ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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

March 17, 2010

Mr. Denis Brown (*Sent via E-mail to: denis.l.brown@shell.com*)
Shell Oil Products US
20945 S. Wilmington Ave.
Carson, CA 90810-1039

Subject: Fuel Leak Case No. RO0002986 and Geotracker Global ID T10000000424, Shell #13-5682, 3750 International Boulevard, Oakland, CA 94601 – Case Closure

Dear Mr. Brown:

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 Health (ACEH) 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. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (http://geotracker.swrcb.ca.gov) and the Alameda County Environmental Health website (http://www.acgov.org/aceh/index.htm).

SITE INVESTIGATION AND CLEANUP SUMMARY

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

- Total Petroleum Hydrocarbons as gasoline remain in soil at concentrations up to 44 ppm.
- Total Petroleum Hydrocarbons as gasoline remain in groundwater at concentrations up to 3,900 ppb.
- As described in section IV of the attached Case Closure Summary, the case was closed with Site Management Requirements that limit future land use to commercial land use only.

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

Donna L. Drogos, P.E.
Chief

Enclosures:
1. Remedial Action Completion Certification
2. Case Closure Summary

cc:

Leroy Griffin (w/enc)
Oakland Fire Department
250 Frank H. Ogawa Plaza, Ste. 3341
Oakland, CA 94612-2032
(*Sent via E-mail to: lgriffin@oaklandnet.com*)

Closure Unit (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Peter Schaefer, Conestoga-Rovers & Associates,
5900 Hollis Street, Suite A
Emeryville, CA 94608
(*Sent via E-mail to: pschaefer@craworld.com*)

Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Jerry Wickham, ACEH (w/o enc)
Geotracker (w/enc)
File (w/orig enc)

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REMEDIAL ACTION COMPLETION CERTIFICATION

March 17, 2010

Mr. Denis Brown (*Sent via E-mail to: denis.l.brown@shell.com*)
Shell Oil Products US
20945 S. Wilmington Ave.
Carson, CA 90810-1039

Subject: Fuel Leak Case No. RO0002986 and Geotracker Global ID T10000000424, Shell #13-5682, 3750 International Boulevard, Oakland, CA 94601 – Case Closure

Dear Mr. Brown:

This letter confirms the completion of a site investigation and remedial action 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 tank(s) 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(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 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 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

Aru Levi
Director
Alameda County Environmental Health

CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: November 12, 2009

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6791
Responsible Staff Person: Mr. Jerry Wickham	Title: Senior Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Shell-#13-5682		
Site Facility Address: 3750 International Boulevard, Oakland, CA 94601		
RB Case No.: ---	Local Case No.: ---	LOP Case No.: RO0002986
URF Filing Dates: February 6, 1991, June 6, 2006, and September 23, 2008	Geotracker ID: T10000000424	APN: 33-2136-61-2

Responsible Parties	Addresses	Phone Numbers
Denis Brown Shell Oil Products US	20945 S. Wilmington Avenue, Carson, CA 90810	(707) 865-0251

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	550	Waste Oil	Removed	5/25/2006
Piping			Dispenser replacement	8/12/04

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: TPHg, benzene, ethylbenzene, xylenes, and MTBE were detected in soil and groundwater samples collected during a 2008 Phase II Assessment. The petroleum hydrocarbons appear to be related to historic releases that occurred prior to 1989. The historic releases were evaluated as part of fuel leak case RO000867, which was closed on April 30, 1998.	
Site characterization complete? Yes	Date Approved By Oversight Agency: -----

Monitoring wells installed? No	Number: 0	Proper screened interval? ---
Highest GW Depth Below Ground Surface: 5.08 feet bgs	Lowest Depth: 16 feet bgs	Flow Direction: South to Southwest
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity: One irrigation well is reportedly located at 1601 39th Avenue, which is approximately 570 feet northeast of the site. Based on the upgradient location, the irrigation well is not expected to be a receptor for the site. No other water supply wells have been identified within ½ mile of the site.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: Peralta Creek is approximately 1,100 feet northeast of site, Brooklyn Basin tidal canal is approximately 3,300 feet southwest of site.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and City of Oakland Fire Department.

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	1 tank----	The 550-gallon dual-wall fiberglass UST was removed from the site; disposal destination was not reported.	5/25/2006
Piping	----	----	----
Free Product	----	----	----
Soil	----	----	----
Groundwater	----	----	----

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments 1-6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	44	44	12,000	3,900
TPH (Diesel)	7.5	7.5	830	830
Oil and Grease	117	28	Not analyzed	Not analyzed
Benzene	<0.0050	<0.0050	210	17
Toluene	<0.0050	<0.0050	210	<1
Ethylbenzene	0.73	<0.0050	100	6.1
Xylenes	<0.0050	<0.0050	95	1.1
Heavy Metals (Cd, Cr, Pb, Ni, Zn)	11.6(1)	11.6(1)	Not analyzed	Not analyzed
MTBE	<0.005(2)	<0.005(2)	5.8 (3)	5.8(3)
Other (8240/8270)	Not detected at various detection limits	Not detected at various detection limits	Not analyzed	Not analyzed

Footnotes:

(1) Lead = 11.6 ppm; nickel = 108 ppm; chromium = 62.2 ppm; zinc = 48,1 ppm; and cadmium <0.5 ppm.
(2) No fuel oxygenates detected in soil; EDB and EDC not analyzed.
(3) MTBE = 5.8 ppb; TBA <10 ppb; DIPE <2 ppb; ETBE <2 ppb; TAME <2 ppb; and ethanol <100 ppb. EDB and EDC not analyzed.

Site History and Description of Corrective Actions:

The site is currently an operating gasoline service station located in a mixed commercial and residential area of Oakland, California. This case was opened in response to the detection of petroleum hydrocarbons in soil and groundwater samples collected during a Phase II Site Assessment in August 2008. Five soil borings were advanced at the site on August 6, 2008 as part of a Phase II Environmental Site Assessment for due diligence. TPHg was detected in one of the five soil samples collected at a concentration of 1.5 ppm; BTEX was not detected in any of the soil samples. TPHg was detected in three of five grab groundwater samples collected at concentrations ranging from 180 to 3,600 ppb. Benzene was detected in one of the grab groundwater samples (B-2) at a concentration of 17 ppb.

A historic fuel release occurred at the site sometime prior to 1989. Site investigation activities including monitoring well installation were conducted at the site from 1989 through 1996. The fuel leak case (RO000867 also referred to as StID#86 see attached Remedial Action Completion Certification and Case Closure Summary) was closed on April 30, 1998.

A 550-gallon waste oil tank was removed from the site on May 25, 2006. A soil sample collected from the tank excavation contained 28 ppm oil and grease, 7.5 ppm TPHd, 62 ppm chromium, 11.6 ppm lead, 108 ppm nickel, and 48 ppm zinc. An unauthorized release from was submitted on June 6, 2006. However, based upon results from the tank removal and soil sampling, further investigation of the waste oil UST area was not warranted.

The only results from the August 2008 Phase II Environmental Site Assessment that exceeded Environmental Screening Levels (San Francisco Bay Regional Water Quality Control Board, May 2008) were the concentrations of TPHg and benzene in the grab groundwater sample from boring B-2. Boring B-2 was located in approximately the same location as a previous monitoring well (MW-4), that was installed as part of site investigation activities conducted between 1989 and 1992 for the historic release. Monitoring well MW-4 was sampled from July 1992 to January 1996. During this period of groundwater monitoring for well MW-4, the concentration of TPHg ranged from less than 50 to 3,900 ppb and the concentration of benzene ranged from less than 0.5 to 210. The grab groundwater sampling results from B-2 are within the range of historic sampling results from previous groundwater monitoring well MW-4. Based on these results, the fuel hydrocarbons encountered in soil and groundwater from boring B-2 appear to be related to the historic release that was addressed under fuel leak case RO000867 aka StID #86, which was closed on April 30, 1998. Therefore, current fuel leak case RO0002896 should be closed.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
Site Management Requirements: Case closure for the fuel leak site is granted for the current commercial land use only. If a change in land use to any residential or other conservative land use scenario occurs at this site, Alameda County Environmental Health (ACEH) must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans. Excavation or construction activities in the areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities. The site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.		
Should corrective action be reviewed if land use changes? Yes.		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: Yes	Number Decommissioned: 4	Number Retained: 0
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

No soil vapor sampling was conducted for the site. Based on the apparent absence of BTEX in soil samples, the minimal BTEX concentrations in groundwater samples, and the age of the historic release, soil vapor sampling does not appear to be necessary.

EDB and EDC were not analyzed in soil and groundwater.

Conclusion:

Based upon the information available in our files to date, Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment under the current commercial land use. No further investigation or cleanup is necessary unless a change in land use to any residential or other conservative land use scenario occurs at this site. ACEH staff recommend case closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: Jerry Wickham	Date: 01/07/10
Approved by: Donna L. Drogos, P.E.	Title: Chief
Signature:	Date: 01/07/10

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

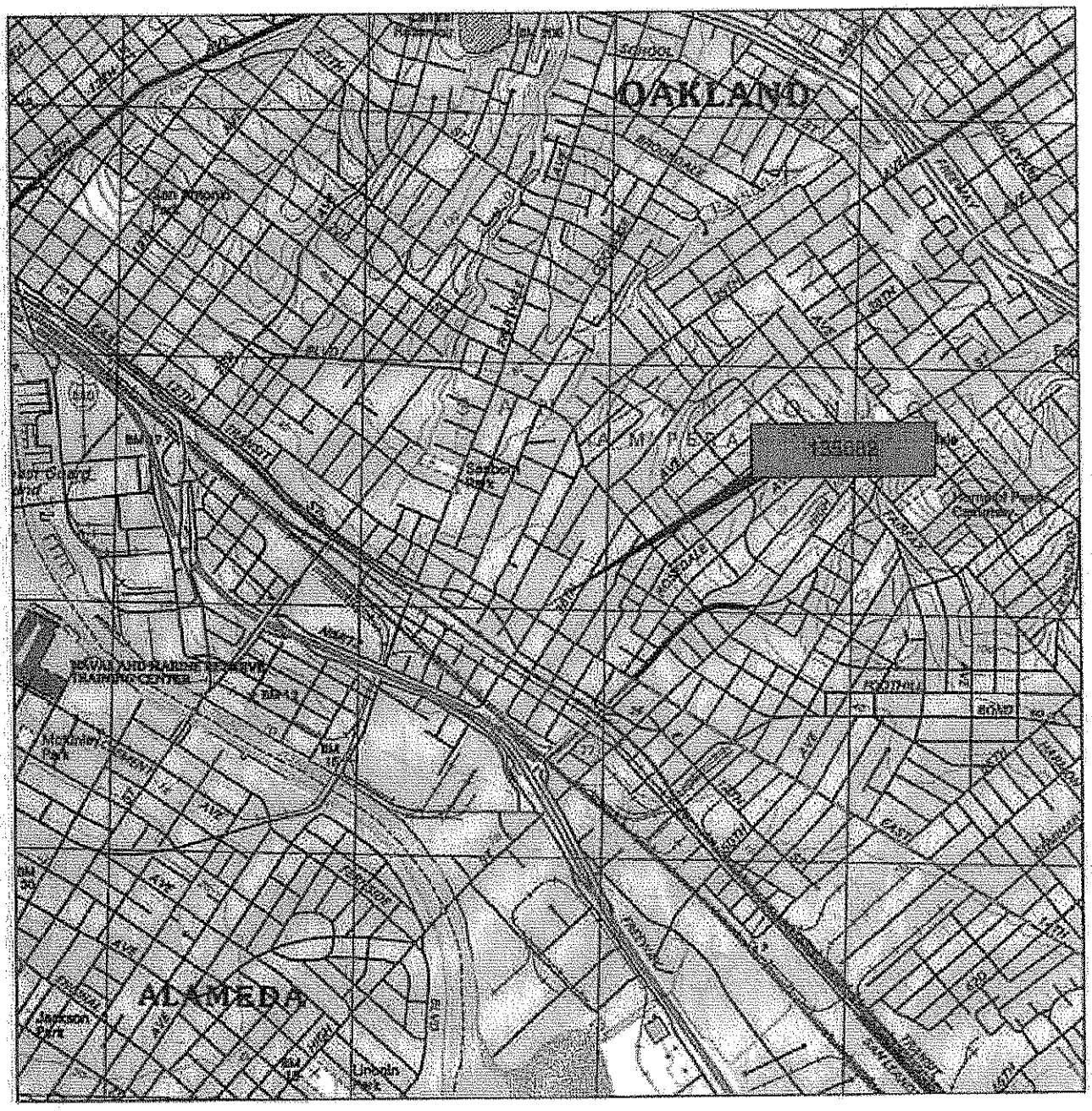
Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature: Cher McCaul	Date: 3/4/10

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: NA	Date of Well Decommissioning Report: NA	
All Monitoring Wells Decommissioned: Yes	Number Decommissioned: 4	Number Retained: 0
Reason Wells Retained: NA		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: Jerry Wickham		Date: 03/17/10

Attachments:
1. Site Vicinity Map (1 pp)
2. Site Plan and Recent Results (2 pp)
3. Site Plans and Groundwater Elevation Contours (4 pp)
4. Soil Analytical Data (4 pp)
5. Groundwater Analytical Data (5 pp)
6. Boring Logs (5 pp)
7. Remedial Action Completion Certification dated April 30, 1998 and Case Closure Summary (17 pp)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.



N

Scale (miles)
0 0.1 0.2 0.3 0.4 0.5 0.75 1

0 1000 2000 3000 4000
Scale (feet)

from Oakland East 7.5 minute USGS Quadrangles

Figure 1

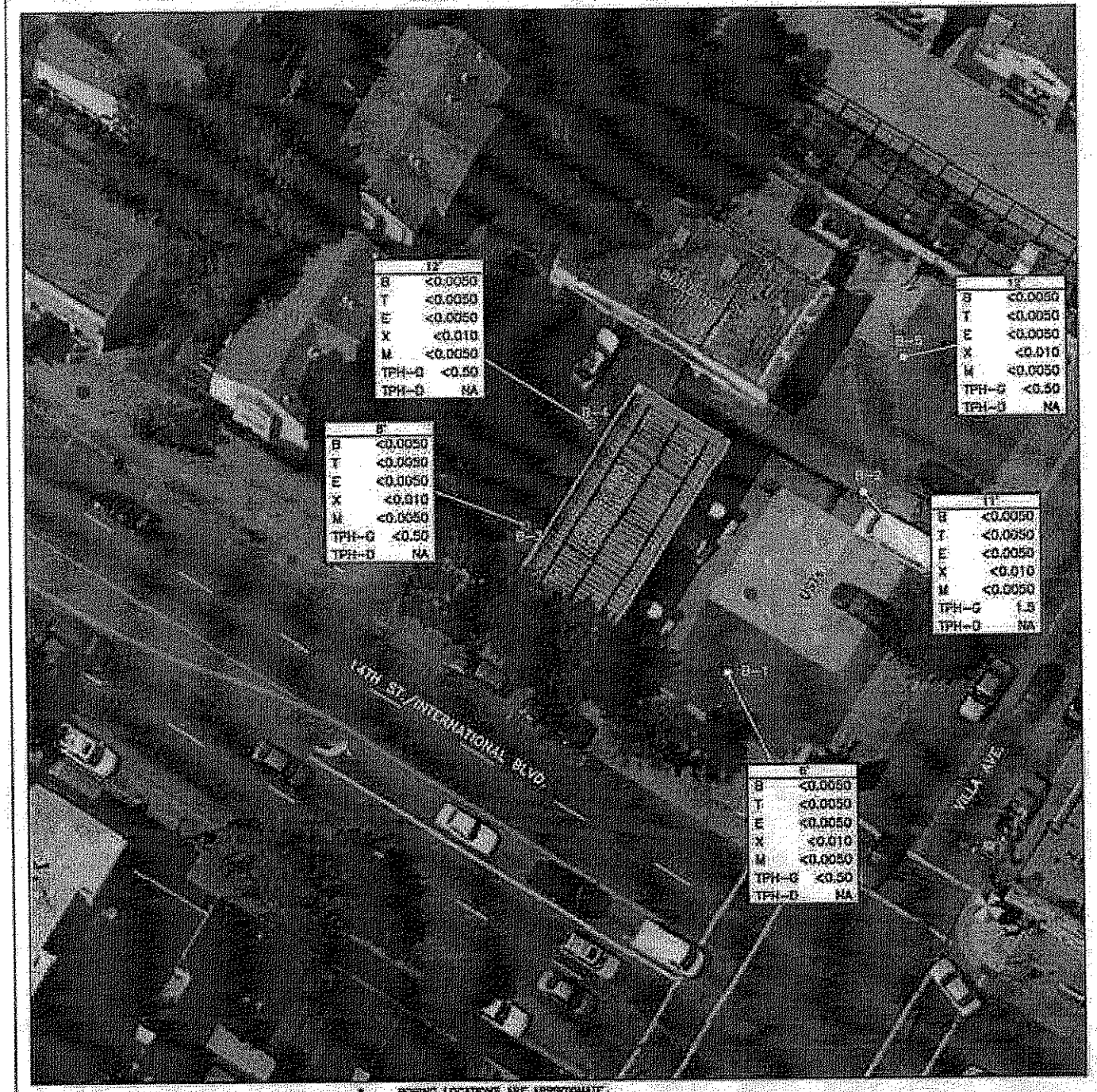
SITE LOCATION MAP

Shell SAP 135682
3750 E. 14th Street
Oakland, California

Project No.	Prepared by	Drawn by
CASHLBADWA	LNH	LNH
Date	Reviewed by	Filename
9/10/08		135682

DELTA

ATTACHMENT 1



* BORING LOCATIONS ARE APPROXIMATE

LEGEND

- UNDERGROUND STORAGE TANK (UST) AREA SOIL BORING
- DISPENSER AREA SOIL BORING

6'	SAMPLE DEPTH (bgs)
B <0.0050	BENZENE (mg/kg)
T <0.0050	TOLUENE (mg/kg)
E <0.0050	ETHYL-BENZENE (mg/kg)
X <0.010	TOTAL XYLENES (mg/kg)
M <0.0050	MTBE (mg/kg)
TPH-G <0.50	TOTAL PETROLEUM HYDROCARBONS GASOLINE RANGE ORGANICS (mg/kg)
TPH-D NA	TOTAL PETROLEUM HYDROCARBONS DIESEL RANGE ORGANICS (mg/kg)

NA	NOT ANALYZED
mg/kg	MILLIGRAMS PER KILOGRAM
<0.0050	LESS THAN METHOD REPORTING LIMIT (NOT DETECTED)
MTBE	METHYL TERT-BUTYL ETHER
bgs	BELOW GROUND SURFACE

N

0 15 30

Scale (feet)

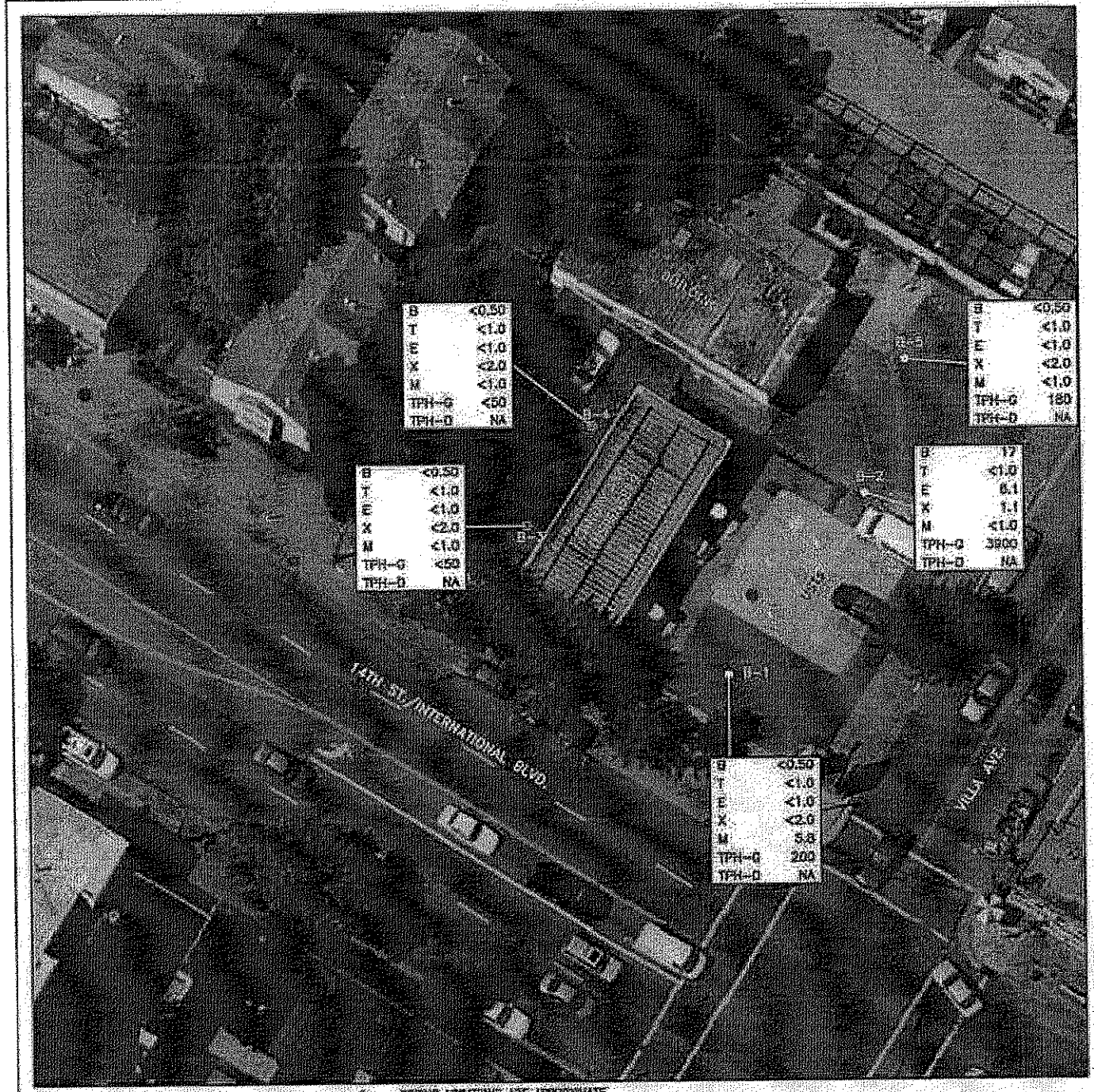
Projection: California State Plane Coordinate System, Zone 3, NAD83, U.S. Survey foot

Figure 3
SOIL CONCENTRATION MAP
AUGUST 7, 2006
Shell SAP 135662
3750 E. 14th Street
Oakland, California

Project No.	Prepared by	Drawn by
CASHELL07XA	LNH	LNH/JH
Date	Reviewed by	Filename
9/23/08		135662

DELTA

ATTACHMENT 2



LEGEND

- UNDERGROUND STORAGE TANK (UST) AREA SOIL BORING
- DISPENSER AREA SOIL BORING

B	<0.50	BENZENE (ug/L)
T	<1.0	TOLUENE (ug/L)
E	<1.0	ETHYL-BENZENE (ug/L)
X	<1.0	TOTAL XYLENES (ug/L)
M	5.8	MTBE (ug/L)
TPH-G	200	TOTAL PETROLEUM HYDROCARBONS GASOLINE RANGE ORGANICS (ug/L)
TPH-D	NA	TOTAL PETROLEUM HYDROCARBONS DIESEL RANGE ORGANICS (ug/L)

NA	NOT ANALYZED
ug/L	MICROGRAMS PER LITER
<0.50	LESS THAN METHOD REPORTING LIMIT (NOT DETECTED)
MTBE	METHYL TERT-BUTYL ETHER

N

0 15 30

Scale (feet)

Projection: California State Plane Coordinate System, Zone 3, NAD83, U.S. Survey foot

Figure 4
GROUNDWATER CONCENTRATION MAP
AUGUST 7, 2008
Shell SAP 135682
3750 E. 14th Street
Oakland, California

Project No. CA09135682WA	Prepared by LHH	Drawn by LHH/JH	DELTA
Date 9/10/08	Reviewed by	Filename 135682	

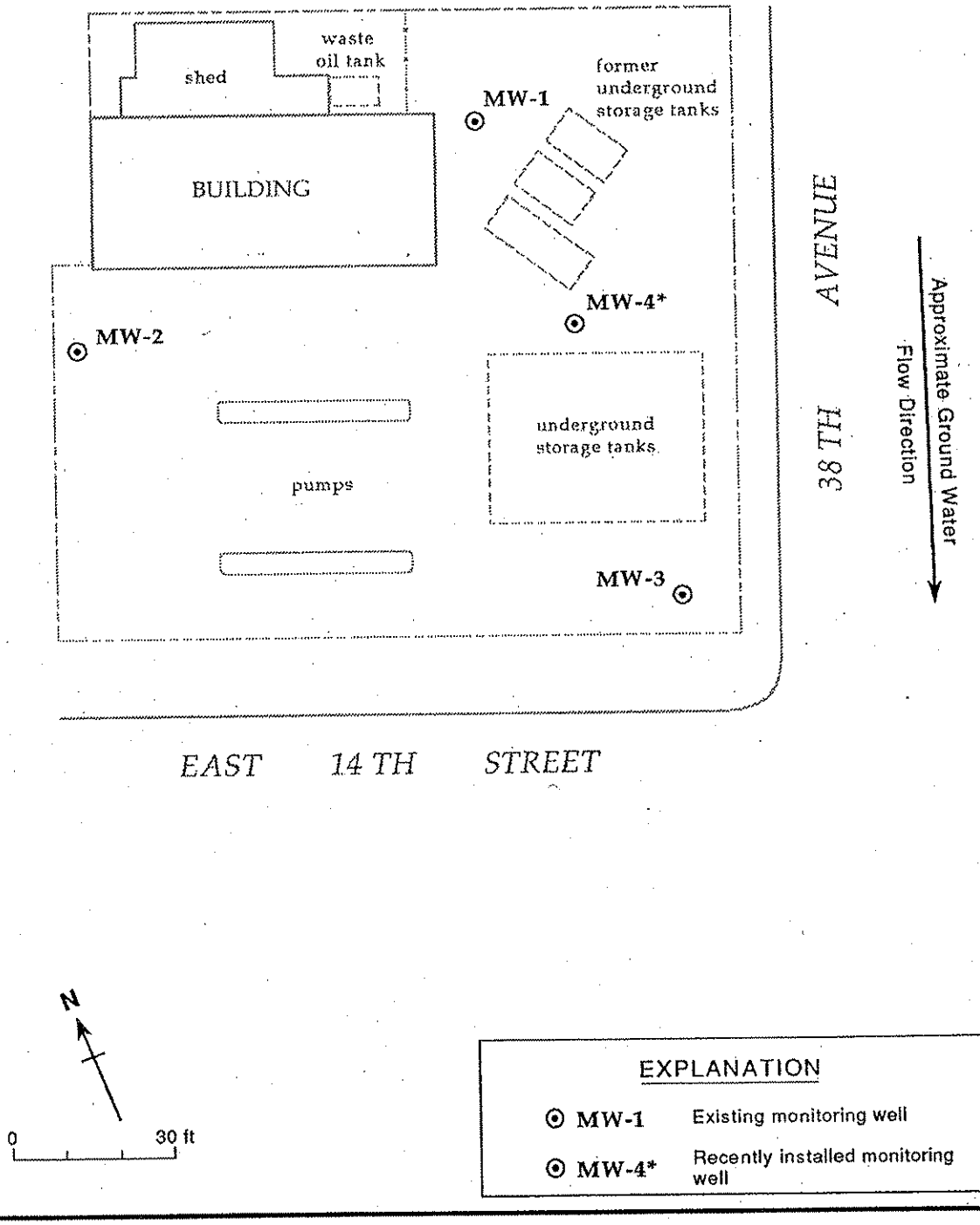
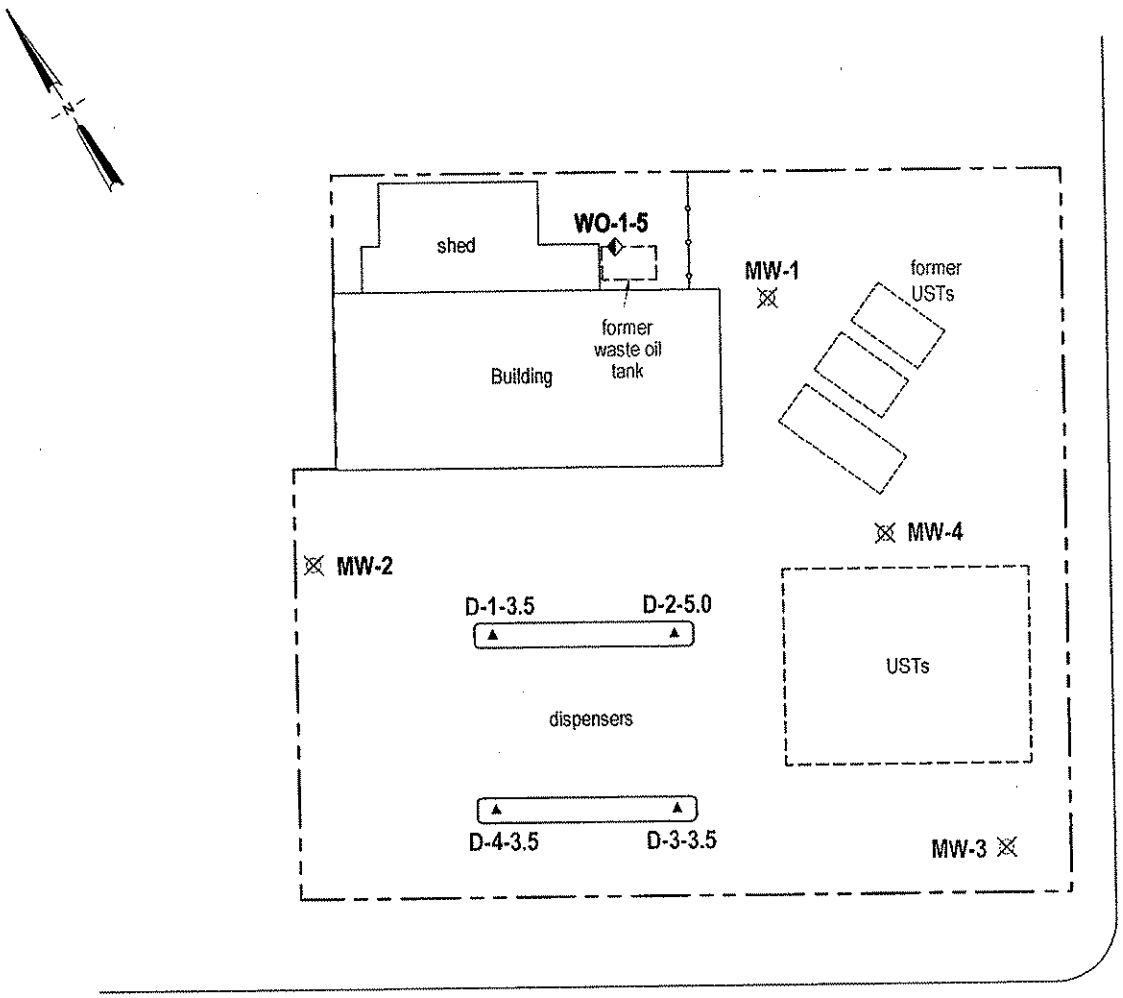


Figure 2. Monitoring Well Locations - Shell Service Station WIC #204-5508-2709, 3750 East 14th Street, Oakland, California

ATTACHMENT 3

07/07/06



G:\OAKLAND 3750 E. 14TH\FIGURES\SITE PLAN.DWG

EXPLANATION

WO-1-5 ◆	Soil sample location (05/25/06)
D-1-3.5 ▲	Soil sample location (8/12/04)
MW-1 ⊠	Destroyed monitoring well location

0 15 30

Scale (ft)

FIGURE

2

Shell-branded Service Station
3750 International Boulevard
Oakland, California
SAP No. 135682

CAMBRIA

Site Plan

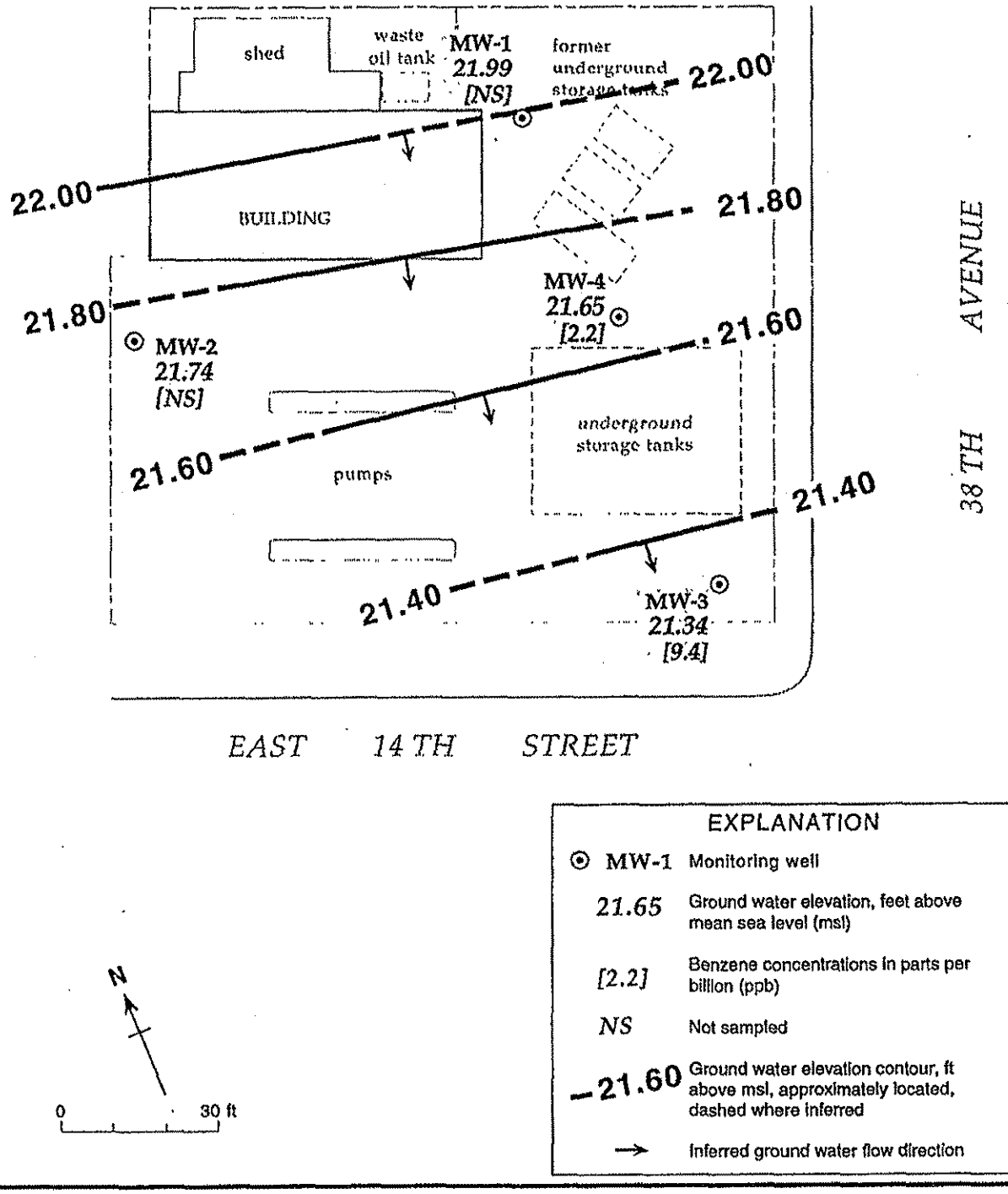


Figure 2. Monitoring Well Locations, Ground Water Elevation Contours, and Benzene Concentration in Ground Water - Oct. 4, 1995 - Shell Service Station WIC #204-5508-2709, 3750 East 14th Street, Oakland, California

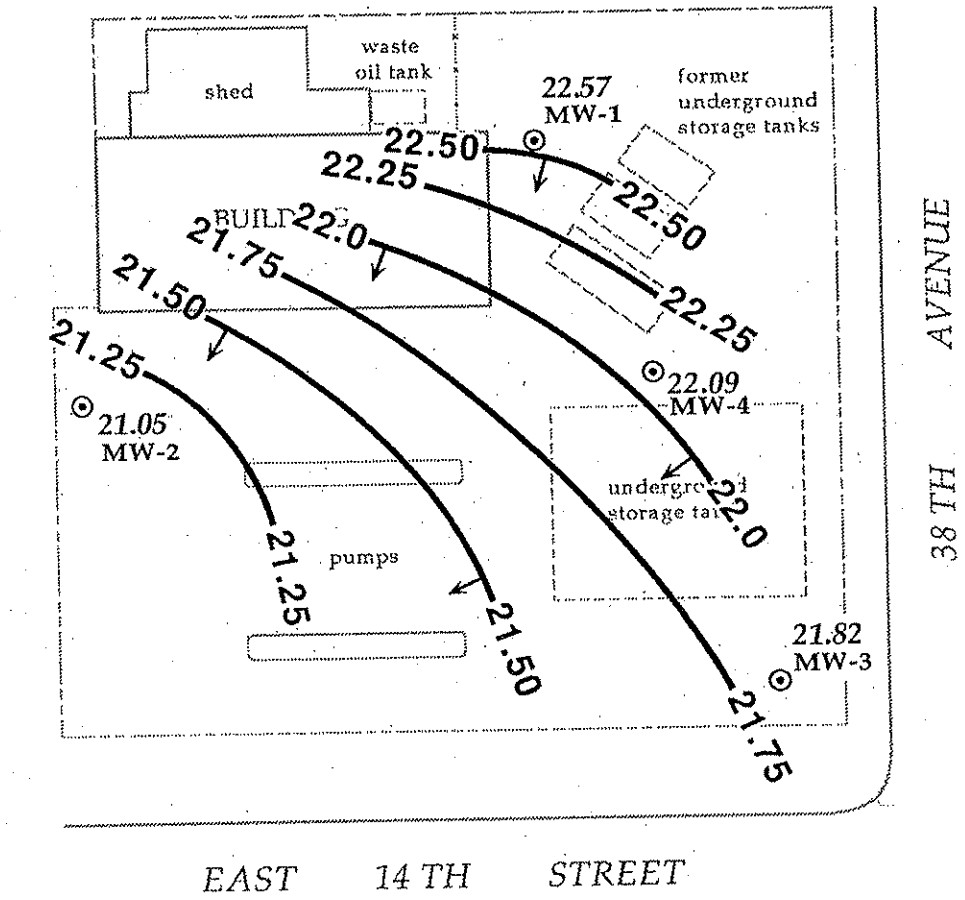


Figure 3. Monitoring Well Locations and Ground Water Elevation Contours - July 2, 1992 - Shell Service Station WIC #204-5508-2709, 3750 East 14th Street, Oakland, California

8/12/92

Table 1
Summary of Soil Analytical Results - TPH & VOCs
SAP No.135682
3750 East 14th Street/International Boulevard
Oakland, California

Sample Identification	Sample Depth (feet)	Sample Date	TPH-G (mg/kg)	TPH-D (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	EDB (mg/kg)	EDC (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	Ethanol (mg/kg)
B-1 6'	6	08/07/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	0.05	<0.010	<0.010	<0.010	<0.50
B-2 11'	11	08/07/08	1.5	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	0.05	<0.010	<0.010	<0.010	<0.50
B-3 8'	8	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	0.05	<0.010	<0.010	<0.010	<0.50
B-4 12'	12	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	0.05	<0.010	<0.010	<0.010	<0.50
B-5 12'	12	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	0.05	<0.010	<0.010	<0.010	<0.50
ESL[1]: Shallow Soils (<3m), Residential Land Use, Groundwater is Current or Potential Source of Drinking Water (Table A)			83	83	0.044	2.9	2.3	2.3	0.00033	0.0045	0.023	0.075	NA	NA	NA	NA
ESL[1]: Deep Soils (>3m), Residential Land Use, Groundwater is Current or Potential Source of Drinking Water (Table C)			83	83	0.044	2.9	3.3	2.3	0.00033	0.0045	0.023	0.075	NA	NA	NA	NA

Notes:
mg/kg = milligrams per kilogram
< = Not detected at concentration exceeding laboratory method reporting limit (MRL)
VOC = Volatile organic compound
TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-D = Total Petroleum Hydrocarbons as Diesel
EDB = 1,2-dibromoethane
EDC = 1,2-dichloroethane
MTBE = Methyl tert-Butyl Ether
TBA = Tertiary Butyl Alcohol
DIPE = Diisopropyl Ether
ETBE = Ethyl tert-Butyl Ether
TAME = Tert-Amyl Butyl Ether
NA = Not Analyzed, Not Available
VOC analysis by EPA Method 8260B
Gasoline-range hydrocarbons by EPA Method 8260B
Diesel-range hydrocarbons by EPA Method 8015B
[1] ESL = Environmental Screening Level. Screening criteria referenced are from the *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, San Francisco Bay Region, Interim Final, November 2007, revised May 2008.

ATTACHMENT 4

Table 2. Results of Soil Analyses - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California

Soil Boring (Well ID)	Sample Depth (ft)	Date Sampled	Analytic Lab	Analytic Method	Sat/ Unsat	TPH-G	TPH-D[a]	B	E	T	X	HVOC	POG[b]
						<----------parts per million (mg/kg)---------->							
BH-A (MW-1)	5.2	04/04/90	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	9.8	04/04/90	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	12.8	04/04/90	NET	8015/8020/8010/503	Unsat	<1	<1	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
	20.2	04/04/90	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	0.0032	0.0031	---	---
	29.2	04/04/90	NET	8015/8020/8010/503	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
BH-B (MW-2)	6.8	04/05/90	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	11.2	04/05/90	NET	8015/8020/8010/503	Unsat	<1	<1	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
	19.2	04/05/90	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	29.2	04/05/90	NET	8015/8020/8010/503	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
BH-C (MW-3)	6.8	04/05/90	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	11.2	04/05/90	NET	8015/8020/8010/503	Unsat	3.5	<1	<0.0025	0.0077	0.0043	0.016	ND[c]	<50
	14.2	04/05/90	NET	8015/8020	Sat	130	---	0.032	0.73	0.55	2.0	---	---
	19.2	04/05/90	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	24.2	04/05/90	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	29.2	04/05/90	NET	8015/8020/8010/503	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
BH-D (MW-4)	5.5	06/24/92	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	8.0	06/24/92	NET	8015/8020	Unsat	6.4	---	<0.0025	<0.0025	<0.0025	0.020	---	---
	10.5	06/24/92	NET	8015/8020	Unsat	2.5	---	<0.0025	0.0051	0.0074	0.024	---	---
	13.0	06/24/92	NET	8015/8020	Unsat	44	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	15.0	06/24/92	NET	8015/8020	Sat	9.1[d]	---	<0.0025	<0.0025	<0.0025	0.039	---	---
	25.5	06/24/92	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline
TPH-D = Total petroleum hydrocarbons as diesel
B = Benzene
E = Ethylbenzene
T = Toluene
X = Xylenes
HVOCs = Halogenated volatile organic compounds
POG = Petroleum oil and grease (non-polar)
Sat = Saturated soil sample
Unsat = Unsaturated soil sample
<n = Not detected at detection limit of n ppm

Analytical Laboratory:

NET = National Environmental Testing Pacific, Inc., Santa Rosa, California

Analytic Methods:

503 = APHA Standard Methods 503D&E for TOG
8010 = EPA Method 8010 (GC/HALL) for HVOCs
8015 = Modified EPA Method 8015 (GC/FID) for TPH-G and TPH-D
8020 = EPA Method 8020 (GC/PID) for BETX

Notes:

a = Analytic results for total petroleum hydrocarbons as motor oil (TPH-MO) are reported with TPH-D results by the laboratory
b = Analytic results for petroleum oil and grease are reported with the hydrocarbon (non-polar) oil and grease by the laboratory
c = Not detected at detection limits of 0.002 to 0.05 parts per million (ppm)
d = The result for petroleum hydrocarbons as gasoline does not appear to have a typical gasoline pattern

Table 1. Soil Analytical Data - Shell-branded Service Station, 3750 East 14th Street, Oakland, California

Sample ID	Date Sampled	Depth	O&G	TPHd	TPHg	BTEX	Chlorinated Hydro-carbons	OXYs	1,2-DCA	EDB	Cd	Cr	Pb	Ni	Zn	PNAs	PCP	Creosote	PCBs
		(fbg)	←								(mg/kg)								→
WO-1-5	25-May-06	5	28	7.5[a]	<1.0	<0.0050	ND	<0.0050	<0.0050	<0.0050	<0.500	**62.2**	11.6	108	48.1	ND	<2.5	<0.40	<0.50
SFBRWQCB ESLs for shallow soil where groundwater is a current or potential drinking water source (Residential Land Use)			**500**	**100**	**100**	**Varies**	**Varies**	**Varies**	**0.0045**	**0.00033**	**1.7**	**58**	**150**	**150**	**600**	**Varies**	**4.4**	**--**	**0.22**

Abbreviations and Notes:

O&G = Oil and grease by EPA Method 1664 A (Modified)

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015 (Modified)

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8260B

BTEX = Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8260B

Chlorinated hydrocarbons by EPA Method 8260B; see laboratory analytical report for a complete list of specific constituents

OXYs = Methyl tertiary-butyl ether, di-isopropyl ether, ethyl tertiary-butyl ether, tertiary-amyl methyl ether, and tertiary-butanol by EPA Method 8260B

1,2-DCA = 1,2-Dichloroethane by EPA Method 8260B

EDB = 1,2-Dibromoethane by EPA Method 8260B

Cd = Cadmium by EPA Method 6010B

Cr = Chromium by EPA Method 6010B

Pb = Lead by EPA Method 6010B

Ni = Nickel by EPA Method 6010B

Zn = Zinc by EPA Method 6010B

PNAs = Polynuclear aromatics by EPA Method 8270C; see laboratory analytical report for a complete list of specific constituents

PCP = Pentachlorophenol by EPA Method 8270C

Creosote analyzed by EPA Method 8270C. It is reported as a combination of naphthalene, acenaphthylene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, 1-methylnaphthalene, and 2-methylnaphthene.

PCBs = Polychlorinated biphenyls by EPA Method 8082; see laboratory analytical report for a complete list of specific constiuents

fbg = Feet below grade

mg/kg = Milligrams per kilogram (parts per million)

<x = Not detected at reporting limit x

ND = Not detected; see laboratory analytical report for constituent-specific reporting limits

-- = No applicable environmental screening level

a = Hydrocarbons reported as TPHd do not exhibit a typical Diesel chromatographic pattern. These hydrocarbons are higher boiling than typical diesel fuel.

Data in **BOLD** equals or exceeds applicable San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) environmental screening level (ESL) value

SITE HISTORY SUMMARY

Shell Oil Company records indicate that a steel 550-gallon waste oil tank was removed from the site in November 1986 by Petroleum Engineering, of Santa Rosa, California, and was replaced with a 550-gallon fiberglass tank. The steel tank was apparently installed in 1982.

Following the tank removal, Blaine Tech Services of San Jose, California collected a soil sample from the pit beneath the former tank location. The native soil sample was submitted to Soil and Water Laboratories of Boulder Creek, California (S&W). The soil sample contained 117.4 ppm TOG. The S&W analytic methods and results are presented in Table 1, and laboratory analytic reports are included in Attachment B as part of the Blaine Tech sampling report.

Documentation reviewed by Weiss Associates does not describe the condition of the tank at the time of removal, the disposal of the backfill material excavated from the tank pit or indicate whether native soil was removed from the excavation following the tank removal.

TABLE 1. Analytic Results for Soil Samples, Shell Service Station WIC #204-550-827, 3750 East 14th Street, Oakland, California

Sample ID	Sample Depth	Sample Type	Sampled By	Date Sampled	Analytic Lab	Analytic Method	TOG <----ppm---->
Soil #1	10.2 ft	Excavation Floor	BT	11-7-86	S&W	3550/503E	117.4

Abbreviations:

TOG = Total Oil and Grease
BT = Blaine Tech Services, San Jose California
S&W = Soil and Water Laboratories, Boulder Creek, California
NA = Not Analyzed
ppm = Parts Per Million

Analytic Methods:

3550 = EPA Standard Method 3550, Sonification Extraction
503E = American Public Health Association Standard Method 503E, Gravimetric Quantitation

Table 2
Summary of Groundwater Analytical Results - TPH & VOCs
SAP No.135682
3750 East 14th Street/International Boulevard
Oakland, California

Sample Identification	Sample Date	Depth to Water (feet)	TPH-G (µg/L)	TPH-D (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	EDC (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)
B-1	08/07/08	13.50	200	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	5.8	<10	<2.0	<2.0	<2.0	<100
B-2	08/07/08	14.25	3,900	NA	17	<1.0	6.1	1.1	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
B-3	08/05/08	12.25	<50	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
B-4	08/05/08	13	<50	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
B-5	08/05/08	13.10	180	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
Trip Blank	--	--	<50	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
ESL[1]: Shallow Soils (<3m), Residential Land Use, Groundwater is a Current or Potential Source of Drinking Water (Table A)			100	100	1	40	30	20	0.05	0.5	5	12	NA	NA	NA	NA
ESL[1]: Deep Soils (>3m), Residential Land Use, Groundwater is a Current or Potential Source of Drinking Water ESLs (Table C)			100	100	1	40	30	20	0.05	0.5	5	12	NA	NA	NA	NA

Notes:
µg/L = micrograms per liter
< = Not detected at concentration exceeding laboratory method reporting limit (MRL)
VOC = Volatile organic compound
TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-D = Total Petroleum Hydrocarbons as Diesel
EDB = 1,2-dibromoethane
EDC = 1,2-dichloroethane
MTBE = Methyl tert-Butyl Ether
TBA = Tertiary Butyl Alcohol
DIPE = Diisopropyl Ether
ETBE = Ethyl tert-Butyl Ether
TAME = Tert-Amyl Butyl Ether
NA = Not Analyzed, Not Available
VOC analysis by EPA Method 8260B
Gasoline-range hydrocarbons by EPA Method 8260B
Diesel-range hydrocarbons by EPA Method 8015B
[1] ESL = Environmental Screening Level. Screening criteria referenced are from the *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, San Francisco Bay Region, Interim Final, November 2007, revised May 2008.

ATTACHMENT 5

Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California

Sample	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TCE	TCA	POG
			← parts per billion (µg/L) →								
MW-1 (Annually, 2nd Qtr)	04/11/90	12.01	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	<10
	07/23/90	13.40	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<5
	10/23/90	15.71	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<5
	01/18/91	13.11	72	—	1.8	<0.5	<0.5	<0.5	<0.5	0.6	—
	04/23/91	8.42	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	07/23/91	12.87	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	10/23/91	14.52	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	01/24/92	12.33	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	04/28/92	9.18	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	07/02/92	12.10	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/06/92	14.62	<50	—	<0.5	1.6	2.5	4.4	—	—	—
	01/05/93	8.36	180	—	<0.5	<0.5	<0.5	0.5	—	—	—
	04/27/93	8.50	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/27/93[dup]	8.50	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/25/94	9.83	99	—	0.83	<0.5	<0.5	1.1	—	—	—
	04/12/95	7.30	<50	—	<0.5	1.2	1.9	6.4	—	—	—
MW-2 (Annually, 2nd Qtr)	04/11/90	12.46	<50	<50	<0.5	<0.5	<0.5	<0.5	0.74	<0.4	<10
	07/23/90	13.84	<50	—	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<5
	10/23/90	16.21	<50	—	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	—
	01/18/91	13.64	<50	—	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	—
	04/23/91	9.05	<50	—	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	—
	07/23/91	13.41	<50	—	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	—
	10/23/91	15.03	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	01/24/92	12.86	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	04/28/92	9.56	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	07/02/92	13.70	—	—	—	—	—	—	—	—	—
	10/06/92	15.21	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	01/05/93	8.90	—	—	—	—	—	—	—	—	—
	04/27/93	8.82	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/25/94	10.29	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/12/95	7.74	<50	—	0.51	1.1	1.7	5.7	—	—	—

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Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California (continued)

Sample	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TCE	TCA	POG
			← parts per billion (µg/L) →								
MW-3 (Quarterly)	04/11/90	11.20	290	330	<0.5	0.6	<0.5	0.9	<0.4	<0.4	<10
	07/23/90	12.53	600	—	3.1	13	1.6	15	<0.5	0.6	<5
	10/23/90	14.92	120	130[a]	0.6	<0.5	<0.5	1.1	<0.5	<0.5	<5
	01/18/91	12.64	460	760	6.4	3.2	1.7	1.4	<0.5	<0.5	—
	04/23/91	8.13	530	730[a]	7.1	17	11	18	—	—	—
	07/23/91	12.06	900	770[a]	2.0	<0.5	2.8	4.6	—	—	—
	10/23/91	13.79	800	570[a]	5.6	<0.5	0.7	4.6	—	—	—
	01/24/92	11.58	1,300	830	2.3	3.8	2.3	5.2	—	—	—
	04/28/92	8.55	520	300[a]	0.6	1.2	0.9	3.4	—	—	—
	07/02/92	11.30	1,500	210[a]	39.0	2.0	7.3	18.0	—	—	—
	10/06/92	13.96	950	120[a]	<0.5	16	29	37	—	—	—
	01/05/93	8.42	2,200	—	<0.5	<0.5	<0.5	5.8	—	—	—
	04/27/93	7.90	2,000	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/22/93	10.84	2,500[b]	—	120	65	60	95	—	—	—
	10/18/93	13.02	2,000[b]	—	18	<2.5	<2.5	10	—	—	—
	01/25/94	10.83	11,000[c]	—	<12.5	<12.5	<12.5	<12.5	—	—	—
	01/25/94[dup]	10.83	12,000[c]	—	<12.5	<12.5	<12.5	<12.5	—	—	—
	04/25/94	9.19	1,100	—	<2	<2	<2	<2	—	—	—
	04/25/94[dup]	9.19	890	—	<5	<5	<5	<5	—	—	—
	07/20/94	11.02	5,000[c]	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/11/94	12.79	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/13/95	5.05	590	—	3.7	0.8	<0.5	<0.5	—	—	—
	01/13/95[dup]	5.05	750	—	3.0	1.3	<0.5	<0.5	—	—	—
	04/12/95	7.22	280	—	<0.5	<0.5	0.78	3.3	—	—	—
	07/25/95	10.06	950	—	6.2	9.8	4.1	<0.5	—	—	—
	10/04/95	11.78	470	—	9.1	3.9	12	18	—	—	—
	10/04/95[dup]	11.78	470	—	9.4	4.2	12	18	—	—	—
	01/10/96	8.58	1,400	—	3.8	5.1	<0.5	<0.5	—	—	—
	01/10/96[dup]	8.58	1,500	—	4.1	1.9	<0.5	<0.5	—	—	—
MW-4 (Quarterly)	07/02/92	11.90	580	—	210	290	<0.5	6.3	—	—	—
	10/06/92	14.43	98	—	2.9	4.2	0.7	9.1	—	—	—
	10/06/92[dup]	—	170	—	2.2	3.8	0.6	12	—	—	—
	01/05/93	8.64	740	—	28	53	<0.5	4.0	—	—	—

Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California (continued)

Sample	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TCE	TCA	POG
			← parts per billion (µg/L) →								
	01/05/93[dup]	—	840	—	29	52	<0.5	5.0	—	—	—
	04/27/93	8.34	90	—	1.5	4.2	<0.5	0.8	—	—	—
	07/22/93	11.48	400	—	20	32	3.3	9.4	—	—	—
	07/22/93	11.48	400	—	19	29	4.0	11	—	—	—
	10/18/93	13.54	<50	—	1.9	<0.5	<0.5	0.7	—	—	—
	10/18/93[dup]	13.54	<50	—	1.8	<0.5	<0.5	<0.5	—	—	—
	01/25/94	11.18	2,200	—	39	55	9.0	45	—	—	—
	04/25/94	9.65	1,400	—	21	52	<5	9.7	—	—	—
	07/20/94	11.60	1,100	—	21	30	<0.5	6.7	—	—	—
	07/20/94[dup]	11.60	880	—	20	30	<0.5	6.5	—	—	—
	10/11/94	13.33	660	—	<0.5	3.5	<0.5	3.3	—	—	—
	10/11/94[dup]	13.33	700	—	<0.5	3.6	<0.5	3.3	—	—	—
	01/13/95	5.08	3,900	—	30	100	0.9	5.3	—	—	—
	04/12/95	7.02	250	—	1.9	6.3	1.6	5.6	—	—	—
	04/12/95[dup]	7.02	250	—	2.0	6.5	1.7	5.9	—	—	—
	07/25/95	10.30	210	—	7.2	16	1.0	1.4	—	—	—
	07/25/95[dup]	10.30	200	—	7.0	16	1.0	1.4	—	—	—
	10/04/95	12.34	140	—	2.2	2.9	<0.5	<0.5	—	—	—
	01/10/96	9.03	620	—	<0.5	35	<0.5	5.3	—	—	—
Bailer Blank	07/02/92	—	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/06/92	—	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
Trip Blank	04/11/90		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/23/90		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/23/90		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/18/91		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/23/91		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/23/91		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/23/91		—	—	—	—	—	—	—	—	—
	01/24/92		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/28/92		—	—	—	—	—	—	—	—	—
	07/02/92		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/06/92		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—

Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California (continued)

Sample	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TCE	TCA	POG
			← parts per billion (µg/L) →								
	01/05/93		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/27/93		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/22/93		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/18/93		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/25/94		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/25/94		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/20/94		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/11/94		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/13/95		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/12/95		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/25/95		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/04/95		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/10/96		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
DTSC MCLs			NE	NE	1.0	680	100[d]	1,750	5.0	200	NE

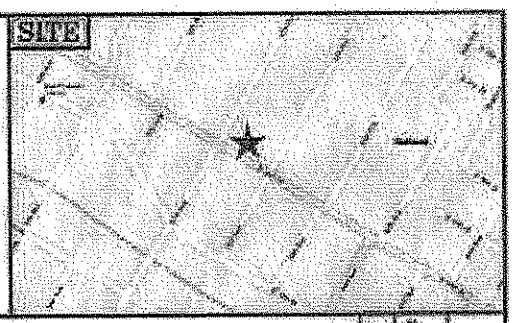
Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
B = Benzene by EPA Method 602 or 8020
E = Ethylbenzene by EPA Method 602 or 8020
T = Toluene by EPA Method 602 or 8020
X = Xylenes by EPA Method 602 or 8020
TCE = Trichloroethene by EPA Method 8010/601
TCA = 1,1,1-Trichloroethane by EPA Method 8010/601
POG = Petroleum oil and grease by American Public Health Association Standard *Methods 503E*
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
NE = Not established
— = Not analyzed
dup = Duplicate sample
<n = Not detected at detection limit of n ppb

Notes:

a = Results due primarily to low boiling hydrocarbons, possibly gasoline or kerosene
b = The concentration reported as gasoline is due to the presence of gasoline and a discrete peak not indicative of gasoline.
c = The concentrations reported as gasoline are primarily due to the presence of a discrete peak not indicative of gasoline.
d = DTSC recommended action level for drinking water, MCL not established

Drilling Started: 08/07/2008
Drilling Completed: 08/07/2008
Drilling Method and Diameter: Direct Push - 2.5" Dia.
Drilling Company: Cascade Drilling
Drilled By:
Logged By: Marisol Ortiz
Boring: B-1



Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
				No Recovery - Air Knifed to 5 feet bgs. 5.00'			
		85	256	*Gravel with Clay and Sand: Light gray.* 6.00'	GC		
6	M	100	278	*Silt and Clay: Light brown, dry, medium plasticity.* 7.00'	CL		6
		100	266	*Clay: Light brown, dry, with high plasticity.*	CL		
8		100	198				8
		85	190	10.00'			
10		75	242	*Gravelly Clay: Dry, medium plasticity.* 11.00'	CL		10
		100	204	*Silt with Clay: Gray, dry, medium plasticity.* 12.00'	CL		
12		100	110	*Clay: Gray, dry, little gravel, high plasticity.*	CL		12
		100	159	▼ 13.50'			
14		75	76.6	*Silty Sand with some Gravel: Gray, damp.* 15.00'	SM		14
		25	265	*Silt with Gravel: Light gray, dry* 16.00'	ML		
16		100	259	*Silty Sand with Gravel: Light brown, moist.* 17.20'	SM		16
		60	58.5	*Coarse Sand and Gravel: Light brown, wet.*	SP		
18							18

▼ Water Level (13.50')

CONTINUOUS CORE Sample Collected for Laboratory Analysis

DELTA

CASHL-BADW-A
09-19-2008 09-19-2008
CALIFORNIA D.F. J.K.
SH5682-B1

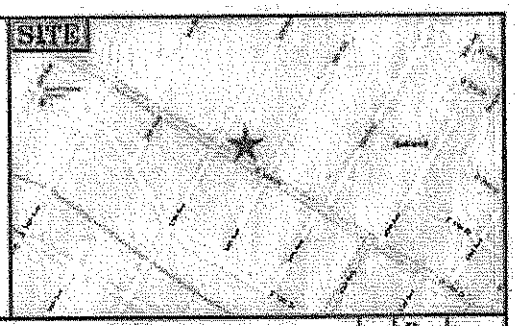
SHELL FACILITY No. 135682
3750 E. 14th Street
Oakland, California

Soil Boring Log
B-1

FIGURE

ATTACHMENT 6

Drilling Started: 08/07/2008
Drilling Completed: 08/07/2008
Drilling Method and Diameter: Direct Push – 2.5" Dia.
Drilling Company: Cascade Drilling
Drilled By:
Logged By: Marisol Ortiz
Boring: B-2



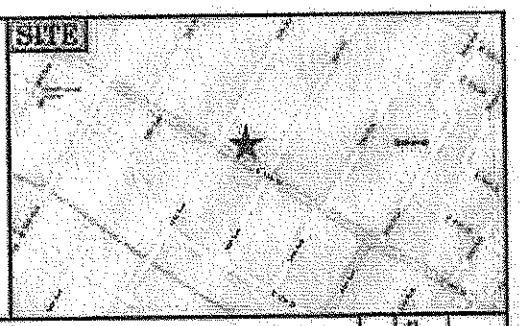
Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
				No Recovery – Air Knifed to 5 feet bgs.			
				5.00'			
		0		*No Recovery*			
		0					
				7.00'			
		30	169	*Gravel: Light gray, with clay.*	GC		
				8.00'			
		100	58.8	*Clay: Gray, moist, high plasticity.*	CL		
				9.00'			
		75	125	*Clay with some Silt and Gravel: Dark gray, moist.*	CL		
				10.00'			
		85	247	*Clay: Black, moist, high plasticity, some gravel.*	CL		
		100	264				
				12.00'			
		50	71.0	*Clay: Black medium to high plasticity, little gravel, moist.*			
				13.00'			
		0		*No Recovery*			
		0					
				▼ 14.25'			
		60	208	*Silty Sand with Little Gravel: Gray, moist, odor.*	SM		
		100	99.5				
				17.00'			
		80	241	*Silty Sand with some Gravel: Light brown, wet.*	SM		

▼ Water Level (14.25')

CONTINUOUS CORE
Sample Collected for Laboratory Analysis

DELTA	CASHL-BADW-A 08-19-2008 08-19-2008 CALIFORNIA G.P. J.E. SH5682-B2	SHELL FACILITY No. 135682 3750 E. 14th Street Oakland, California	Soil Boring Log B-2	FIGURE

Drilling Started: 08/05/2008
Drilling Completed: 08/05/2008
Drilling Method and Diameter: Direct Push – 2.5" Dia.
Drilling Company: Cascade Drilling
Drilled By:
Logged By: Marisol Ortiz
Boring: B-3



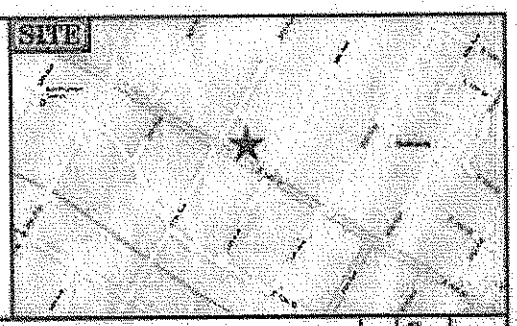
Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
				No Recovery – Air Knifed to 5 feet bgs.			
2							2
4							4
				5.00'			
		0	169	*Clay: Dark brown, high plasticity.*	CH		
6		0	58.8	7.00'			6
		30	169	*Clay, some Sand and Gravel: Light brown.*	CH		
				9.00'			
8		100	58.8	*Clay: Some gravel, low plasticity.*	CL		8
		75	125	*Clay: Light brown, medium plasticity.*			
10				10.50'			10
		0		*No Recovery*			
		0					
				▽ 12.00'			
12		50	71.0	*Sand: Light brown, some silt and gravel, moist.*	SP		12
				13.00'			
		0	264	*Silt: Light brown, with some sand and gravel, moist.*	SM		
				14.00'			
14		0	71.0	*Silt and Clay: Light brown, moist.*	SM		14
16							16
18							18
20							20

▽ Water Level (12.25')

CONTINUOUS CORE
Sample Collected for Laboratory Analysis

DELTA	CASHL-BADW-A	SHELL FACILITY No. 135682 3750 E. 14th Street Oakland, California	Soil Boring Log B-3	FIGURE
	09-19-2008 | 09-19-2008			
	CALIFORNIA | O.F. | J.E.			
	SH5682-B3			

Drilling Started: 08/05/2008
Drilling Completed: 08/05/2008
Drilling Method and Diameter: Direct Push – 2.5" Dia.
Drilling Company: Cascade Drilling
Drilled By:
Logged By: Marisol Ortiz
Boring: B-4



Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
				No Recovery – Air Knifed to 5 feet bgs. 5.00'			
		90	0.0	*Silty Clay: Dark brown, medium plasticity.* 6.00'	CL		
		100		*Clay: Dark brown, high plasticity, moist.* 7.50'	MH		
		100	0.0	*Clay: Some sand and gravel, light brown, medium plasticity.* 8.50'	CL		
		100		*Clay: Light brown, moist, some silt and gravel, medium plasticity.* 9.00'	CL		
		85	0.0	*Clay: Light brown, moist, some silt, high plasticity.* 10.00'	MH		
		80	0.0	*Clay: Light brown, dry, high plasticity.* 11.00'	MH		
		100		*Silty Clay: Light brown, dry, high plasticity.* 12.00'	CL		
	X	100	0.0	*Clay: Light brown, with some silt, medium plasticity, dry.* ▼ 13.00'	CL		
		100		*Sandy Silt with Grave: Light brown, moist.* 14.00'	SM		
		80	0.0	*Sandy Silt wit Gravel: Light brown, moist.*	SM		

▼ Water Level (13.00')

CONTINUOUS CORE
Sample Collected for Laboratory Analysis

DELTA

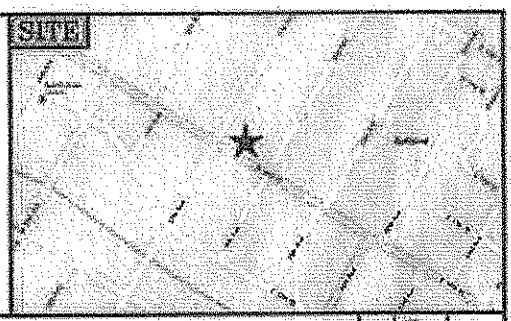
CASHL-BADW-A
09-19-2008 | 09-19-2008
CALIFORNIA | O.F. | I.E.
SH5682-04

SHELL FACILITY No. 135682
3750 E. 14th Street
Oakland, California

Soil Boring Log
B-4

FIGURE

Drilling Started: 08/05/2008
Drilling Completed: 08/05/2008
Drilling Method and Diameter: Direct Push – 2.5" Dia.
Drilling Company: Cascade Drilling
Drilled By:
Logged By: Marisol Ortiz
Boring: B-5



Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
				No Recovery – Air Knifed to 5 feet bgs. 5.00'			
		0		*No Recovery*			
		0					
		0					
		0		9.00'			
		75	0.0	*Clay: Black, moist, with some silt and gravel, medium plasticity.* 10.00'	CL		
		80	0.0	*Silt: Gray, moist, with little sand and gravel.* 11.00'	ML		
		100	0.0	*Clayey Silt: Gray, damp, some gravel.* 12.00'	ML		
	N	100	0.0	*Silty Clay: Gray, moist, medium plasticity.* ▼ 13.00'	CL		
		100	0.0	*Silty Clay: Gray, moist, some gravel, medium plasticity.* 14.50'	CL		
		75	0.0	*Silty Clay: Light brown, moist, low plasticity, some gravel.*	ML		

▼ Water Level (13.10')

CONTINUOUS CORE
Sample Collected for Laboratory Analysis

DELTA

CASHL-BADW-A
09-19-2008 09-19-2008
CALIFORNIA O.P. J.E.
SH5682-B5

SHELL FACILITY No. 135682
3750 E. 14th Street
Oakland, California

Soil Boring Log
B-5

FIGURE

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

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

April 30, 1998
StID # 86

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. Alex Perez
Shell Oil Products Co.
P.O. Box 4023
Concord,CA 94524

RE: Shell Service Station, 3750 E. 14th St., Oakland CA 94601

Dear Mr. Perez:

This letter confirms the completion of site investigation and remedial action for the one 550 gallon waste oil tank and the three fuel tanks removed prior to 1981 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 tank is greatly appreciated.

Based upon the available information and with provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank releases is required.

This notice is issued pursuant to a regulation contained in Title 23, Division 3, Chapter 16, Section 2721 (e) of the California Code of Regulations.

Please contact Barney Chan at (510) 567-6765 if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director, Environmental Health

c: B. Chan, Hazardous Materials Division-files
Chuck Headlee, RWQCB
Dave Deaner, SWRCB Cleanup Fund
Mr. L. Griffin, City of Oakland, OES, 505 14th St., Suite 702
Oakland CA 94612

RACC3750

ATTACHMENT 7

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

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

May 1,1998
StID# 86

Mr. Alex Perez
Shell Products Co.
P.O. Box 4023
Concord CA 94524

RE: Fuel Leak Site Case Closure- Shell Service Station, 3750 E. 14th St., Oakland CA 94601

Dear Mr. Perez:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with the Health and Safety Code, 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 Health Services, Local Oversight Program (LOP) is required to use this case closure letter. We are also enclosing the case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site.

Site Investigation and Cleanup Summary:

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

* 130 parts per million (ppm) Total Petroleum Hydrocarbons as gasoline (TPHg) and 0.032, 0.55, 0.73, 2.0 ppm, BTEX, respectively remain in the soil at the site.

* 1500 parts per billion (ppb) TPHg, 120 ppb TPHd and 4.1, ND, 1.9, ND, BTEX, respectively remain in groundwater at the site.

This site should be included in the City's permit tracking system. Please contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan

Barney M. Chan
Hazardous Materials Specialist

enclosures: Case Closure Letter, Case Closure Summary

c: Mr. L. Griffin, City of Oakland OES, 505 14th St., Suite

files

RO 867
CL

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

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

October 3, 1997
StID # 86

Mr. Alex Perez
Shell Products Co.
P.O. Box 4023
Concord, CA 94524

Re: Closure of Monitoring Wells at Shell Service Station, 3750 E. 14th St., Oakland CA 94601

Dear Mr. Perez:

This letter serves to inform you than our office has received Regional Water Quality Control Board (RWQCB) concurrence for site closure in regards to the underground fuel leak from the three fuel tanks removed prior to 1981 and the former 550 gallon waste oil tank at the above referenced site. Prior to issuing site closure, our office requests the proper closure of the four monitoring wells at this site. You may contact Mr. Andreas Godfrey of Alameda County Public Works at (510) 670-5575 for permit requirements.

I may be reached at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

c: B. Chan, files
welcl3750

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION **Date:** 8/28/97

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Parkway Rm 250, Alameda CA 94502**

City/State/Zip: **Alameda** Phone: **(510) 567-6700**

Responsible staff person: Barney Chan Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: Shell Service Station WIC # 204-5508-2709

Site facility address: 3750 E. 14th St., Oakland CA 94601

RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: 86

ULR filing date: 2/6/91 SWEEPS No: **N/A**

Responsible Parties:	**Addresses:**	**Phone Numbers:**
Shell Products Co.	P.O. Box 4023	
Mr. ~~Jeff Granberry~~ Alex Perez	Concord, CA 94524	

Tank No:	**Size in gal.:**	**Contents:**	**Closed in-place or removed?:**	**Date:**
1	550	Waste Oil	Removed	11/86
2-4	3 fuel tanks reportedly removed prior to 1981. Tank closure reports lacking for all removals.			

III RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: unknown

Site characterization complete? Yes

Date approved by oversight agency:

Monitoring Wells installed? YES Number: 4

Proper screened interval? Yes, from approx. 5-25' bgs

Highest GW depth: 5.05'bgs Lowest depth: 15.7' bgs

Flow direction: Has varied from northwest to south, but predominantly southwesterly

Most sensitive current use: commercial

Are drinking water wells affected? No Aquifer name: NA

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)? Alameda County
1131 Harbor Bay Parkway,
Room 250, Alameda CA 94502-6577

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment of Disposal w/destination)	Date
Tanks	1-550 gallon & 3 fuel tanks	Records of removals not available	1986 pre-1981

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm) [2] Before	Soil (ppm) After	Water (ppb) [3] Before	Water (ppb) After
TPH (Gas)	130	130	12,000	1500
TPH (Diesel)			830	120
Benzene	0.032	0.032	210	4.1
Toluene	0.55	0.55	60	<0.5
Ethylbenzene	0.73	0.73	290	1.9
Xylenes	2.0	2.0	95	<0.5
Oil and Grease	1 117	117	ND	ND
Chlorinated HC: TCE	4 ND		0.74	ND
TCA			0.6	ND

Comments (Depth of Remediation, etc.):
1 sample from waste oil tank removal
2 results from 14.2' boring from MW-3
3 highest historic concentration detected
4 borings from MW1-3

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? unknown

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? unknown

Leaking Underground Fuel Storage Tank Program

IV. CLOSURE

Does corrective action protect public health for current land use? YES

Site management requirements: NA

Should corrective action be reviewed if land use changes? Yes ✓

Monitoring wells Decommisioned: NO, pending closure

Number Decommisioned: 0 Number Retained: 4

List enforcement actions taken: None

List enforcement actions rescinded:None

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Barney M. Chan Title: Hazardous Materials Specialist

Signature: Barney M. Chan Date: 8/28/97

Reviewed by

Name: Brian Oliva Title: Hazardous Materials Specialist

Signature: Brian Oliva Date: 8/13/97

Name: Tom Peacock Title: Manager

Signature: Tom Peacock Date: 8-21-97

VI. RWQCB NOTIFICATION

Date Submitted to RB: RB Response: Approved

RWQCB Staff Name: K. Graves Title: AWRCE Date: 9-29-97

VII. ADDITIONAL COMMENTS, DATA, ETC.

This property is owned by Shell Oil Products Co. and is used currently as a gasoline service station and automotive repair shop. One 550 gallon waste oil tank and three 10,000 gallon gasoline tanks currently exist at this site. Three fuel tanks and 1-550 gallon waste oil tank were removed from this site. The waste oil tank was removed in November 1986. No information is available regarding the fuel tanks removals.

VII. ADDITIONAL COMMENTS (contd)

Our office was informed of analytical results from the 1986 waste oil tank removal in an October 13, 1989 letter from Weiss Associates. The soil sample collected from beneath the tank at 10.2' depth detected 117 ppm TOG. Due to the lack of information pertaining to the waste oil tank removal, Shell decided to install three (3) monitoring wells at the site in 4/5/90. Significant soil contamination was found only in the 14.2' bg sample from MW-3 which exhibited 130 ppm TPHg and 0.032, 0.73, 0.55, 2.0 ppm BTEX, respectively. Groundwater monitoring occurred for several years during which TPHg, TPHd and BTEX was detected only in MW-3. Since MW-3 was located downgradient to both the current and former fuel USTs, Shell decided to install monitoring well MW-4 immediately downgradient of the former fuel USTs on 6/24/92. Very little petroleum contamination was detected in the borings from MW-4. Groundwater monitoring has continued for an additional 3.5 years yielding data which indicates that that the residual groundwater plume beneath this site has stabilized and remains in the area of the former and existing fuel USTs. A Tier 1 evaluation was performed by Weiss Associtates on the this site determining risk with the viable exposure pathways. The maximum historic soil concentration and the maximum groundwater concentration detected within the past year of monitoring was used to evaluate against the Tier 1 RBSL. No risk to human health was determined to exist in excess of 10^{-5}.

No further work is recommended since:

1. Site the site has been adequately characterized;

2. The dissolved plume is confined within the property boundary;

3. The site presents no significant risk to human health or the environment;

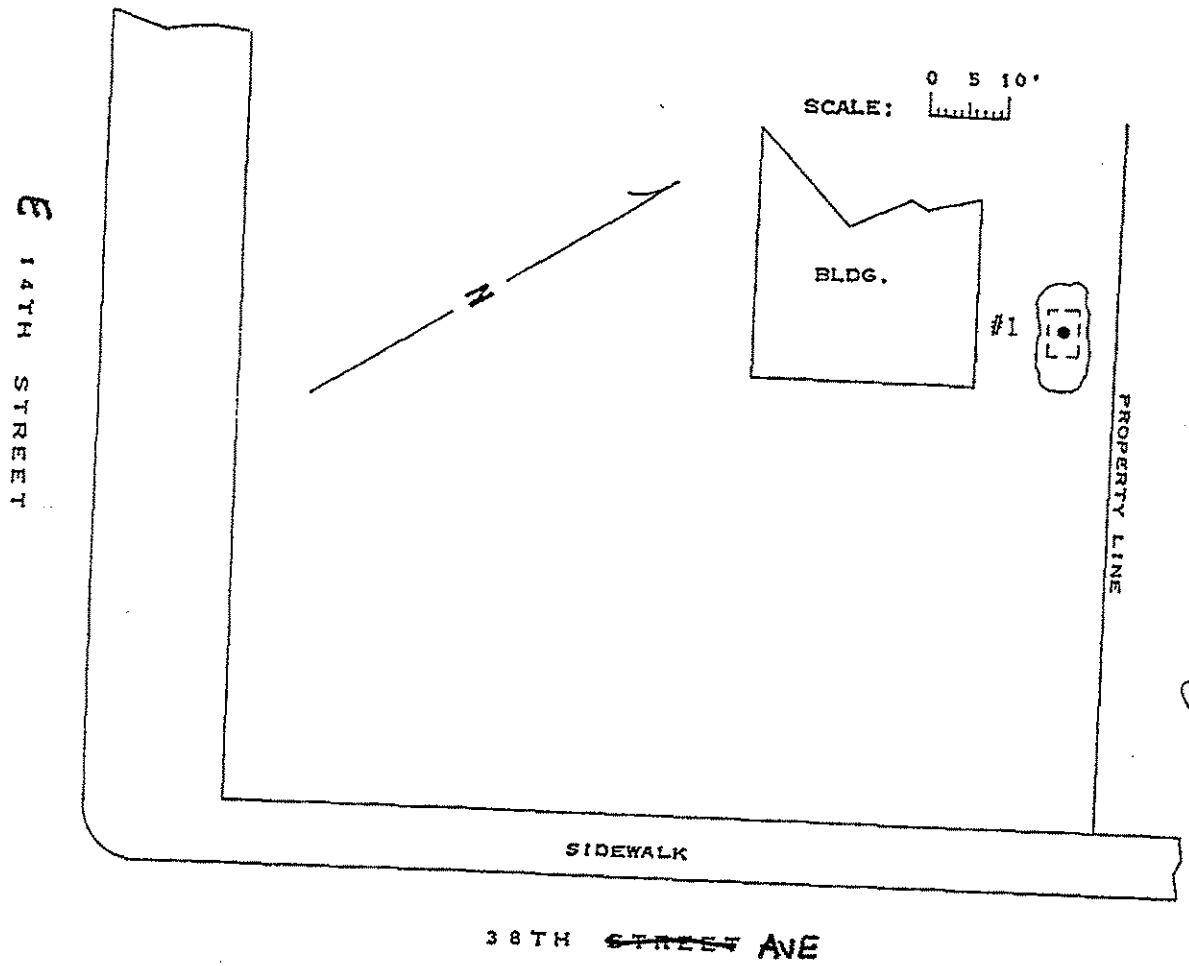
4. Long term monitoring has shown that the plume is stable and should continue to passively bioremediate.

CCL3750

BLAINE
TECH SERVICES

SAMPLING REPORT 86306F1 11-2-86 SHELL OIL, 3750 EAST 14TH STREET, OAKLAND, CA

MAP REF: THOMAS BROS. ALAMEDA COUNTY P. 12 B-3



#1 SOIL FROM 10.2'
ANALYSIS FOR WASTE OIL
AT SOIL AND WATER LABORATORY
S & W LAB NO. 306B6.5

SAMPLING PERFORMED BY
FRANK A. CLINE

DIAGRAM PREPARED BY
TAMMIE STALLINGS

Tammie Stallings

SITE HISTORY SUMMARY

Shell Oil Company records indicate that a steel 550-gallon waste oil tank was removed from the site in November 1986 by Petroleum Engineering, of Santa Rosa, California, and was replaced with a 550-gallon fiberglass tank. The steel tank was apparently installed in 1982.

Following the tank removal, Blaine Tech Services of San Jose, California collected a soil sample from the pit beneath the former tank location. The native soil sample was submitted to Soil and Water Laboratories of Boulder Creek, California (S&W). The soil sample contained 117.4 ppm TOG. The S&W analytic methods and results are presented in Table 1, and laboratory analytic reports are included in Attachment B as part of the Blaine Tech sampling report.

Documentation reviewed by Weiss Associates does not describe the condition of the tank at the time of removal, the disposal of the backfill material excavated from the tank pit or indicate whether native soil was removed from the excavation following the tank removal.

TABLE 1. Analytic Results for Soil Samples, Shell Service Station WIC #204-550-827, 3750 East 14th Street, Oakland, California

Sample ID	Sample Depth	Sample Type	Sampled By	Date Sampled	Analytic Lab	Analytic Method	TOG <----ppm---->
Soil #1	10.2 ft	Excavation Floor	BT	11-7-86	S&W	3550/503E	117.4

Abbreviations:

TOG = Total Oil and Grease
BT = Blaine Tech Services, San Jose California
S&W = Soil and Water Laboratories, Boulder Creek, California
NA = Not Analyzed
ppm = Parts Per Million

Analytic Methods:

3550 = EPA Standard Method 3550, Sonification Extraction
503E = American Public Health Association Standard Method 503E, Gravimetric Quantitation

Table 2. Results of Soil Analyses - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California

Soil Boring (Well ID)	Sample Depth (ft)	Date Sampled	Analytic Lab	Analytic Method	Sat/ Unsat	TPH-G	TPH-D[a]	B	E	T	X	HVOC	POG[b]
						<----------parts per million (mg/kg)---------->							
BH-A (MW-1)	5.2	04/04/90	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	9.8	04/04/90	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	12.8	04/04/90	NET	8015/8020/8010/503	Unsat	<1	<1	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
	20.2	04/04/90	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	0.0032	0.0031	---	---
	29.2	04/04/90	NET	8015/8020/8010/503	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
BH-B (MW-2)	6.8	04/05/90	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	11.2	04/05/90	NET	8015/8020/8010/503	Unsat	<1	<1	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
	19.2	04/05/90	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	29.2	04/05/90	NET	8015/8020/8010/503	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
BH-C (MW-3)	6.8	04/05/90	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	11.2	04/05/90	NET	8015/8020/8010/503	Unsat	3.5	<1	<0.0025	0.0077	0.0043	0.016	ND[c]	<50
	14.2	04/05/90	NET	8015/8020	Sat	130	---	0.032	0.73	0.55	2.0	---	---
	19.2	04/05/90	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	24.2	04/05/90	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	29.2	04/05/90	NET	8015/8020/8010/503	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	ND[c]	<50
BH-D (MW-4)	5.5	06/24/92	NET	8015/8020	Unsat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	8.0	06/24/92	NET	8015/8020	Unsat	6.4	---	<0.0025	<0.0025	<0.0025	0.020	---	---
	10.5	06/24/92	NET	8015/8020	Unsat	2.5	---	<0.0025	0.0051	0.0074	0.024	---	---
	13.0	06/24/92	NET	8015/8020	Unsat	44	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---
	15.0	06/24/92	NET	8015/8020	Sat	9.1[d]	---	<0.0025	<0.0025	<0.0025	0.039	---	---
	25.5	06/24/92	NET	8015/8020	Sat	<1	---	<0.0025	<0.0025	<0.0025	<0.0025	---	---

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline
TPH-D = Total petroleum hydrocarbons as diesel
B = Benzene
E = Ethylbenzene
T = Toluene
X = Xylenes
HVOCs = Halogenated volatile organic compounds
POG = Petroleum oil and grease (non-polar)
Sat = Saturated soil sample
Unsat = Unsaturated soil sample
<n = Not detected at detection limit of n ppm

Analytical Laboratory:

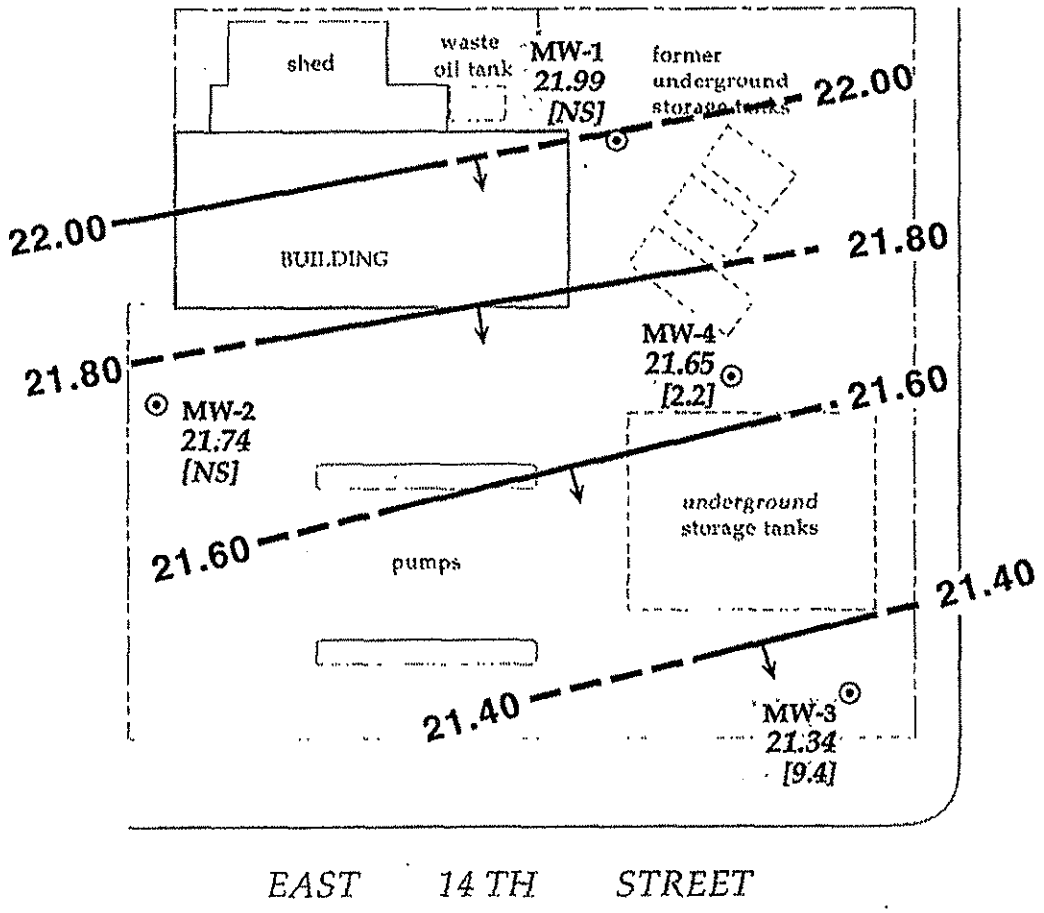
NET = National Environmental Testing Pacific, Inc., Santa Rosa, California

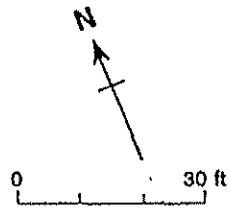
Analytic Methods:

503 = APHA Standard Methods 503D&E for TOG
8010 = EPA Method 8010 (GC/HALL) for HVOCs
8015 = Modified EPA Method 8015 (GC/FID) for TPH-G and TPH-D
8020 = EPA Method 8020 (GC/PID) for BETX

Notes:

a = Analytic results for total petroleum hydrocarbons as motor oil (TPH-MO) are reported with TPH-D results by the laboratory
b = Analytic results for petroleum oil and grease are reported with the hydrocarbon (non-polar) oil and grease by the laboratory
c = Not detected at detection limits of 0.002 to 0.05 parts per million (ppm)
d = The result for petroleum hydrocarbons as gasoline does not appear to have a typical gasoline pattern





EXPLANATION

⊙ MW-1	Monitoring well
21.65	Ground water elevation, feet above mean sea level (msl)
[2.2]	Benzene concentrations in parts per billion (ppb)
NS	Not sampled
21.60	Ground water elevation contour, ft above msl, approximately located, dashed where inferred
→	Inferred ground water flow direction

Figure 2. Monitoring Well Locations, Ground Water Elevation Contours, and Benzene Concentration in Ground Water - Oct. 4, 1995 - Shell Service Station WIC #204-5508-2709, 3750 East 14th Street, Oakland, California

Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California

Sample	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TCE	TCA	POG
			← parts per billion (µg/L) →								
MW-1 (Annually, 2nd Qtr)	04/11/90	12.01	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	<10
	07/23/90	13.40	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<5
	10/23/90	15.71	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<5
	01/18/91	13.11	72	—	1.8	<0.5	<0.5	<0.5	<0.5	0.6	—
	04/23/91	8.42	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	07/23/91	12.87	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	10/23/91	14.52	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	01/24/92	12.33	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	04/28/92	9.18	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	07/02/92	12.10	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/06/92	14.62	<50	—	<0.5	1.6	2.5	4.4	—	—	—
	01/05/93	8.36	180	—	<0.5	<0.5	<0.5	0.5	—	—	—
	04/27/93	8.50	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/27/93[dup]	8.50	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/25/94	9.83	99	—	0.83	<0.5	<0.5	1.1	—	—	—
	04/12/95	7.30	<50	—	<0.5	1.2	1.9	6.4	—	—	—
MW-2 (Annually, 2nd Qtr)	04/11/90	12.46	<50	<50	<0.5	<0.5	<0.5	<0.5	0.74	<0.4	<10
	07/23/90	13.84	<50	—	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<5
	10/23/90	16.21	<50	—	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	—
	01/18/91	13.64	<50	—	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	—
	04/23/91	9.05	<50	—	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	—
	07/23/91	13.41	<50	—	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	—
	10/23/91	15.03	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	01/24/92	12.86	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	04/28/92	9.56	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	07/02/92	13.70	—	—	—	—	—	—	—	—	—
	10/06/92	15.21	<50	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	—
	01/05/93	8.90	—	—	—	—	—	—	—	—	—
	04/27/93	8.82	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/25/94	10.29	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/12/95	7.74	<50	—	0.51	1.1	1.7	5.7	—	—	—

Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California (continued)

Sample	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TCE	TCA	POG
			← parts per billion (µg/L) →								
MW-3 (Quarterly)	04/11/90	11.20	290	330	<0.5	0.6	<0.5	0.9	<0.4	<0.4	<10
	07/23/90	12.53	600	—	3.1	13	1.6	15	<0.5	0.6	<5
	10/23/90	14.92	120	130[a]	0.6	<0.5	<0.5	1.1	<0.5	<0.5	<5
	01/18/91	12.64	460	760	6.4	3.2	1.7	1.4	<0.5	<0.5	—
	04/23/91	8.13	530	730[a]	7.1	17	11	18	—	—	—
	07/23/91	12.06	900	770[a]	2.0	<0.5	2.8	4.6	—	—	—
	10/23/91	13.79	800	570[a]	5.6	<0.5	0.7	4.6	—	—	—
	01/24/92	11.58	1,300	830	2.3	3.8	2.3	5.2	—	—	—
	04/28/92	8.55	520	300[a]	0.6	1.2	0.9	3.4	—	—	—
	07/02/92	11.30	1,500	210[a]	39.0	2.0	7.3	18.0	—	—	—
	10/06/92	13.96	950	120[a]	<0.5	16	29	37	—	—	—
	01/05/93	8.42	2,200	—	<0.5	<0.5	<0.5	5.8	—	—	—
	04/27/93	7.90	2,000	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/22/93	10.84	2,500[b]	—	120	65	60	95	—	—	—
	10/18/93	13.02	2,000[b]	—	18	<2.5	<2.5	10	—	—	—
	01/25/94	10.83	11,000[c]	—	<12.5	<12.5	<12.5	<12.5	—	—	—
	01/25/94[dup]	10.83	12,000[c]	—	<12.5	<12.5	<12.5	<12.5	—	—	—
	04/25/94	9.19	1,100	—	<2	<2	<2	<2	—	—	—
	04/25/94[dup]	9.19	890	—	<5	<5	<5	<5	—	—	—
	07/20/94	11.02	5,000[c]	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/11/94	12.79	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/13/95	5.05	590	—	3.7	0.8	<0.5	<0.5	—	—	—
	01/13/95[dup]	5.05	750	—	3.0	1.3	<0.5	<0.5	—	—	—
	04/12/95	7.22	280	—	<0.5	<0.5	0.78	3.3	—	—	—
	07/25/95	10.06	950	—	6.2	9.8	4.1	<0.5	—	—	—
	10/04/95	11.78	470	—	9.1	3.9	12	18	—	—	—
	10/04/95[dup]	11.78	470	—	9.4	4.2	12	18	—	—	—
	01/10/96	8.58	1,400	—	3.8	5.1	<0.5	<0.5	—	—	—
	01/10/96[dup]	8.58	1,500	—	4.1	1.9	<0.5	<0.5	—	—	—
MW-4 (Quarterly)	07/02/92	11.90	580	—	210	290	<0.5	6.3	—	—	—
	10/06/92	14.43	98	—	2.9	4.2	0.7	9.1	—	—	—
	10/06/92[dup]	—	170	—	2.2	3.8	0.6	12	—	—	—
	01/05/93	8.64	740	—	28	53	<0.5	4.0	—	—	—

Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California (continued)

Sample	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TCE	TCA	POG
			← parts per billion (µg/L) →								
	01/05/93[dup]	—	840	—	29	52	<0.5	5.0	—	—	—
	04/27/93	8.34	90	—	1.5	4.2	<0.5	0.8	—	—	—
	07/22/93	11.48	400	—	20	32	3.3	9.4	—	—	—
	07/22/93	11.48	400	—	19	29	4.0	11	—	—	—
	10/18/93	13.54	<50	—	1.9	<0.5	<0.5	0.7	—	—	—
	10/18/93[dup]	13.54	<50	—	1.8	<0.5	<0.5	<0.5	—	—	—
	01/25/94	11.18	2,200	—	39	55	9.0	45	—	—	—
	04/25/94	9.65	1,400	—	21	52	<5	9.7	—	—	—
	07/20/94	11.60	1,100	—	21	30	<0.5	6.7	—	—	—
	07/20/94[dup]	11.60	880	—	20	30	<0.5	6.5	—	—	—
	10/11/94	13.33	660	—	<0.5	3.5	<0.5	3.3	—	—	—
	10/11/94[dup]	13.33	700	—	<0.5	3.6	<0.5	3.3	—	—	—
	01/13/95	5.08	3,900	—	30	100	0.9	5.3	—	—	—
	04/12/95	7.02	250	—	1.9	6.3	1.6	5.6	—	—	—
	04/12/95[dup]	7.02	250	—	2.0	6.5	1.7	5.9	—	—	—
	07/25/95	10.30	210	—	7.2	16	1.0	1.4	—	—	—
	07/25/95[dup]	10.30	200	—	7.0	16	1.0	1.4	—	—	—
	10/04/95	12.34	140	—	2.2	2.9	<0.5	<0.5	—	—	—
	01/10/96	9.03	620	—	<0.5	35	<0.5	53	—	—	—
Bailer Blank	07/02/92	—	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/06/92	—	<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
Trip Blank	04/11/90		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/23/90		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/23/90		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/18/91		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/23/91		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/23/91		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/23/91		—	—	—	—	—	—	—	—	—
	01/24/92		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/28/92		—	—	—	—	—	—	—	—	—
	07/02/92		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/06/92		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—

Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California (continued)

Sample	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TCE	TCA	POG
			← parts per billion (µg/L) →								
	01/05/93		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/27/93		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/22/93		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/18/93		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/25/94		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/25/94		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/20/94		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/11/94		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/13/95		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	04/12/95		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	07/25/95		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	10/04/95		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
	01/10/96		<50	—	<0.5	<0.5	<0.5	<0.5	—	—	—
DTSC MCLs			NE	NE	1.0	680	100[d]	1,750	5.0	200	NE

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
B = Benzene by EPA Method 602 or 8020
E = Ethylbenzene by EPA Method 602 or 8020
T = Toluene by EPA Method 602 or 8020
X = Xylenes by EPA Method 602 or 8020
TCE = Trichloroethene by EPA Method 8010/601
TCA = 1,1,1-Trichloroethane by EPA Method 8010/601
POG = Petroleum oil and grease by American Public Health Association Standard *Methods 503E*
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
NE = Not established
— = Not analyzed
dup = Duplicate sample
<n = Not detected at detection limit of n ppb

Notes:

a = Results due primarily to low boiling hydrocarbons, possibly gasoline or kerosene
b = The concentration reported as gasoline is due to the presence of gasoline and a discrete peak not indicative of gasoline.
c = The concentrations reported as gasoline are primarily due to the presence of a discrete peak not indicative of gasoline.
d = DTSC recommended action level for drinking water, MCL not established

Table 1. **Commercial/Industrial Receptors** - Comparison of Site Characterization Data to Tier 1 Risk-Based Screening Levels - Shell Service Station, WIC #204-5508-2709, 3750 East 14th Street, Oakland, California

Source Medium	Exposure Pathway	Potentially Complete Pathway?	Benzene		Ethylbenzene		Toluene		Xylenes	
			Maximum Detected Concentration[a]	RBSL[b]	Maximum Detected Concentration[a]	RBSL[c]	Maximum Detected Concentration[a]	RBSL[c]	Maximum Detected Concentration[a]	RBSL[c]
Soil (mg/kg)	**Volatilization to Outdoor Air**	Yes	0.032	1.33	0.73	RES	0.55	RES	2.0	RES
	Vapor Intrusion to Buildings	Yes	0.032	0.032	0.73	1,100	0.55	54.5	2.0	RES
	Surficial Soil (0-3 ft depth): Ingestion/Dermal/Inhalation	*No*	*No Data*	29	No Data	11,500	No Data	18,700	No Data	208,000
	Leachate to Ground Water for Ingestion	No	0.032	0.17	0.73	1,610	0.55	361	2.0	RES
Ground Water (mg/l)	**Volatilization to Outdoor Air**	Yes	0.0094	53.4	0.035	>S	0.012	>S	0.018	>S
	Vapor Intrusion to Buildings	Yes	0.0094	0.21	0.035	>S	0.012	85	0.018	>S
	Ingestion	No	0.0094	0.029	0.035	10.2	0.012	20.4	0.018	>S

Notes:

RBSL = ASTM RBCA Tier 1 Risk-Based Screening Level
RES = Selected risk level is not exceeded for pure compound present at any concentration in soil.
>S = At pure compound solubility (mg/l), selected risk level is not exceeded.
a = *Maximum concentrations in soil* were detected in a sample collected on 4/05/90 from 14.2 ft depth in the soil boring for well MW-3. Maximum concentrations in ground water during the most recent four quarters of ground water sampling (April 1995 - January 1996) were detected in samples collected on 10/04/95 from well MW-3 (benzene, toluene and xylenes) and on 1/10/96 from well MW-4 (ethylbenzene).
b = The RBSLs used for benzene are based on a carcinogenic risk of 1 in 100,000 (10^{-5}) and California's standard cancer slope factor of 0.1 mg/kg-day.
c = The RBSLs used for non-carcinogenic compounds are based on a chronic hazard quotient of 1.0.