



Texaco USA

10 Universal City Plaza  
Universal City CA 91608-1097

nc

May 19, 1988

Mr. Greg Zentner  
California Regional Water  
Quality Control Board  
San Francisco Bay Region  
1111 Jackson St., Rm. 6040  
Oakland, CA 94607

*652*

Dear Greg:

Enclosed is the Environmental Assessment Report for our former service station site located at 3940 Castro Valley, CA. All underground storage tanks were removed and soils were aerated on site in 1985 and into 1986.

This report indicates that hydrocarbon levels of all current soil samples are either non-detectable or below 14 PPM TPH. Although water samples indicate levels of dissolved hydrocarbons, we feel this in part is influenced by the fact that wells are screened from - 5' to bottom of wells. ??

Based on all available information, I propose biannual monitoring of water levels and laboratory water analyses to document the natural degradation of hydrocarbons at this site.

Please advise if you do not concur.

Very truly yours,

*R. Robles*

R. ROBLES  
Environmental Protection  
Coordinator

*More investigation is needed.*

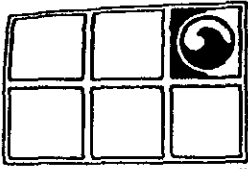
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1901.1-4N  
Encls.

CC: Craig Mayfield  
Alameda County Flood Control  
Control and Water Conservation Dist.  
Water Resources Mgmt., Zone 7  
5997 Parkside Drive  
Pleasanton, CA 94566

Amy Patton  
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4080 Pike Lane, Suite 1  
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*SSH 4/10/89*



**GROUNDWATER  
TECHNOLOGY, INC.**

4080 Pike Lane, Suite D, Concord, CA 94520 (415) 671-2387

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**CONTAMINATION ASSESSMENT REPORT  
TEXACO SERVICE STATION  
3940 CASTRO VALLEY ROAD  
CASTRO VALLEY, CALIFORNIA  
FEBRUARY 1988**

**Prepared for:**

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**Prepared by:**

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**CONTAMINATION ASSESSMENT REPORT  
TEXACO SERVICE STATION  
3940 CASTRO VALLEY BLVD.  
CASTRO VALLEY, CALIFORNIA  
FEBRUARY 1988**

**INTRODUCTION**

This report presents the results of the contamination assessment conducted at the Texaco Service Station located at 3940 Castro Valley Blvd. in Castro Valley, California (See Figure 1, Site Location Map). This investigation was authorized by Mr. Patrick Donahue of Texaco Refining and Marketing Inc., on November 11, 1987.

**BACKGROUND**

**SITE SETTING**

The site is situated in Alameda County, along the eastern edge of the San Francisco Bay, in a mixed residential and light commercial area within the City of Castro Valley. A VIP gasoline station is in operation approximately 400-feet west of the site.



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FIGURE 1  
SITE LOCATION MAP

TEXACO REFINING  
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 CASTRO VALLEY, CALIFORNIA



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Geographically, the site is located in Castro Valley Basin, approximately 2-miles south of San Leandro Hills and 1-mile west of Walpert Ridge. A nameless creek and San Lorenzo Creek flow approximately 1/4-mile to the west and 1/2-mile to the east of the site, respectively. The site elevation is approximately 195-feet above sea level and the surface topography slopes to the northwest.

#### PREVIOUS WORK

A PetroTite<sup>R</sup> test was performed on the sites' underground tanks by Petroleum Engineering, Inc. of Santa Rosa, California, in September 1984. At that time, the test results indicated that all tanks were tight. Two 6,000-gallon, and two 4,000-gallon gasoline tanks were removed from the site in June, 1985. This was due to demolition of the station and discontinuation of on-site storage.

Soil samples collected by Blaine Tech Services from the tank pit excavation in July of 1985, indicated the presence of 6,500 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH). This prompted further excavation of soils around the tank area. Additional soil samples collected from the tank pit and analyzed by Trace Analysis Laboratory in October, 1985, indicated the presence of 15 to 7,900 ppm TPH. A monitoring well (TX) was installed in December, 1985, by Winter Petroleum Service, Inc. of San Jose, California, downgradient of the tank pit in the vicinity of the pump island. Soil samples collected during drilling showed 6 to 38 ppm TPH as gasoline at 20 and 25 feet below surface.



one!

How determined?

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- o Evaluated data obtained from the above work steps and information about the presence of nearby water wells to assess the site sensitivity as well as the potential impact of any existing hydrocarbons.

#### SOIL BORINGS

Two soil borings were drilled on November 20, 1987 adjacent to the former underground pit. A third soil boring was drilled close to the old monitoring well (TX) at the site (See Figure 2, Site Plan). The purpose of the borings was to investigate the presence of subsurface hydrocarbons and to help define the vertical and lateral extent of adsorbed hydrocarbons, should any be found.

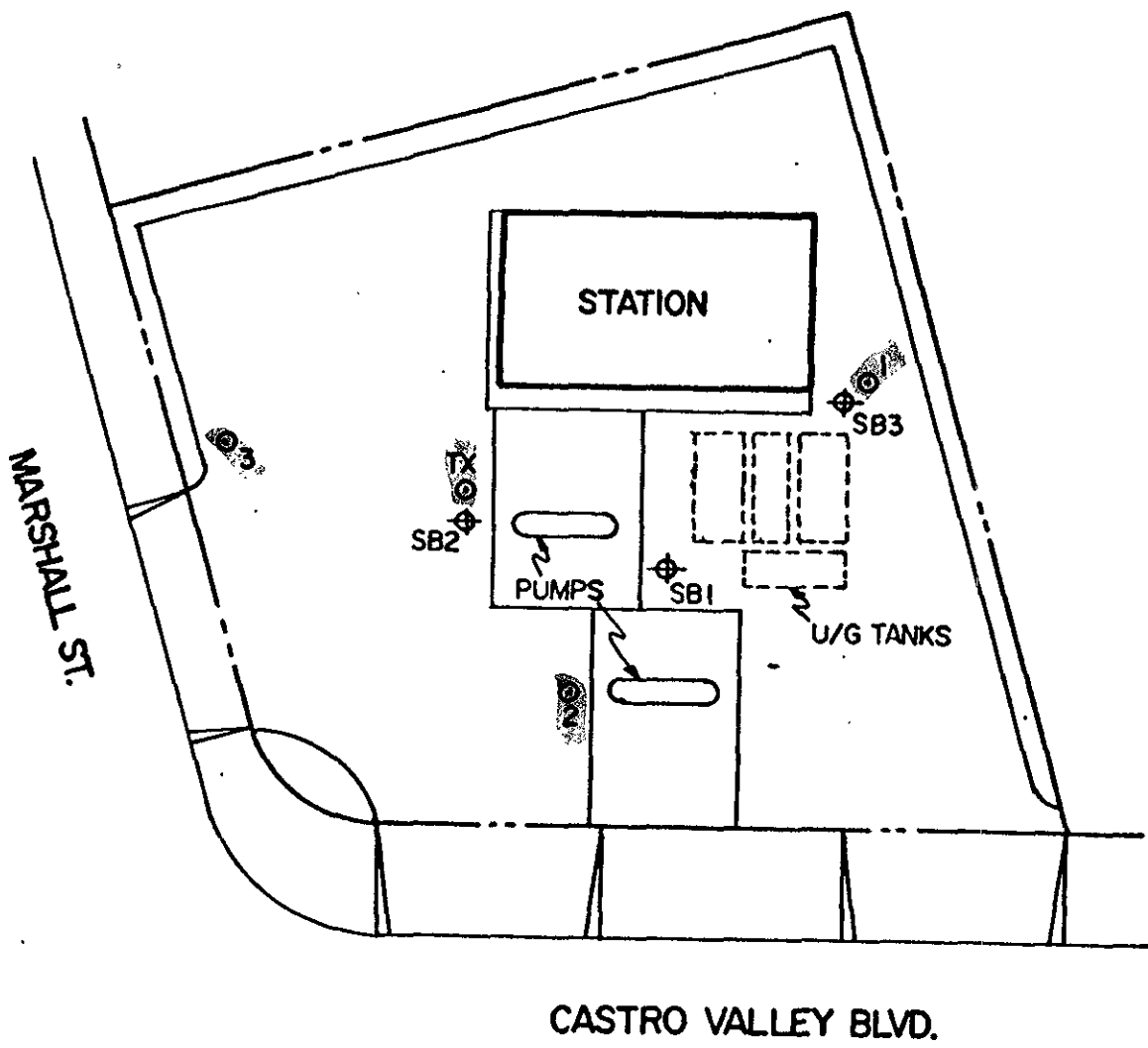
The borings were drilled 35-feet below grade with a truck-mounted drill rig, using 7.5-inch outside-diameter, (O.D.) hollow-stem augers. The drilling was performed under the direction of a field geologist, who also maintained a continuous log of the materials encountered (See Appendix I, Drill Logs). After drilling, the soil borings were backfilled with concrete, according to local regulatory agency specification.

#### MONITORING WELL CONSTRUCTION

Three monitoring wells, MW-1, MW-2 and MW-3, were installed on December 16 and 17, 1987 to depths of 45, 38 and 40 feet, respectively, to investigate and monitor the presence of dissolved hydrocarbons, if present. (See Figure 2, Site Plan).

The wells were drilled with a truck-mounted drill rig, using 10.5-inch O.D. hollow-stem augers. Drilling was performed under direction of a field geologist who maintained a continuous log of





LEGEND

- ⊙ MONITORING WELL
- ◆ SOIL BORING

FIGURE 2  
SITE PLAN



TEXACO REFINING  
& MARKETING INC.  
CASTRO VALLEY, CALIFORNIA

0 FEET 30



GROUNDWATER  
TECHNOLOGY



materials encountered. Wells MW-1, MW-2 and MW-3 were constructed of 40-, 30- and 35-feet of 0.020-inch, machine-slotted, four-inch-diameter PVC screen, respectively, and 5-, 3- and 5-feet of four-inch-diameter blank PVC casing, respectively. The annular space around the well screen was packed with No. 2 Lapis Luster Sand. The sand pack was installed to 1-foot above the top of the well-screened intervals in each well. Each well was finished with a 1-foot bentonite seal overlain with concrete to the surface where locking caps and watertight, traffic-rated street boxes were installed to provide access (See Appendix I, Drill Logs).

#### SOIL SAMPLING

Soil samples were obtained during the drilling of the soil borings and monitoring wells, using a 2.5-inch-diameter split-spoon sampler lined with three 2-inch-diameter by 6-inch-long, brass sample tubes. Samples were obtained at approximately 5-foot intervals, beginning at 3.5- to 5.0-feet below the ground surface in each boring. Selected samples were sealed, labeled, and placed on ice in an insulated cooler for delivery to a laboratory for analysis. A chain-of-custody manifest was maintained with the samples at all times.

#### WATER SAMPLING

One water sample was collected from soil boring SB-3, before the boring was sealed. After the monitoring wells were drilled and developed, groundwater samples were again collected. Prior to sampling, each well was purged of approximately 5 well volumes. The samples were obtained with an EPA-approved Teflon<sup>R</sup>



sampler and placed in glass vials with Teflon<sup>R</sup> caps in such a way that no air was trapped inside. The samples were labeled and placed on ice in an insulated cooler along with properly completed chain-of-custody forms and delivered to the laboratory for analysis. Water samples were analyzed for BTEX and TPH as gasoline by U.S. Environmental Protection Agency (EPA) Method 5030/8015/8020.

## SITE CONDITIONS

### GEOLOGY

The Castro Valley Basin is underlain by the Cretaceous Chico Formation of Lawson. The Chico Formation of Lawson is composed of biotitic, arkosic sandstone and clay shale, with major amounts arenaceous shale, siltstone and conglomerate. The formation is at least 2,000-feet thick and may be as thick as 6,000 feet.

The late Pleistocene and Holocene-Quaternary age alluvium overlies the Chico Formation of Lawson and consists of irregularly interbedded clay, silt, sand and gravel. Maximum thickness approaches 80 feet. The soil underlying the site, as encountered in the soil borings to the depth of 45 feet consisted of, brown and gray sandy, silty clay with irregularly bedded layers of brown, clayey, silty sand and brown, silty, clayey sand.

### HYDROGEOLOGY

The study area is located within the Castro Valley groundwater basin. The Chico Formation of Lawson basement consolidated rocks are considered non-water-bearing due to poor water yield.



The younger Quaternary sediments present beneath the study site consist of sand, silt and clay, and are the major water-bearing units in this area. Groundwater in these unconsolidated sediments is mainly unconfined. The eastern and northern slopes of the Castro Valley are principal recharge areas with low rates of recharge. Regional groundwater flow is generally to the southwest with outflow probably to Santa Clara Valley. The site is not located within a major groundwater basin.

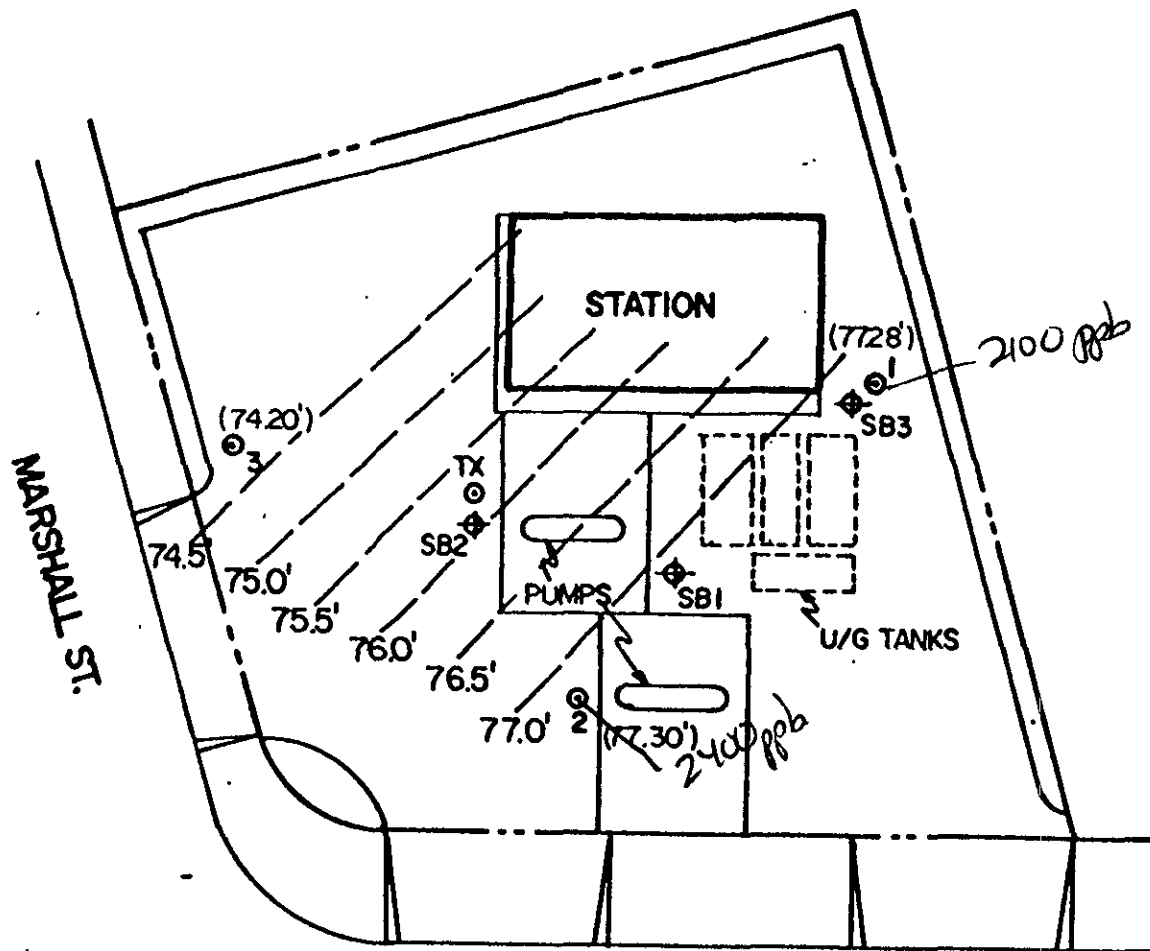
The borings drilled for this investigation encountered groundwater 23.5- to 35-feet below grade. The static level of groundwater monitored in wells on site was approximately 22.5 feet below grade in December 1987. The groundwater direction, as determined by the December monitoring data, was to the northwest (See Figure 3, Groundwater Gradient Map). A summary of the well-gauging data is provided in Appendix II, Well Gauging Data.

#### WELL SURVEY

A well survey of the area surrounding the station was conducted to assess the sensitivity of the site. Using records from the California Department of Water Resources in Sacramento, no registered water wells were recorded within a 1/4-mile radius of the site.

The pre-existing monitoring well (TX) at the Texaco Service Station was recorded to be 25-feet deep. The well was constructed with 10 feet of 0.010-inch, slot-size, two-inch-diameter PVC screen, and 15 feet of blank PVC casing. The annular space around the well screen was packed with pea gravel.





**LEGEND**

- ⊙ MONITORING WELL
- ◆ SOIL BORING
- ( ) RELATIVE GROUNDWATER ELEVATION
- - - GROUNDWATER CONTOUR

FIGURE 3  
GROUNDWATER GRADIENT MAP  
 12/30/87



0 FEET 30



GROUNDWATER TECHNOLOGY

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 CASTRO VALLEY, CALIFORNIA

The gravel pack was installed to 5-feet above the top of the screened intervals. The annular space above the gravel pack was sealed with 10 feet of concrete. In November, 1987, a technician monitored this well and found it to be dry, recovering only silt, sand and clay from its' base at 21 feet, indicating a possible broken well casing.

### SUBSURFACE CONDITIONS

#### SOIL

During drilling in November and December, 1987, all soil samples were visually inspected and field-screened using a photo-ionization detector (PID). Based on these observations, eight individual soil samples were chosen for laboratory analyses of BTEX and TPH as gasoline, two soil samples were analyzed for volatile organic compounds (VOCs) and one soil sample for total oil and grease (TOG).

Minor levels of hydrocarbons at practical quantitative levels (PQL) in soil were found at depths of 25- and 30-feet below surface grade in several soil borings and wells around the former underground tank pit area and pump islands.

The laboratory results are presented in Appendix III, and are summarized in Table 1.

#### GROUNDWATER

Analysis of a groundwater sample collected from ~~well boring~~ showed concentrations of ~~BTEX~~ to be 1,700 ppb, and concentrations of ~~TPH~~ as gasoline to be 29,000 ppb. This sample was



collected from the open soil boring which could not be developed. The effects of silt in the sample may, therefore, have contributed to an artificially high hydrocarbon measurement. *why?*

Analyses of groundwater samples obtained from monitoring wells 1 and 2 showed concentrations of BTEX to be 220 ppb and 390 ppb, respectively, and concentrations of TPH as gasoline to be 2,100 ppb and 2,400 ppb, respectively. Analyses of water samples collected from monitoring well 3, situated downgradient of tank and pump islands area, did not show presence of hydrocarbons. These analytical results of groundwater samples from the monitoring wells are considered more representative than the initial sample from the soil boring, due to the quality of the samples and the absence of complicating factors.

The laboratory results are presented in Appendix III and are summarized in Table 1.

#### SUMMARY

A subsurface hydrocarbon contamination assessment investigation was initiated at this site on November 11, 1987, by Mr. Patrick Donahue of Texaco Refining and Marketing Inc.

The assessment, involving three exploratory soil borings and three monitoring wells indicated minor concentrations of hydrocarbons present in the soil borings drilled around the pump islands, and former underground tank area.



Presence of dissolved hydrocarbons in groundwater appear to be concentrated around the former underground tank area and pump islands with concentrations of BTEX from 220 to 390 ppb and concentrations of TPH as gasoline, to be from 2,100 to 2,400 ppb. Groundwater samples obtained from monitoring well 3, which is located downgradient of site, did not show the presence of hydrocarbons at PQL.

#### CLOSURE

Groundwater Technology, Inc. would like to thank Texaco Refining and Marketing Inc. for the opportunity to have been of service on this project. If you have any questions regarding this report feel free to contact our office.

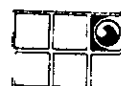


TABLE 1

ANALYTICAL LABORATORY RESULTS - SOIL SAMPLES  
[ppm]

SAMPLE	DEPTH (FT.)	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENE	BTEX	TOG	METHYLENE CHLORIDE	CHLOROPFORM	MISC. HYDRO- CARBONS (C4-12)	TPH as GASOLINE
SB 1 C	(14-14.5)	ND	ND	ND	ND	ND	-	-	-	ND	ND
SB 1 F	(29-29.5)	ND	0.95	ND	ND	-	ND	1.9	0.025	ND	ND
SB 2 B	( 9- 9.5)	ND	ND	ND	ND	ND	-	-	-	ND	ND
SB 2 F	(29-29.5)	ND	ND	ND	ND	ND	-	-	-	ND	ND
SB 3 C	(14-14.5)	ND	ND	ND	ND	ND	-	-	-	ND	ND
SB 3 F	(29-29.5)	ND	ND	ND	ND	ND	-	-	-	ND	ND
MW 1 E	(24-24.5)	ND	ND	0.24	2.0	-	-	ND	ND	-	-
MW 2 E	(24-24.5)	ND	ND	ND	ND	ND	-	-	-	14.0	14.0
MW 3 E	(24-24.5)	ND	ND	ND	ND	ND	-	-	-	ND	ND

ANALYTICAL LABORATORY RESULTS - WATER SAMPLES  
[ppb]

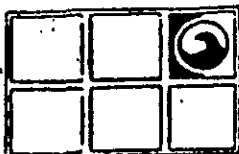
SAMPLE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENE	BTEX	MISC. HYDRO- CARBONS (C4-12)	TPH AS GASOLINE
SB 3	70	9	4	1,600	1,700	27,000	29,000
MW-1	15	12	3	190	220	1,900	2,100
MW-2	220	16	3	150	390	2,000	2,400
MW-3	ND	ND	ND	ND	ND	ND	ND

ND = Less than Practical Quantitation Levels as per EPA Federal Register  
 TOG = Total Oil and Grease  
 TPH = Total Petroleum Hydrocarbons  
 BTEX = Total Benzene, Toluene, Ethylbenzene, Xylene

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**APPENDIX I**  
**DRILLING LOGS**



Soil Boring 1

Drilling Log

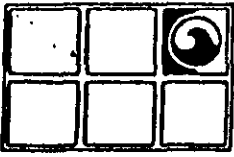
Project Texaco Castro Valley Owner Texaco Refin. & Market  
 Location Castro Valley Project Number 203 150 4080  
 Date Drilled 11/20/87 Total Depth of Hole 35 ft. Diameter 7.5 in.  
 Surface Elevation \_\_\_\_\_ Water Level, Initial 31 ft. 24-hrs \_\_\_\_\_  
 Screen: Dia \_\_\_\_\_ Length \_\_\_\_\_ Slot Size \_\_\_\_\_  
 Casing: Dia \_\_\_\_\_ Length \_\_\_\_\_ Type \_\_\_\_\_  
 Drilling Company Sierra Pacific Drilling Method Hollow Stem Auger  
 Driller Todd Byard Log by Jan Prasil

Sketch Map

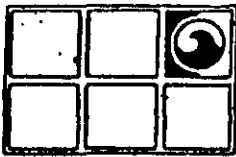
See Site Plan

Notes

Depth (Feet)	Well Construction	PID (ppm)	Sample Number	Graphic Log	Description/Soil Classification
0					2 inches asphalt over 5 inches base course
0 - 2				CL	Gray sandy clay (medium stiff, dry, no product odor)
2 - 4		0	A 4, 5, 8	CL	Yellow, sandy clay (medium stiff, dry, no product odor)
4 - 8		0	B 1, 2, 3	CL	(grades yellow-brown, soft)
8 - 14		0	C 4, 6, 8	CL	(grades medium stiff) (grades sandy)
14 - 18		0	D 5, 8, 13	SC	Brown, clayey, medium sand (medium stiff, dry, no product odor)
18 - 20		0			(grades moist)
20 - 24		0	E 11, 17, 27		

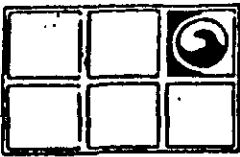


Depth (feet)	Well Construction	PID (ppm)	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
26					Brown, clayey, medium sand (cont'd)
28					
30		0	11	SC	(grades very moist)
32					▼ Encountered water 11/20/87 (1055 hours) (grades more clayey)
34				CL	Brown, sandy clay (medium stiff, wet, no product odor)
36					End of boring, backfilled with concrete
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					



Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
26					Brown, sandy clay (cont'd)
28			F	CL	(grades more sandy)
30			10		
32			22		Encountered water 11/20/87 (1230 hours)
34			G	SP	Brown, coarse sand (loose, wet, no product odor)
36			4		End of boring, backfilled with concrete
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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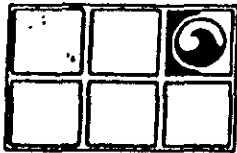


**Soil Boring 3**

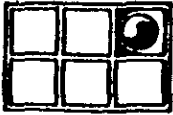
Project Texaco Castro Valley Owner Texaco Refin. & Market.  
 Location Castro Valley Project Number 203 150 4080  
 Date Drilled 11/20/87 Total Depth of Hole 35 ft. Diameter 7.5 in.  
 Surface Elevation \_\_\_\_\_ Water Level, Initial \_\_\_\_\_ 24-hrs. \_\_\_\_\_  
 Screen: Dia. \_\_\_\_\_ Length \_\_\_\_\_ Slot Size \_\_\_\_\_  
 Casing: Dia. \_\_\_\_\_ Length \_\_\_\_\_ Type \_\_\_\_\_  
 Drilling Company Sierra Pacific Drilling Method Hollow Stem Auger  
 Driller Todd Byard Log by Jan Prasil

Sketch Map  
  
See Site Map  
  
Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification
0					2 inches asphalt over 5 inches base course
2				CL	Gray, sandy clay (medium stiff, dry, no product odor)
4			A 10 18 28	CL	Light brown, silty clay (very stiff, dry, no product odor)  (grades sandy, less silty)
6					Light brown, sandy clay (medium stiff, dry, no product odor)
8			B 5 5 8		
10					
12					(grades gray-green, silty)
14			C 8 15 21	CL	(grades very stiff)
16					
18			D 5 5		Light brown, clayey, medium sand (medium dense, dry, no product odor)  (grades brown)
20					
22				SC	
24			E 8 10 8		(grades more clayey)



Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
26					Light brown, clayey medium sand (cont'd)
28			F		(grades moist)
30			10	SC	
32			15		▼ Encountered water 11/20/87 (1520 hours)
34			21	CL	Brown sandy clay (medium stiff, wet, no product odor)
36					End of boring, backfilled with concrete
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					



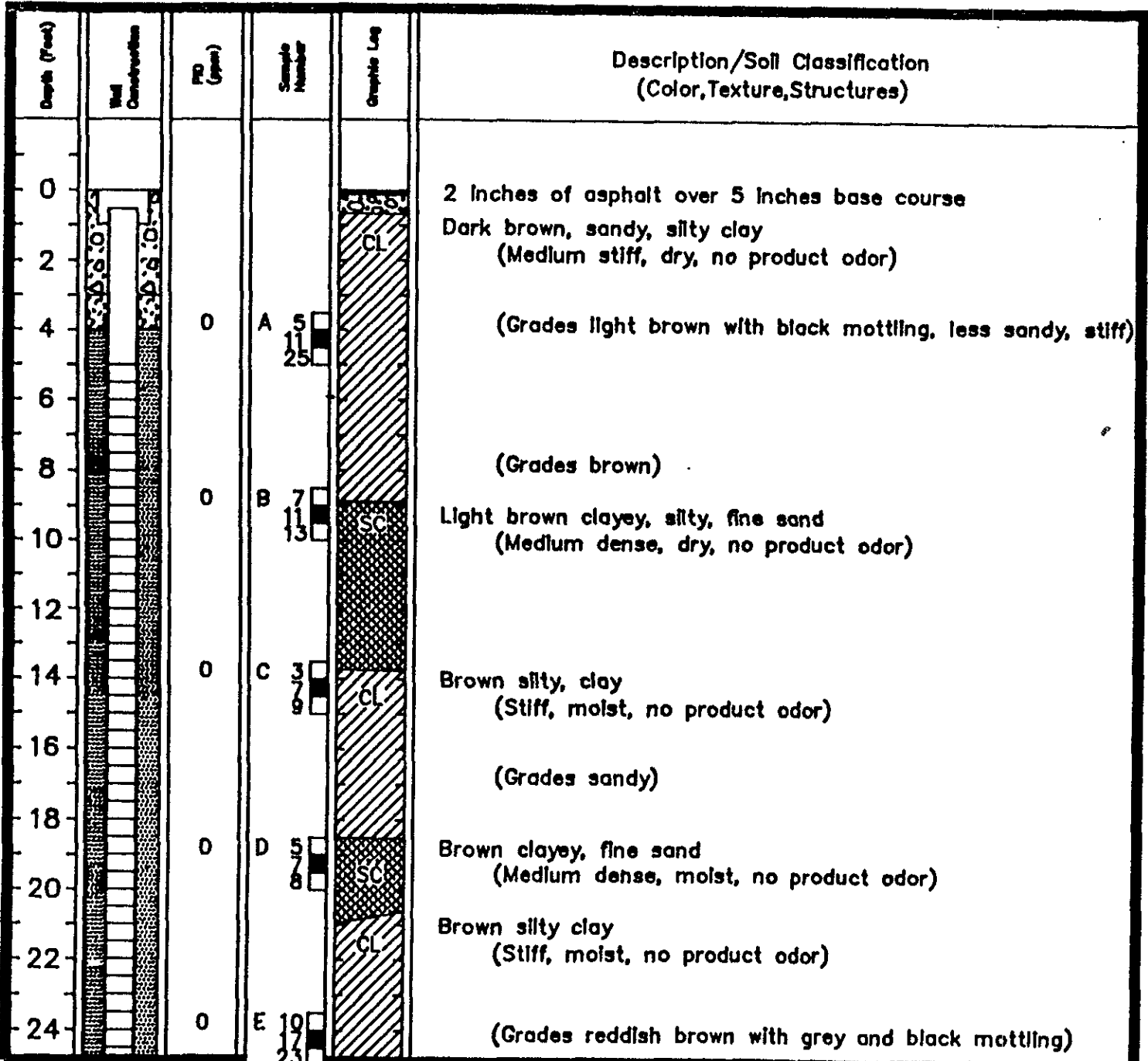
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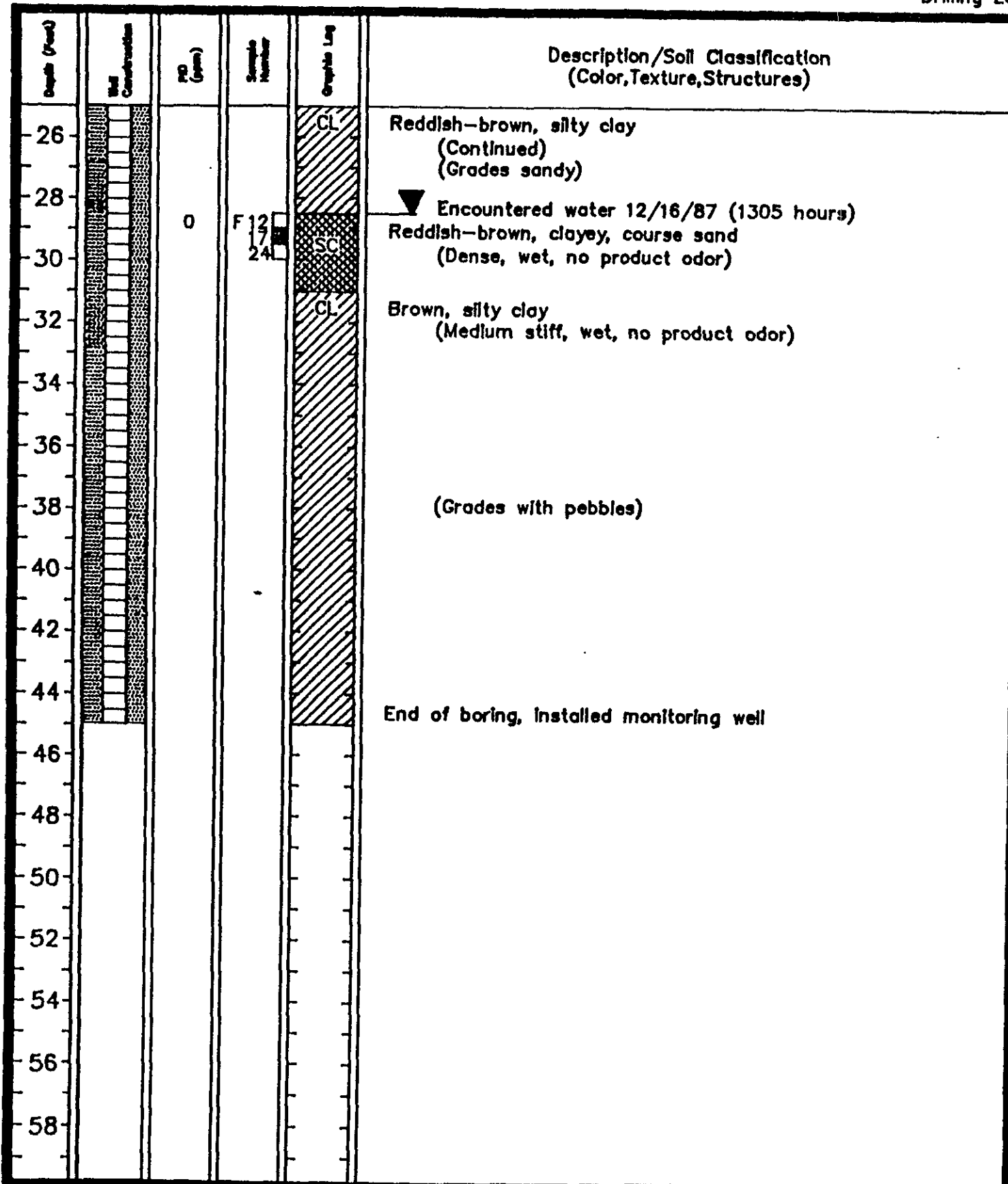
Monitoring Well 1

Drilling Log

Project TEXACO CASTRO VALLEY Owner TEXACO REF. AND MARK. INC.  
 Location CASTRO VALLEY, CA Project Number 203-150-4080  
 Date Drilled 12/16/87 Total Depth of Hole 45 FT Diameter 10.5 IN.  
 Surface Elevation \_\_\_\_\_ Water Level Initial 28 FT 24-hour \_\_\_\_\_  
 Screen: Dia. 4 IN. Length 40 FT Slot Size .020 IN.  
 Casing: Dia. 4 IN. Length 5 FT Type PVC  
 Drilling Company SIERRA PACIFIC Drilling Method HOLLOW STEM AUGER  
 Driller TODD BYARD Log by JAN PRASIL  
 Geologist / Engineer \_\_\_\_\_ License No. \_\_\_\_\_

Sketch Map  
  
SEE SITE PLAN  
  
Notes









# GROUNDWATER TECHNOLOGY, INC.

Monitoring Well 2

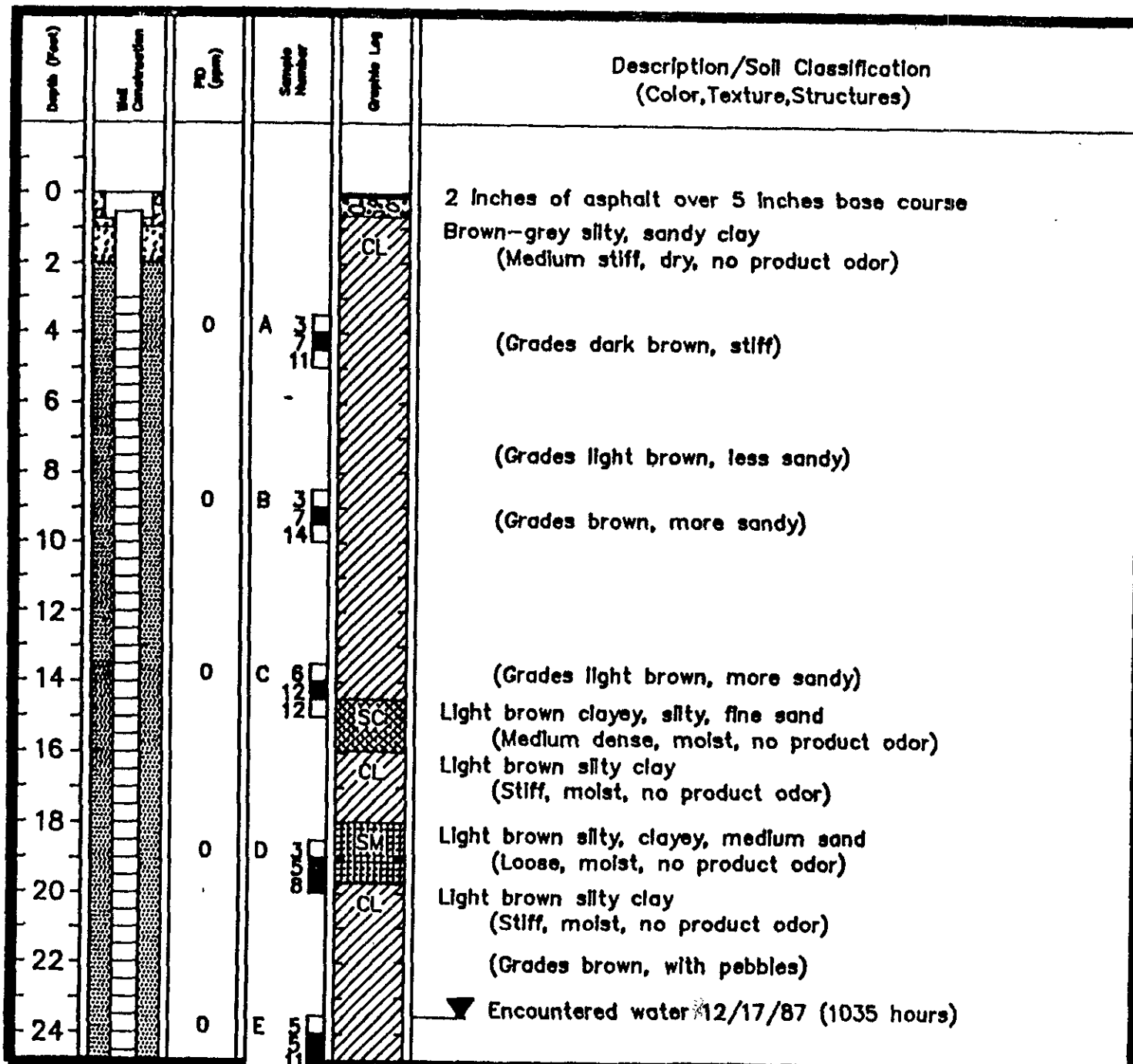
Drilling Lo

Project TEXACO CASTRO VALLEY Owner TEXACO REF. AND MARK. INC.  
 Location CASTRO VALLEY, CA Project Number 203-150-4080  
 Date Drilled 12/17/87 Total Depth of Hole 38 FT Diameter 10.5 IN.  
 Surface Elevation \_\_\_\_\_ Water Level Initial 23.5 FT 24-hour \_\_\_\_\_  
 Screen: Dia. 4 IN. Length 35 FT Slot Size .020 IN.  
 Casing: Dia. 4 IN. Length 3 FT Type PVC  
 Drilling Company SIERRA PACIFIC Drilling Method HOLLOW STEM AUGER  
 Driller TODD BYARD Log by JAN PRASIL  
 Geologist / Engineer \_\_\_\_\_ License No. \_\_\_\_\_

Sketch Map

SEE SITE PLAN

Notes





Depth (ft)	Soil Sample	ES	Soil Sample	Description/Soil Classification (Color, Texture, Structures)
26		0	CL	Brown silty clay with pebbles (Continued)  (Grades light brown)
28				
30				
32				
34		0	CL	Brown fine sandy clay (Stiff, wet, no product odor)
36				
38				End of drilling, Installed monitoring well
40				
42				
44				
46				
48				
50				
52				
54				
56				
58				



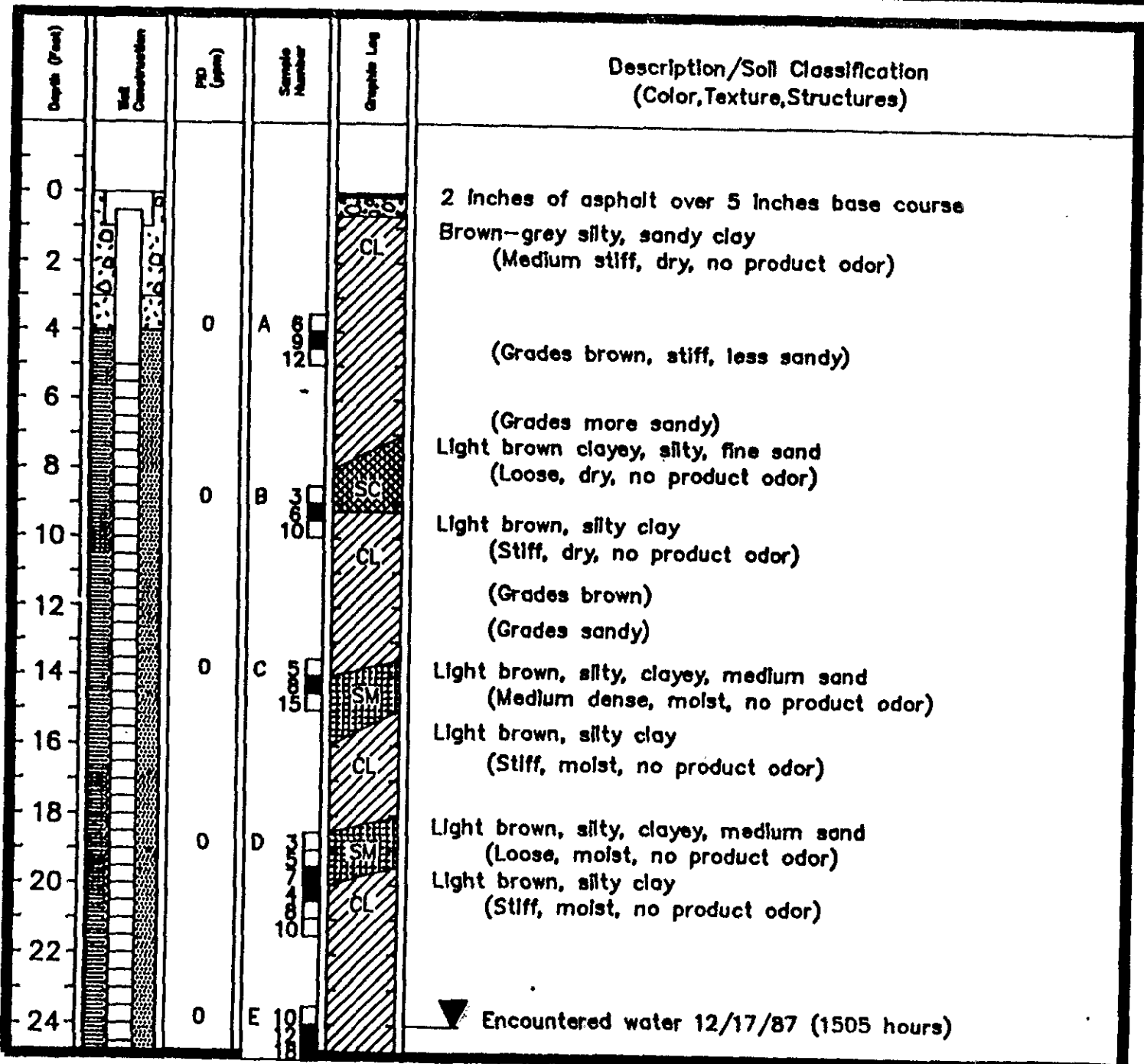
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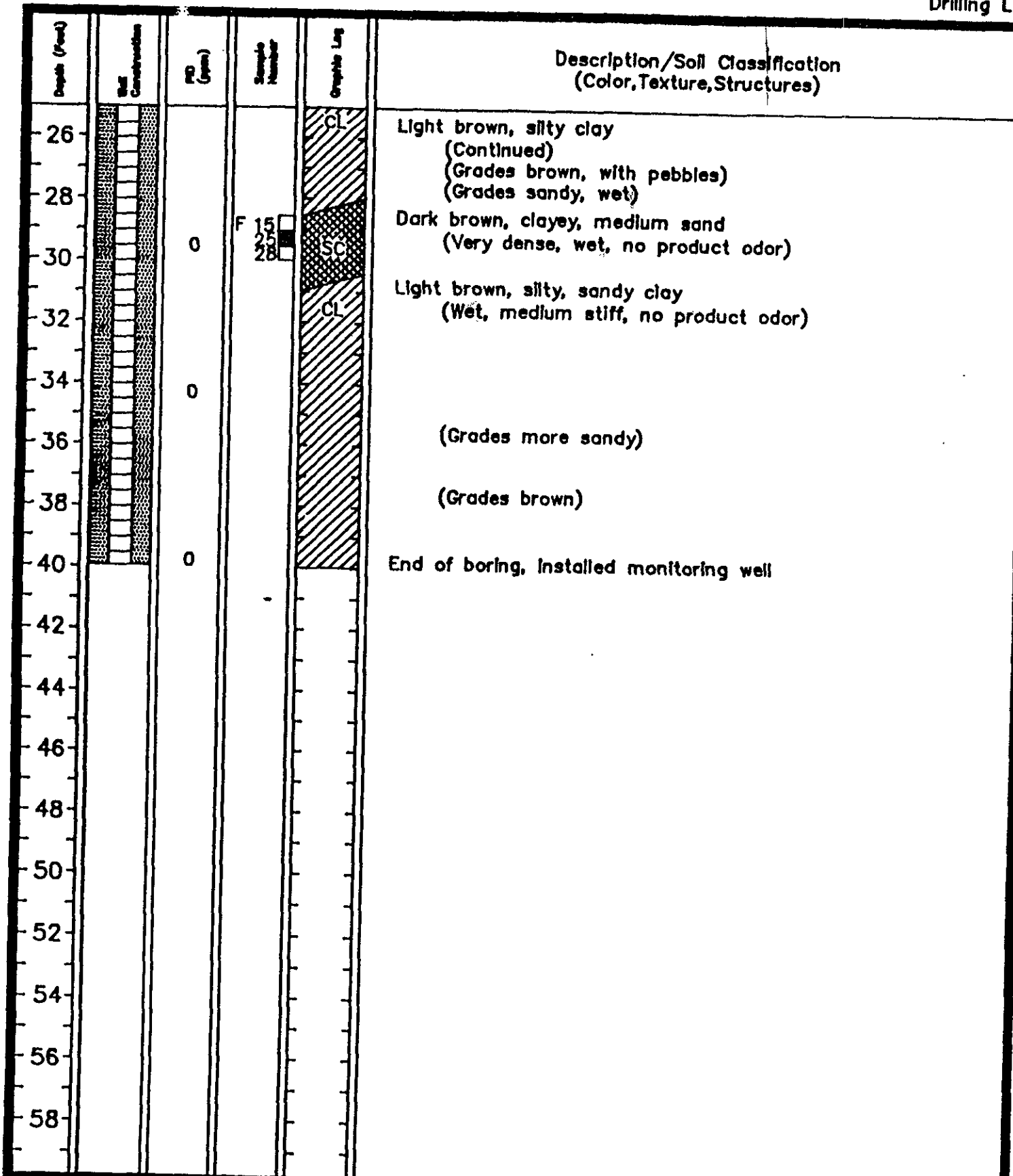
Monitoring Well 3

Drilling Log

Project TEXACO CASTRO VALLEY Owner TEXACO REF. AND MARK. INC.  
 Location CASTRO VALLEY, CA Project Number 203-150-4080  
 Date Drilled 12/17/87 Total Depth of Hole 40 FT Diameter 10.5 IN.  
 Surface Elevation \_\_\_\_\_ Water Level Initial 24 FT 24-hour \_\_\_\_\_  
 Screen: Dia. 4 IN. Length 35 FT Slot Size .020 IN.  
 Casing: Dia. 4 IN. Length 5 FT Type PVC  
 Drilling Company SIERRA PACIFIC Drilling Method HOLLOW STEM AUGER  
 Driller TODD BYARD Log by JAN PRASIL  
 Geologist / Engineer \_\_\_\_\_ License No. \_\_\_\_\_

Sketch Map  
  
SEE SITE PLAN  
  
Notes





APPENDIX II  
WELL GAUGING DATA

PROJECT: TEXACO/CASTRO VALLEY  
JOB NUMBER: 203 150 4080  
DATE: DECEMBER 1987

		WELL 1	WELL 2	WELL 3
DATE	ELEV. (ft.)	99.10	99.60	96.80
12/30/87	DTW	21.82	22.30	22.60
	DTP	-	-	-
	PT	0.00	0.00	0.00

DTW = Depth To Water  
DTP = Depth To Product  
PT = Product Thickness  
MD4080A

**APPENDIX III**  
**LABORATORY RESULTS**

**Western Region**  
 4080-C Pike Lane, Concord, CA 94520  
 (415) 685-7852  
 (800) 544-3422 from inside California  
 (800) 423-7143 from outside California

**PROJECT MGR:** Jan Prasil  
 Groundwater Technology, Inc.  
 4080 Pike Lane  
 Concord, CA 94520

**PROJECT #:** 203-199-4080-1  
**LOCATION:** Castro Valley, CA  
**SAMPLED:** 11-21-87 BY: J. Prasil  
**RECEIVED:** 11-23-87 BY: K. Biava  
**ANALYZED:** 11-30-87 BY: J. Floro  
**MATRIX:** Soil E. Foley

TEST RESULTS (ppm)

COMPOUNDS	LAB # I. D. #	9962 1C	9963A 1F	9964 2B	9965 2F	9966 3C
Benzene		ND	ND	ND	ND	ND
Ethylbenzene		ND	ND	ND	ND	ND
Toluene		ND	ND	ND	ND	ND
Xylenes		ND	ND	ND	ND	ND
Total BTEX		ND	ND	ND	ND	ND
Misc Hydrocarbons (C4-12)		ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons as Gasoline		ND	ND	ND	ND	ND

ND = Less than Practical Quantitation levels as per EPA Federal Register, November 13, 1985, p. 46906. Results rounded to two significant figures.

METHODS: EPA 5030/8015/8020.

This report replaces one of the same dated 12/02/87.

*Detection limits ??*

*QA/QC ??*



**Western Region**

4080-C Pike Lane, Concord, CA 94520  
 (415) 685-7852  
 (800) 544-3422 from inside California  
 (800) 423-7143 from outside California

PROJECT MGR: Jan Prasil  
 PROJECT #: 203-199-4080-1  
 LOCATION: 3940 Castro Valley Blvd  
 Castro Valley, CA

**TEST RESULTS**

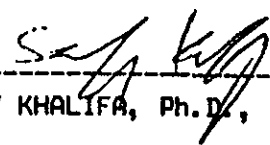
(ppm)

COMPOUNDS	LAB #	I.D.#	9967	3F
Benzene			ND	
Ethylbenzene			ND	
Toluene			ND	
Xylenes			ND	
Total BTEX			ND	
Misc. Hydrocarbons (C4-C12)			ND	
Total Petroleum Hydrocarbons as Gasoline			ND	

ND = Less than Practical Quantitation levels as per EPA Federal Register  
 November 13, 1985, p. 46906. Results rounded to two significant figures.

METHODS: Modified EPA 5030/8015/8020.

This report replaces one of the same number dated 12/02/87.

  
 SAFY KHALIFA, Ph.D., Director

Western Region  
4080-C Pike Lane, Concord, CA 94520  
(415) 685-7852  
(800) 544-3422 from inside California  
(800) 423-7143 from outside California

PROJECT MGR: Jan Prasil  
Groundwater Technology, Inc.  
4080-D Pike Lane  
Concord, CA 94520

PROJECT #: 203-199-4080-2A  
LOCATION: 3940 Castro Valley Blvd  
Castro Valley, CA

SAMPLED: 11-21-87 BY: J. Prasil  
RECEIVED: 11-23-87 BY: K. Biava  
ANALYZED: 11-24-87 BY: V. Craven  
MATRIX: Soil R. Craven

A V.O.A.  
TEST RESULTS (ppm)

COMPOUNDS	LAB #	9936B			
	I.D.#	1F			
Chloromethane		ND			
Bromomethane		ND			
Vinyl Chloride		ND			
Chloroethane		ND			
Methylene Chloride		1.9			
Acetone		ND			
Carbon Disulfide		ND			
1,1-Dichloroethene		ND			
1,1-Dichloroethane		ND			
Trans-1,2-Dichloroethene		ND			
Chloroform		0.025			
1,2-Dichloroethane		ND			
2-Butanone		ND			
1,1,1-Trichloroethane		ND			
Carbon Tetrachloride		ND			
Vinyl Acetate		ND			
Bromodichloromethane		ND			
1,2-Dichloropropane		ND			
cis-1,3-Dichloropropane		ND			
Trichloroethene		ND			
Dibromochloromethane		ND			
1,1,2-Trichloroethane		ND			
Benzene		ND			
Trans-1,3-Dichloropropane		ND			
2-Chloroethylvinylether		ND			
Bromoform		ND			
4-Methyl-2-Pentanone		ND			
2-Hexanone		ND			
Tetrachloroethene		ND			
1,1,2,2-Tetrachloroethane		ND			
Toluene		0.95			
Chlorobenzene		ND			
Ethylbenzene		ND			



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Western Region  
4080-C Pike Lane, Concord, CA 94520  
(415) 685-7852  
(800) 544-3422 from inside California  
(800) 423-7143 from outside California

Page One Continued

PROJECT MGR: Jan Prasil  
PROJECT #: 203-199-4080-2A  
LOCATION: 3940 Castro Valley Blvd  
Castro Valley, CA

B (ppm)


COMPOUNDS	LAB #	I	9936B	I	I	I
	I.D.#	I	1F	I	I	I

Styrene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Total Xylenes	ND
Trichlorofluoromethane	ND

ND = Less than Practical Quantitation levels as per EPA Federal Register, November 13, 1985, p. 46906.

METHODS: Extracted by EPA 3550. Analyzed by EPA 8240.

This report replaces one of the same number dated 11-24-87.

  
SAFY KHALIFA, Ph.D., Director



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12-14-87 MH

Page 1 of 1

**Western Region**

4080-C Pike Lane, Concord, CA 94520

(415) 685-7852

(800) 544-3422 from inside California

(800) 423-7143 from outside California

PROJECT MGR: Jan Prasil  
Groundwater Technology, Inc.  
4080-D Pike Lane  
Concord, CA 94520

PROJECT #: 203-199-4080-3A

LOCATION: 3940 Castro Valley Blvd  
Castro Valley, CA

SAMPLED: 11-21-87 BY: J. Prasil

RECEIVED: 11-23-87 BY: K. Biava

ANALYZED: 12-12-87 BY: R. Heines

MATRIX: Soil


TEST RESULTS (ppm)

PARAMETER	LAB #	I.D.#	9963C	1F

Total Oil & Grease

ND

ND = Not Detected.  
METHOD: EPA 413.1.

  
SAFY KHALIFA, Ph.D., Director

Western Region  
 4080-C Pike Lane, Concord, CA 94520  
 (415) 685-7852  
 (800) 544-3422 from inside California  
 (800) 423-7143 from outside California

PROJECT MGR: Jan Prasil  
 Groundwater Technology, Inc.  
 4080-D Pike Lane  
 Concord, CA 94520

PROJECT #: 203-199-4080-5  
 LOCATION: 3940 Castro Valley Rd., Castro Valley, CA  
 SAMPLED: 12/15/87 BY: G. Mason  
 RECEIVED: 12/17/87 BY: K. Biava  
 ANALYZED: 12/19/87 BY: V. Craven  
 MATRIX: Soil R. Craven

V. O. A.  
 A TEST RESULTS (ppm)

COMPOUNDS	LAB #	10959			
	I. D. #	MW-1E			
Chloromethane		ND			
Bromomethane		ND			
Vinyl Chloride		ND			
Chloroethane		ND			
Methylene Chloride		ND			
Acetone		ND			
Carbon Disulfide		ND			
1,1-Dichloroethene		ND			
1,1-Dichloroethane		ND			
Trans-1,2-Dichloroethene		ND			
Chloroform		ND			
1,2-Dichloroethane		ND			
2-Butanone		ND			
1,1,1-Trichloroethane		ND			
Carbon Tetrachloride		ND			
Vinyl Acetate		ND			
Bromodichloromethane		ND			
1,2-Dichloropropane		ND			
cis-1,3-Dichloropropene		ND			
Trichloroethene		ND			
Dibromochloromethane		ND			
1,1,2-Trichloroethane		ND			
Benzene		ND			
Trans-1,3-Dichloropropene		ND			
2-Chloroethylvinylether		ND			
Bromoform		ND			
4-Methyl-2-Pentanone		ND			
2-Hexanone		ND			
Tetrachloroethene		ND			
1,1,2,2-Tetrachloroethane		ND			
Toluene		ND			
Chlorobenzene		ND			
Ethylbenzene		0.24			

**Western Region**

4080-C Pike Lane, Concord, CA 94520  
 (415) 685-7852  
 (800) 544-3422 from inside California  
 (800) 423-7143 from outside California

Page One Continued

PROJECT MGR: Jan Prasil  
 PROJECT #: 203-199-4080-5  
 LOCATION: 3940 Castro Valley Rd.  
 Castro Valley, CA

B (ppm)

COMPOUNDS	LAB #	I.D.#	10959	MW-1E
-----------	-------	-------	-------	-------

Styrene			ND	
1,2-Dichlorobenzene			ND	
1,3-Dichlorobenzene			ND	
1,4-Dichlorobenzene			ND	
Total Xylenes			2	
Trichlorofluoromethane			ND	

ND = Less than Practical Quantitation levels as per EPA Federal Register, November 13, 1985, p. 46906.

METHODS: Extraction by EPA 3550.  
 Analysis by EPA 8240.

This report replaces one of the same dated 12-19-87.

*Safy Khalifa*  
 SAFY KHALIFA, Ph.D., Director



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Western Region
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12-31-87 MH

Page 1 of 1

PROJECT MGR: Jan Prasil
Groundwater Technology, Inc
4080-D Pike Lane
Concord, CA 94520

PROJECT #: 203-199-4080-6A
LOCATION: 3940 Castro Valley Blvd
Castro Valley, CA

SAMPLED: 12-17-87 BY: J. Prasil
RECEIVED: 12-18-87 BY: K. Biava
ANALYZED: 12-28-87 BY: J. Floro
MATRIX: Soil

TEST RESULTS (ppm)

Table with columns: COMPOUNDS, LAB # I.D. #, 11039 MW-2E, 11040 MW-3E, and empty columns. Rows include Benzene, Ethylbenzene, Toluene, Xylenes, Total BTEX, Misc Hydrocarbons (C4-12), and Total Petroleum Hydrocarbons as Gasoline.

METHODS: Modified EPA Method 5030/8020/8015.
ND = Less than Practical Quantitation levels as per EPA Federal Register,
November 13, 1985, p. 46906.
Results rounded to two significant figures.

Signature of Safy Khalifa
SAFY KHALIFA, Ph.D., Director

**Western Region**  
 4080-C Pike Lane, Concord, CA 94520  
 (415) 685-7852  
 (800) 544-3422 from inside California  
 (800) 423-7143 from outside California

**PROJECT MGR:** Jan Prasil  
 Groundwater Technology, Inc.  
 4080-D Pike Lane  
 Concord, CA 94520

**PROJECT #:** 203-199-4080-4A  
**LOCATION:** 3940 Castro Valley Blvd  
 Castro Valley, CA

**SAMPLED:** 11-21-87 BY: J. Prasil  
**RECEIVED:** 12-02-87 BY: K. Biava  
**ANALYZED:** 12-02-87 BY: J. Floro  
**MATRIX:** Water

**TEST RESULTS (ppb)**

COMPOUNDS	LAB #	I. D. #	10297	SB-3
Benzene			70	
Ethylbenzene			4	
Toluene			9	
Xylenes			1600	
Total BTEX			1700	
Misc. Hydrocarbons (C4-12)			27000	
Total Petroleum Hydrocarbons as Gasoline			29000	

**METHODS:** EPA Modified 602/5030/8015/8020.  
 Results rounded to two significant figures.  
 ND = Less than Practical Quantitation levels as per EPA Federal Register  
 November 13, 1985, p. 46906.

*Safy Khalifa / EMF*  
 SAFY KHALIFA, Ph.D., Director



**Western Region**  
 4080-C Pike Lane, Concord, CA 94520  
 (415) 685-7852  
 (800) 544-3422 from inside California  
 (800) 423-7143 from outside California

1/16/88 rw  
 PROJECT MGR: Jan Prasil  
 Groundwater Technology, Inc  
 4080-D Pike Lane  
 Concord, CA 94520

PROJECT #: 203-199-4080-7A  
 LOCATION: 3940 Castro Valley Blvd. Castro Valley, CA  
 SAMPLED: 12/30/87 BY: J. Galloway  
 RECEIVED: 12/30/87 BY: K. Biava  
 ANALYZED: 1/08/88 BY: P. Sra  
 MATRIX: Water

TEST RESULTS (ppb = ug/L)

COMPOUNDS	LAB #	13282	13283	13284		
	I. D. #	MW-1	MW-2	MW-3		
Benzene		15	220	ND		
Ethylbenzene		3	3	ND		
Toluene		12	16	ND		
Xylenes		190	150	ND		
Total BTEX		220	390	ND		
Misc. Hydrocarbons (C4-12)		1900	2000	ND		
Total Petroleum Hydrocarbons as Gasoline		2100	2400	ND		

*These are soil  
 analyses methods.  
 EPA method 602?*

METHODS: Modified EPA Methods 5030/8015/8020.  
 ND = Less than Practical Quantitation Levels as per EPA Federal Register,  
 November 13, 1985, p. 46906.  
 Results rounded to two significant figures.

*Safy Khalifa*  
 SAFY KHALIFA, Ph.D., Director



# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO. <b>2031994080-2</b>										SPECIFY ANALYSIS REQUESTED				
PROJECT NAME <b>GT1 - Concord</b>										GASOLINE HYDROCARBONS BY <input type="checkbox"/> BTX <input type="checkbox"/> TPA OTHER <b>82240 (VOCs) TPH as waste</b> # of containers <b>8020/8015 (BTX, TPA)</b>				
SAMPLE I.D. NUMBER	# OF CONTAINERS	WATER	SOIL	SED.	COMP	DATE	TIME	ACIDIFIED	ICED					
1C	1	✓				11/21		✓						
1F	1	✓						✓			<b>9963B</b>			
2B	1	✓						✓						
2F	1	✓						✓						
3C	1	✓						✓						
3F	1	✓				11/21		✓						
Relinquished by: <i>[Signature]</i>		Date: <b>11/23/87</b>	Time: <b>10:15</b>	Received by:		SPECIAL REPORTING REQUIREMENTS <input checked="" type="checkbox"/> PQL (see attached)								
Relinquished by:		Date:	Time:	Received by:		JOB SITE LOCATION: <b>3940 Castro Valley Blvd. Castro Valley, CA</b>								
Relinquished by:		Date:	Time:	Received by laboratory:		SAMPLER: SIGNATURE <i>[Signature]</i>								
Relinquished by:		Date:	Time:	Received by laboratory:		PROJECT MANAGER: <b>JAN PRASIL</b> ADDRESS: <b>GT1 - Concord</b> PHONE NO. <b>415-671-0000</b>								



Western Region  
 4080 C Pke Ln., Concord, CA 94520  
 (415) 685-7852  
 In CA: (800) 544-3422  
 Outside CA: (800) 423-7143

Crawen







# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO. <b>203 199 4080</b>										SPECIFY ANALYSIS REQUESTED									
PROJECT NAME <b>GTI - Concord</b>																			
SAMPLE I.D. NUMBER	# OF CONTAINERS	WATER	SOIL	SED.	COMP	DATE	TIME	ACIDIFIED	ICED	EPA METHOD (specify #s)	GASOLINE HYDROCARBONS BY <input checked="" type="checkbox"/> BTEX <input checked="" type="checkbox"/> TPH	METALS	OTHER	SPECIAL DETECTION/LIMIT	REMARKS				
<b>SB 3</b>	<b>1</b>	<input checked="" type="checkbox"/>				<b>11/21</b>		<input checked="" type="checkbox"/>			<b>602</b>	<input checked="" type="checkbox"/>				<b>BTEX, TPH</b>			
																<b>24 hod turnaround</b>			
Relinquished by: <b>[Signature]</b>		Date: <b>12/2/87</b>		Time:		Received by:		SPECIAL REPORTING REQUIREMENTS <input checked="" type="checkbox"/> (see attached) <b>PGL</b>											
Relinquished by:		Date:		Time:		Received by:		JOB SITE LOCATION: <b>3940 Castro Valley Blvd. Castro Valley, CA</b>											
Relinquished by:		Date:		Time:		Received by laboratory:		SAMPLER: SIGNATURE <b>[Signature]</b>				PROJECT MANAGER: <b>JAN PRASIL</b>							
		Date: <b>12-2-87</b>		Time: <b>10:15</b>		Received by laboratory: <b>K. Biana</b>		ADDRESS: <b>GTI - Concord</b>				PHONE NO. <b>415 6712387</b>							

**GT Environmental Laboratories**  
 A Division of Groundwater Technology, Inc.

Western Region  
 4080-C Pk. Ln., Concord, CA 94520  
 (415) 685-7852  
 In CA: (800) 544-3422  
 Outside CA: (800) 423-7143

# CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO. <b>203-199-4080-7</b>										SPECIFY ANALYSIS REQUESTED				
PROJECT NAME <b>GTI CONCORD</b>										<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block; transform: rotate(-45deg);"> <b>Mod. 602</b> </div>				
SAMPLE I.D. NUMBER	# OF CONTAINERS	WATER	SOIL	SED.	COMP	DATE	TIME	ACIDIFIED	ICED					EPA METHOD (specify #s)
MW 1	2	X				12/30	1:30	X	X		X	X	13282	BTEX-THC
MW 2	2	X				↓	1:45	X	X		✓	X	13283	↓ ↓
MW 3	2	X				↓	2:00	X	X		X	X	13284	↓ ↓ Mod. 602

Relinquished by:	Date	Time	Received by:	SPECIAL REPORTING REQUIREMENTS <input checked="" type="checkbox"/>
<i>J. Galloway</i>	12/30	4:05		(see attached)
Relinquished by:	Date	Time	Received by:	JOB SITE LOCATION: <i>Castro Valley (3440 Castro Valley Blvd) Castro Valley, CA.</i>
				SAMPLER: SIGNATURE <i>Jerry Galloway</i>
Relinquished by:	Date	Time	Received by laboratory:	PROJECT MANAGER: <i>Yan PRASIL</i>
	2-30-87	4:10	<i>K-Biava</i>	ADDRESS: <i>4080 Pike Ln Concord</i>
				PHONE NO. <i>671-2387</i>



Western Region  
 4080-C Pike Ln., Concord, CA 94520  
 (415) 685-7852  
 In CA: (800) 544-3422  
 Outside CA: (800) 423-7143

on file