

ALAMEDA COUNTY  
**HEALTH CARE SERVICES  
AGENCY**

ALEX BRISCOE, Agency Director



DEPARTMENT OF ENVIRONMENTAL HEALTH  
OFFICE OF THE DIRECTOR  
1131 HARBOR BAY PARKWAY  
ALAMEDA, CA 94502  
(510) 567-6777  
FAX (510) 337-9135

August 13, 2010

Ms. Sandra Stephens  
Catellus Finance 1 LLC  
2235 Faraday Avenue, Ste. O  
Carlsbad, CA 92008

Subject: Subject: Fuel Leak Case, RO0000326, Bashland, 4015 Hollis St., Emeryville, CA 94608

Dear Mr. Boyer:

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.

**SITE INVESTIGATION AND CLEANUP SUMMARY**

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

- Residual pollution remaining in soil beneath the site includes 1,500 ppm TPH as oil and 1,600 ppm Oil and Grease.
- Maximum concentrations of up to 350 ppb TPH as oil and 400 ppb Oil and Grease remain in groundwater beneath the site.

If you have any questions, please call Barbara Jakub at (510) 639-1287. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna L. Drogos". The signature is fluid and cursive, with a small mark at the end that could be a checkmark or a flourish.

Donna L. Drogos, P.E.  
Division Chief

Enclosures:

1. Remedial Action Completion Certificate
2. Case Closure Summary

Ms. Stephens  
July 2, 2010  
Page 2

cc:

Ms. Cherie McCaulou (w/enc) (via electronic  
mail: [cmccaulou@waterboards.ca.gov](mailto:cmccaulou@waterboards.ca.gov))  
SF- Regional Water Quality Control Board

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

Barbara Jakub (w/ enc via e-mail), D. Drogos (w/ enc via e-mail), T. LeKhan (w/orig enc)

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**REMEDIAL ACTION COMPLETION CERTIFICATE**

Subject: Fuel Leak Case, RO0000326, Bashland, 4015 Hollis St., Emeryville, CA 94608

Dear Ms. Stephens:

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 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,

  
Ariu Levi  
Director  
Alameda County Environmental Health

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

**I. AGENCY INFORMATION**

Date: September 18, 2008

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 639-1287
Responsible Staff Person: Barbara Jakub	Title: Hazardous Materials Specialist

**II. CASE INFORMATION**

Site Facility Name: Bashland Inc.		
Site Facility Address: 4015 Hollis St. Emeryville, CA 94608		
RB Case No.: 01-1723	Local Case No.: 4251	LOP Case No.: RO0000326
URF Filing Date: 7/15/97	Geotracker ID: T0600101594	APN: 49-617-26-5
Responsible Parties	Addresses	Phone Numbers
Sandra Stevens, Catellus Development Corp.	4000 Westerly Pl. Newport Beach, CA 92660-2328	-

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
West	12,000	Diesel	Removed	4/7/92
Middle	1,200	Oil	Removed	4/7/92
East	12,000	Diesel	Removed	4/7/92
Piping			Removed	4/7/92

**III. RELEASE AND SITE CHARACTERIZATION INFORMATION**

Cause and Type of Release: Corroded and/or leaking USTs	
Site characterization complete? Yes	Date Approved By Oversight Agency: -----

Monitoring wells installed? Yes	Number: 1 (MW-31 replaced LF-31)	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 6.72 feet bgs	Lowest Depth: 7.55 feet bgs	Flow Direction: West
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity: A well survey was not conducted. Considering the non-migratory residual concentrations of dissolved phase petroleum hydrocarbons in groundwater that is confined to the primary source areas at the Site, no water wells, deeper drinking water aquifers, surface water or other sensitive receptors are likely to be impacted. Therefore, it appears likely that the contaminant plume does not extend beyond the subject property and a well survey does not appear warranted.

Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: San Francisco Bay
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health (and Local CUPA where applicable)

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	2- 12,000 gallon, & 1 – 1,200 gallon	Taken to H & H facility in San Francisco, CA	4/7/92
	oil-water separator	Separator taken to landfill in Beatty, NV	3/23/93
Piping	Approximately 25 feet	Taken to H & H facility in San Francisco, CA	4/7/92
	oil-water separator piping	Piping from separator taken to landfill in Beatty, NV	3/23/93
Free Product	2,000 gallons oil and water. 1,000 gallons oil	Oil and water taken to H & H facility. Oil taken to Evergreen Oil Recycling Facility in Newark, CA	4/7/92
	Sludge and product removed from oil-water separator	Sludge taken to Evergreen Oil Recycling facility in Newark, CA. Some remaining sludge taken to landfill in Beatty, NV	2/4/93
Soil	200 yd <sup>3</sup>	Excavated soil put into soil containment program at Yerba Buena site	4/7/92
	1,200 yd <sup>3</sup>	500 yd <sup>3</sup> were reused as backfill. Remaining 700 yd <sup>3</sup> contained under paved parking area and/or building foundation as per RWQCB approved Containment Plan for Yerba Buena /East Baybridge Development Site.	2/3-16/93
Groundwater	4,500 gallons	Purged groundwater taken to H & H facility in San Francisco, CA	4/7/92
Groundwater (Cont.)	(5/18/93) unknown amount (SWI_R_1993-07-16)	(5/18/93) unknown disposal location	5/18/93

**MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP**  
 (Please see Attachments x – x for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	2.4	<0.2	<500	<500
TPH (Diesel)	3,600	<10	1,200	350
TPH(Oil)	1,500	1,500	400	400
Oil and Grease	1,600	1,600	<50	<50
Benzene	<0.005	<0.005	<0.5	<0.5
Toluene	0.018	<0.005	<0.5	<0.5
Ethylbenzene	<0.005	<0.005	<0.5	<0.5
Xylenes	0.107	<0.005	<2	<2
Heavy Metals (Cd, Cr, Pb, Ni, Zn)	47 <sup>(1)</sup>	47 <sup>(1)</sup>	NA	NA
MTBE	NA	NA	<0.5 <sup>(2)</sup>	<0.5 <sup>(2)</sup>
Other (8240/8270)	-	-	22 <sup>(3)</sup>	12 <sup>(4)</sup>
PCBs	<0.16	<0.16	NA	NA

ND = Not Detected  
 NA = Not Analyzed

(1) 0.4 ppm Cd, 47 ppm Cr, 11 ppm Pb, 41 ppm Ni, and 45 ppm Zn

(2) MTBE was analyzed. However, no other oxygenates or lead scavengers were analyzed.

(3) 8 µg/L cis 1,2 Dichloroethene (DCE) and 22 µg/L Trichloroethene (TCE)

(4) 4 µg/L cis/trans 1,2 DCE, 8 µg/L TCE, and 12 µg/L Total VOCs (GWM\_R\_2002-01-31, MW-31R) Solvent case (01S0226) addressed by RWQCB.

#### Site History and Description of Corrective Actions:

The site was used as a bus and truck service garage from approximately 1953 to 1983. Bashland, Inc. operated a warehouse on the site from 1985 to 1991. Property ownership was transferred to Catellus Development Corporation for redevelopment in 1991.

Three USTs (2-deisel and 1-oil) were removed on April 7, 1992. Analysis of soil samples from the excavation indicated maximum concentrations of 1,500 milligrams per kilogram(mg/Kg) total petroleum hydrocarbons as oil (TPHo), 8 mg/Kg TPH-d, 1,300 mg/Kg oil and grease and metals in low concentrations. No TPHg or BTEX were detected in soil. Analysis of groundwater samples collected from the excavation detected maximum groundwater concentrations of 400 micrograms per liter ( $\mu\text{g/L}$ ) TPHo, 1,200  $\mu\text{g/L}$  TPHd, 7  $\mu\text{g/L}$  cis – 1,2 dichloroethene, and 22  $\mu\text{g/L}$  trichloroethene. 4,500 gallons of water was pumped out of the tank pit prior to backfill with clean fill.

One monitoring well (LF-31) was installed on February 12, 1993 and five soil samples were taken beneath the northern retaining wall on February 1, 1993. Groundwater analysis from the monitoring well installation showed approximately 50  $\mu\text{g/L}$  of TPHd and TPHg. Analysis of soil samples detected a maximum of 2.4  $\mu\text{g/L}$  methylene chloride and was reported by the laboratory as being "within normal laboratory background levels".

Remediation activities took place on the concrete slab of the warehouse from February 3 to February 16, 1993. During removal of the concrete slab of the warehouse, an oil-water separator, concrete inspection pit, and two hydraulic lifts were discovered. Product and sludge was pumped out of the oil-water separator and the concrete vault of one of the hydraulic lifts. Liquid sampling and characterization indicated that product in the oil-water separator was diesel, heavy oil, and mineral spirits and liquid in the concrete vault was heavy oil.

Remediation activities continued with the removal of the oil-water separator on March 23, 1993, the concrete inspection pit on February 10 1993, and the two hydraulic lifts on February 3 and 16, 1993. After excavations, the northern portion of the warehouse slab had maximum levels of 180 ppm TRPH (total recoverable petroleum hydrocarbons as oil and grease), and 23 ppm TPHd in the soil. The southern portion of the warehouse slab reported maximum soil levels of 1,600 ppm Oil and Grease and 1,500 ppm TRPH in the bottom of the excavation near the location of the hydraulic lift. A water sample collected from the hydraulic lift excavation detected 1,200  $\mu\text{g/L}$  TPHd. No other constituents were detected. A total of 1,200 cubic yards of soil was excavated. The soil was either reused or contained beneath the parking ad paved lots in accordance with an RWQCB approved containment plan.

Monitoring well LF-31 was decommissioned and replaced by a new well (MW-31) in November of 1995.

Monitoring well MW-31 was sampled and analyzed for MTBE on April 9, 2002. No MTBE was detected in the sample.

Groundwater monitoring has been conducted at the site since February of 1993. Typically, TPHd, TCE, and 1,2 cis/trans-DCE have been detected in the groundwater from initial sampling of February 1993 to final sampling of February of 1997. The solvent contamination case was addressed by the RWQCB (Case # 01S0226) and is not part of this closure. This RWQCB case (01S0226) was closed in 2007.

**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 this site is granted for commercial land use. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified as required by Government Code Section 65850.2.2 and the case needs to be re-evaluated.		
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: 1	Number Retained: 1
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

**V. ADDITIONAL COMMENTS, DATA, ETC.**

Considerations and/or Variances:

There are no boring logs or soil samples from the installation of MW-31 in November of 1995. Also no analysis for TAME, DIPE, TBA, ETBE, EDB or EDC has been performed .

It was concluded that the VOC source is offsite but reports never stated the exact source and location. However, this closure does not include the VOC contamination since the RWQCB has already addressed that contamination.

Conclusion:

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 based upon the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site.

**VI. LOCAL AGENCY REPRESENTATIVE DATA**

Prepared by: Barbara Jakub	Title: Hazardous Materials Specialist
Signature: <i>Barbara Jakub</i>	Date: <i>9/18/08</i>
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: <i>Donna L. Drogos</i>	Date: <i>09/18/08</i>

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: 9/18/08
Signature: <i>Cherie McCaulou</i>	Date: 12/3/08

**VIII. MONITORING WELL DECOMMISSIONING**

Date Requested by ACEH:	Date of Well Decommissioning Report:	
All Monitoring Wells Decommissioned: Yes No	Number Decommissioned:	Number Retained:
Reason Wells Retained:		
Additional requirements for submittal of groundwater data from retained wells:		
ACEH Concurrence - Signature:	Date:	

Attachments:

1. Site Vicinity Map (pp. 1)
2. Site Plan, Tank Location Map (pps. 2-3)
3. Soil and Water Analytical Data from Tank Removal (pps. 4-5)
4. Concrete pad sample results, confirmation sampling and sample location maps (pps. 6-12)
5. Groundwater Analytical Data (pps. 13-16)
6. Boring Log (pp. 17)

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.

Re: RO 326  
Post-it Fax Note 7671

Date	12/3/08	# of pages	1
To	Barbara Jakub	From	Cherie McCaulou
Co./Dept.	ACEH-LOP	Co.	RWQCB
Phone #	(510) 639-1287	Phone #	(510) 627-2342
Fax #	(510) 337-9335	Fax #	(510) 622 2464

**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:	Date:

**VIII. MONITORING WELL DECOMMISSIONING**

Date Requested by ACEH: - - -	Date of Well Decommissioning Report: 04/28/04	
All Monitoring Wells Decommissioned: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Number Decommissioned: 2	Number Retained: 0
Reason Wells Retained: <del>Building placed over wells. Wells inaccessible and probably improperly abandoned.</del> NONE RETAINED		
Additional requirements for submittal of groundwater data from retained wells: None NOT APPLICABLE		
ACEH Concurrence - Signature: Barbara J. Jakub	Date: 7/2/10	

UPDATED 06/30/11  
BJJ 6/30/11

Attachments:

1. Site Vicinity Map (pp. 1)
2. Site Plan, Tank Location Map (pps. 2-3)
3. Soil and Water Analytical Data from Tank Removal (pps. 4-5)
4. Concrete pad sample results, confirmation sampling and sample location maps (pps. 6-12)
5. Groundwater Analytical Data (pps. 13-16)
6. Boring Log (pp. 17)

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.



MAP SOURCE:  
Alameda & Contra Costa Counties,  
Thomas Bros. map, 1990 Edition

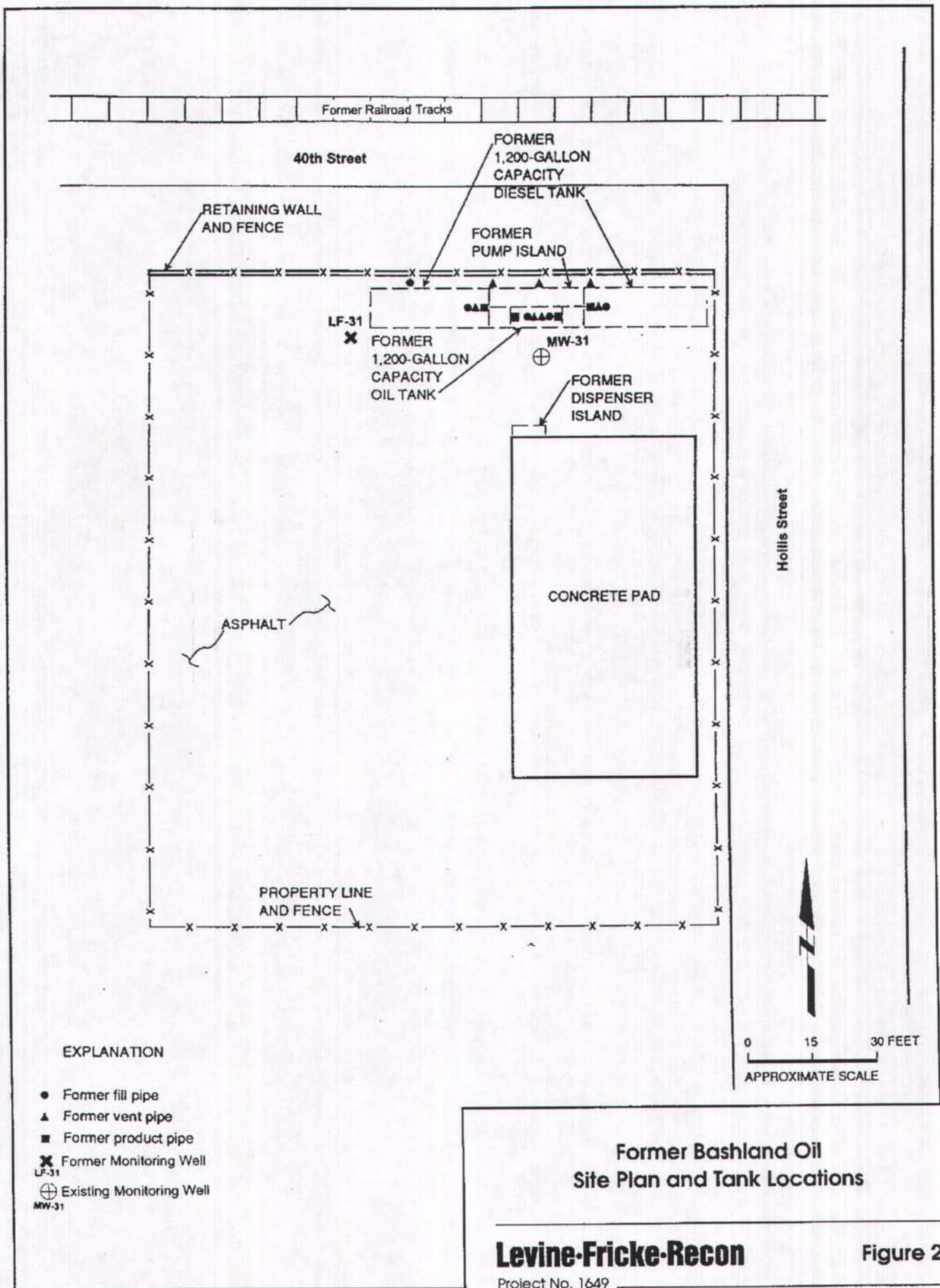
Figure 1: SITE LOCATION MAP  
BASHLAND PROPERTY SITE

Project No. 1649.08

649 08M J570MAY92 RYL

**LEVINE•FRICKE**  
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

**ATTACHMENT 1**



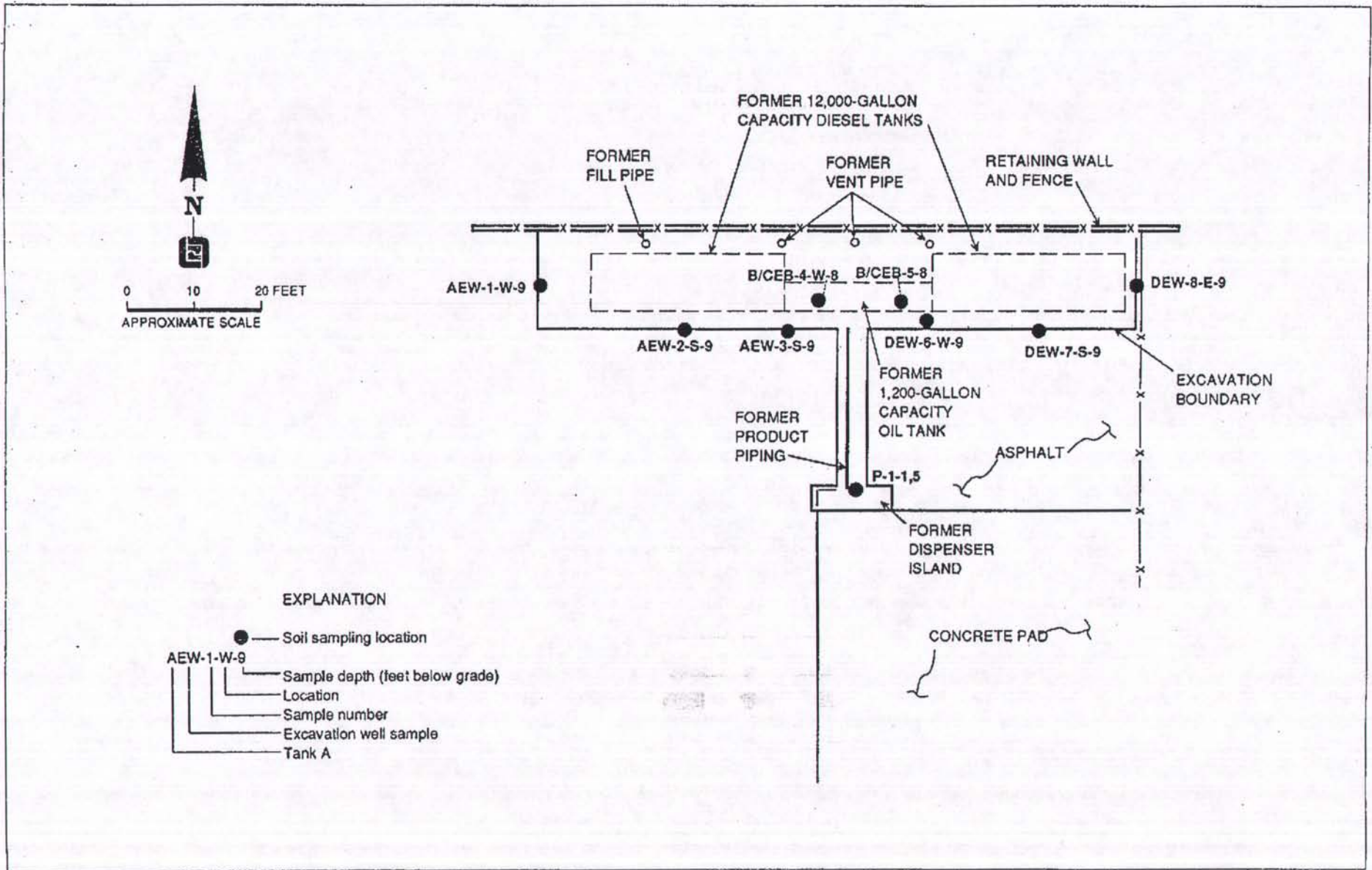


Figure 3 : SITE PLAN SHOWING FORMER TANK AND SOIL SAMPLING LOCATIONS AND EXCAVATION BOUNDARIES

3.

TABLE 2

SOIL CHEMICAL ANALYSIS RESULTS  
 APRIL 7, 1992  
 BASHLAND PROPERTY, EMERYVILLE, CALIFORNIA  
 (All results expressed in milligrams per kilogram [mg/kg])

Sample ID	EPA Method 8015			EPA Method 8020				EPA Method 5520E	EPA Method 5520F	EPA Method 8010	EPA Method 8270	Cd	Cr	Ni	Pb	Zn
	TPH as Oil	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene	Oil and Grease	TPH	8010	8270					
Excavation Samples																
AEW-1-W-9	<5	<1	<0.2	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	8	NA
AEW-2-S-9	<5	2	<0.2	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	8	NA
AEW-3-S-9	<5	<1	<0.2	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	11	NA
B/CEB-4-W-8*	<5	<1	<0.2	<0.005	<0.005	<0.005	<0.005	20	<10	<5	NA	0.4	46	41	10	45
B/CEB-5-E-8*	1,500	<1	<0.2	<0.005	<0.005	<0.005	<0.005	1,300	1,200	<5	ND	<0.2	34	17	9	30
DEW-6-W-9	<5	2	<0.2	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	11	NA
DEW-7-S-9	<5	<1	<0.2	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	10	NA
DEW-8-E-9	<5	<1	<0.2	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	9	NA
P-1-1.5	86	8	<0.2	<0.005	<0.005	<0.005	<0.005	70	50	<5	ND	0.3	47	34	8	30
Stockpile Samples																
SP1	<50	<10	1.0	<0.005	0.009	0.036	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP2	<50	18	2.4	<0.005	0.018	0.107	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP3	<50	<10	1.1	<0.005	0.012	0.092	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP4	<50	<10	<1	<0.005	0.013	0.097	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA

## NOTES:

- NA - Not analyzed  
 ND - Not detected  
 TPH - Total Petroleum Hydrocarbons.  
 \* - Soil beneath and adjacent to sampling location excavated and removed on April 27, 1992.

Excavation soil sample locations shown on Figure 3.

Soil samples analyzed by Quanteq Laboratory of Pleasant Hill, California and Precision Analytical Laboratory of Richmond, California, both state-certified laboratories.

See laboratory data sheets for EPA Method 8010 analytes.

See laboratory data sheets for EPA Method 8270 analytes and detection limits

ATTACHMENT 3

JNK.R-1992-06-24  
 GW + Soil Samples

TABLE 3

WATER CHEMICAL ANALYSIS RESULTS  
BASHLAND PROPERTY, EMERYVILLE, CALIFORNIA  
APRIL 8, 1992

(all results expressed in milligrams per liter [mg/L])

Sample ID	EPA Modified Method 8015			EPA Method 624	EPA Method 5520 C	EPA Method 5520 F
	TPH as Oil	TPH as Diesel	TPH as Gasoline		Oil & Grease	Total Petroleum Hydrocarbons
AGW(1)	<0.1	1.2	<0.05	cis-1,2-Dichloroethene - 0.007 Trichloroethene - 0.016	<0.5	<0.5
DGW(2)	0.4	0.3	<0.05	cis-1,2-Dichloroethene - 0.008 Trichloroethene - 0.022	<0.5	<0.5

## Notes:

AGW(1) - grab ground-water sample collected beneath former location of westernmost 12,000-gallon-capacity tank.  
DGW(2) - grab ground-water sample collected beneath former location easternmost 12,000-gallon-capacity tank.

Only detectable compounds are listed for EPA Method 624; see laboratory data sheets.

Ground-water sample analyzed by Quanteq Laboratories of Pleasant Hill, California, a state-certified laboratory.

SWI-R-1993-04-23

- Monitoring well installation Report  
- Soil samples collected from beneath concrete pad

TABLE 1  
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED FROM BENEATH  
THE RETAINING WALL LOCATED NORTH OF THE FORMER TANK EXCAVATION  
FORMER BASHLAND PROPERTY, EMERYVILLE, CALIFORNIA  
(results expressed in milligrams per kilograms [mg/kg])

Sample ID	Depth (ft bgs)	TPHg	TPHd	O & G	Benzene	Toluene	Ethyl-benzene	Xylenes
SS-1	4.5	<0.5	<10	30	<0.005	<0.005	<0.005	<0.005
SS-2	4.5	<0.5	<10	50	<0.005	<0.005	<0.005	<0.005
SS-3	4.5	<0.5	<10	87	<0.005	<0.005	<0.005	<0.005
SS-4	4.5	<0.5	31	50	<0.005	<0.005	<0.005	<0.005
SS-6	4.5	<0.5	<10	100	<0.005	<0.005	<0.005	<0.005

Data entered by MEK/16-Mar-93. Data proofed by MEK/16-Mar-93. QA/QC by JJB/16-Mar-93.

NOTES

All soil samples also were analyzed for volatile organic compounds using EPA Method 8010 and semivolatile organic compounds using EPA Method 8270. Analytical results for these analyses are discussed in Section 4.4 of the report.

ft bgs = feet below ground surface.

mg/kg = milligrams per kilogram; equivalent to parts per million.

TPHg = Total petroleum hydrocarbons as gasoline; analyzed using Modified EPA Method 8015/5030.

TPHd = Total petroleum hydrocarbons as diesel; analyzed using EPA Method 3550.

O & G = Oil and grease; analyzed using Standard Method 5520EF.

Benzene, toluene, ethylbenzene, and xylenes analyzed using Modified EPA Method 8020/5030.



TABLE 1

ANALYTICAL RESULTS FOR INITIAL SOIL SAMPLES  
 FORMER BASHLAND PROPERTY, EMERYVILLE, CALIFORNIA  
 (results expressed in milligrams per kilograms [mg/kg])

Sample ID	Depth (ft bgs)	Sample Date	TPHg	MS	TPHd	O & G	TRPH	Benzene	Toluene	Ethyl-benzene	Xylenes	Organic Lead	PCBs
Concrete Inspection Pit Excavation													
BS-3-5.5	5.5	10-Feb-93	<0.5	NA	<10	NA	<30	<0.005	<0.005	<0.005	<0.005	<0.30	<0.08/<0.16
Oil/Water Separator													
Pipe-2-3.5	3.5	10-Feb-93	<0.5	NA	<10	NA	120	<0.005	<0.005	<0.005	<0.005	<0.30	<0.08/<0.16
SB-1E-3.0	3.0	23-Mar-93	<0.5	<0.5	<10	NA	60	<0.005	<0.005	<0.005	<0.005	NA	<0.08/<0.16
SB-2W-4.0	4.0	23-Mar-93	<0.5	<0.5	<10	NA	180	<0.005	<0.005	<0.005	<0.005	NA	<0.08/<0.16
SB-3W-3.0	3.0	23-Mar-93	<0.5	<0.5	<10	NA	<30	<0.005	<0.005	<0.005	<0.005	NA	<0.08/<0.16
SB-4S-5.0	5.0	23-Mar-93	<0.5	<0.5	<10	NA	33	<0.005	<0.005	<0.005	<0.005	NA	<0.08/<0.16
SB-5B-5.5	5.5	23-Mar-93	<0.5	<0.5	<10	NA	<30	<0.005	<0.005	<0.005	<0.005	NA	<0.08/<0.16
SB-6B-7.5	7.5	23-Mar-93	<0.5	<0.5	<10	NA	<30	<0.005	<0.005	<0.005	<0.005	NA	<0.08/<0.16
SB-7-3.0	3.0	24-Mar-93	<0.5	<0.5	<10	NA	70	<0.005	<0.005	<0.005	<0.005	NA	<0.08/<0.16
Hydraulic Lift Excavation													
SW-1-5.5	5.5	03-Feb-93	NA	NA	1000 (1)	1300	1100	NA	NA	NA	NA	NA	NA
SW-2-7	7.0	03-Feb-93	<0.3	NA	3600 (1)	2400	2300	<0.005	<0.005	<0.005	<0.005	NA	NA
SW-3-8	8.0	03-Feb-93	NA	NA	NA	170	170	NA	NA	NA	NA	<2	<0.05
WS-6	6.0	12-Apr-93	NA	NA	<1	2600	2400	NA	NA	NA	NA	NA	NA
WS4-11	11.0	16-Apr-93	NA	NA	NA	<10	<10	NA	NA	NA	NA	NA	NA
WS5-7	7.0	16-Apr-93	NA	NA	NA	1300	1300	NA	NA	NA	NA	NA	NA
WS8-4	4.0	16-Apr-93	NA	NA	NA	<10	<10	NA	NA	NA	NA	NA	NA
NS2-6.5	6.5	12-Apr-93	NA	NA	<1	1300	1100	NA	NA	NA	NA	NA	NA
SS2-7	7.0	12-Apr-93	NA	NS	<1	700	590	NA	NA	NA	NA	NA	NA
SS4-7	7.0	16-Apr-93	NA	NA	NA	<10	<10	NA	NA	NA	NA	NA	NA
SS5-13	13.0	16-Apr-93	NA	NA	NA	<10	<10	NA	NA	NA	NA	NA	NA
SS6-7	7.0	16-Apr-93	NA	NA	NA	1100	1000	NA	NA	NA	NA	NA	NA

Data entered by MEK/21-Apr-93, 6-May-93, 25-May-93. Data proofed by \_\_\_\_\_ QA/QC by \_\_\_\_\_

NOTES

ft bgs = feet below ground surface.

mg/kg = milligrams per kilogram; equivalent to parts per million.

TPHg = Total petroleum hydrocarbons as gasoline; analyzed using Modified EPA method 8015/5030 (GCFID).

MS = Mineral spirits; analyzed using modified EPA Method 8015/5030 (GCFID).

TPHd = Total petroleum hydrocarbons as diesel; analyzed using EPA Method 3550.

Total O & G = Total oil and grease: all oil and grease compounds (including animal fat, vegetable oil, and/or petroleum hydrocarbons); analyzed using Standard Method 5520E (Quanteq Laboratories - American Environmental Network).

TRPH = Total recoverable petroleum hydrocarbons as oil and grease (only the petroleum components of oil and of grease; analyzed using Standard Method 5520EF).

Benzene, toluene, ethylbenzene, and xylenes analyzed using Modified EPA Method 8020/5030.

(1) Results reported by laboratory to be a mixture of diesel and light oil. The laboratory reviewed chromatographs for subsequent samples collected from the site (WS-6, NS2-6.5, SS-2-7) and determined that only oil was present in the samples.

TABLE 2

ANALYTICAL RESULTS FOR VERIFICATION SOIL SAMPLES COLLECTED FROM THE HYDRAULIC LIFT EXCAVATION  
FORMER BASHLAND PROPERTY, EMERYVILLE, CALIFORNIA  
(results expressed in milligrams per kilograms [mg/kg])

Sample ID	Depth (ft bgs)	Sample Date	TPHg	TPHd	O & G	TRPH	Benzene	Toluene	Ethyl-benzene	Xylenes	PCBs
BS-5-8	8.0	16-Feb-93	NA	<10	NA	30	NA	NA	NA	NA	<0.08/<0.16
BS-3-10.5*	10.5	13-Apr-93	<0.2	<1	1400	1400	<0.005	<0.005	<0.005	<0.005	<0.05
BS-13*	13.0	16-Apr-93	NA	NA	1600	1500	NA	NA	NA	NA	NA
BN-8	8.0	15-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
B4-11	11.0	15-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
B6-7	7.0	16-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
BW-13	13.0	15-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
B8-9.5	9.5	12-May-93	NA	NA	970	920	NA	NA	NA	NA	NA
B10-9	9.0	12-May-93	NA	NA	220	210	NA	NA	NA	NA	NA
NS1-4	4.0	12-Apr-93	NA	<1	<10	<10	NA	NA	NA	NA	NA
SS1-5	5.0	12-Apr-93	NA	<1	<10	<10	NA	NA	NA	NA	NA
ES-5	5.0	12-Apr-93	NA	<1	<10	<10	NA	NA	NA	NA	NA
NS3-6.5	6.5	15-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
ES-2-7.5	7.5	15-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
WS6-7	7.0	16-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
ES3-10	10.0	16-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
NS4-11	11.0	16-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
WS7-13	13.0	16-Apr-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
WS9-8	8.0	12-May-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
WS12-7	7.0	18-May-93	NA	NA	<10	<10	NA	NA	NA	NA	NA
WS13-9	9.0	18-May-93	NA	NA	<10	<10	NA	NA	NA	NA	NA

Data entered by MEK/21-Apr-93, 6-May-93, 25-May-93. Data proofed by MEK/24-May-93. QA/QC by MEK/25-May-93.

## NOTES

ft bgs = feet below ground surface.

mg/kg = milligrams per kilogram; equivalent to parts per million.

TPHg = Total petroleum hydrocarbons as gasoline; analyzed using Modified EPA Method 8015/5030 (GC/FID).

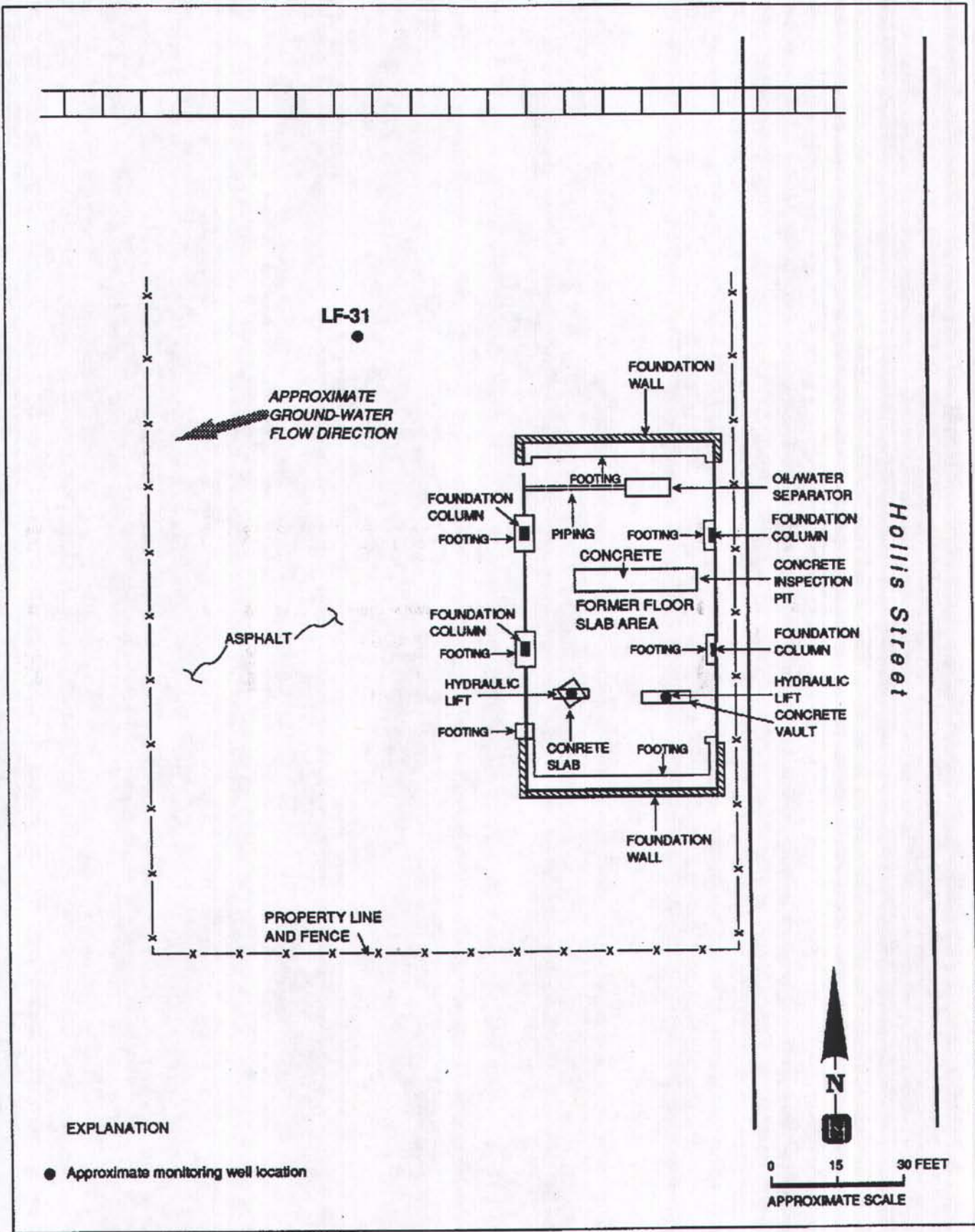
TPHd = Total petroleum hydrocarbons as diesel; analyzed using EPA Method 3550.

Total O & G = Total oil and grease: all oil and grease compounds (including animal fat and/or vegetable oil) analyzed using Standard Method 5520E (Quanteq Laboratories - American Environmental Network).

TRPH = Total recoverable petroleum hydrocarbons as oil and grease: only the petroleum components of "Total Grease"; using Standard Method 5520F.

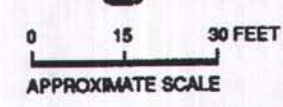
Benzene, toluene, ethylbenzene, and xylenes analyzed using Modified EPA Method 8020/5030.

\* Soil samples collected from same location (see Figure 4). This area was excavated to a depth of approximately 11 feet bgs.



**EXPLANATION**

- Approximate monitoring well location



**Figure 2: LOCATIONS OF SUBSURFACE STRUCTURES**

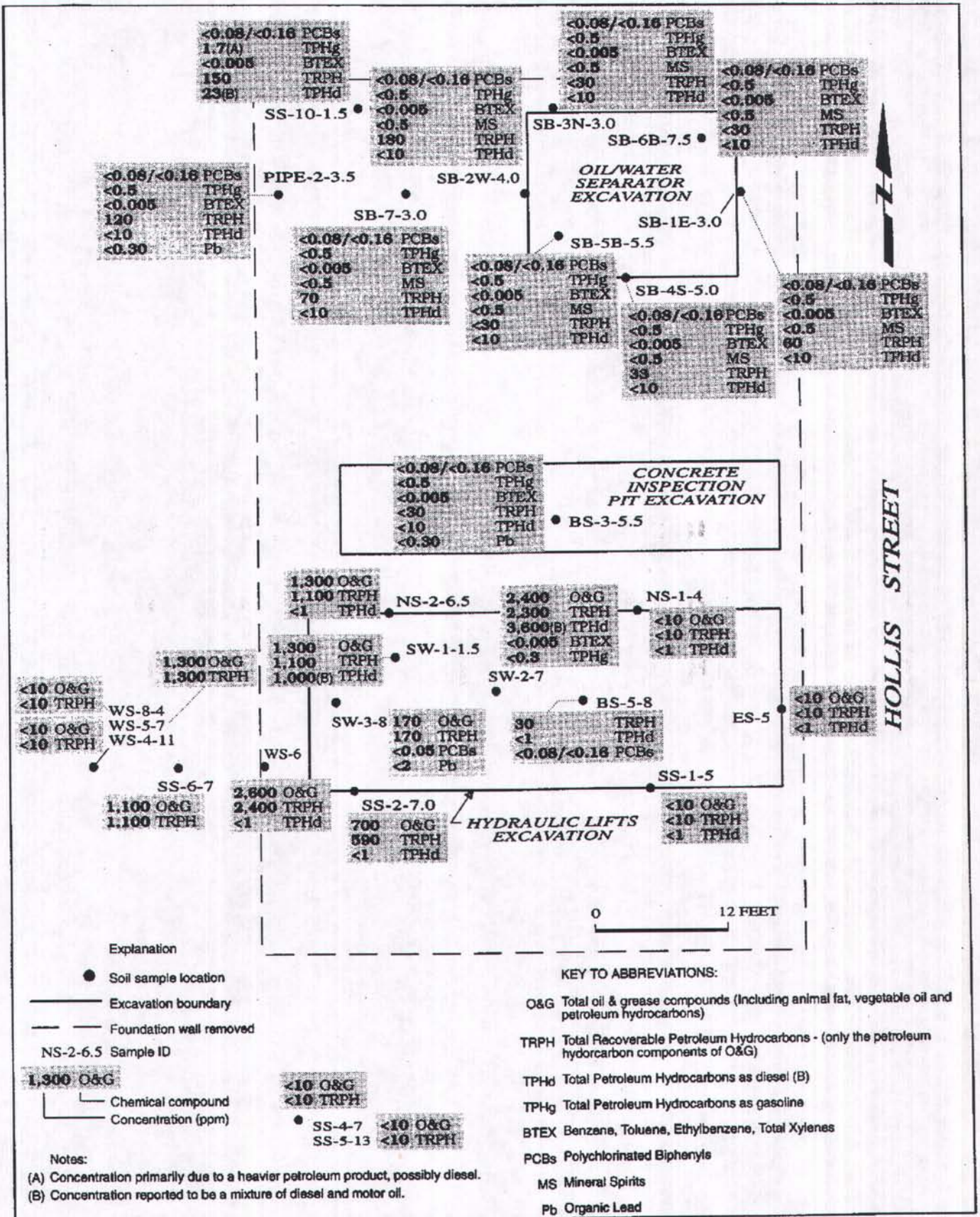


Figure 3 : INITIAL EXCAVATIONS AND SOIL SAMPLE RESULTS

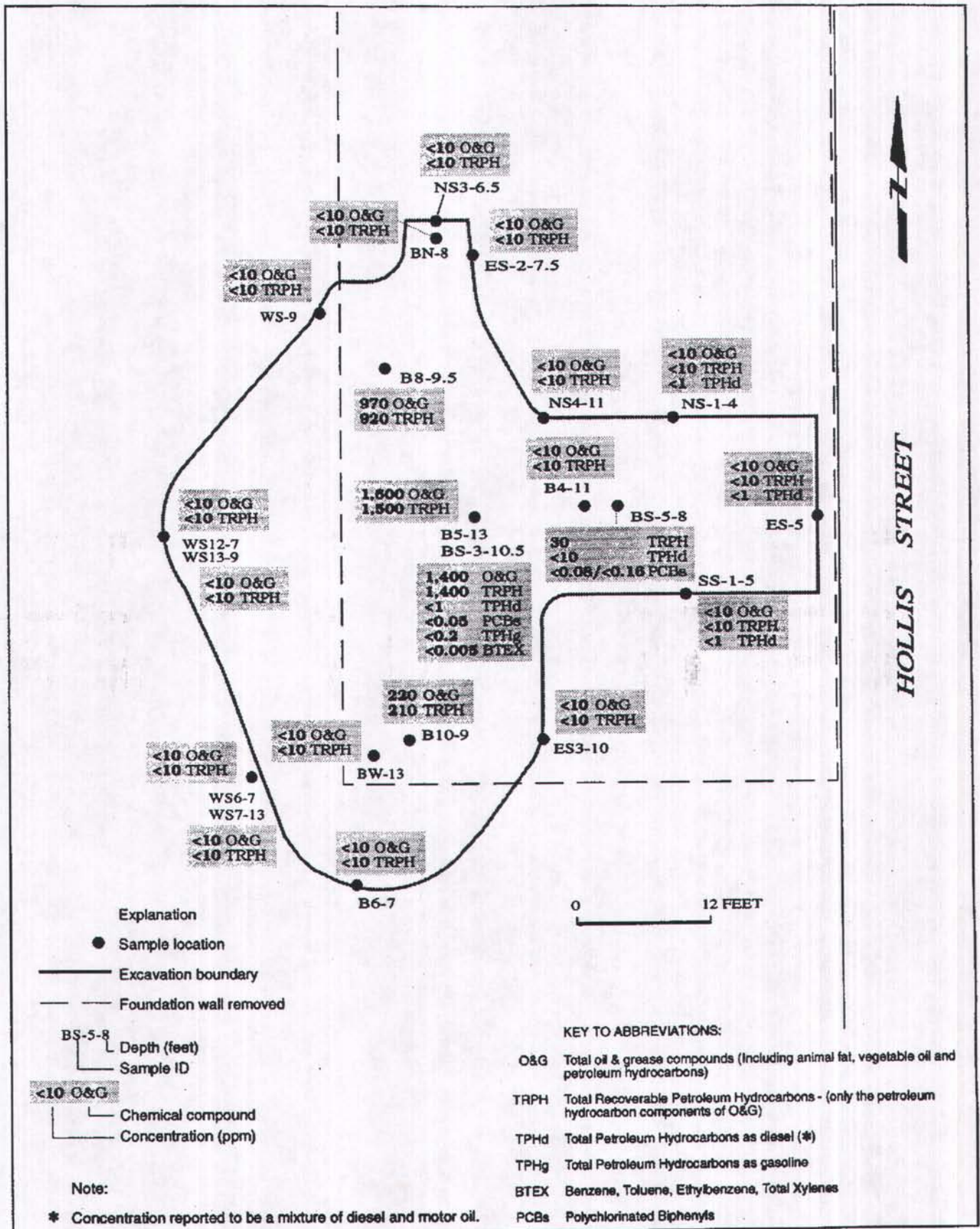
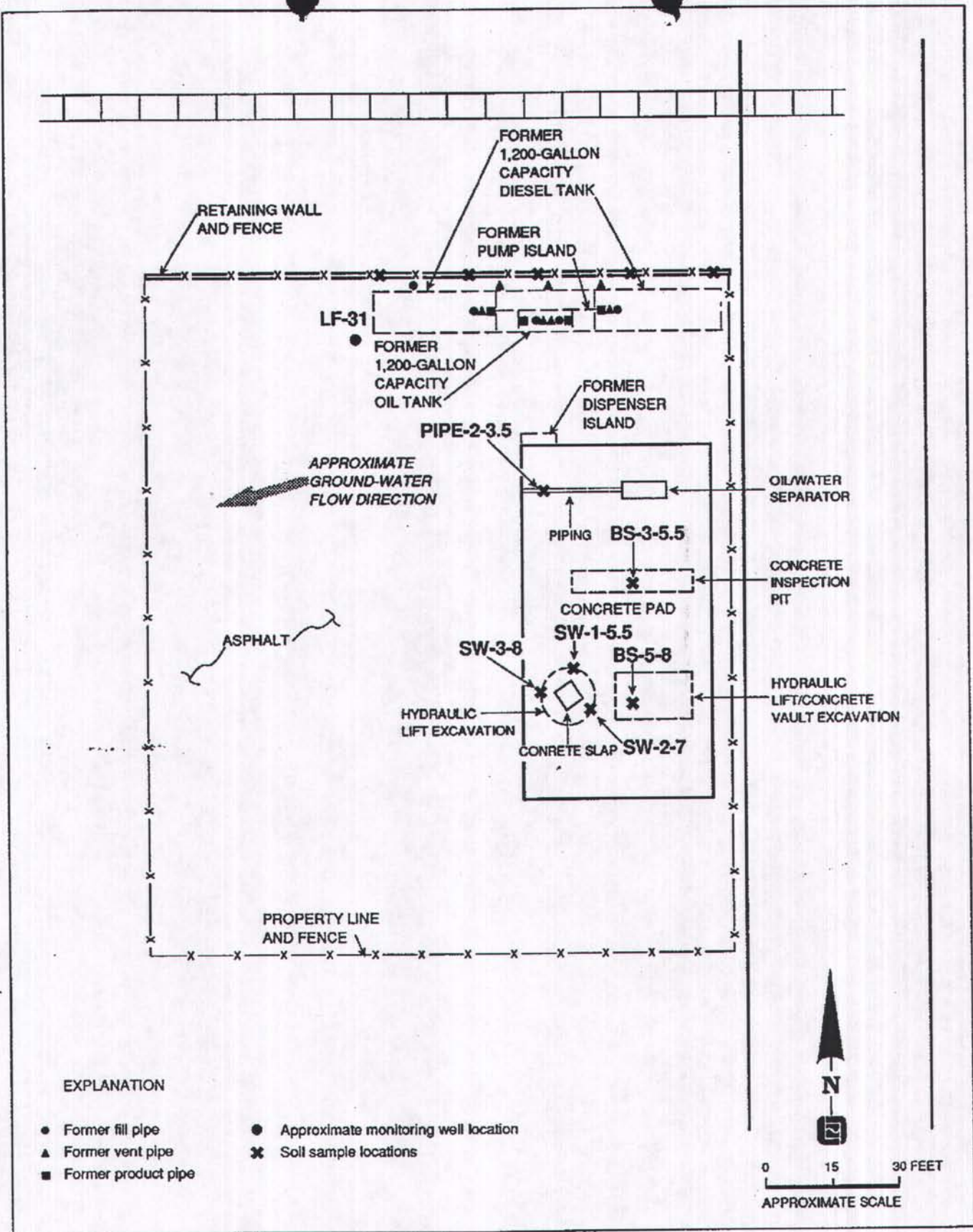


Figure 4 : HYDRAULIC LIFT EXCAVATION AND VERIFICATION SAMPLE RESULTS



**Table 2**  
**Well Construction and Groundwater Elevation Data**  
**East Baybridge Center**  
**Emeryville and Oakland, California**

Well Number	Well Elevation (1)	Well Depth (2)	Screened Interval (2)	Date Measured	Depth to Water	Groundwater Elevation (3)
				21-Sep-99	7.20	6.01
				09-May-00	6.80	6.41
				24-Oct-00	7.39	5.82
				08-Feb-01	7.29	5.92
				08-May-01	7.35	5.86
				15-Aug-01	6.82	6.39
				06-Dec-01	5.53	7.68
MW-12	10.42			19-Dec-95	10.69	-0.27
				26-Feb-96	9.66	0.76
				29-Apr-96	10.98	-0.56
				03-Sep-96	11.05	-0.63
				13-Dec-96	10.04	0.38
				18-Feb-97	10.42	0.00
				26-May-97	10.83	-0.41
				21-Aug-97	10.53	-0.11
				02-Jan-98	10.05	0.37
				09-Mar-98	10.10	0.32
				14-Sep-98	10.71	-0.29
				25-Mar-99	9.95	0.47
				21-Sep-99	10.94	-0.52
				10-May-00	10.50	-0.08
				24-Oct-00	11.13	-0.71
				08-Feb-01	10.79	-0.37
				08-May-01	10.95	-0.53
				15-Aug-01	10.89	-0.47
				06-Dec-01	9.92	0.50
MW-31	19.14			19-Dec-95	6.92	12.22
				26-Feb-96	6.99	12.15
				29-Apr-96	7.54	11.60
				03-Sep-96	7.55	11.59
				13-Dec-96	6.72	12.42
				18-Feb-97	7.45	11.69
				26-May-97	7.45	11.69
				21-Aug-97	7.06	12.08
				02-Jan-98	7.30	11.84
				09-Mar-98	7.04	12.10
				14-Sep-98	7.38	11.76
				25-Mar-99	7.05	12.09
				21-Sep-99	7.43	11.71
				24-Oct-00	7.65	11.49
				08-Feb-01	7.62	11.52
				08-May-01	7.65	11.49
				15-Aug-01	7.39	11.75

Table 3  
 Chemical Analysis Results for Monitoring Well MW-31  
 Former Bashland Company Property  
 (results in parts per million (ppm))

Date Sampled	Dups	Lab	Notes	TRPH	THPd	TPHo	THPg	Benzene	Toluene	Ethylbenzene	Total Xylenes	TCE	1,2-DCE
12-Feb-93		ANA	(1)	<5	<0.05	NA	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
26-May-93		ANA		<5	0.200	NA	NA	NA	NA	NA	NA	0.020	0.0039
26-May-93	dup	ANA	(2)	<5	0.310	NA	NA	NA	NA	NA	NA	0.020	0.0034
14-Jul-93		ANA		<5	0.150	NA	NA	NA	NA	NA	NA	0.0073	0.0024
14-Jul-93	dup	AEN		<1	0.400	NA	NA	NA	NA	NA	NA	0.010	0.002
09-Dec-93		ANA		<5	0.200	0.100	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
11-Mar-94		ANA	(3)	NA	0.110	0.210	NA	NA	NA	NA	NA	0.0054	0.003
11-Mar-94	dup	ANA	(4)	NA	NA	NA	NA	NA	NA	NA	NA	0.006	0.0034
21-Jun-94		AEN		NA	0.400	0.200	<0.05	<0.0005	<0.0005	<0.0005	<0.002	0.005	0.002
27-Dec-95		AEN		NA	0.300	<0.200	NA	NA	NA	NA	NA	0.018	0.009
27-Feb-96		AEN		NA	0.370	<0.2	<0.05	<0.0005	<0.0005	<0.0005	<0.002	NA	NA
30-Apr-96		AEN		NA	0.190	<0.2	NA	NA	NA	NA	NA	0.015	0.017
05-Sep-96		AEN		NA	0.540	<0.2	NA	NA	NA	NA	NA	NA	NA
17-Dec-96		AZAC		NA	<0.01	<0.2	NA	NA	NA	NA	NA	0.008	NA
19-Feb-97		AEN		NA	0.490	<0.2	NA	NA	NA	NA	NA	NA	NA

Data entered by                     . Data proofed by   P.G.  

NOTES:  
 TRPH - Total recoverable petroleum hydrocarbons as oil and grease, analyzed using Standard Methods 5520BF.  
 THPd - Total petroleum hydrocarbons as diesel, analyzed using EPA Method 3510.  
 THPo - Total petroleum hydrocarbons as oil, analyzed using EPA Method 3510.  
 THPg - Total petroleum hydrocarbons as gasoline, analyzed using EPA Method 3550.  
 TCE - Trichloroethene, analyzed using EPA Method 8010.  
 1,2-DCE - 1,2-dichloroethene, analyzed using EPA Method 8010.  
 Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8020.  
 ANA - Anamatrix, Inc., of San Jose, California.  
 AEN - American Environmental Network of Pleasant Hill, California.  
 NA - Not analyzed.

(1) Groundwater samples also analyzed for cadmium, chromium, nickel, lead, and zinc, and semivolatile organic compounds using EPA Method 8270. None of these compounds were detected above laboratory detection limits.  
 (2) Tetrachloroethene detected at a concentration of 0.0063 ppm.  
 (3) Chloroform detected at 0.0012 ppm.  
 (4) Chloroform detected at 0.0014 ppm.



TABLE 1

CHEMICAL ANALYSES RESULTS FOR MONITORING WELL LF-31  
FORMER BASHLAND COMPANY PROPERTY  
(results in parts per million [ppm])

Date Sampled	Lab		TRPH	THPd	THPo	THPg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TCE	1,2-DCE
12-Feb-93	ANA	(1)	<5	<0.05	NA	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
26-May-93 duplicate	ANA		<5	0.200	NA	NA	NA	NA	NA	NA	0.020	0.0039
			<5	0.310	NA	NA	NA	NA	NA	NA	0.020	0.0034
14-Jul-93 duplicate	ANA	(2)	<5	0.150	NA	NA	NA	NA	NA	NA	0.0073	0.0024
	AEN		<1	0.400	NA	NA	NA	NA	NA	NA	0.010	0.002
09-Dec-93	ANA		<5	0.200	0.100	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
11-Mar-94 duplicate	ANA	(3)	NA	0.110	0.210	NA	NA	NA	NA	NA	0.0054	0.003
	ANA	(4)	NA	NA	NA	NA	NA	NA	NA	NA	0.006	0.0034
21-Jun-94	AEN		NA	0.400	0.200	<0.05	<0.0005	<0.0005	<0.0005	<0.002	0.005	0.002

Data entered by REG/12-Jul-94. Data proofed by REG

ANA - Anametrix, Inc., of San Jose, California

AEN - American Environmental Network of Pleasant Hill, California

TRPH - Total recoverable petroleum hydrocarbons as oil and grease, analyzed using Standard Methods 5520BF.

THPd - Total petroleum hydrocarbons as diesel, analyzed using EPA Method 3510.

THPo - Total petroleum hydrocarbons as oil, analyzed using EPA Method 3510.

THPg - Total petroleum hydrocarbons as gasoline, analyzed using EPA Method 3550.

Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8020.

TCE - Trichloroethene, analyzed using EPA Method 8010.

1,2-DCE - 1,2-dichloroethene, analyzed using EPA Method 8010.

NA - Not analyzed

(1) Ground-water samples also analyzed for cadmium, chromium, nickel, lead, and zinc, and semivolatile organic compounds using EPA Method 8270. None of these compounds were detected above laboratory detection limits.

(2) Tetrachloroethene (PCE) detected at a concentration of 0.0063 ppm.

(3) Chloroform detected at 0.0012 ppm.

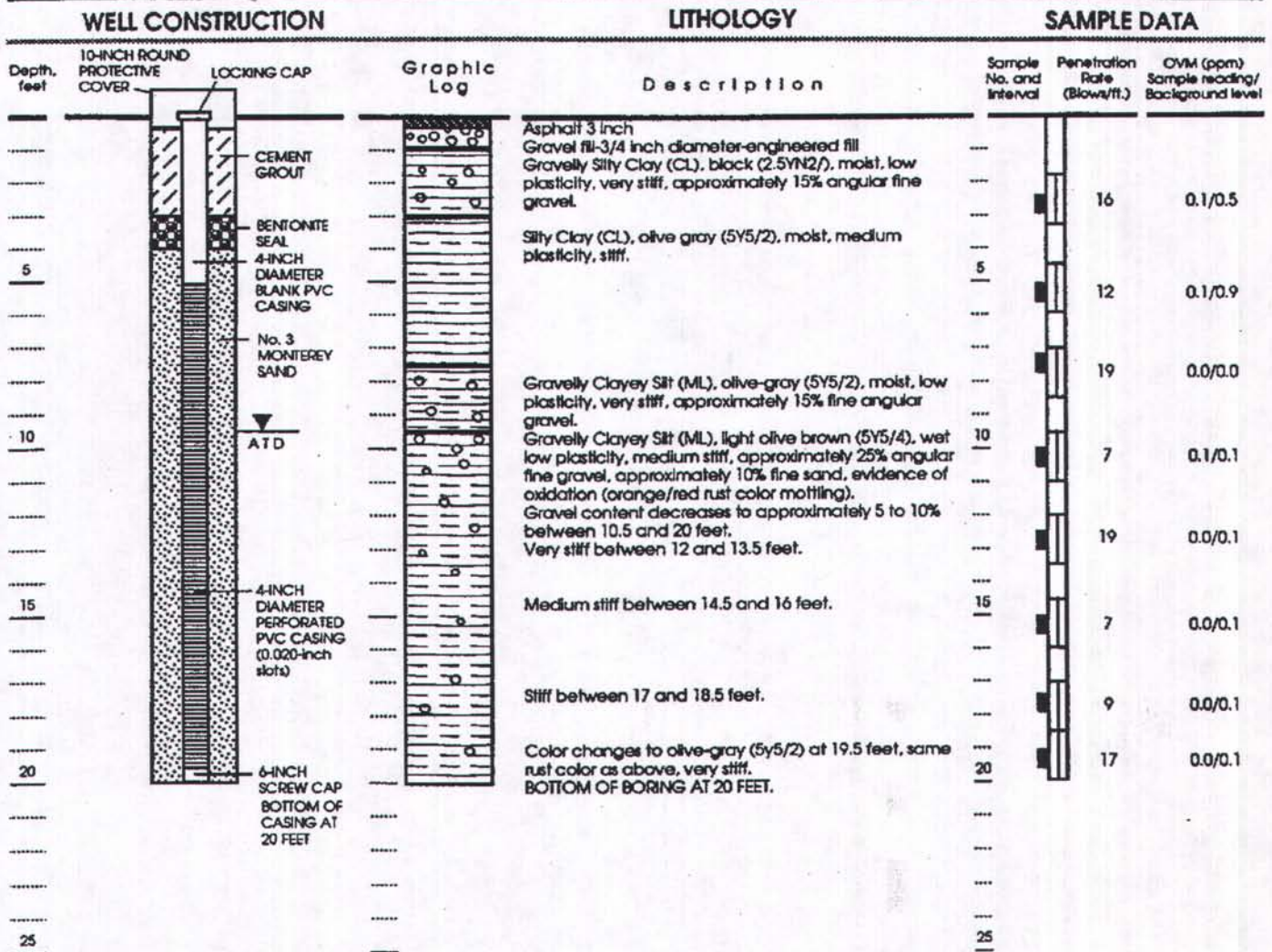
(4) Chloroform detected at 0.0014 ppm.

**Purgeable Aromatics by GC/MS**

Lab #:	157993	Location:	East Bay Bridge
Client:	LPR Levine Fricke	Prep:	EPA 5030B
Project#:	1649.11-002	Analysis:	EPA 8260B
Field ID:	LF 31	Batch#:	71554
Lab ID:	18799-001	Sampled:	04/09/02
Matrix:	Water	Received:	04/09/02
Units:	ug/L	Analyzed:	04/11/02
Filter Fac:	1.000		

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane d4	111	77-130
Toluene d8	99	80-120
Bromofluorobenzene	98	80-120



EXPLANATION

- Clay
- Silt
- Sand
- Gravel

Well Permit No: 93048  
 Date well drilled: February 8, 1993  
 Date water level measured: February 8, 1993  
 Hammer weight: 140 lbs/30-inch  
 LF Geologist: William Madison

- Split Spoon Sampler
- Sample retained for chemical analysis
- First water observed in boring at time of drilling
- OVM Organic Vapor Meter reading in parts per million

Approved by: *Katuli. Draus* RG # 5106

Figure : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-31

Project No. 1649.10

WEM 05APR93 jam/np

**LEVINE-FRICKE**  
 ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS