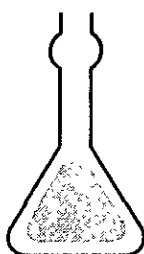


SPD 435



**TOXICHEM
Management
Systems, Inc.**

Environmental & Occupational Health Services

1461 Newport Avenue
San Jose, California 95125
(408) 292-3266 / Fax (408) 298-6591

ENVIRONMENTAL
PROTECTION

99 JUL 14 AM 9:33

Exposure Assessment/Estimation
Quantitative Risk Assessments
Industrial Hygiene
Regulatory Compliance Programs
Real Property Environmental Assessments
Compliance Audits
Air Pollution Dispersion Modeling
Hazardous Waste Management
Air Sampling and Analysis

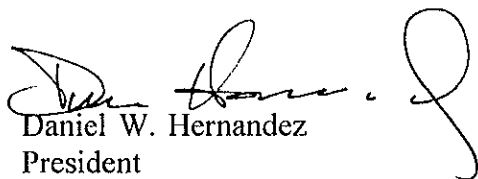
Thomas Peacock, Manager
Division of Environmental Protection
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway # 250
Alameda, CA 94501-6577

July 10, 1998

Re: **Quarterly Monitoring Report - First Quarter 1998**
Former Texaco Service Station
3810 Broadway
Oakland, California

On behalf of Equilon Enterprises LLC, this letter transmits the results of first quarter 1998 groundwater monitoring and sampling conducted at the site referenced above. If you have any questions or comments regarding this site, please contact me at your convenience at (408) 292-3266.

Sincerely,


Daniel W. Hernandez
President

Enclosure

cc: Ms. Karen Petryna, Equiva Services LLC, 108 Cutting Boulevard, Richmond, CA 94804

BLAINE
TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
(408) 573-7771 FAX
(408) 573-0555 PHONE



June 9, 1998

**Groundwater Monitoring and Sampling
First Quarter, 1998
at the
Former Texaco Service Station
3810 Broadway
Oakland, CA**

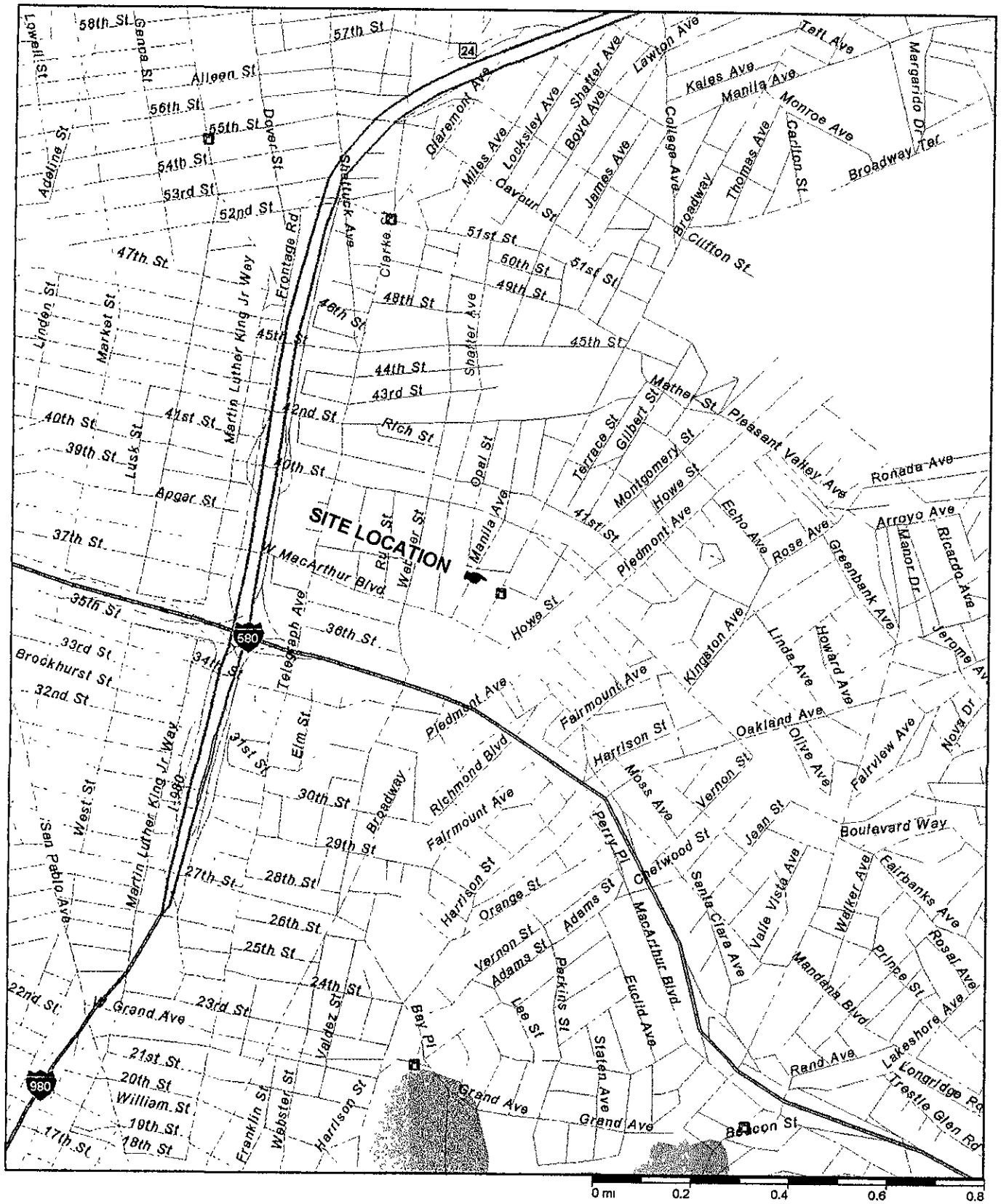
This report presents the results of groundwater monitoring and sampling conducted by Blaine Tech Services, Inc. on April 6, 1998 at the site referenced above (see Figure 1, Site Vicinity Map). The gradient map has been reviewed by a registered professional (see Figure 2, Groundwater Gradient Map). TPHg and benzene concentrations are shown on Figure 3. Tables 1 and 2 list historical groundwater monitoring data and analytical results, respectively.

The certified analytical report, chain-of-custody, field data sheets, bill of lading, and quarterly summary report are in the Appendix, along with Texaco Refining and Marketing Inc., Environment Health & Safety's Standard Operating Procedures.

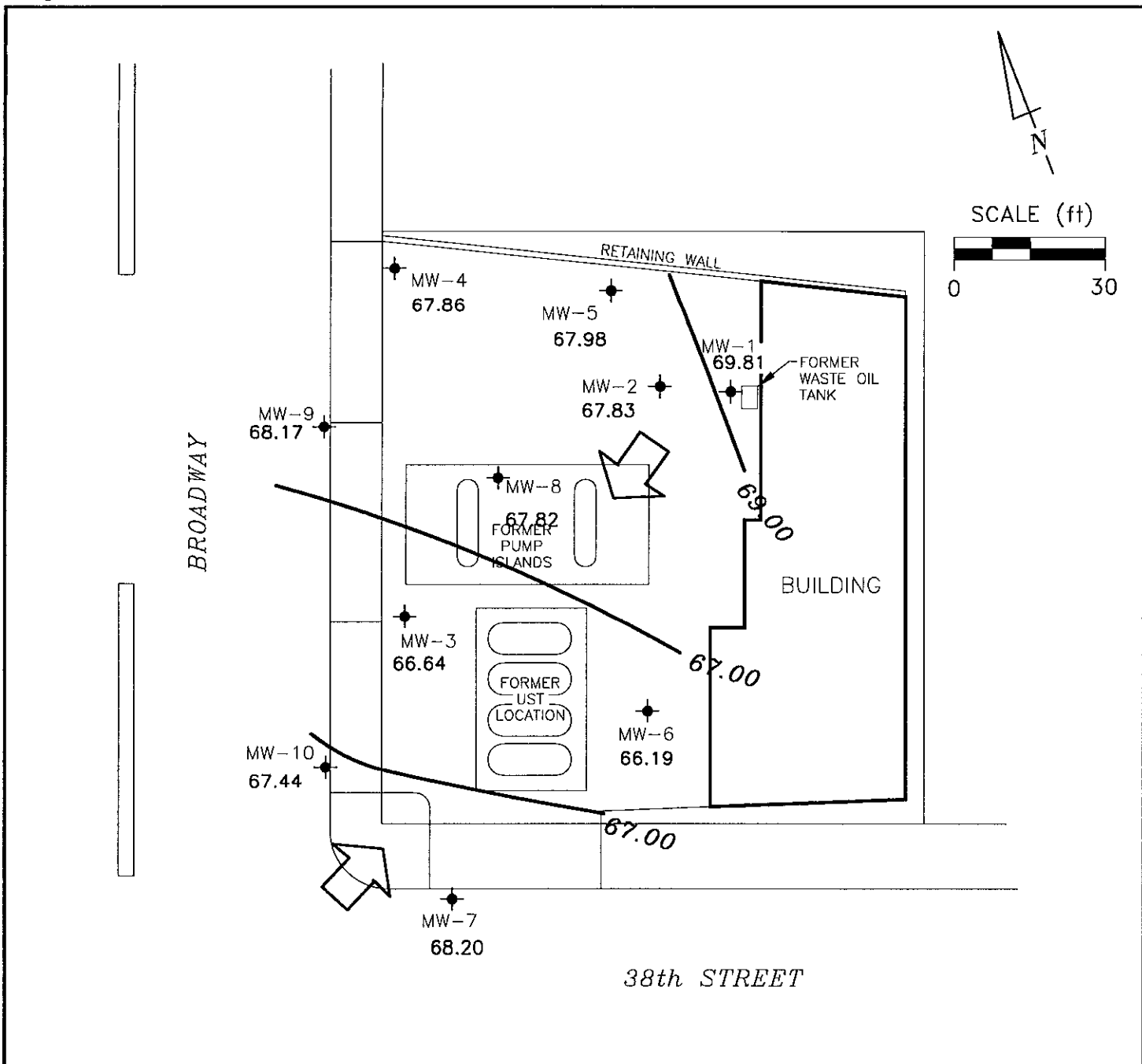
A handwritten signature in black ink, appearing to read 'Kent Brown'.

Kent Brown
Project Coordinator
Blaine Tech Services, Inc.

KEB:mc




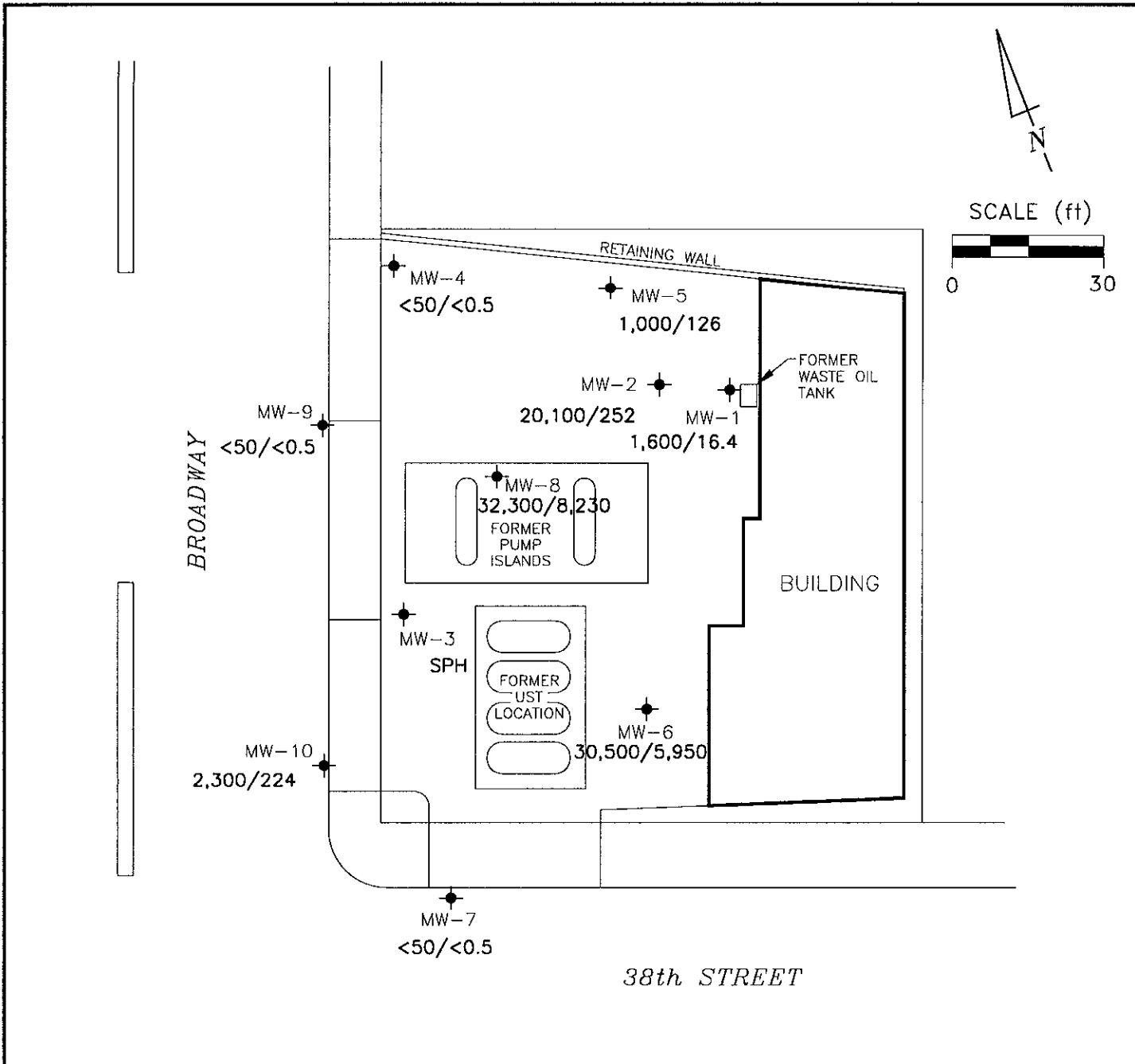
Site Vicinity Map
Former Texaco Service Station, 3810 Broadway, Oakland, CA



- EXPLANATION**
- ◆ MONITORING WELL
 - 67.86 GROUNDWATER ELEVATION (FT, MSL)
 - 67.00 — GROUNDWATER ELEVATION CONTOUR (FT, MSL)
 - APPROXIMATE GROUNDWATER FLOW DIRECTION;
APPROXIMATE GRADIENT = 0.04

Reference: BR-OA dwg
 Basemap from Fluor Daniel GTI

PREPARED BY  engineering contracting firm	FORMER TEXACO SERVICE STATION 3810 Broadway Oakland, California	FIGURE: 2
	GROUNDWATER ELEVATION CONTOUR MAP, APRIL 6, 1998	PROJECT: DAC04



EXPLANATION

◆ MONITORING WELL

<50/<0.5 TPHg/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION

SPH - SEPARATE PHASE HYDROCARBONS

Reference: BR-OA.dwg
 Basemap from Fluor Daniel GTI


PREPARED BY 	FORMER TEXACO SERVICE STATION 3810 Broadway Oakland, California	FIGURE: 3 PROJECT: DAC04
	TPHg/BENZENE CONCENTRATION MAP APRIL 6, 1998	

Table 1
Groundwater Elevation Data
3810 Broadway, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)	Depth to Water (feet, TOC)	Elevation of Groundwater (feet, MSL)	Floating Product
MW-1	06/28/96	86.69	21.77	64.92	0.00
	10/10/96	86.69	23.26	63.43	0.00
	11/07/96	86.69	23.27	63.42	0.00
	12/18/97	86.69	19.70	66.99	0.00
	04/06/98	86.69	16.88	69.81	0.00
MW-2	06/28/96	85.83	22.10	63.73	1.35
	10/10/96	85.83	22.36	63.47	0.00
	11/07/96	85.83	22.39	63.45	0.01
	12/18/97	85.83	20.19	65.64	0.00
	04/06/98	85.83	18.00	67.83	0.00
MW-3	06/28/96	83.18	19.04	64.14	0.00
	10/10/96	83.18	19.51	63.67	0.00
	11/07/96	NA	19.40	19.84	0.00
	12/18/97	83.18	18.79	64.39	0.00
	04/06/98	83.18	16.58	66.64	0.05
MW-4	06/28/96	83.31	18.83	64.48	0.00
	10/10/96	83.31	19.84	63.47	0.00
	11/07/96	83.31	19.84	63.47	0.00
	12/18/97	83.31	17.77	65.54	0.00
	04/06/98	83.31	15.45	67.86	0.00
MW-5	10/10/96	85.41	21.93	63.48	0.00
	11/07/96	85.41	21.96	63.45	0.00
	12/18/97	85.41	19.81	65.60	0.00
	04/06/98	85.41	17.43	67.98	0.00
MW-6	10/10/96	86.09	22.44	63.65	0.00
	11/07/96	86.09	22.60	63.49	0.00
	12/18/97	86.09	22.28	63.81	0.00
	04/06/98	86.09	19.90	66.19	0.00
MW-7	10/10/96	84.11	20.78	63.33	0.00
	11/07/96	84.11	20.80	63.31	0.00
	12/18/97	84.11	17.27	66.84	0.00
	04/06/98	84.11	15.91	68.20	0.00

Table 1
Groundwater Elevation Data
3810 Broadway, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)	Depth to Water (feet, TOC)	Elevation of Groundwater (feet, MSL)	Floating Product
MW-8	10/10/96	84.01	20.82	63.19	0.00
	11/07/96	84.01	20.44	63.57	0.00
	12/18/97	84.01	19.36	64.65	0.00
	04/06/98	84.01	16.19	67.82	0.00
MW-9	10/10/96	82.17	18.62	63.55	0.00
	11/07/96	NA	63.53	63.53	0.00
	12/18/97	82.17	16.42	65.75	0.00
	04/06/98	82.17	14.00	68.17	0.00
MW-10	10/10/96	81.83	18.40	63.43	0.00
	11/07/96	81.83	18.43	63.40	0.00
	12/18/97	81.83	16.18	65.65	0.00
	04/06/98	81.83	14.39	67.44	0.00
TOC= Top of Casing Elevation					
MSL= Mean Sea Level					
NA= Data Not Available					

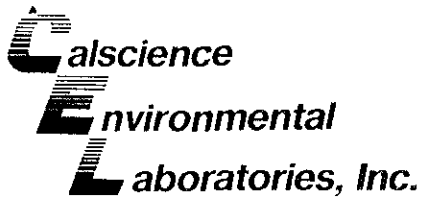
Table 2
Groundwater Analytical Data
3810 Broadway, Oakland, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	TPHd (ppb)
MW-1	06/28/96	<100	<0.5	<1.0	<1.0	<2.0	--	<50
	10/10/96	520	9.2	53	17	70	22/16*	<400
	11/07/96	--	--	--	--	--	--	--
	12/18/97	2,200	<3	<3	<3	<3	<200	<50
	04/06/98	1,600	16.4	0.8	<0.5	<0.5	38.3	<50
MW-2	06/28/96	--	--	--	--	--	--	--
	10/10/96	99,000	4,100	9,400	2,300	9,900	390/<25*	1,800
	12/18/97	24,000	600	1,800	750	2,400	<2000	4,700
	04/06/98	20,100	252	448	430	1,410	<200	9.5
MW-3	06/28/96	--	--	--	--	--	--	--
	10/10/96	110,000	6,600	16,000	2,200	12,000	<250	1,200
	11/07/96	--	--	--	--	--	--	--
	12/18/97	180,000	1,500	16,000	4,600	23,000	<3000	6,100,000
	04/06/98	SPH	SPH	SPH	SPH	SPH	SPH	SPH
MW-4	06/28/96	<100	<0.5	<1.0	<1.0	<2.0	--	<50
	10/10/96	650	3.9	65	22	120	<5.0	<50
	11/07/96	--	--	--	--	--	--	--
	12/18/97	<50	<0.5	<0.5	<0.5	<0.5	<30	2,000
	04/06/98	<50	<0.5	<0.5	<0.5	<0.5	<30	<50
MW-5	10/10/96	1,800	34	4.7	11	44	21/5.0*	<50
	11/07/96	--	--	--	--	--	--	--
	12/18/97	1,200	15	<1	15	<1	72	<50
	04/06/98	1,000	126	0.5	0.8	1.5	<30	<50
MW-6	10/10/96	45,000	8,300	2,900	810	3,100	190/40*	500
	11/07/96	--	--	--	--	--	--	--
	12/18/97	60,000	12,000	9,800	1,800	8,600	<2000	1,900
	04/06/98	30,500	5,950	3,720	952	3,750	<1000	<50
MW-7	10/10/96	<50	0.6	<0.5	<0.5	<0.5	<5.0	<50
	11/07/96	--	--	--	--	--	--	--
	12/18/97	<50	<0.5	<0.5	<0.5	<0.5	<30	<50
	04/06/98	<50	<0.5	<0.5	<0.5	<0.5	<30	<50

Table 2
Groundwater Analytical Data
3810 Broadway, Oakland, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)	TPHd (ppb)
MW-8	10/10/96	17,000	1,300	1,200	64	1,300	110/<5.0*	110
	11/07/96	--	--	--	--	--	--	--
	12/18/97	15,000	3,600	1,800	410	930	<600	630
	04/06/98	32,300	8,230	5,900	718	2,120	<1000	<50
MW-9	10/10/96	80	2.5	13	2.2	13	<5.0	520
	11/07/96	--	--	--	--	--	--	--
	12/18/97	<50	<0.5	<0.5	<0.5	<0.5	<30	<50
	04/06/98	<50	<0.5	<0.5	<0.5	<0.5	<30	<50
MW-10	10/10/96	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<50
	11/07/96	--	--	--	--	--	--	--
	12/18/97	350	6.9	0.87	0.88	0.77	<30	<50
	04/06/98	2,300	224	168	81.4	253	<30	<50
MTBE =Methyl-tert-butylether								
ppb = parts per billion								
TPHd= Total Petroleum Hydrocarbons as diesel.								
TPHg = Total Petroleum Hydrocarbons as gasoline								
< = Less than the detection limit for the specified method of analysis								
*= MTBE confirmation by EPA 8240.								

APPENDIX



May 12, 1998

Kent Brown
Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112

Subject: TES Project No.: CKEP3360L
S.S. No.: 618571071
3800 Broadway
Oakland, CA
TES Project Coordinator: Karen Petryna
Calscience Work Order No.: 98-04-0209

Dear Mr. Brown:

Enclosed please find the analytical report for the above-referenced project. The samples included in this report were received 04/08/98 and analyzed in accordance with the attached chain-of-custody.

The results in this analytical report are limited to the samples tested, and any reproduction of this report must be made in its entirety.

If you have any questions regarding this report, please feel free to call me at (714) 895-5494.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Burley", written over a horizontal line.

Calscience Environmental
Laboratories, Inc.
Don Burley
Project Manager

A handwritten signature in black ink, appearing to read "William H. Christensen", written over a horizontal line.

William H. Christensen
Deliverables Manager

Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112

Attn: Kent Brown
RE: Texaco 61-857-1071

Date Sampled: 04/06/98
Date Received: 04/08/98
Date Extracted: P/T
Date Analyzed: 04/16-17/98
Work Order No.: 98-04-0209
Method: EPA 8260A (MTBE only)
Page 1 of 1

All concentrations are reported in $\mu\text{g/L}$ (ppb).

<u>Sample Number</u>	<u>MTBE Concentration</u>	<u>Reporting Limit</u>
MW-1	ND	1
Method Blank	ND	1

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

Blaine Tech Services, Inc.
 1680 Rogers Avenue
 San Jose, CA 95112

Date Sampled: 04/06/98
 Date Received: 04/08/98
 Date Extracted: P/T
 Date Analyzed: 04/10-13/98
 Work Order No.: 98-04-0209
 Method: EPA 8015M
 Page 1 of 1

Attn: Kent Brown
 RE: Texaco 61-857-1071

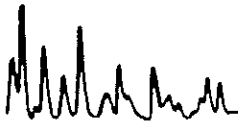
All total petroleum hydrocarbon concentrations are reported in $\mu\text{g/L}$ (ppb) using gasoline as a standard.

<u>Sample Number</u>	<u>Concentration</u>	<u>Reporting Limit</u> ^{Note 1}
MW-1	1600	500
MW-2*	20100	5000
MW-4	ND	500
MW-5	1000	500
MW-6**	30500	25000
MW-7	ND	500
MW-8**	32300	25000
MW-9	ND	500
MW-10	2300	500
EB	ND	500
Method Blank #1	ND	500
Method Blank #2	ND	500
Method Blank #3	ND	500

* Dilution factor = 10.
 ** Dilution factor = 50.

Note 1: "J" flags indicate TPH concentration between the RL and 50 $\mu\text{g/L}$.
 "ND" indicates that TPH was not present at 50 $\mu\text{g/L}$.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112

Date Sampled: 04/06/98
Date Received: 04/08/98
Date Extracted: 04/08/98
Date Analyzed: 04/09/98-05/07/98
Work Order No.: 98-04-0209
Method: EPA 8015M
Page 1 of 1

Attn: Kent Brown
RE: Texaco 61-857-1071

All total petroleum hydrocarbon concentrations are reported in mg/L (ppm) using diesel fuel as a standard.

<u>Sample Number</u>	<u>Concentration</u>	<u>Reporting Limit</u>
MW-1	ND	0.05
MW-2	9.5	5.0
MW-4	ND	0.05
MW-5	ND	0.05
MW-6	ND	0.05
MW-7	ND	0.05
MW-8	ND	0.05
MW-9	ND	0.05
MW-10	ND	0.05
EB	ND	0.05
Method Blank	ND	0.05

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

Blaine Tech Services, Inc.
 1680 Rogers Avenue
 San Jose, CA 95112

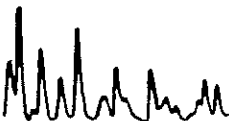
Date Sampled: 04/06/98
 Date Received: 04/08/98
 Date Extracted: P/T
 Date Analyzed: 04/10-13/98
 Work Order No.: 98-04-0209
 Method: EPA 8020A
 Page 1 of 5

Attn: Kent Brown
 RE: Texaco 61-857-1071

All concentrations are reported in $\mu\text{g/L}$ (ppb).

<u>Analyte</u>	<u>Concentration</u>	<u>Reporting Limit</u>
Sample Number: MW-1		
Benzene	16.4	0.5
Toluene	0.8	0.5
Ethylbenzene	ND	0.5
Total Xylenes	ND	0.5
MTBE	38.3	30.0
Sample Number: MW-2*		
Benzene	252	3.0
Toluene	448	3.0
Ethylbenzene	430	3.0
Total Xylenes	1410	6.0
MTBE	ND	200
Sample Number: MW-4		
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
Total Xylenes	ND	0.5
MTBE	ND	30.0

* Dilution factor = 10.



Blaine Tech Services, Inc.
 1680 Rogers Avenue
 San Jose, CA 95112

Date Sampled: 04/06/98
 Date Received: 04/08/98
 Date Extracted: P/T
 Date Analyzed: 04/10-13/98
 Work Order No.: 98-04-0209
 Method: EPA 8020A
 Page 2 of 5

Attn: Kent Brown
 RE: Texaco 61-857-1071

All concentrations are reported in µg/L (ppb).

<u>Analyte</u>	<u>Concentration</u>	<u>Reporting Limit</u>
Sample Number: MW-5		
Benzene	126	0.5
Toluene	0.5	0.5
Ethylbenzene	0.8	0.5
Total Xylenes	1.5	0.5
MTBE	ND	30.0
Sample Number: MW-6*		
Benzene	5950	15.0
Toluene	3720	15.0
Ethylbenzene	952	15.0
Total Xylenes	3750	30.0
MTBE	ND	1000
Sample Number: MW-7		
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
Total Xylenes	ND	0.5
MTBE	ND	30.0

* Dilution factor = 50.



Blaine Tech Services, Inc.
 1680 Rogers Avenue
 San Jose, CA 95112

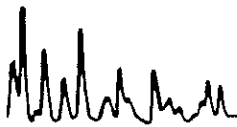
Date Sampled: 04/06/98
 Date Received: 04/08/98
 Date Extracted: P/T
 Date Analyzed: 04/10-13/98
 Work Order No.: 98-04-0209
 Method: EPA 8020A
 Page 3 of 5

Attn: Kent Brown
 RE: Texaco 61-857-1071

All concentrations are reported in µg/L (ppb).

<u>Analyte</u>	<u>Concentration</u>	<u>Reporting Limit</u>
Sample Number: MW-8*		
Benzene	8230	15.0
Toluene	5900	15.0
Ethylbenzene	718	15.0
Total Xylenes	2120	30.0
MTBE	ND	1000
Sample Number: MW-9		
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
Total Xylenes	ND	0.5
MTBE	ND	30.0
Sample Number: MW-10		
Benzene	224	0.5
Toluene	168	0.5
Ethylbenzene	81.4	0.5
Total Xylenes	253	0.5
MTBE	ND	30.0

* Dilution factor = 50.



Blaine Tech Services, Inc.
 1680 Rogers Avenue
 San Jose, CA 95112

Date Sampled: 04/06/98
 Date Received: 04/08/98
 Date Extracted: P/T
 Date Analyzed: 04/10-13/98
 Work Order No.: 98-04-0209
 Method: EPA 8020A
 Page 4 of 5

Attn: Kent Brown
 RE: Texaco 61-857-1071

All concentrations are reported in µg/L (ppb).

<u>Analyte</u>	<u>Concentration</u>	<u>Reporting Limit</u>
----------------	----------------------	------------------------

Sample Number: EB

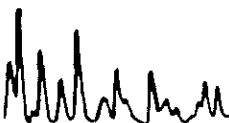
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
Total Xylenes	ND	0.5
MTBE	ND	30.0

Sample Number: Method Blank #1

Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
Total Xylenes	ND	0.5
MTBE	ND	30.0

Sample Number: Method Blank #2

Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
Total Xylenes	ND	0.5
MTBE	ND	30.0



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112

Attn: Kent Brown
RE: Texaco 61-857-1071

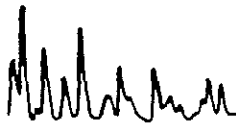
Date Sampled: 04/06/98
Date Received: 04/08/98
Date Extracted: P/T
Date Analyzed: 04/10-13/98
Work Order No.: 98-04-0209
Method: EPA 8020A
Page 5 of 5

All concentrations are reported in $\mu\text{g/L}$ (ppb).

<u>Analyte</u>	<u>Concentration</u>	<u>Reporting Limit</u>
Sample Number: Method Blank #3		
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
Total Xylenes	ND	0.5
MTBE	ND	30.0

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.



QUALITY ASSURANCE SUMMARY
 Method EPA 8260A

Blaine Tech Services, Inc.
 Page 1 of 2

Work Order No.: 98-04-0209
 Date Analyzed: 04/17/98

Matrix Spike/Matrix Spike Duplicate

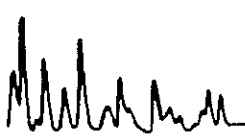
Sample Spiked: 98-04-0032-9

Analyte	MS%REC	MSD%REC	Control Limits	%RPD	Control Limits
Benzene	104	105	72 - 127	1	0 - 25
Carbon Tetrachloride	104	106	70 - 130	2	0 - 25
Chlorobenzene	100	101	72 - 131	1	0 - 25
1,2-Dichlorobenzene	98	100	70 - 130	2	0 - 25
1,1-Dichloroethene	97	99	69 - 127	2	0 - 25
Toluene	105	104	75 - 124	1	0 - 25
Trichloroethene	101	101	60 - 137	0	0 - 25
Vinyl Chloride	93	95	70 - 130	2	0 - 25

Surrogate Recoveries (in %)

Sample Number	S1	S2	S3
MW-1	94	103	99
MW-9	96	103	100
Method Blankl	101	101	100

Surrogate Compound	Water Acceptable Limits	Soil Acceptable Limits
S1 > Dibromofluoromethane	86 - 118	80 - 120
S2 > Toluene-d ₈	88 - 110	81 - 117
S3 > 1,4-Bromofluorobenzene	86 - 115	74 - 121



QUALITY ASSURANCE SUMMARY

Method EPA 8260A

Blaine Tech Services, Inc.
Page 2 of 2

Work Order No.:
Date Analyzed:

98-04-0209
04/16/98

Laboratory Control Sample

<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Benzene	50.0	55.2	110	72 - 127
Carbon Tetrachloride	50.0	53.7	107	70 - 130
Chlorobenzene	50.0	49.8	100	72 - 131
1,2-Dichlorobenzene	50.0	50.0	100	70 - 130
1,1-Dichloroethene	50.0	49.1	98	69 - 127
Toluene	50.0	51.9	104	75 - 124
Trichloroethene	50.0	50.4	101	60 - 137
Vinyl Chloride	50.0	47.6	95	79 - 118

QUALITY ASSURANCE SUMMARY

Method EPA 8015M - D

Blaine Tech Services, Inc.
 Page 1 of 1

Work Order No.: 98-04-0209
 Date Analyzed: 04/09/98

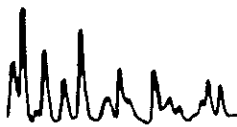
LCS/LCS Duplicate

<u>Analyte</u>	<u>LCS%REC</u>	<u>LCSD%REC</u>	<u>Control Limits</u>	<u>%RPD</u>	<u>Control Limits</u>
Total Petroleum Hydrocarbons	105	115	77 - 136	9	0 - 31

Surrogate Recoveries (in %)

<u>Sample Number</u>	<u>S1</u>
MW-1	79
MW-2	81
MW-4	81
MW-5	80
MW-6	79
MW-7	79
MW-8	77
MW-9	75
MW-10	77
EB	77
Method Blank	83

<u>Surrogate Compound</u>	<u>%REC</u> <u>Acceptable Limits</u>
S1 > Decachlorobiphenyl	58 - 152



QUALITY ASSURANCE SUMMARY

Method EPA 8015M - G

Blaine Tech Services, Inc.
 Page 1 of 2

Work Order No.: 98-04-0209
 Date Analyzed: 04/11/98

Matrix Spike/Matrix Spike Duplicate

Sample Spiked: 98-04-0203-2

Analyte	MS%REC	MSD%REC	Control Limits	%RPD	Control Limits
Total Petroleum Hydrocarbons	85	85	69 - 136	0	2 - 27

Surrogate Recoveries (in %)

Sample Number	S1
MW-1	97
MW-2	112
MW-4	98
MW-5	100
MW-6	89
MW-7	95
MW-8	88
MW-9	95
MW-10	104
EB	92
Method Blank #1	102
Method Blank #2	100
Method Blank #3	86

Surrogate Compound	%REC Acceptable Limits
S1 > 4-Bromofluorobenzene	56 - 136

QUALITY ASSURANCE SUMMARY

Method EPA 8015M - G

Blaine Tech Services, Inc.
 Page 2 of 2

Work Order No.: 98-04-0209
 Date Analyzed: 04/10-13/98

Laboratory Control Sample (04/10/98) #1

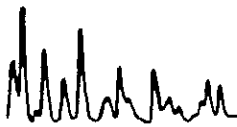
<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Total Petroleum Hydrocarbons	2.1	2.0	95	77 - 136

Laboratory Control Sample (04/10/98) #2

<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Total Petroleum Hydrocarbons	2.0	1.9	95	77 - 136

Laboratory Control Sample (04/13/98)

<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Total Petroleum Hydrocarbons	2.1	1.9	95	77 - 136



QUALITY ASSURANCE SUMMARY

Method EPA 8020A

Blaine Tech Services, Inc.
 Page 1 of 2

Work Order No.: 98-04-0209
 Date Analyzed: 04/11/98

Matrix Spike/Matrix Spike Duplicate

Sample Spiked: 98-04-114-5

Analyte	MS%REC	MSD%REC	Control Limits	%RPD	Control Limits
Benzene	96	97	39 - 150	1	0 - 25
Toluene	96	94	46 - 148	2	0 - 25
Ethylbenzene	98	100	32 - 160	2	0 - 25
m,p-Xylenes	94	91	45 - 150	3	0 - 25
o-Xylene	108	102	45 - 150	6	0 - 25

Surrogate Recoveries (in %)

Sample Number	S1
MW-1	95
MW-2	98
MW-4	98
MW-5	95
MW-6	92
MW-7	93
MW-8	92
MW-9	93
MW-10	100
EB	92
Method Blank #1	102
Method Blank #2	99
Method Blank #3	91

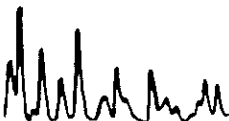
Surrogate Compound

S1 > 1,4-Bromofluorobenzene

%REC

Acceptable Limits

65 - 140



QUALITY ASSURANCE SUMMARY

Method EPA 8020A

Blaine Tech Services, Inc.
 Page 2 of 2

Work Order No.: 98-04-0209
 Date Analyzed: 04/10-13/98

Laboratory Control Sample (04/10/98) #1

<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Benzene	20.0	17.6	88	39 - 150
Toluene	20.0	18.7	94	46 - 148
Ethylbenzene	20.0	18.9	94	32 - 160
m,p-Xylenes	40.0	36.8	92	45 - 150
o-Xylene	20.0	18.8	94	45 - 150

Laboratory Control Sample (04/10/98) #2

<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Benzene	20.0	19.6	98	39 - 150
Toluene	20.0	17.3	86	46 - 148
Ethylbenzene	20.0	17.2	86	32 - 160
m,p-Xylenes	40.0	35.8	90	45 - 150
o-Xylene	20.0	20.3	102	45 - 150

Laboratory Control Sample (04/13/98)

<u>Analyte</u>	<u>Conc. Added</u>	<u>Conc. Rec.</u>	<u>%REC</u>	<u>Control Limits</u>
Benzene	20.0	17.3	86	39 - 150
Toluene	20.0	18.7	94	46 - 148
Ethylbenzene	20.0	18.7	94	32 - 160
m,p-Xylenes	40.0	36.6	92	45 - 150
o-Xylene	20.0	18.5	92	45 - 150



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Chain-of-Custody

TRMI EH&S
108 Cutting Boulevard
Richmond, California 94804
Phone: (510) 236-3541
FAX: (510) 237-7021

Site Name: Texaco Loc. #61-857-1071
Site Address: 3800 Broadway, Oakland, CA.
Contractor Project Number: _____
Contractor Name: Blaine Tech Services, Inc.
Address: 1680 Rogers Ave., San Jose, CA.
Project Contact: Kent Brown
Phone/FAX: (408) 573-0555 / (408) 573-7771

Forward Results to Blaine Tech Services, Attn: Kent Brown
Texaco Project Corodinator Marvin Katz

Laboratory: ~~ENVIRONMENTAL~~ CALSCIENCE
Turn Around Time: normal (10 day)
Samplers (PRINT NAME): _____
Sampler Signature: _____
Date Samples Collected: _____

ANALYSIS:

Sample Number	Lab Sample Number	Date/Time Collected	No. of Containers	Type of Containers	Sample Matrix	Preservative	TPH gas/BTEX + MTBE	TPH Diesel	O&G/TPH (418.1)	TPH Ex. (C8-C36 +)	VOCs 8240/624	P. Halocarbons 8010/60	P. Aromatics 8020/602	Organic Lead	Comments
MW1		4-6/1230	5	Vas/ ^{NP}	W	HCL	X	X							
MW2		1325	5				X	X							MTBE
MW4		1035	5				X	X							CONFIRMATION
MW5		1205	5				X	X							BY 8/2/00
MW6		1250	5				X	X							
MW7		1005	5				X	X							
MW8		1258	5				X	X							
MW9		1107	5				X	X							
MW10		1135	5				X	X							
EB		-	5				X	X							

Relinquished by: [Signature] Date: 4/7/00 Time: 10:00
Relinquished by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____
Method of Shipment: Ultra Express

Received by: _____ Date: _____ Time: _____
Received by: _____ Date: _____ Time: _____
Received by: [Signature] Date: 4/8/00 Time: 0800
Lab Comments: _____

Well Gauging Data

Project Name: 618571071
 Project Number: 980406-C1

Date: 4-6-98
 Recorded By: cm

Well ID	TOC Elev.	DTB (ft. TOC)	Well Dia. (in.)	DTP (ft.)	DTW (ft.)	PT (ft.)	Comments	
Mw1		29.50	2		16.88			
Mw2		33.43			18.00			
Mw3		—		16.53	16.58	0.05		
Mw4		34.90			15.45			
Mw5		33.20			17.43			
Mw6		32.96			19.90			
Mw7		33.63			15.91			
Mw8		33.91			16.19			
Mw9		33.96			14.00			
Mw10		33.44		2		14.39		

TOC = Top of casing
 DTB = Depth to bottom in feet below TOC
 DTP = Depth to product in feet below TOC
 DTW = Depth to water in feet below TOC
 PT = Product thickness in feet

TEXACO WELL MONITORING DATA SHEET

Project #: 980406-C1	Texaco ID#: 618-571-071
Sampler: CM	Date: 4-6-98
Well I.D.: MW1	Well Diameter: (2) 3 4 6 8 _____
Total Well Depth: 2950	Depth to Water: 1688
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Extraction Port Other: _____
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<u>2.1</u>	x	<u>3</u>	=	<u>6.3</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
1215	68.3	7.1	1200	7200	2.1	
1220	68.4	7.0	1200	7200	4.2	
1224	68.0	7.0	1200	7200	6.3	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: _____
Sampling Time: 12:30	Sampling Date: 4-6-98
Sample I.D.: MW1	Laboratory: BC Analytical (VOC)
Analyzed for: (Tph-G BTEX Tph-D)	Other: MTBE
Equipment Blank I.D.:	Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 980406-C1	Texaco ID#: 618-571-071
Sampler: CM	Date: 4-6-98
Well I.D.: MW 2	Well Diameter: (2) 3 4 6 8
Total Well Depth: 33.43	Depth to Water: 1800
Depth to Free Product: —	Thickness of Free Product: —
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Extraction Port Other: _____
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2.6	x	3	=	7.8	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
13:08	66.6	7.3	2100	7200	2.5	shen + odor
13:12	68.0	7.2	2000	7200	5.2	"
13:16	68.2	7.0	1900	7200	7.8	"

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 7.8
Sampling Time: 13:25	Sampling Date: 4-6-98
Sample I.D.: MW 2	Laboratory: BC Analytical (VOC)
Analyzed for: (Tph-G BTEX Tph-D)	Other: MTBE
Equipment Blank I.D.:	Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 980406-C1	Texaco ID#: 618-571-071
Sampler: CM	Date: 4-6-98
Well I.D.: MW3	Well Diameter: (2) 3 4 6 8
Total Well Depth: —	Depth to Water: 16.58
Depth to Free Product: 16.53	Thickness of Free Product: 0.05
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: S.S. Bailer ✓ Teflon Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: S.S. Bailer ✓ Teflon Bailer Extraction Port Other: _____
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_____	X	_____ 3	=	_____ Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
	—		.05 ft free Product			—
			NO SAMPLE			
			bailed approx 80mL			

Did well dewater? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: _____
Sampling Time: _____	Sampling Date: 4-6-98
Sample I.D.: _____	Laboratory: BC Analytical (VOG)
Analyzed for: Tph-G, BTEX , Tph-D	Other: MTBE
Equipment Blank I.D.: _____	Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 980406-C1	Texaco ID#: 618-571-071
Sampler: CM	Date: 4-6-98
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 34.90	Depth to Water: 15.45
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Extraction Port Other: _____
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<u>3.3</u>	x	<u>3</u>	=	<u>9.9</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
10:15	67.0	7.0	1100	170	3.3	
10:22	68.1	6.9	980	140	6.6	
10:28	68.1	6.9	910	163	9.9	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 9.9
Sampling Time: 10:35	Sampling Date: 4-6-98
Sample I.D.: mw-4	Laboratory: BC Analytical (VOC)
Analyzed for: (Tph-G BTEX Tph-D)	Other: MTBE
Equipment Blank I.D.:	Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 980406-C1	Texaco ID#: 618-571-071
Sampler: CM	Date: 4-6-98
Well I.D.: MWS	Well Diameter: (2) 3 4 6 8
Total Well Depth: 33.20	Depth to Water: 17.43
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: <input checked="" type="checkbox"/> S.S. Bailer <input type="checkbox"/> Teflon Bailer <input type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Extraction Pump Other: _____	Sampling Method: <input checked="" type="checkbox"/> S.S. Bailer <input type="checkbox"/> Teflon Bailer <input type="checkbox"/> Extraction Port Other: _____
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$$\frac{2.7}{1 \text{ Case Volume (Gals.)}} \times \frac{3}{\text{Specified Volumes}} = \frac{8.1}{\text{Calculated Volume}} \text{ Gals.}$$

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
1145	67.1	7.1	2000	7200	2.7	
1152	68.5	7.0	2000	7200	5.4	
1158	68.3	6.9	2000	7200	8.1	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 8.1
Sampling Time: 12:05	Sampling Date: 4-6-98
Sample I.D.: MWS	Laboratory: BC Analytical VOC
Analyzed for: Tph-G BTEX Tph-D	Other: MTBE
Equipment Blank I.D.:	Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: <u>980406-C1</u>	Texaco ID#: <u>618-571-071</u>
Sampler: <u>CM</u>	Date: <u>4-6-98</u>
Well I.D.: <u>MW 6</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth: <u>32.16</u>	Depth to Water: <u>19.90</u>
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Extraction Port Other: _____
--	--

<u>2.2</u>	x	<u>3</u>	=	<u>6.6</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
<u>13:35</u>	<u>68.5</u>	<u>7.8</u>	<u>2000</u>	<u>7200</u>	<u>2.2</u>	<u>odor + sludge</u>
<u>1340</u>	<u>68.9</u>	<u>7.7</u>	<u>1900</u>	<u>7200</u>	<u>4.4</u>	<u>"</u>
<u>1344</u>	<u>68.1</u>	<u>7.6</u>	<u>1900</u>	<u>7200</u>	<u>6.6</u>	<u>"</u>

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>6.6</u>
Sampling Time: <u>13:50</u>	Sampling Date: <u>4-6-98</u>
Sample I.D.: <u>MW 6</u>	Laboratory: BC Analytical VOC
Analyzed for: Tph-G BTEX Tph-D	Other: <u>MTBE</u>
Equipment Blank I.D.:	Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 980406-C1	Texaco ID#: 618-571-071
Sampler: CM	Date: 4-6-98
Well I.D.: MW7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 33.63	Depth to Water: 15.91
Depth to Free Product: —	Thickness of Free Product: —
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: S.S. Bailer
 Teflon Bailer
 Middleburg
 Electric Submersible
 Extraction Pump
 Other: _____

Sampling Method: S.S. Bailer
 Teflon Bailer
 Extraction Port
 Other: _____

<u>3.0</u>	x	<u>3</u>	=	<u>9.0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
9:45	62.8	7.0	1400	7200	3.0	
9:50	63.4	6.9	1200	7200	6.0	
9:56	64.0	6.9	1100	7200	9.0	

Did well dewater? Yes No Gallons actually evacuated: 9.0

Sampling Time: 10:05 Sampling Date: 4-6-98

Sample I.D.: MW7 Laboratory: BC Analytical (VOC)

Analyzed for: (Tph-G BTEX Tph-D) Other: MTBE

Equipment Blank I.D.: Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 980406-C1	Texaco ID#: 618-571-071
Sampler: CM	Date: 4-6-98
Well I.D.: MW 8	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 33 9/1	Depth to Water: 16.19
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Extraction Port Other: _____
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<u>3.0</u>	\times	<u>3</u>	$=$	<u>9.0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
12 40	67.1	7.6	2200	7200	3	odor/sheen
12 45	68.2	7.5	2000	7200	6	"
12 50	68.6	7.3	1900	7200	9	"

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 9.0
Sampling Time: 12:58	Sampling Date: 4-6-98
Sample I.D.: MW 8	Laboratory: BC Analytical (VOC)
Analyzed for: (Tph-G BTEX Tph-D)	Other: MTBE
Equipment Blank I.D.:	Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 980406-C1	Texaco ID#: 618-571-071
Sampler: CM	Date: 4-6-98
Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8
Total Well Depth: 33.96	Depth to Water: 14.00
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Extraction Port Other: _____
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3.4	x	3	=	10.2	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
1045	67.2	6.9	1300	7200	3.4	
1053	68.1	6.8	1280	7200	6.8	
1059	68.4	6.8	1100	160	10.2	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 10.2
Sampling Time: 11:07	Sampling Date: 4-6-98
Sample I.D.: MW9	Laboratory: BC Analytical (VOC)
Analyzed for: (Tph-G BTEX Tph-D)	Other: MTBE
Equipment Blank I.D.:	Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 980406-C1	Texaco ID#: 618-571-071
Sampler: CM	Date: 4-6-98
Well I.D.: MW-10	Well Diameter: (2) 3 4 6 8
Total Well Depth: 33.44	Depth to Water: 14.39
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius ² * 0.164

Purge Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Extraction Port Other: _____
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3.2	x	3	=	9.6	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
11:17	68.1	7.7	1900	7200	3.2	
11:23	68.0	7.5	1800	7200	6.4	
11:28	67.4	7.3	1800	7200	9.6	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 9.6
Sampling Time: 11:35	Sampling Date: 4-6-98
Sample I.D.: MW-10	Laboratory: BC Analytical (VOC)
Analyzed for: (Tph-G BTEX Tph-D)	Other: MTBE
Equipment Blank I.D.:	Analyzed for same as primary sample

BILL OF LADING

SOURCE RECORD
 FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM
 GROUNDWATER WELLS AT TEXACO FACILITIES IN THE
 STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGE-
 WATER WHICH HAS BEEN RECOVERED FROM GROUND-
 WATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE
 UP INTO LOADS OF APPROPRIATE SIZE AND HAULED TO
 THE DESTINATION DESIGNATED BY TRMI EH&S.

Contractor: Blaine Tech Services, Inc.
 Address: 1680 Rogers Ave.
 City, State, ZIP: San Jose, CA 95112
 Phone: (408) 573-0555

is authorized by TRMI EH&S to recover, collect, apportion into loads, and haul the NON HAZARDOUS WELL PURGEWATER that is drawn from wells at the Texaco facility listed below and to deliver that purgewater to an appropriate destination designated by TRMI EH&S in either Redwood City, California or in Richmond, California. Transport routing of the Non-Hazardous Well Purgewater may be direct from one Texaco facility to the designated destination point; from one Texaco facility to the designated destination point via another Texaco facility; from a Texaco facility to the designated destination point via the contractor's facility, or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of TRMI EH&S.

This SOURCE RECORD BILL OF LADING was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the Texaco facility described below:

Texaco#: _____ Texaco #618571071 _____
 Address: _____ 3810 BROADWAY _____
 City, State, ZIP: _____ OAKLAND, CA _____
Sample No.

WELL I.D. GALS.	WELL I.D. GALS.
_____	_____
<u>Purge water = 70</u>	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Total gals. <u>72</u>	added rinse water _____

Total Gals. Recovered 72

Job#: 980330-C2 980906-C1
 Date: 3/30/98 4-6-98
 Time: 13:51
 Signature: _____

REC'D AT: BTS
 Date: 4-6-98
 Time: 14:40
 Signature: CJM

Texaco Refining and Marketing Inc., Environmental Health and Safety
Standard Operating Procedures
for Groundwater Monitoring and Sampling

The following are routine procedures to be followed by personnel obtaining field information concerning petroleum product thickness and samples of groundwater during the monitoring and sampling of Texaco sites. These procedures are designed to assure that:

- Information and samples are properly collected.
- Samples are identified, preserved and transported in a manner such that they are representative of field conditions.
- Monitoring and sampling results are reproducible.

Water Level Measurements

Water level measurements are needed to document groundwater flow directions and calculate gradient. By gauging the level of water in a groundwater monitoring well and comparing the compiled data, calculations can be made that determine the direction the groundwater at the monitored well is flowing and the groundwater gradient between successive monitoring wells.

- An interface probe or electronic probe is generally used to gauge the level of water in a monitoring well. When using either probe, it is slowly lowered into the well until the oscillating alarm indicating water is heard. Raise the interface probe above the water level and lower back into the water at least three times to verify that the true depth to water is measured. The depth to water should always be measured from the same spot on the top of the well casing. The designate "Top of Casing" mark should be at the North side of the casing. Without moving the probe, read the numbers on the tape to determine the distance to water from the top of the well casing. A chalked, steel add-tape may also be used to gauge the level of water in a monitoring well. When using the steel tape, it is slowly lowered into the well until the chalked portion of the tape encounters water. Read the numbers on the tape to determine the distance from the predetermined top of the well casing. Raise the tape to the surface grade, re-chalk and lower it back into the water at least tow times to verify that the true depth to water is measured. Record the depth to water on the Well Gauging Form and Groundwater Sampling Form.

Petroleum Product Thickness Measurements

If free phase petroleum hydrocarbons (product) are observed floating on the groundwater surface during the water level measurement, the thickness of the product will be measured in each appropriate well. Groundwater samples will not be collected for chemical analysis from wells containing product (even a sheen) unless specifically requested by the Project Coordinator. If the Project Coordinator requests that wells containing product be sampled, only those wells with product thickness of less than 0.01 foot will be sampled. Arrangements to bail, store, and dispose of product must be made separately. When product is stored, according to Texaco policy, it will be double-contained and disposed of within 90 days of generation. Product thickness will be measured using interface probes, and/or acrylic (clear plastic) bailers. The procedures for obtaining level and thickness measurements using each instrument are:

- The level of the top of the product will be measured with an interface probe. When product is suspected but not measurable with the interface probe, a visual evaluation can be made using clear bailers. A bailer will be lowered into the water/product surface so that the top of the bailer is NOT submerged; the bailer is then removed from the well

and the thickness of the product visually measured and documented on the Well Gauging Form.

- When the interface probe contact liquid, the visual/audible alarm on the reel will be activated. An oscillating alarm indicates water, a continuous alarm indicates hydrocarbon*. To determine the exact thickness of a hydrocarbon layer, the probe should be slowly lowered to the air/hydrocarbon interface until the alarm is activated. With the probe at the exact point where the alarm comes on, read the numbers on the tape to determine the distance from the top of casing elevation mark. Next, lower the probe through the hydrocarbon layer and well into the water. An oscillating alarm will be obtained. The probe alarm changes from oscillating to continuous. The thickness of the hydrocarbon layer is determined by subtracting the first reading from the second reading. Record the calculated value on the Well Gauging Form and Groundwater Sampling Form.

* The process described here is equipment specific. Follow the procedures applicable for your monitoring equipment.

Groundwater Sampling

Groundwater samples will be collected from selected groundwater monitoring wells to provide data which will be statistically representative of local groundwater conditions at the site. Groundwater samples will be collected as follows:

- All measuring and sampling equipment will be decontaminated prior to sample collection from each well and documented on the Groundwater Sampling Form.
- Prior to sampling activity, the water level in the well will be measured and the minimum purge volume of each well will be calculated using the purge volume calculation portion of the Groundwater Sampling Form. A minimum of three casing volumes will be purged prior to sample collection. The actual total volume purged will be recorded on Groundwater Sampling Form.
- Prior to sampling, a submersible pump, centrifugal pump, peristaltic pump, or a Teflon or stainless steel bailer will be used to purge a minimum of three casing volumes from each well. Purge volumes will be estimated using a flow meter or a stopwatch and a bucket to estimate flow rate, from which a time to purge the required volume will be calculated. The pump will be lowered to a depth of two to three feet from bottom of the well. When bailers are used for purging, the bailer should be gently lowered into the water and allowed to fill, then removed. Purged water may be placed into 5-gallon buckets to determine the volume of groundwater removed. Care should be taken to not agitate the water which could release volatile organics.
- Whenever possible, groundwater parameters pH, temperature (in degrees Celsius [C]), specific conductance (in micromhos per centimeters squared [μmhos]), and turbidity (in National Turbidity Units [NTU]) will be monitored and recorded on the Groundwater Sampling Form.
- If a well is purged dry before three casing volumes have been removed, the sample will be taken after the well has recovered to at least 80 percent of the static water level prior to purging or after 4 hours when sufficient water volume is available to meet analytical requirements, whichever comes first. Reasonable efforts will be made to avoid dewatering wells by using low-yield pumps as necessary.
- Water samples will be collected with a stainless steel or Teflon bailer. To reduce potential cross contamination, sampling should take place in order from least to most

contaminated wells. Bailer strings should be replaced between each well to avoid cross contamination from a bailer string which has absorbed contamination.

- Sample containers will be filled directly from the bailer.
- Use only sample containers prepared and provided by an analytical laboratory. Preservatives are required for some types of samples. Sample containers containing preservatives should be supplied by an analytical laboratory.
- For volatile organics analysis, each sample vial will be filled with sample water so that water stands above the lip of the vial. The cap should then be quickly placed on the vial and tightened securely. The vial should then be checked to ensure that no air bubbles are present prior to labeling the sample.
- Take site blank samples (trip and rinsate) using distilled water or laboratory supplied water from a known uncontaminated source. One trip blank and one rinsate blank sample for each site will be analyzed for each site sampling event.
- Once collected and labeled, all samples will be stored in a cooler maintained at 4 degrees Celsius using frozen water ice.

Sample Custody Procedures

Sample custody procedures will be followed through sample collection, transfer, analysis and ultimate disposal. The purpose of these procedures is to assure that the integrity of samples is maintained during their collection and transfer. Sample quantities, types and locations will be determined before the actual field work begins. As few people as possible will handle samples. The field sampler is personally responsible for the care and custody of the collected samples until they are properly transferred.

Each sample will be labeled and sealed properly immediately after collection. Sample identification documents will be carefully prepared so that identification and chain-of-custody records can be maintained and sample identification documents that will be utilized during the field operations.

- Sample Identification Label
- Chain-of-Custody

Each separate sample will be identified using a label obtained from the laboratory. The sampler will complete all information, using a black waterproof pen, as follows:

The Site ID This is the name assigned to the particular sampling station.

The Sample Source This will be the name of the well location.

The Analysis Required This will be indicated for each sample using proper EPA reference number indicating analytical method.

The Date Taken This will be the date the sample was collected, using the format MM-DD-YY Example: 06-15-91

Noting the Time The time the sample was collected will be given in military time. Example: 1430

The Method of Preservation Preservation methods will be provided, specifying the type of preservation. For non-acidified samples, "ice" will be indicated.

The Sampler's Name This will be printed in the "Sampled By" section. The sampler's signature will be written in the "Signed" section.

There is potential that samples and analyses could be of an evidentiary nature. Therefore, the possession of samples must be traceable from the time samples are collected in the field until the analysis is completed and the data are entered as evidence. The tracing of the samples through the laboratory is accomplished by "chain-of-custody" procedures. Chain-of-Custody Forms will be completed for each set of samples. The sampler will sign the first "Relinquished By" line at the bottom of the chain of custody record, and will indicate the date and time of the custody transfer. Samples will not leave custody of the field technician until relinquished to another party. Custody is defined by the following criteria.

In the Actual Physical Possession When field personnel have sample in possession, they have "custody".

In View The samples are in the field personnel's view after being in their physical possession.

Special Areas Sample is kept in a locked area after being in physical possession.

Designated Area Sample is in a designated, locked-storage area.

Transfer of samples to an analytical laboratory will be done by use of a common carrier or personal delivery. Carrier personnel will personally secure samples and sample containers in such a way that no containers can be opened in transit. The person to whom the custody is being transferred will sign on the first "Received By" line of the chain-of-custody record, indicating that custody is being accepted by the carrier for all the samples listed on the sheet. For subsequent transfers of custody, the succeeding relinquish and receipt lines will be used.

Equipment Decontamination

All equipment that comes in contact with potentially contaminated soil or water will be decontaminated prior to and after each use (for example, after each sampling event). All purging and sampling equipment will be decontaminated with an Alconox wash and rinsed with deionized water. Decontamination water generated will be added to the purge water.