date Extracted: 10/08/86
Date Reported: 10/09/86

Job #20-8124

Sample Number
6100419

Sample Description
GT-12, Water

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS

results in ppb

Acrolein	< 1000	trans-1,2-Dichloroethene	< 2
Acrylonitrile	< 1000	1,2-Dichloropropane	< 2
Benzene	< 2	1,3-Dichloropropene	< 2
Bromomethane	< 2	Ethylbenzene	< 2
Bromodichloromethane	< 2	Methylene chloride	< 2
Bromoform	< 2	1,1,2,2-Tetrachloroethane	< 2
Carbon tetrachloride	< 2	Tetrachloroethene	< 2
Chlorobenzene	< 2	1,1,1-Trichloroethane	< 2
Chloroethane	< 2	1,1,2-Trichloroethane	< 2
2-Chloroethylvinyl ether	< 2	Trichloroethene	< 2
Chloroform	< 2	Toluene	< 2
Chloromethane	< 2	Vinyl chloride	< 2
Dibromochloromethane	< 2	1,2-Dichlorobenzene	< 2
1,1-Dichloroethane	< 2	1,3-Dichlorobenzene	< 2
1,2-Dichloroethane	< 2	1,4-Dichlorobenzene	< 2
1,1-Dichloroethene	< 2		

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

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NOTE: Method 624 of the EPA was used for this analysis.

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Groundwater Technology Laboratory
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Jon Jacobson

Date Sampled: 10/07/86
Date Received: 10/08/86
Date Reported: 10/09/86
Job #20-8124

Sample Number	Sample Description
6100419	GT-12, Water

ANALYSIS

Furan, Tetrahydro, ppb	180
2-Butanone, ppb	200
Cyclopentane, 1,3-Dimethyl-, Tra, ppb	25
2-Pentene, 4,4-Dimethyl-, (E)-, ppb	32
Cyclopentane, Methylene-, ppb	23
Cyclohexane, 1,1-Dimethyl-, ppb	47
Cyclopentane, 1,2,3-Trimethyl-, ppb	43
Cyclopentane, 1-Methyl-2-Methyl, ppb	30
2-Pentene,3,4,4-Trimethyl-, ppb	72
Cyclohexane,1,1,3-Trimethyl-, ppb	79
Pentalene, Octahydro-1-Methyl-, ppb	74
Cyclohexane, 1-Ethyl-4-Methyl-, ppb	47

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sls

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I-1	E-1										
Type of Sample	G	G										
Flow Rate (gal/day)		D										
Dissolved Oxygen (mg/l and % saturation)		M										
Un-ionized Ammonia (mg/l as N)		2/Y										
Temperature (^{o}C)		2/Y										
Fish Toxicity, 96-hour (% survival)		2/Y										
pH (units)		M										
EPA Method 602 (ug/l) (1)	M*	M*										
EPA Method 610 (ug/l) (2)	M*	M*										
Total Phenols (ug/l)	M*	M*										
Total Petroleum Hydrocarbons (ug/l)	M*	M*										
Priority Pollutant Scan (3)		A*										
Metal Toxic Pollutants (4)	A*	Q*										
BOD, 5-day, 20^{o}C (mg/l)		M*										
Suspended Solids (mg/l)		M*										

LEGEND FOR TABLE

G = Grab Sample
D = Once a day
M = Once each month
Q = Quarterly, once in March, June, September, and December
2/Y = Once in June and December
M* = Twice a month for the first three (3) months of startup of operation; reduced to once a month thereafter.
A* = Once within three (3) weeks after startup or upon commencement of discharge; annually thereafter.
Q* = Once within three (3) weeks after startup or upon commencement of discharge; quarterly thereafter.

(1) For the detection of benzene, toluene, ethyl benzene and xylenes.
(2) For the detection of polynuclear aromatic hydrocarbons.
(3) Test results may be used to satisfy NPDES Form 2C.
(4) As defined in NPDES Form 2D.

Ref doc
02-19-87

FUELLEAK CASE RECORD

REVIEW DATE: 07/30/87
SITE NAME: PIE NATIONWIDE PROPERTY
STREET NO.: 5500
STREET: Eastshore Freeway
CITY: Emeryville
COUNTY: 01
PRIORITY:
RANK:
SUBSTANCE/PRIMARY: 12034
SUBSTANCE/SECONDARY:
CASE TYPE: U
STATUS: N

SOIL AFFECTED: Y
MAXIMUM SOIL CONCENTRATION (ppm): 300
MAXIMUM RESIDUAL SOIL CONCENTRATION (ppm):
SOIL STATUS: N
DEPTH TO GROUNDWATER:
GROUNDWATER AFFECTED: U
MAXIMUM GROUNDWATER IMPACT:
GROUNDWATER STATUS: N
DRINKING WATER AFFECTED: U
DRINKING WATER STATUS: N
REMEDIAL ACTION: NT
DATE OF LAST CORR.: 07/17/87

10/04/90
08/08/89
08/14/86
C
MTP

primary = 57
Secondary = 12034
47,000 PPM soil
~~3,200,000~~ 9999999 PPb GW
G
8'
A1
~~Bk~~ 3A - 09/02/86
3B - 03/04/87
5C - 04/28/88
interim = Y
06/02/89
~~FPGTET~~ FPGTET

RI
Y
O
S
NBT case also