



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

September 1, 2011

Dennis O'Keefe
Golden Gate Petroleum
1800 Sutter Street, Suite #550
Concord, CA 94520

Charles and Diane Campanella
Campanella CS Trust
5401 San Leandro Street
Oakland, CA 94601-5650

CP Holding Company LLC
C/o Claude Perasso
41 Peninsula Road
Belvedere, CA 94920-2325

Subject: Case Closure for Fuel Leak Case No. RO0000395 and Geotracker Global ID T0600102218, Bay Area Diablo Petroleum, 421 23rd Avenue, Oakland, CA 94606-5304

Dear Mr. O'Keefe, Mr. and Ms. Campanella, and Mr. Perasso:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (<http://geotracker.swrcb.ca.gov>) and the Alameda County Environmental Health website (<http://www.acgov.org/aceh/index.htm>).

SITE INVESTIGATION AND CLEANUP SUMMARY

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

- Total Petroleum Hydrocarbons as gasoline remain in soil at concentrations up to 450 ppm.
- Total Petroleum Hydrocarbons as diesel remain in soil at concentrations up to 4,300 ppm.
- As described in section IV of the attached Case Closure Summary, the case was closed with Site Management Requirements that limit future land use to commercial land use only

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

Sincerely,

Donna L. Drogos, P.E.
Division Chief

Enclosures:

1. Remedial Action Completion Certification
2. Case Closure Summary

cc:

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

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

Cynthia Dittmar
Bonkowski & Associates, Inc.
6400 Hollis Street, Suite 4,
Emeryville, CA 94608 (Sent via E-mail to:
cindy@bonkowski.com)

Donna Drogos, ACEH (Sent via E-mail to: donna.drogos@acgov.org)
Jerry Wickham, ACEH (Sent via E-mail to: jerry.wickham@acgov.org)

GeoTracker (w/enc)
File (w/orig enc)



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REMEDIAL ACTION COMPLETION CERTIFICATION

September 1, 2011

Dennis O'Keefe
Golden Gate Petroleum
1800 Sutter Street, Suite #550
Concord, CA 94520

Charles and Diane Campanella
Campanella CS Trust
5401 San Leandro Street
Oakland, CA 94601-5650

CP Holding Company LLC
C/o Claude Perasso
41 Peninsula Road
Belvedere, CA 94920-2325

Subject: Case Closure for Fuel Leak Case No. RO0000395 and GeoTracker Global ID T0600102218, Bay Area Diablo Petroleum, 421 23rd Avenue, Oakland, CA 94606-5304

Dear Mr. O'Keefe, Mr. and Ms. Campanella, and Mr. Perasso:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ariq Levi', written over a horizontal line.

Ariq Levi
Director
Alameda County Environmental Health

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

I. AGENCY INFORMATION

Date: July 16, 2009

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

II. CASE INFORMATION

Site Facility Name: Bay Area Diablo Petroleum		
Site Facility Address: 421 23 rd Avenue, Oakland, CA 94606		
RB Case No.: 01-2408	Local Case No.: STID 191	LOP Case No.: RO0000395
URF Filing Date: 8/17/08	Geotracker ID: T0600102218	APN: 19-73-8-5

Responsible Parties	Addresses	Phone Numbers
Dennis O'Keefe, Golden Gate Petroleum	501 Shell Avenue, Martinez, CA 94553-1357	925-603-8670
Charles and Diane Campanella, Campanella CS Trust	5401 San Leandro Street, Oakland, CA 94601-5650	No phone number
CP Holding Company c/o Claude Perasso	41 Peninsula Road, Belvedere, CA 94920-2325	No phone number

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	8,000	Gasoline	Removed	05/13/1998
2	12,000	Gasoline	Removed	05/13/1998
3 through 5	12,000	Diesel fuel	Removed	05/13/1998
Piping			Removed	05/13/1998

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown. Surface of tanks were pitted and corroded.		
Site characterization complete? Yes	Date Approved By Oversight Agency: -----	
Monitoring wells installed? Yes	Number: 7	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 7.11 feet bgs	Lowest Depth: 9.65 feet bgs	Flow Direction: Southwest
Most Sensitive Current Use: Potential Drinking Water Source		

Summary of Production Wells in Vicinity: The well survey and door-to-door survey conducted for the site in 2000 reported no water supply wells within 1,000 feet of the site.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: Tidal Canal is approximately 600 feet southwest of the site.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and City of Oakland Fire Department

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	5	Tanks were transported off-site for disposal; facility not reported	08/13/1998
Piping	Not reported	Not reported	08/13/1998
Free Product	Volume not reported	Free phase product was present on surface of groundwater that was pumped to holding tanks. An unreported volume of the groundwater and free phase product was disposed off-site by Clearwater Environmental. The remainder was discharged to the sanitary sewer	8/1998
Soil	1,300 cubic yards	Soil was disposed off-site at Forward Landfill in Manteca, CA	8/19/1998
Groundwater	28,000 gallons	An unreported volume of the groundwater and free-phase product was disposed off-site by Clearwater Environmental. The remainder was discharged to the sanitary sewer	8/1998

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP

(Please see Attachments 1 through 6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	18,000	450	12,000(1)	746 (1)
TPH (Diesel)	22,000	4,300	620,000(2)	67(2)
TPH (Motor Oil)	NA	NA	NA	NA
Benzene	67	0.35	11,000(3)	<0.5(3)
Toluene	1,800	0.9	2,900(4)	<0.5(4)
Ethylbenzene	370	1.4	65,000(5)	<0.7(5)
Xylenes	2,200	2.8	55,000(6)	<0.5(6)
Lead	NA	NA	NA	NA
MTBE	880(7)	0.66(8)	13,000(9)	430(9)
Other (8240/8270)	NA	NA	NA	NA

- (1) The maximum concentration of TPHg before cleanup was 12,000 ppb in grab groundwater sample GP-4 collected on 10/08/1999; the maximum concentration of TPHg after cleanup was 746 ppb in a groundwater sample collected from GP-B on 01/13/2009.
- (2) The maximum concentration of TPHd before cleanup was 620,000 ppb in grab groundwater sample GP-4 collected on 10/08/1999; the maximum concentration of TPHd after cleanup was 67 ppb in groundwater samples collected during the last monitoring well sampling event on 12/21/2007.
- (3) The maximum concentration of benzene before cleanup was 11,000 ppb in a groundwater sample from well MW-2; benzene was not detected in groundwater samples collected after 2007.
- (4) The maximum concentration of toluene before cleanup was 2,900 ppb in grab groundwater sample GP-2; toluene was not detected in groundwater samples collected after 2007.
- (5) The maximum concentration of ethylbenzene before cleanup was 65,000 ppb in grab groundwater sample GP-2; ethylbenzene was not detected in groundwater samples collected after 2007.
- (6) The maximum concentration of xylenes before cleanup was 55,000 ppb in grab groundwater sample GP-2; xylenes were not detected in groundwater samples collected after 2007.
- (7) MTBE = 880 ppm; TBA <0.08 ppm; TAME, ETBE, DIPE, 1,2-DCA, and EDB <0.006 ppm in soil.
- (8) MTBE = 0.66 ppm; TBA <0.08 ppm; TAME, ETBE, DIPE, 1,2-DCA, and EDB <0.006 ppm in soil.
- (9) The maximum concentration of MTBE before cleanup was 13,000 ppb in grab groundwater sample GP-4 collected on 10/08/1999; the maximum concentration of MTBE after cleanup was 430 ppb in grab groundwater sample GP=A collected on 01/13/2009.

Site History and Description of Corrective Actions:

The site is the Golden Gate Petroleum Oakland Cardlock, a commercial facility with a warehouse and two operating 20,000-gallon underground storage tanks (USTs) and supporting dispensers in Oakland, CA. Surrounding land use is commercial and industrial. The site has supplied retail motor vehicle fuels since 1976.

In August 1998, one 8,000-gallon UST and four 12,000-gallon USTs along with the associated product lines and dispensers were removed. The five USTs were replaced with two 20,000-gallon double wall, steel, fiberglass-reinforced USTs. During the 1998 tank removal, approximately 1,300 cubic yards of contaminated soil beneath the tanks, product lines, and dispensers was excavated and disposed off-site. During and after the excavation, 49 soil samples and one groundwater sample were collected. Soil samples collected prior to excavation contained up to 18,000 ppm of total petroleum hydrocarbons as gasoline (TPHg), 22,000 ppm of TPHd, 67 ppm of benzene, 1,800 ppm of toluene, 370 ppm of ethylbenzene, 2,200 ppm of total xylenes, and 880 ppm of MTBE. Contaminated soils were excavated to the top of the groundwater surface, at a total depth of approximately 11 feet bgs. Final confirmation soil samples collected from the former dispenser island excavations contained up to 1.9 ppm of MTBE, 240 ppm of TPHg, 1,400 ppm of TPHd, 0.35 ppm of benzene, 0.9 ppm of toluene, 1.4 ppm of ethylbenzene, and 2.8 ppm of total xylenes. Final confirmation soil samples collected from the base and sidewall of the tank pit excavation contained up to 7.3 ppm of MTBE, 8.2 ppm of TPHg, 0.01 ppm of benzene, 0.008 ppm of toluene, and 0.007 ppm of total xylenes. Approximately 28,000 gallons of groundwater was pumped from the excavation into holding tanks. Free-phase product was observed on the surface of the groundwater. A portion of the water and free-phase product was disposed off-site and the remainder was discharged to the sanitary sewer. A collection trench and two extraction casings were installed within the tank backfill in the former tank cavity for possible groundwater extraction.

In October 1999, Hageman & Aguiar collected soil and grab groundwater samples from eight direct-push soil borings located throughout the site. TPHg and TPHd were detected in grab groundwater samples at concentrations up to 12,000 and 620,000 ppb, respectively. MTBE was detected in the grab groundwater samples at concentrations up to 13,000 ppb. Based on the results of the direct-push soil borings, four groundwater monitoring wells (MW-1 through MW-4) were installed on November 1, 1999. An additional three groundwater monitoring wells (MW-5 through MW-7) were installed on July 28, 2000.

The seven monitoring wells were sampled from 1999 to 2002 and were again sampled in December 2007. MTBE was reported in the off-site monitoring wells southwest of the site at concentrations up to 2,400 ppb. MTBE concentrations in groundwater showed significant decreases over time. The maximum concentration of MTBE reported during the initial sampling event in November 1999 was 13,000 ppb; the maximum concentration of MTBE reported during the last sampling event in December 2007 was 320 ppb.

A soil vapor survey was conducted at the site on December 16, 2008. TPHg, BTEX, and MTBE were not detected in soil vapor at concentrations above reporting limits. The reporting limit for benzene in soil vapor was 0.5 micrograms per liter ($\mu\text{g/L}$) which exceeds the Environmental Screening Level (San Francisco Bay Regional Water Quality Control Board, May 2008) for soil vapor under a commercial land use scenario of 0.28 $\mu\text{g/L}$. Based on the lack of detections for all petroleum hydrocarbons in soil vapor, results from groundwater sampling, and the age of the release, vapor intrusion does not appear to be a significant concern for commercial land use at the site. Tetrachloroethene (PCE) was detected in one soil vapor sample (GP-8) at a concentration of 4.71 $\mu\text{g/L}$. PCE storage or use was not reported on site. The source of the PCE in groundwater is unknown but potentially may be related to an off-site source.

On January 13, 2009, two direct-push soil borings (GP-A and GP-B) were advanced on site adjacent to sampling locations where elevated concentrations of petroleum hydrocarbons were previously detected in soil and groundwater. Soil and grab groundwater sampling results from borings GP-A and GP-B indicated that concentrations of TPHg, BTEX, and MTBE had decreased significantly between 1999 and 2009.

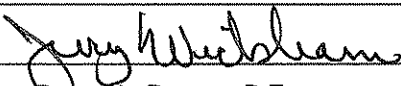
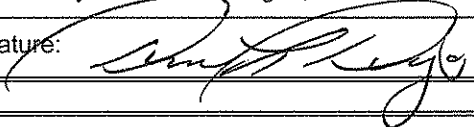
IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
Site Management Requirements: Case closure for the fuel leak site is granted for commercial land use only. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be re-evaluated. This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination remaining on site.		
Should corrective action be reviewed if land use changes? Yes		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 7
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

V. ADDITIONAL COMMENTS, DATA, ETC.

<p>Considerations and/or Variances:</p> <p>Tetrachloroethene (PCE) was detected in one soil vapor sample (GP-8) at a concentration of 4.71 µg/L. PCE storage or use was not reported on site. The source of the PCE in groundwater is unknown but potentially may be related to an off-site source.</p> <p>The reporting limit for benzene in soil vapor was 0.5 micrograms per liter (µg/L) which exceeds the Environmental Screening Level (San Francisco Bay Regional Water Quality Control Board, May 2008) for soil vapor under a commercial land use scenario of 0.28 µg/L. Based on the lack of detections for all petroleum hydrocarbons in soil vapor, results from groundwater sampling, and the age of the release, vapor intrusion does not appear to be a significant concern for commercial land use at the site.</p> <p>Conclusion:</p> <p>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 current commercial land use and the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site, for commercial land use only.</p>
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VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: 	Date: 07/29/09
Approved by: Denna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: 	Date: 07/29/09

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: 8/5/09
Signature: <i>Cher McCaulou</i>	Date: 8/5/09

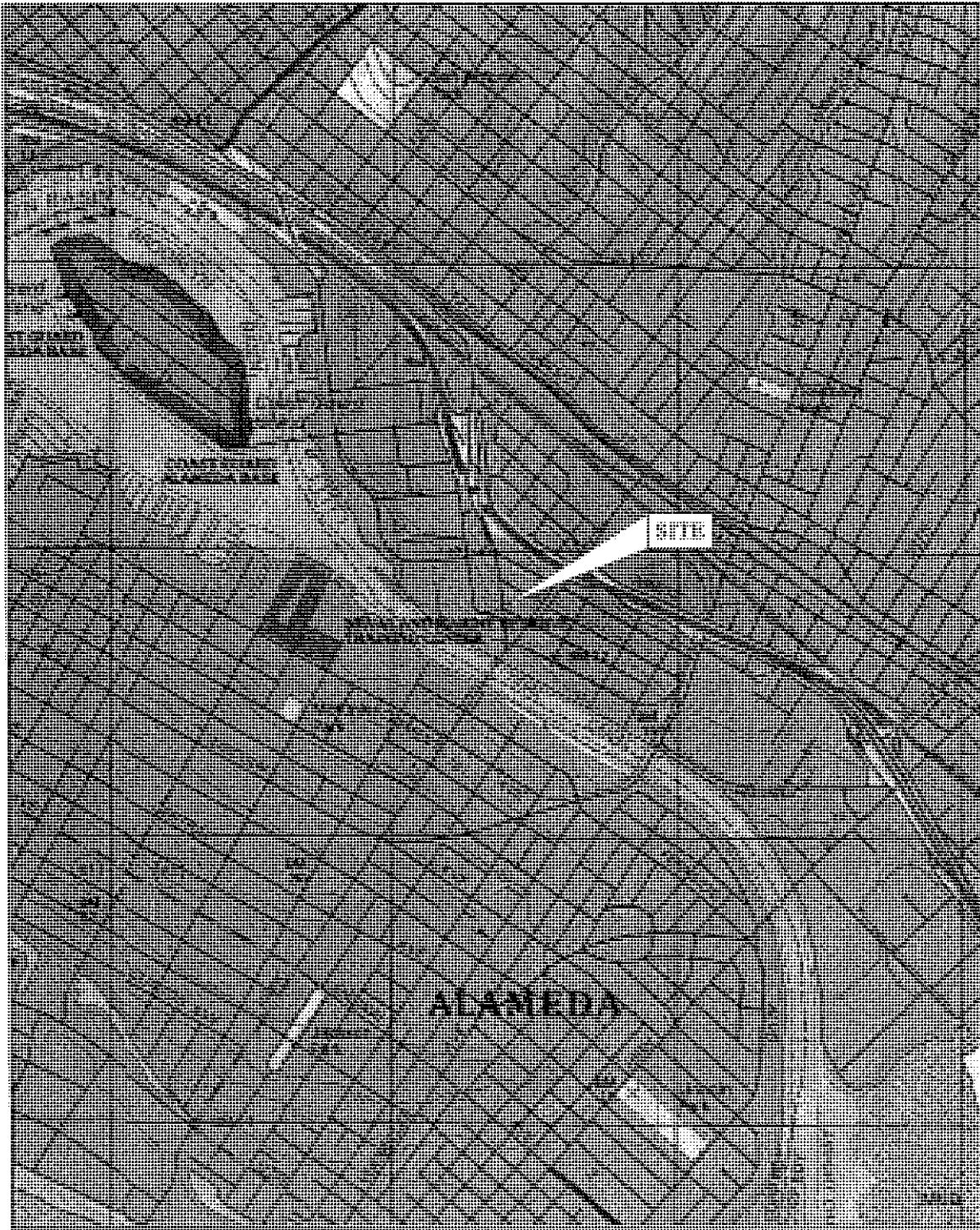
VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 08/05/09	Date of Well Decommissioning Report: 07/26/11	
All Monitoring Wells Decommissioned: Yes	Number Decommissioned: 7	Number Retained: 0
Reason Wells Retained: NA		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: <i>Jerry Wilburn</i>	Date: 09/01/11	

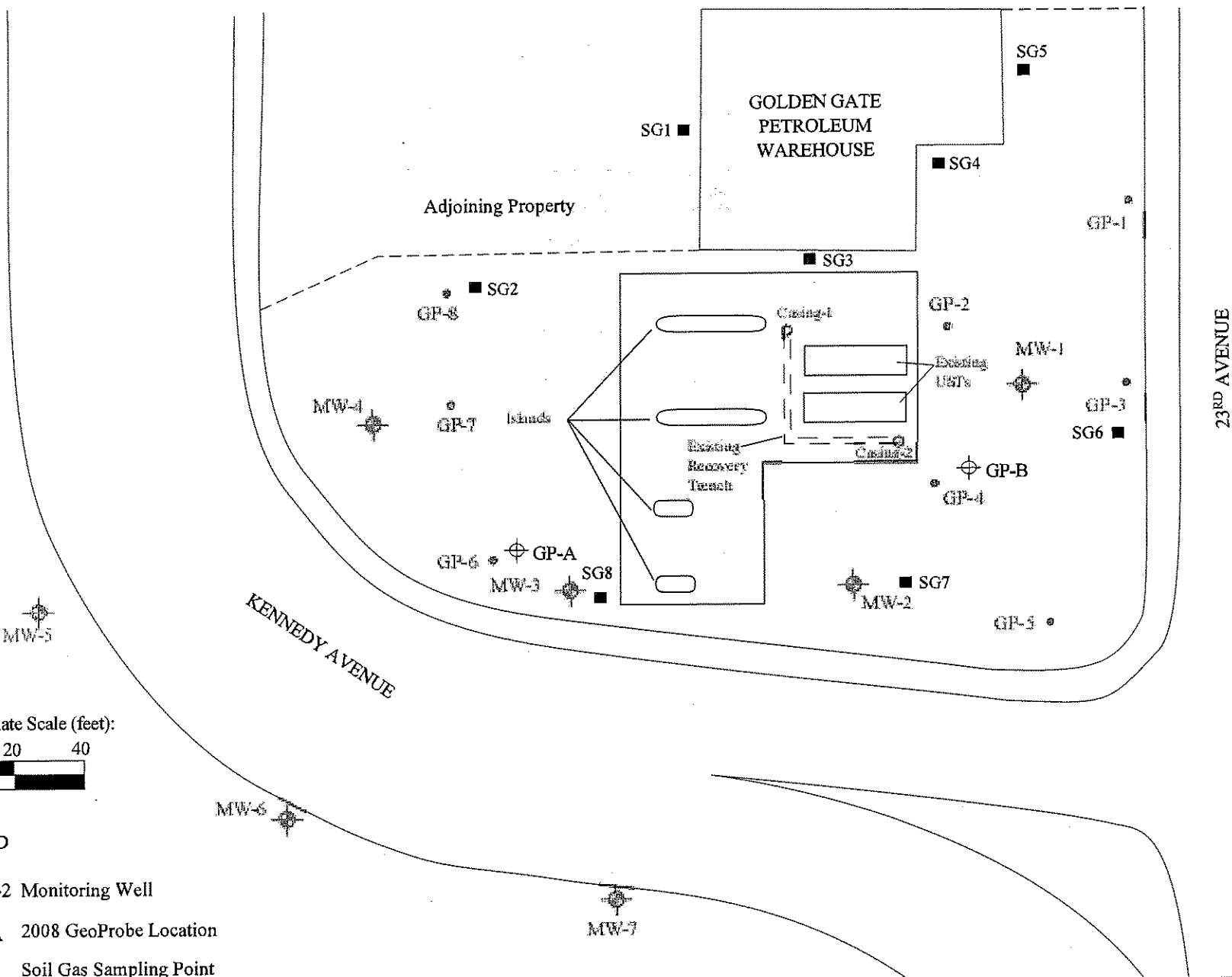
Attachments:

1. Site Location Map (1 page)
2. Site Plans, (2 pages)
3. Groundwater Contour Map, Cross Sections, Concentration Maps, and Excavation Maps (9 pages)
4. Soil Analytical Data (5 pages)
5. Groundwater Analytical Data (4 pages)
6. Boring Logs (17 pages)

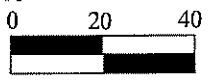
This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.







Project No. E27297-3	Golden Gate Petroleum	SITE LOCATION MAP 421 23 RD AVENUE OAKLAND, CALIFORNIA	Figure 1
Bonkowski & Associates, Inc.			



Approximate Scale (feet):

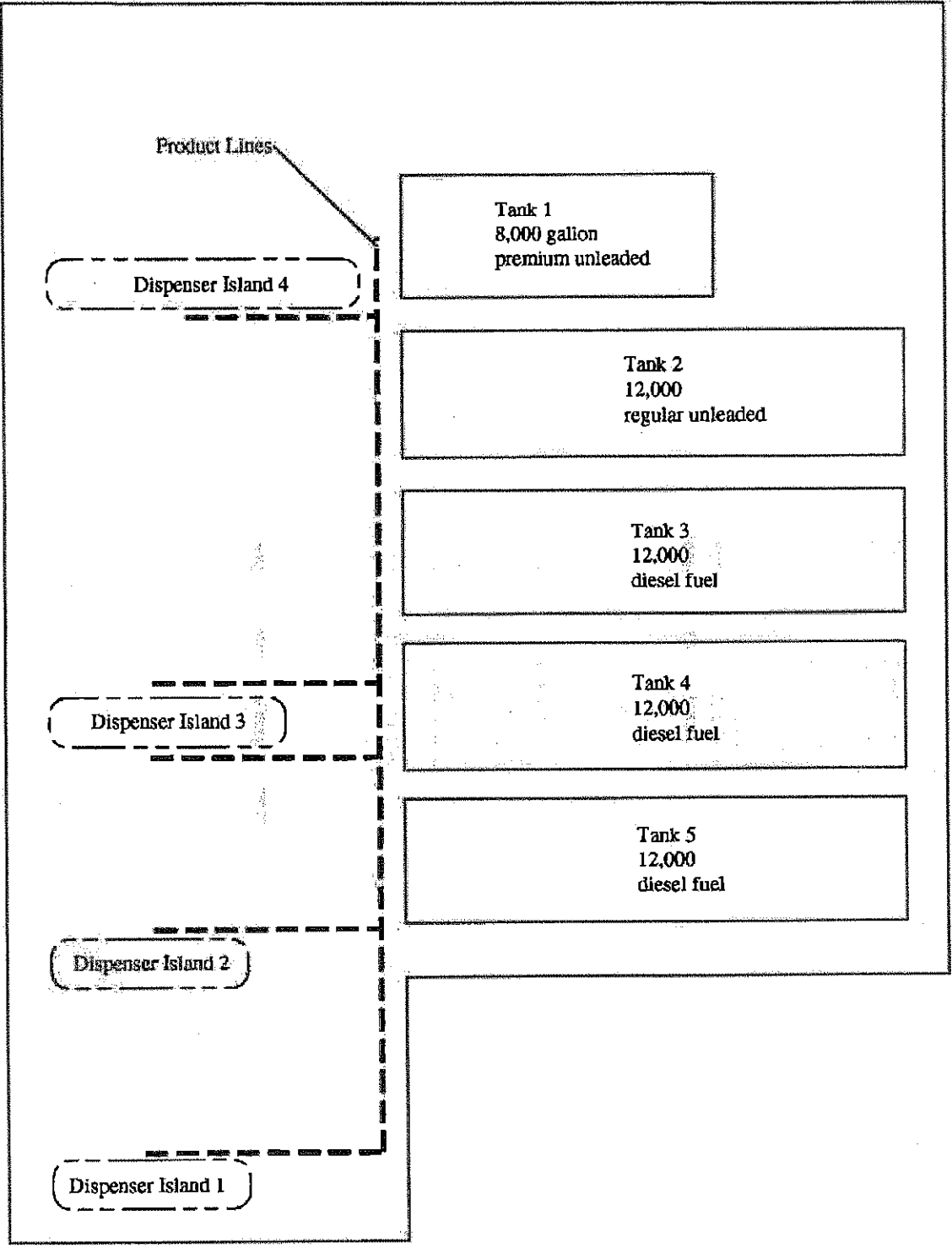


LEGEND

-  MW-2 Monitoring Well
-  GP-A 2008 GeoProbe Location
-  SG-8 Soil Gas Sampling Point
-  GP-5 1999 GeoProbe Location

Project No. E27297-3	Golden Gate Petroleum	SITE PLAN MAP 421 23 RD AVENUE OAKLAND, CALIFORNIA	Figure 2
Bonkowski & Associates, Inc.			

ATTACHMENT 2



Approximate Scale:
1 inch = 10 feet



Project No. L98174	Golden Gate Petroleum	SITE PLAN MAP 421 23 rd AVENUE OAKLAND, CALIFORNIA	Figure 2
Bonkowski & Associates, Inc.			

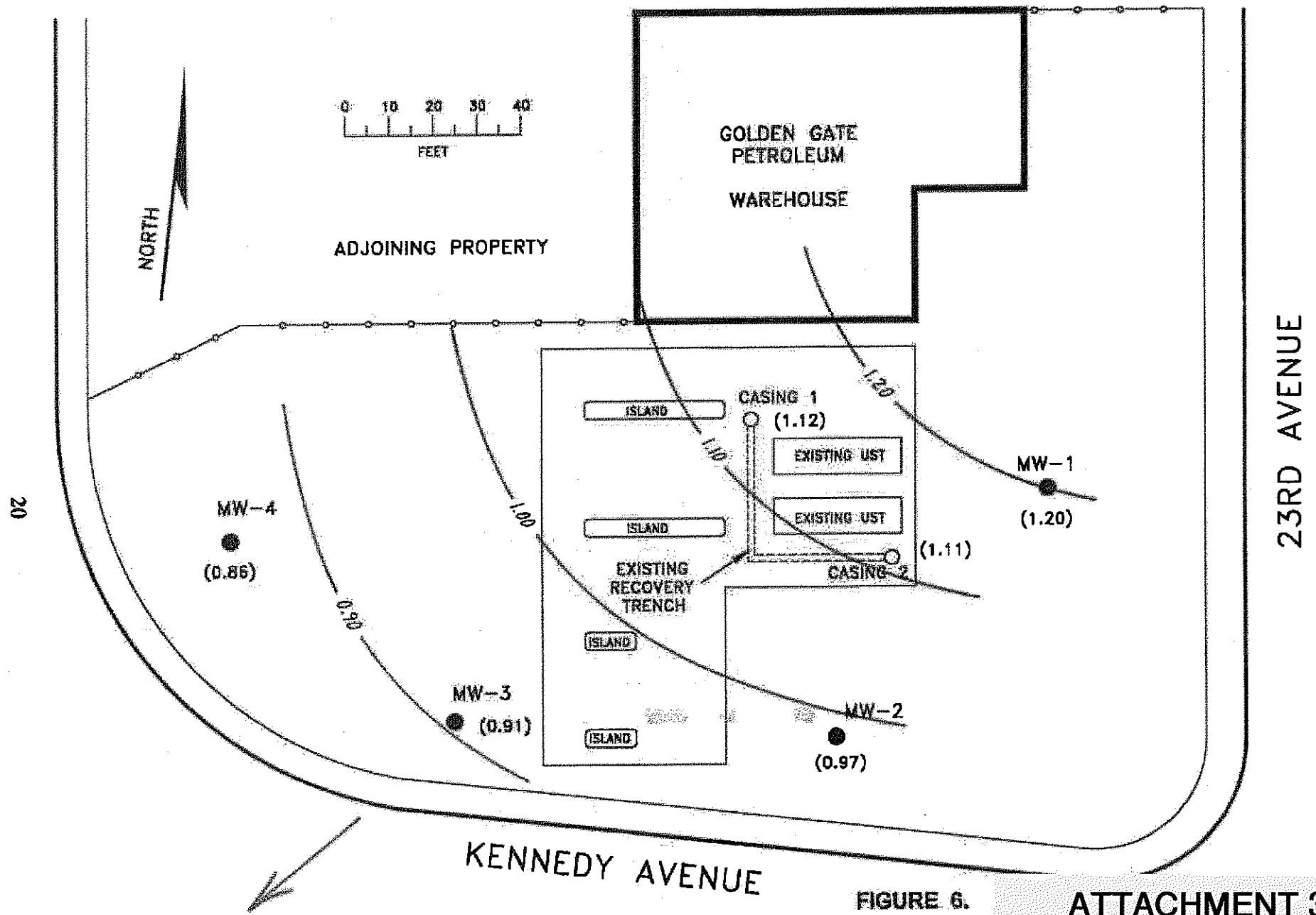
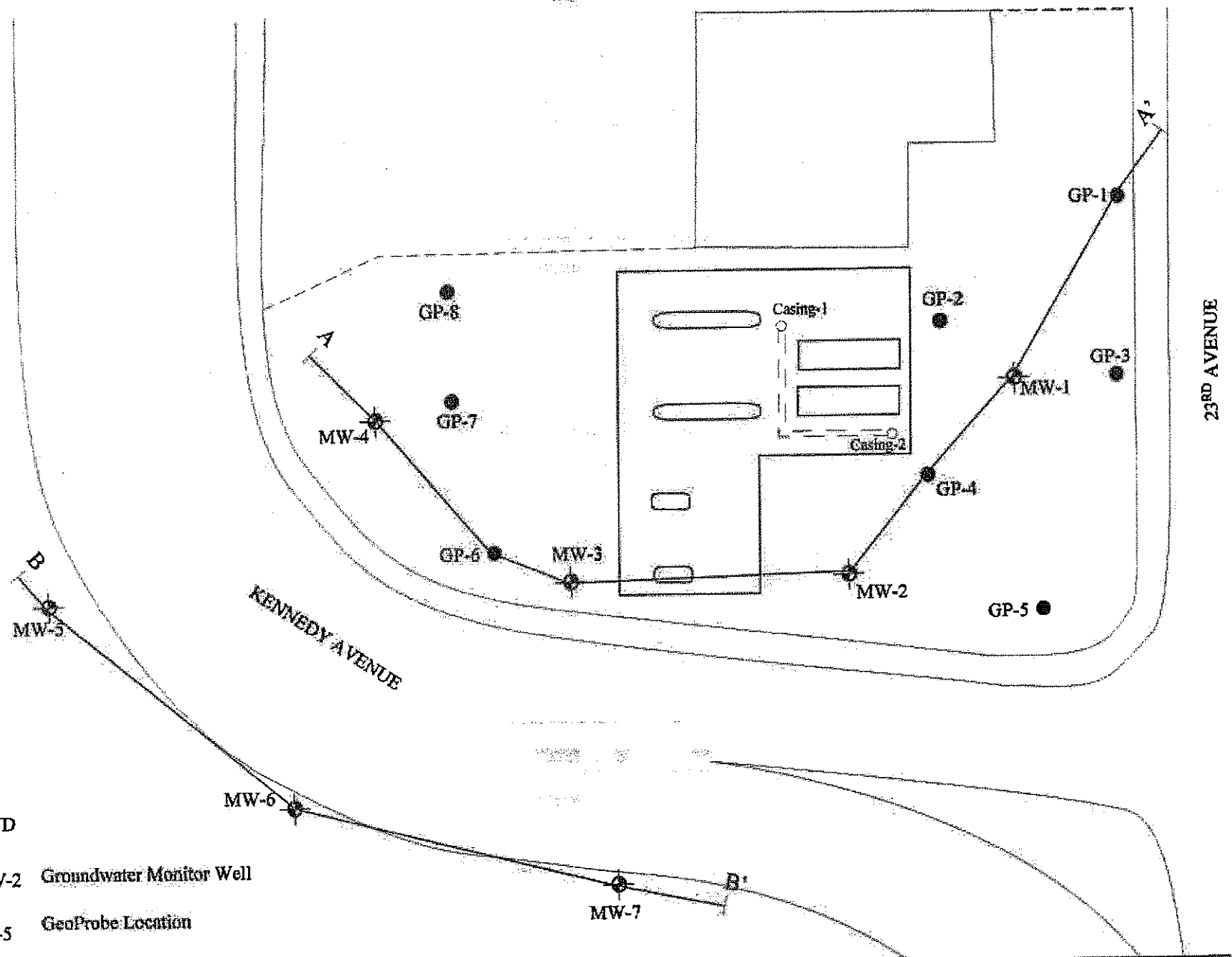




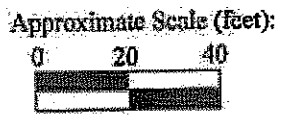
FIGURE 6. ATTACHMENT 3

Shallow Groundwater Contour Map.
 Measured on November 11, 1999.

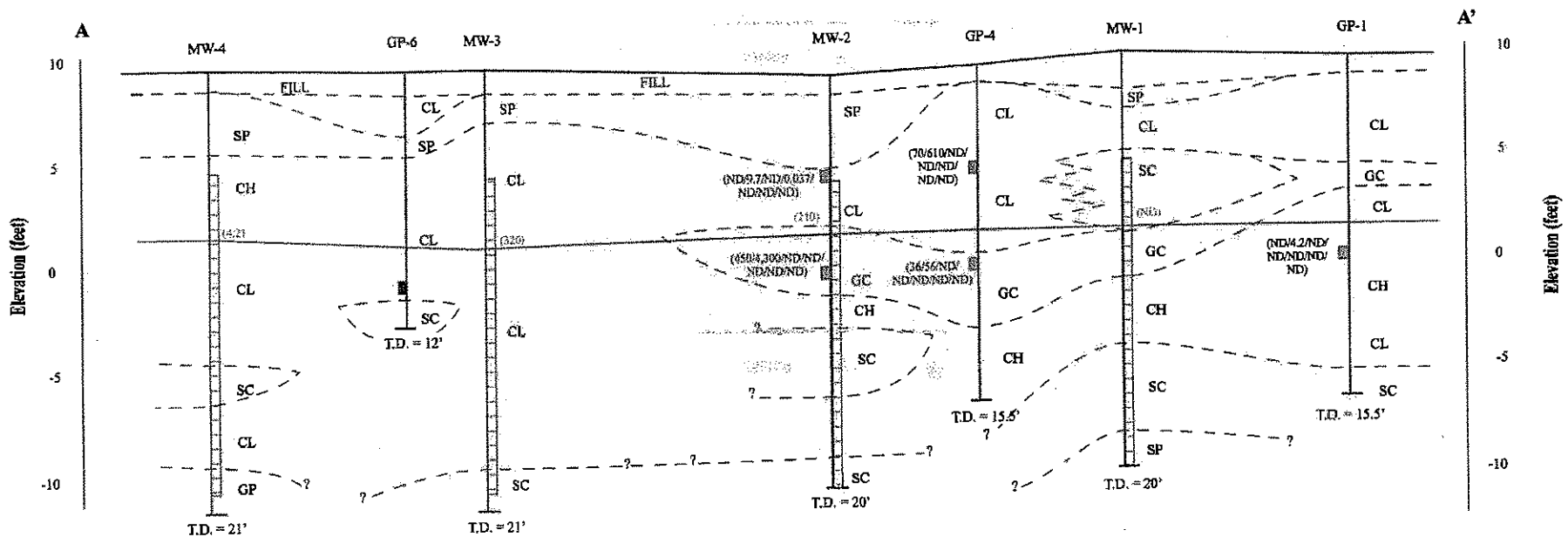


LEGEND

-  MW-2 Groundwater Monitor Well
-  GP-5 GeoProbe Location



Project No. E27297-3	Golden Gate Petroleum	CROSS SECTION INDEX MAP 421 23 RD AVENUE OAKLAND, CALIFORNIA	Figure 8
Bonkowski & Associates, Inc.			



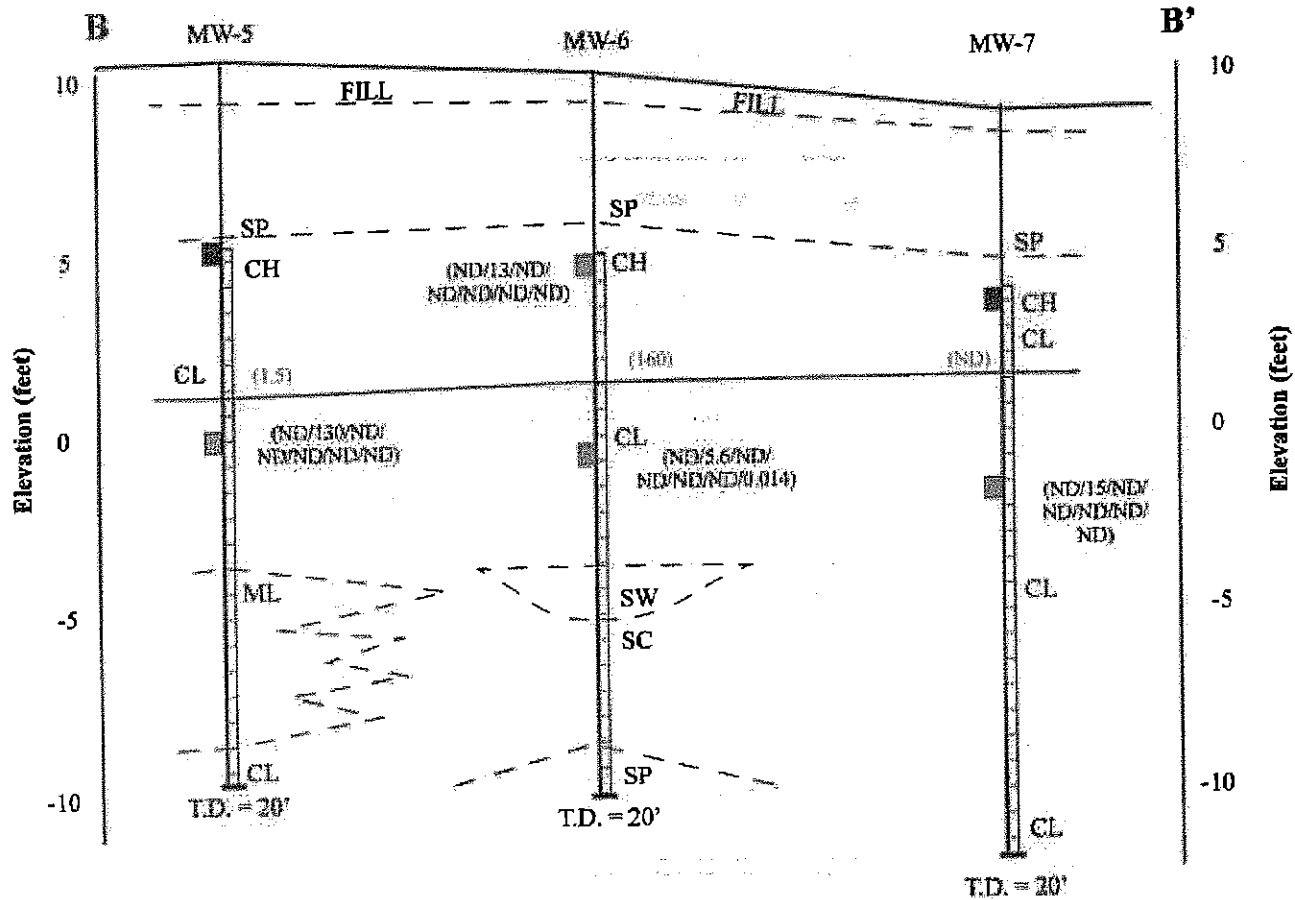
LEGEND

- Monitor Well or GeoProbe Location
- Screen Interval
- T.D. = 70' Total Depth of Well
- Non Detect Soil Sample
- Hydrocarbons Detected Soil Sample (TPHG/TPHD/B/T/E/X/MTBE) (mg/kg)
- Groundwater Elevation (12/21/07)
- (120) Groundwater MTBE Concentration (12/21/07) (µg/l)

NOTES:
 Location of cross-section shown on Figure 8.
 Soil Classifications as per ASTM Method D-2488.

SCALE:
 1" = 30' Horizontal
 1" = 5' Vertical

Project No. E27297-3	Golden Gate Petroleum	STRATIGRAPHIC CROSS SECTION A-A' 421 23 RD AVENUE OAKLAND, CALIFORNIA	Figure 6
Bonkowski & Associates, Inc.			



LEGEND

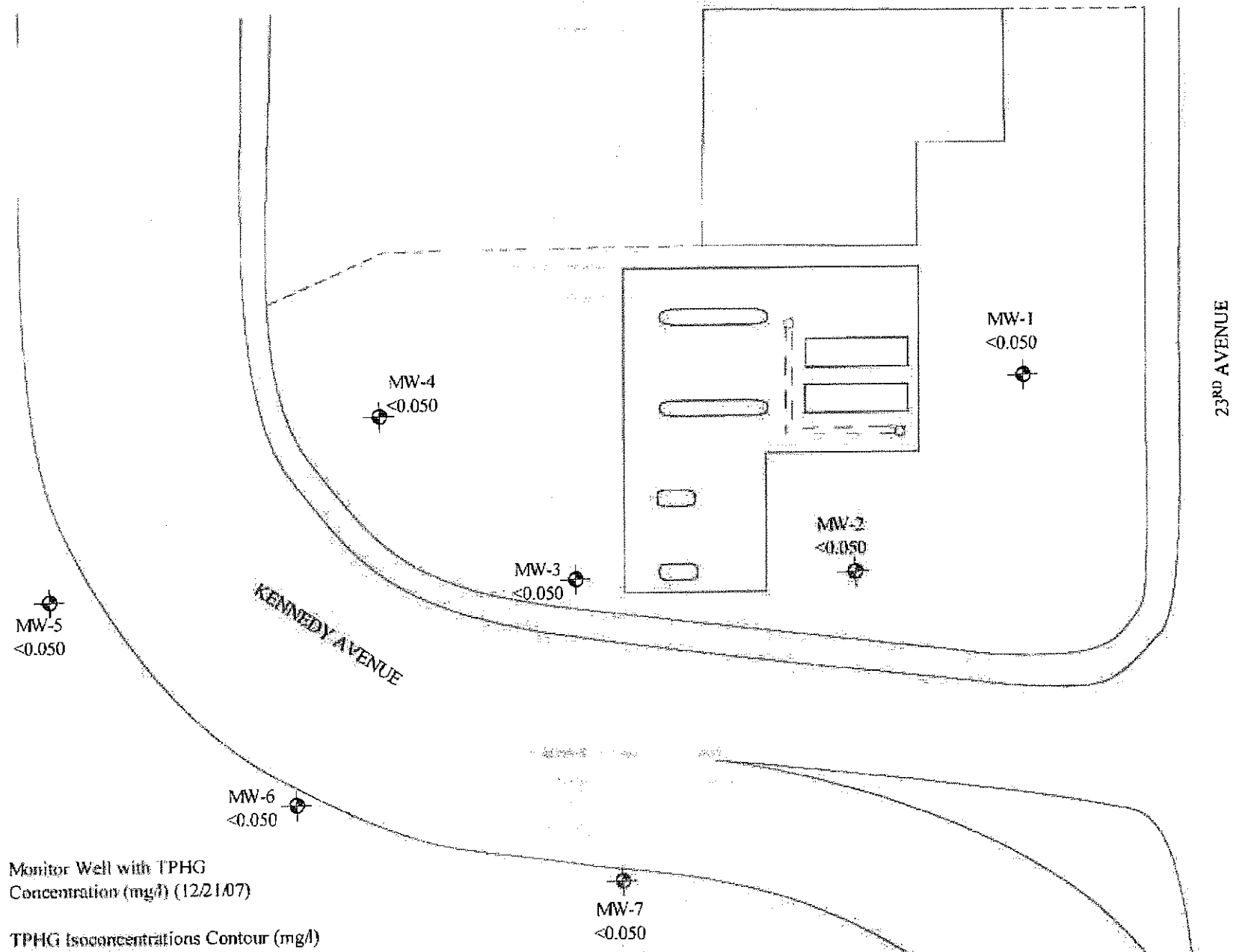
- Monitor Well or GeoProbe Location
- Screen Interval
- T.D. = 70' Total Depth of Well
- Non Detect Soil Sample
- Hydrocarbons Detected Soil Sample (TPHG/TPHD/B/T/EX/MTBE) (mg/kg)

- Groundwater Elevation (12/21/07)
- (120) Groundwater MTBE Concentration (12/21/07) (µg/l)



SCALE:
 1" = 40' Horizontal
 1" = 5' Vertical

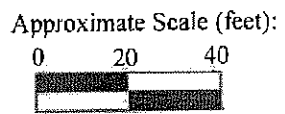
NOTES:
 Location of cross-section shown on Figure 8.
 Soil Classifications as per ASTM Method D-2488.

Project No. E23240	Golden Gate Petroleum	STRATIGRAPHIC CROSS SECTION B-B' 421 23 RD STREET OAKLAND, CALIFORNIA	Figure 7
Bonkowski & Associates, Inc.			

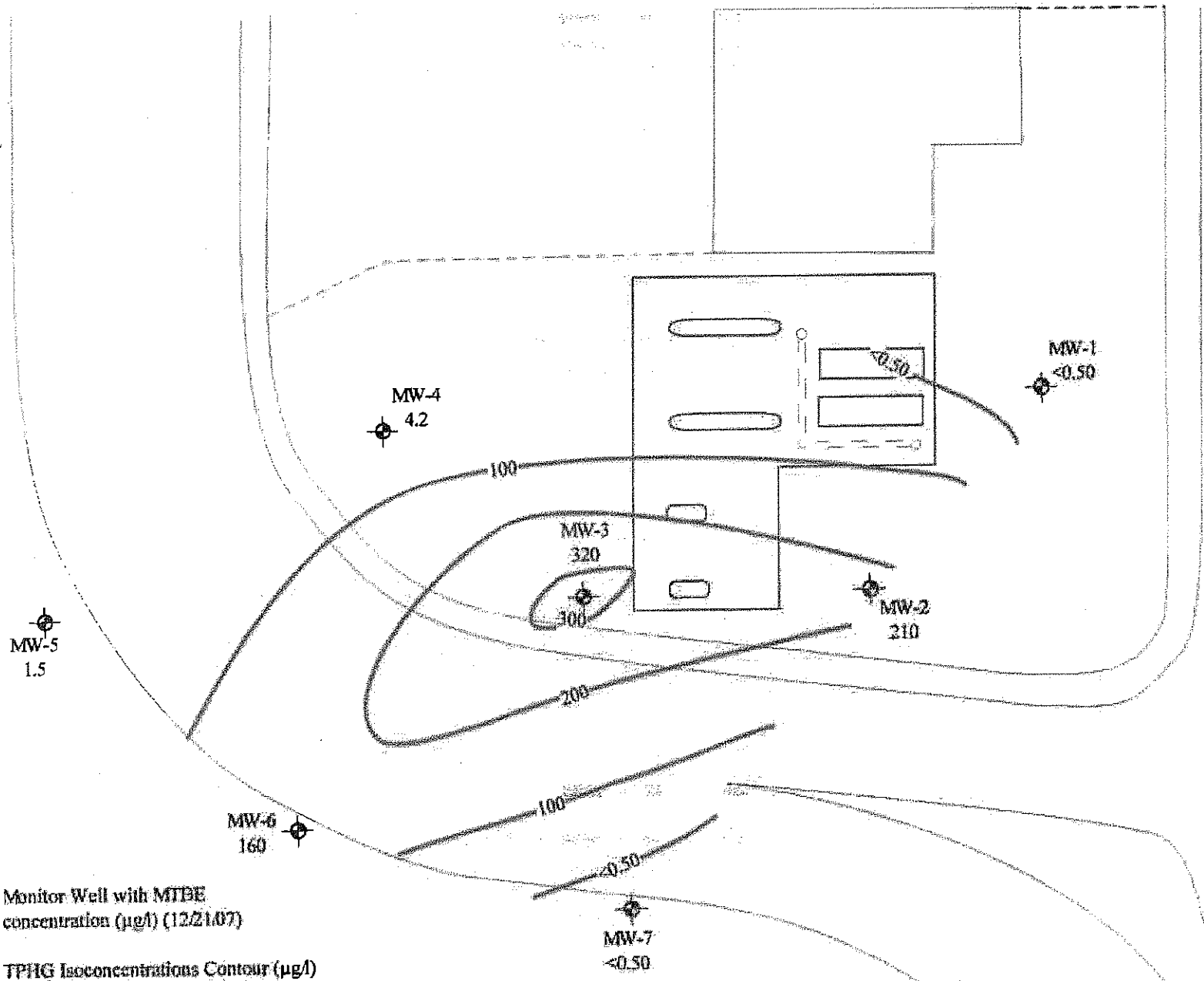


LEGEND



-  MW-6 Monitor Well with TPHG Concentration (mg/l) (12/21/07)
-  15.10 TPHG Isoc concentrations Contour (mg/l)

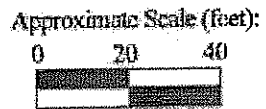


Project No. E27297-3	Golden Gate Petroleum	DISSOLVED TPHG CONCENTRATION MAP 421 23 RD AVENUE OAKLAND, CALIFORNIA	Figure 9
Bonkowski & Associates, Inc.			

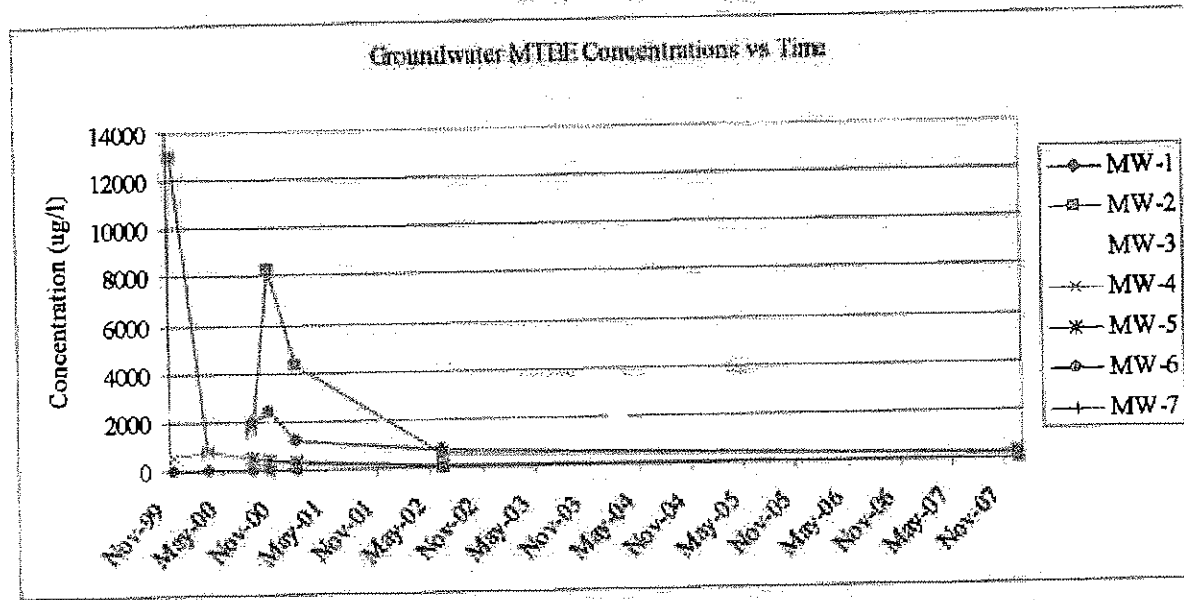
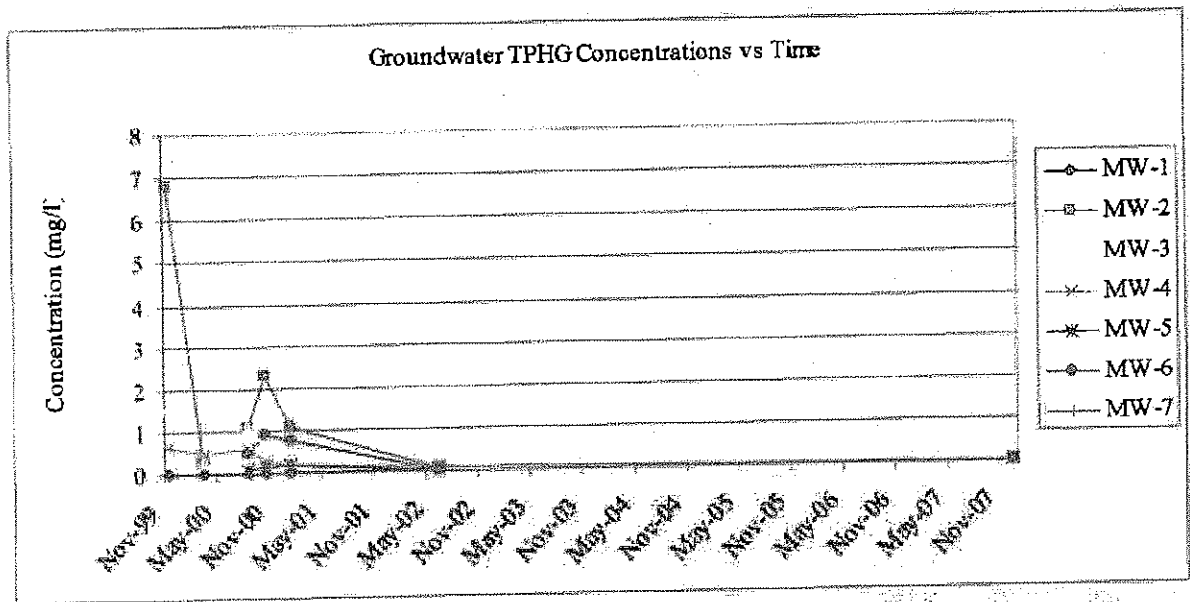


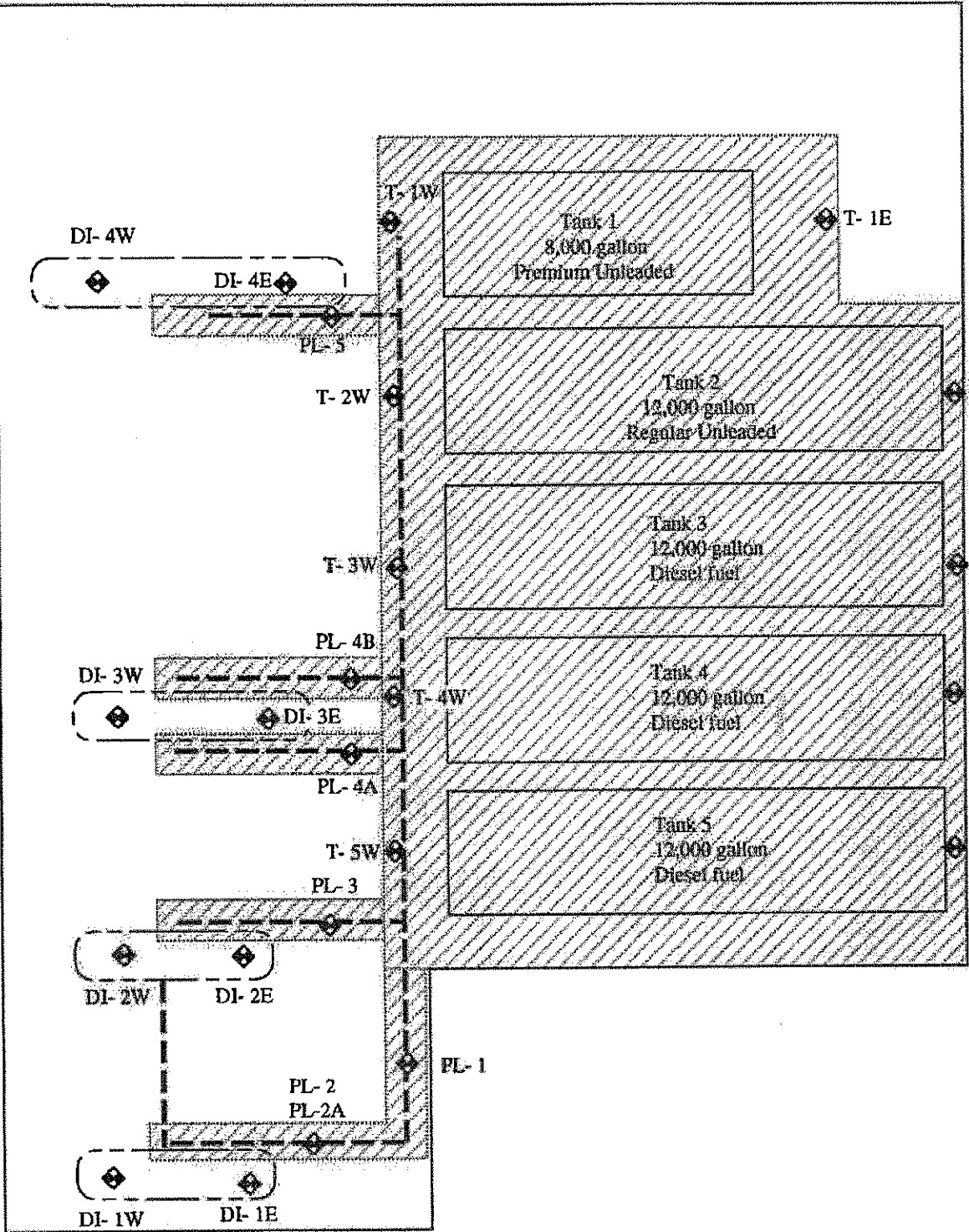
LEGEND

-  MW-6 Monitor Well with MIBE concentration ($\mu\text{g/l}$) (12/21/07) 20.58
-  15.10 TPHG Isoconcentrations Contour ($\mu\text{g/l}$)





Project No. E27297-3	Golden Gate Petroleum	MIBE ISOCONCENTRATION CONTOUR MAP 431 23 RD AVENUE OAKLAND, CALIFORNIA	Figure 10
Bonkowski & Associates, Inc.			

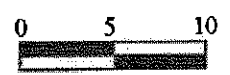




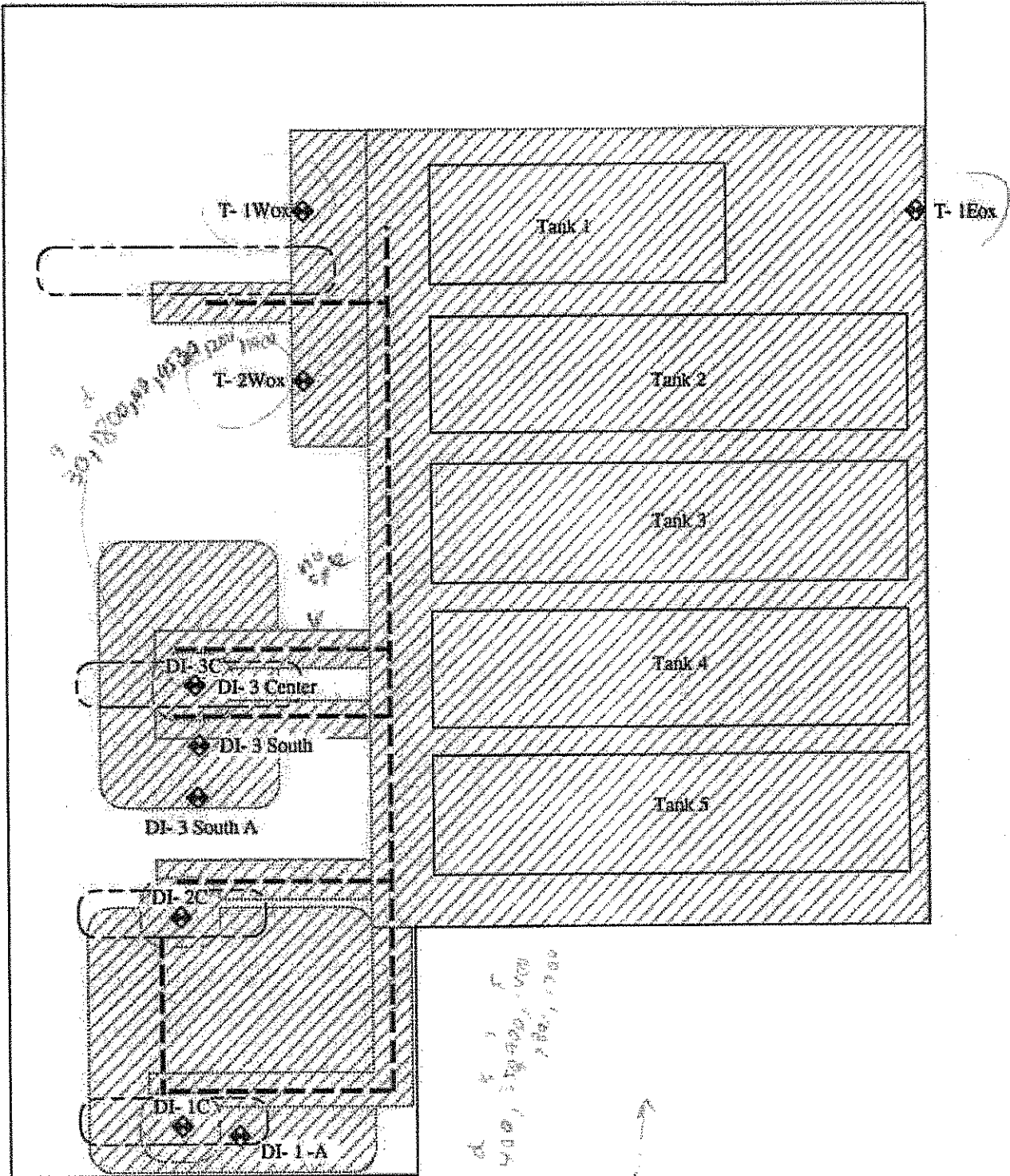
Legend

-  Extent of Excavation
-  Soil Sample Location
- DI-1C

Approximate Scale:
1 inch = 10 feet



Project No. L98174	Golden Gate Petroleum	EXCAVATION SOIL SAMPLE LOCATIONS, 421 23 rd AVENUE OAKLAND, CALIFORNIA	Figure 3
Bonkowski & Associates, Inc.			



Legend



Extent of Excavation



DI- 1C

Soil Sample Location

Approximate Scale:
1 inch = 10 feet



Project No. L98174	Golden Gate Petroleum	OVER-EXCAVATION SOIL SAMPLE LOCATIONS, 421 23 rd AVENUE OAKLAND, CALIFORNIA	Figure 4
Bonkowski & Associates, Inc.			

Table 1. Soil Sample Chemical Analyses Results, Golden Gate Petroleum Oakland Cardlock, Oakland California

Sample No.	Sample Location	Sample Depth (feet)	TPHG (mg/kg)	TPHD (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Date Sampled
Tank 1	East end	11	3,100	4,400	5,400	3,000	30,000	45,000	2,700	8/13/98
	West end	11	2,000	2,300	15,000	120,000	45,000	240,000	56,000	8/13/98
Tank 2	East end	11	ND	15	ND	ND	ND	ND	850	8/13/98
	West end	11	12,000	9,400	15,000	120,000	45,000	240,000	56,000	8/13/98
Tank 3	East end	11	1.4	1.7	ND	ND	ND	ND	1,800	8/13/98
	West end	11	2.6	8.8	34	5.4	36	200	270	8/13/98
Tank 4	East end	11	2.0	2.7	6.1	ND	ND	ND	2,800	8/13/98
	West end	11	1.8	150	ND	ND	8.1	12	7.1	8/13/98
Tank 5	East end	11	ND	ND	ND	ND	ND	ND	20	8/13/98
	West end	11	ND	1.8	ND	ND	ND	ND	ND	8/13/98
SP-N,S,E,W	Soil Pile		70	760	54	74	49	1.8	66	8/13/98
PL-1	Product line	2.5	<1.0	33	ND	ND	ND	ND	ND	8/14/98
PL-2	Product line	2.5	1,400	20,000	<500	10,000	1,200	5,000	1,200	8/14/98
PL-2A	Product line	2.5	60	670	42	160	<20	360	300	8/14/98
PL-3	Product line	2.5	<1.0	32	ND	ND	ND	ND	ND	8/14/98
PL-4A	Product line	2.5	ND	ND	ND	ND	ND	ND	ND	8/14/98
PL-4B	Product line	2.5	18,000	<50	60,000	1,800,000	370,000	2,200,000	880,000	8/14/98

Table 1. Soil Sample Chemical Analyses Results, Golden Gate Petroleum Oakland Cardlock, Oakland California

Sample No.	Sample Location	Sample Depth (feet)	TPHG (mg/kg)	TPHD (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Date Sampled
PL-5	Product line	2.5	<1.0	540	ND	ND	ND	ND	8.4	8/14/98
DI-1E	Dispenser Island 1 East end	4	510	8,000	<200	390	<200	2,200	<200	8/14/98
DI-1W	Dispenser Island 1 West end	4	870	22,000	<200	1,400	350	7,600	<200	8/14/98
DI-2E	Dispenser Island 1 East end	4	290	1,900	<50	130	<50	<50	<50	8/14/98
DI-2W	Dispenser Island 1 West end	4	580	9,300	<200	310	<200	<200	<200	8/14/98
DI-3E	Dispenser Island 1 East end	4	680	4,600	<200	430	<200	900	<200	8/14/98
DI-3W	Dispenser Island 1 West end	4	21	31	230	2,000	350	3,400	240	8/14/98
DI-4E	Dispenser Island 1 East end	4	<1.0	<1.0	6.4	ND	ND	ND	7.0	8/14/98
DI-4W	Dispenser Island 1 West end	4	<1.0	<1.0	ND	ND	ND	ND	ND	8/14/98

Table 1. Soil Sample Chemical Analyses Results, Golden Gate Petroleum Oakland Cardlock, Oakland California

Sample No.	Sample Location	Sample Depth (feet)	TPHG (mg/kg)	TPHD (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Date Sampled
T1-Eox	Tank 1 East end over- excavation	11	<1.0	<1.0	ND	ND	ND	ND	150	8/15/98
T1-Wox	Tank 1 West end over- excavation	11	<1.0	<1.0	ND	ND	ND	ND	68	8/15/98
T2-Wox	Tank 2 East end over- excavation	11	8.2	<1.0	10	8.2	ND	6.8	7,300	8/15/98
DI-1c	Dispenser Island 1 Center	7	240	1,400	350	900	1,400	2,800	1,700	8/15/98
DI-2c	Dispenser Island 2 Center	8	<1.0	<1.0	ND	ND	ND	ND	120	8/15/98
DI-3c	Dispenser Island 1 Center	3	87	86	30	120	440	380	130	8/15/98
DI-1-A	Dispenser Island 1 South End	11	20	520	ND	ND	ND	ND	ND	8/20/98
DI-3-South	Dispenser Island 3 South	6	25	140	ND	ND	8.7	110	35	8/20/98
DI-3-South-A	Dispenser Island 3 South	10	ND	1.2	ND	ND	ND	9.4	ND	8/20/98
DI-3-Center-12	Dispenser Island 3-Center	12	30	1,800	<20	95	34	200	1,900	8/20/98

Table 1. Soil Sample Chemical Analyses Results, Golden Gate Petroleum Oakland Cardlock, Oakland California

Sample No.	Sample Location	Sample Depth (feet)	TPHG (mg/kg)	TPHD (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Date Sampled
Truck 4	Soil Pile	3.4	240	19	ND	ND	ND	240		8/19/98
Truck 8	Soil Pile	23	230	41	ND	ND	240	340		8/19/98
Truck 12	Soil Pile	22	270	39	7.1	ND	56	560		8/19/98
Truck 6B	Soil Pile	3.2	210	ND	ND	ND	34	930		8/20/98
Truck 8B	Soil Pile	5	150	6.6	ND	ND	ND	250		8/20/98
Truck 10B	Soil Pile	12	430	12	ND	ND	11	160		8/20/98
Truck 15B	Soil Pile	ND	140	ND	ND	ND	ND	ND		8/20/98
Truck 17B	Soil Pile	60	450	56	96	ND	88	69		8/20/98
Truck 19B	Soil Pile	94	750	87	110	ND	140	ND		8/20/98
Truck 25B	Soil Pile	ND	57	ND	ND	ND	ND	ND		8/20/98
Truck 27B	Soil Pile	99	770	ND	80	ND	ND	ND		8/20/98
Truck 29B	Soil Pile	100	460	ND	80	ND	60	ND		8/20/98

**Table 2. Soil Chemical Test Results
421 23rd Avenue, Oakland, California**

Well/ Boring No.	Sample Depth (feet)	TPHG (mg/kg)	TPHD (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	ETBE (mg/kg)	DIPE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	Sample Date
GP-A	12	<0.510	6.00	<0.010	<0.009	<0.006	<0.022	<0.012	<0.006	<0.004	<0.006	<0.080	1/13/2009
GP-B	20	<0.510	4.85	<0.010	<0.009	<0.006	<0.022	<0.012	<0.006	<0.004	<0.006	<0.080	1/13/2009
MW-2	5	<1.0	9.7	<0.005	0.037	<0.005	<0.005	<0.005					11/1/1999
	10	450	4,300	<0.005	<0.005	<0.005	<0.005	<0.005					
MW-5	5	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005					7/28/2000
	10	<1.0	130	<0.005	<0.005	<0.005	<0.005	<0.005					
MW-6	5	<1.0	13	<0.005	<0.005	<0.005	<0.005	<0.005					7/28/2000
	10	<1.0	5.6	<0.005	<0.005	<0.005	<0.005	0.014					
MW-7	5	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005					7/28/2000
	10	<1.0	15	<0.005	<0.005	<0.005	<0.005	<0.005					
GP-1	10	<1.0	4.2	<0.005	<0.005	<0.005	<0.005	<0.005					10/8/1999
GP-2	5	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.66					10/8/1999
	10	220	7.9	0.41	0.44	1.2	1.2	<0.005					
GP-3	10	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005					10/8/1999
GP-4	5	70	610	<0.005	<0.005	<0.005	<0.005	<0.005					10/8/1999
	10	36	56	<0.005	<0.005	<0.005	<0.005	<0.005					
GP-5	10	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005					10/8/1999
GP-6	10	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005					10/8/1999
GP-7	10	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005					10/8/1999

**Table 3. Groundwater Chemical Test Results
421 23rd Avenue, Oakland, California**

Well/ Boring No.	TPHG (mg/l)	TPHD (mg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	TBA (µg/l)	1,2-DCA (µg/l)	1,2-EDB (µg/l)	Sample Date
GP-A (grab)	0.207		<0.7	<0.8	<0.7	<3.4	430	<0.5	<1.1	4.9	<24.0			1/13/2009
GP-B (grab)	0.746		<0.07	<0.08	<0.07	0.4	92.4	<0.05	<0.1	<0.1	<2.4			1/13/2009
MW-1	<0.050	<0.050	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	12/21/2007
	0.051	<0.050	<0.5	<0.5	<0.5	<1.0	1.6							6/4/2002
	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5							1/29/2001
	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5							10/18/2000
	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5							8/7/2000
	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5							3/28/2000
	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<0.5							11/11/1999
MW-2	<0.050	0.067	<0.50	<0.50	<0.50	<0.50	210	<0.50	<0.50	1.1	<5.0	<0.50	<0.50	12/21/2007
	0.059	<0.050	<0.5	<0.5	<0.5	<1.0	582							6/4/2002
	1.1	0.75	11	<0.5	<0.5	<0.5	4,300*							1/29/2001
	2.3	0.51	<5.0	<5.0	<5.0	<5.0	8,300*							10/18/2000
	4.5	0.62	<25	<25	<25	<25	6,300							8/7/2000
	2.5	1.8	<25	<25	<25	<25	1,800							3/28/2000
	6.8	0.22	<50	<50	<50	<50	13,000*							11/11/1999
MW-3	<0.050	<0.050	<0.50	<0.50	<0.50	<0.50	320	<0.50	<0.50	3.5	<5.0	<0.50	<0.50	12/21/2007
	0.056	<0.050	<0.50	0.5	0.8	3.2	2,710							6/4/2002
	0.70	<0.050	2.0	<0.50	<0.50	<0.50	920*							1/29/2001
	0.90	0.058	<5.0	<5.0	<5.0	<5.0	2,000*							10/18/2000
	1.1	<0.050	<5.0	<5.0	<5.0	<5.0	1,500							8/7/2000
	0.28	<0.050	<2.5	<2.5	<2.5	<2.5	610							3/28/2000
	1.6	<0.050	<12.5	<12.5	<12.5	<12.5	2,500*							11/11/1999
MW-4	<0.050	<0.050	<0.50	<0.50	<0.50	<0.50	4.2	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	12/21/2007
	0.089	<0.050	<0.5	<0.5	1.1	6.3	35							6/4/2002
	0.16	<0.056	1.7	<0.5	<0.5	<0.5	230*							1/29/2001
	0.26	<0.050	<2.5	<2.5	<2.5	<2.5	410*							10/18/2000
	0.60	<0.050	<5	<5	<5	<5	500							8/7/2000
	0.43	<0.050	<2.5	<2.5	<2.5	<2.5	800							3/28/2000
	0.65	<0.050	<5	<5	<5	<5	540*							11/11/1999

**Table 3. Groundwater Chemical Test Results
421 23rd Avenue, Oakland, California**

Well/ Boring No.	TPHG (mg/l)	TPHD (mg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	TBA (µg/l)	1,2-DCA (µg/l)	1,2-EDB (µg/l)	Sample Date
MW-5	<0.050	<0.050	<0.50	<0.50	<0.50	<0.50	1.5	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	12/21/2007
	<0.050	<0.050	<0.5	<0.5	<0.5	<1.0	108							6/4/2002
	0.19	0.086	1.9	<0.5	<0.5	<0.5	290*							1/29/2001
	0.15	0.083	<0.5	<0.5	<0.5	<0.5	420*							10/18/2000
	0.11	<0.050	<0.5	<0.5	<0.5	<0.5	470*							8/7/2000
MW-6	<0.050	<0.050	<0.50	<0.50	<0.50	<0.50	160	<0.50	<0.50	2.5	<5.0	<0.50	<0.50	12/21/2007
	<0.050	<0.050	<0.5	<0.5	<0.5	1.7	725							6/4/2002
	0.78	<0.069	4.2	<0.5	<0.5	<0.5	1,200*							1/29/2001
	0.89	0.062	5.6	<2.5	<2.5	3.1	2,400*							10/18/2000
	0.46	<0.050	<0.5	<0.5	<0.5	<0.5	1,900*							8/7/2000
MW-7	<0.050	<0.050†	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	12/21/2007
	<0.050	<0.050	<0.5	<0.5	<0.5	1.9	1.1							6/4/2002
	<0.050	<0.063	<0.5	<0.5	<0.5	<0.5	<5*							1/29/2001
	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<5*							10/18/2000
	<0.050	<0.050	<0.5	<0.5	<0.5	<0.5	<5*							8/7/2000
Casing 1 **	<0.50	0.069	<5	<5	<5	<5	760							1/29/2001
	0.054	0.14	<0.5	<0.5	<0.5	<0.5	30							8/7/2000
	<0.050	<0.250	<2.5	<2.5	<2.5	<2.5	350							11/11/1999
	<0.050	<0.050	<0.50	<0.50	<0.50	<0.50	9.2							10/8/1999
Casing 2 **	0.082	0.11	<0.5	<0.5	<0.5	<0.5	190							8/7/2000
	0.27	<0.050	<2.5	<2.5	<2.5	<2.5	150							3/28/2000
	0.15	<0.050	<1	<1	<1	<1	320							11/11/1999
	0.68	0.083	<0.50	<0.50	<0.50	<0.50	1,200							10/8/1999

**Table 3. Groundwater Chemical Test Results
421 23rd Avenue, Oakland, California**

Well/ Boring No.	TPHG (mg/l)	TPHD (mg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	TBA (µg/l)	1,2-DCA (µg/l)	1,2-EDB (µg/l)	Sample Date
GP-1	<0.050	0.19	1.4	<0.50	<0.50	<0.50	<5.0							10/8/1999
GP-2	1.2	0.35	6.1	2.9	65	55	76							10/8/1999
GP-3	<0.050	<0.050	<0.50	<0.50	<0.50	<0.50	<5.0							10/8/1999
GP-4	12	620	<0.50	<0.50	<0.50	<0.50	13,000							10/8/1999
GP-5	0.79	80	<0.50	<0.50	<0.50	<0.50	340							10/8/1999
GP-6	3.1	<0.050	<0.50	<0.50	<0.50	<0.50	4,800							10/8/1999
GP-7	0.18	<0.050	<0.50	<0.50	<0.50	<0.50	350							10/8/1999
GP-8	0.15	<0.050	<0.50	<0.50	<0.50	<0.50	240							10/8/1999
Regulatory Limits	0.005 ¹	0.1 ²	1.0 ³	42 ²	29 ²	17 ²	5 ⁴							

1 -- Taste and odor threshold (SWRCB)

2 -- Taste and odor threshold (U.S. EPA)

* Confirmed by EPA Method 8260B

** Recovery casing located in the previous tank excavation † Extracted outside hold time

3 -- California Primary MCL

4 -- California Secondary MCL

**Table 1. Soil Vapor Chemical Test Results
421 23rd Avenue, Oakland, California**

Well/ Boring No.	Sample Depth (feet)	TVPH (TPHG) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl- benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)	Sample Date
SG-2	4.5	<5.00	<0.50	<0.50	<0.50	<1.0	<0.50	12/16/2008
SG-3	4	<5.00	<0.50	<0.50	<0.50	<1.0	<0.50	12/16/2008
SG-4	4	<5.00	<0.50	<0.50	<0.50	<1.0	<0.50	12/16/2008
SG-5	4	<5.00	<0.50	<0.50	<0.50	<1.0	<0.50	12/16/2008
SG-6	4	<5.00	<0.50	<0.50	<0.50	<1.0	<0.50	12/16/2008
SG-6 (duplicate)	4	<5.00	<0.50	<0.50	<0.50	<1.0	<0.50	12/16/2008
SG-7	4	<5.00	<0.50	<0.50	<0.50	<1.0	<0.50	12/16/2008
SG-8*	4	<5.00	<0.50	<0.50	<0.50	<1.0	<0.50	12/16/2008

* -- Sample also contained 4.71 µg/l tetrachloroethene.



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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-1**

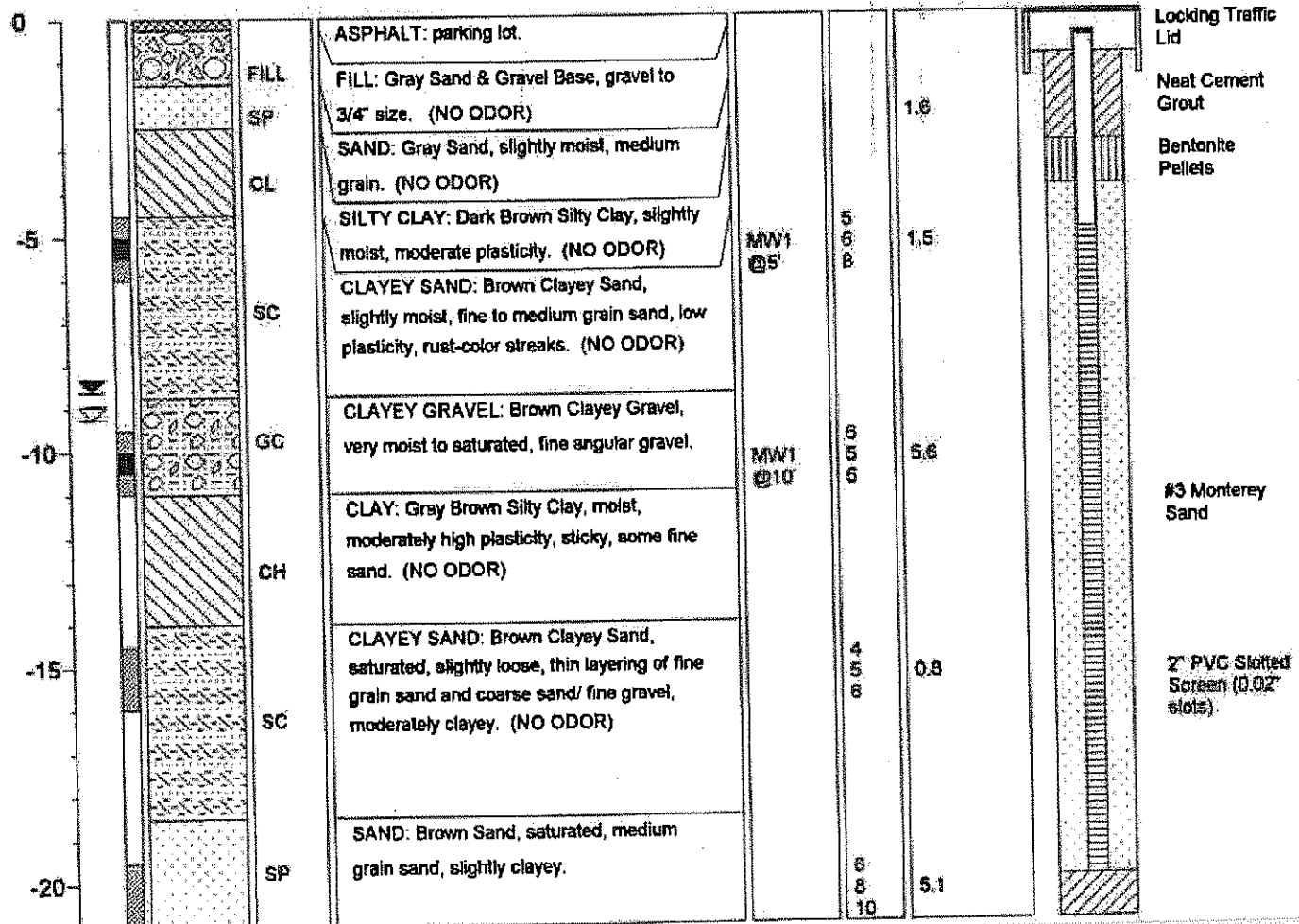
TOTAL DEPTH: **20'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Mobile B-61
LOGGED BY:	Fred Hayden	METHOD OF DRILLING:	8" Hollow Stem Augers
DATE DRILLED:	11-01-99	SAMPLING METHODS:	2" split barrel sampler
NOTES:		HAMMER WT./DROP:	140 lb., 30 in.

☒ Water level during drilling
☒ Water level in completed well

Page 1 of 1

DEPTH (feet)	sample	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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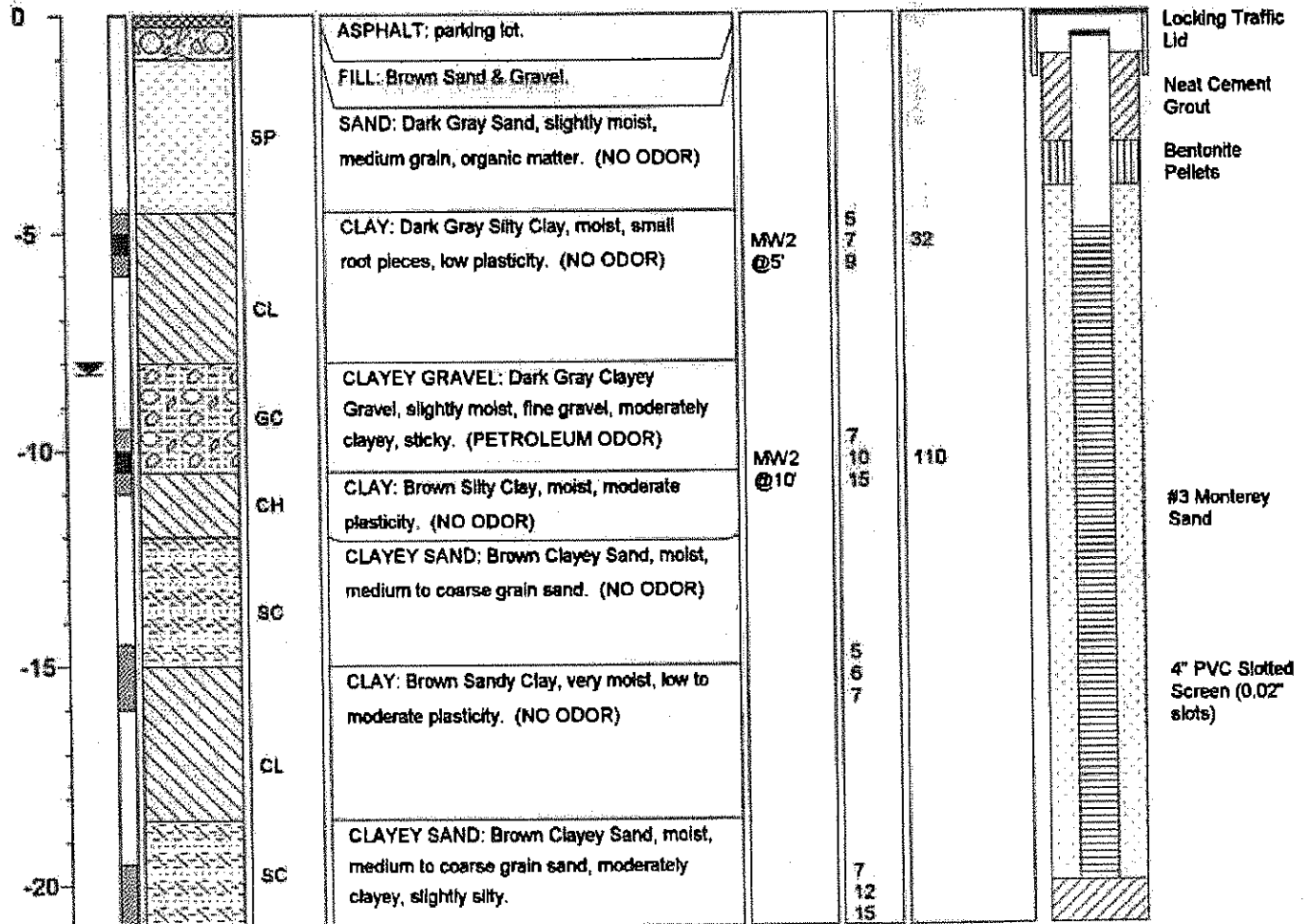
FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-2**

TOTAL DEPTH: **20'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Mobile B-61
LOGGED BY:	Fred Hayden	METHOD OF DRILLING:	10" Hollow Stem Augers
DATE DRILLED:	11-01-99	SAMPLING METHODS:	2" split barrel sampler
		HAMMER WT./DROP:	140 lb., 30 in.
NOTES:		☒ Water level during drilling ☒ Water level in completed well	Page 1 of 1

DEPTH (feet)	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-3**

TOTAL DEPTH: **20'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue	RIG TYPE:	Mobile B-51
	Oakland, CA	METHOD OF DRILLING:	10" Hollow Stem Auger
LOGGED BY:	Fred Hayden	SAMPLING METHODS:	2" split barrel sampler
DATE DRILLED:	11-01-99	HAMMER WT./DROP:	140 lb., 30 in.

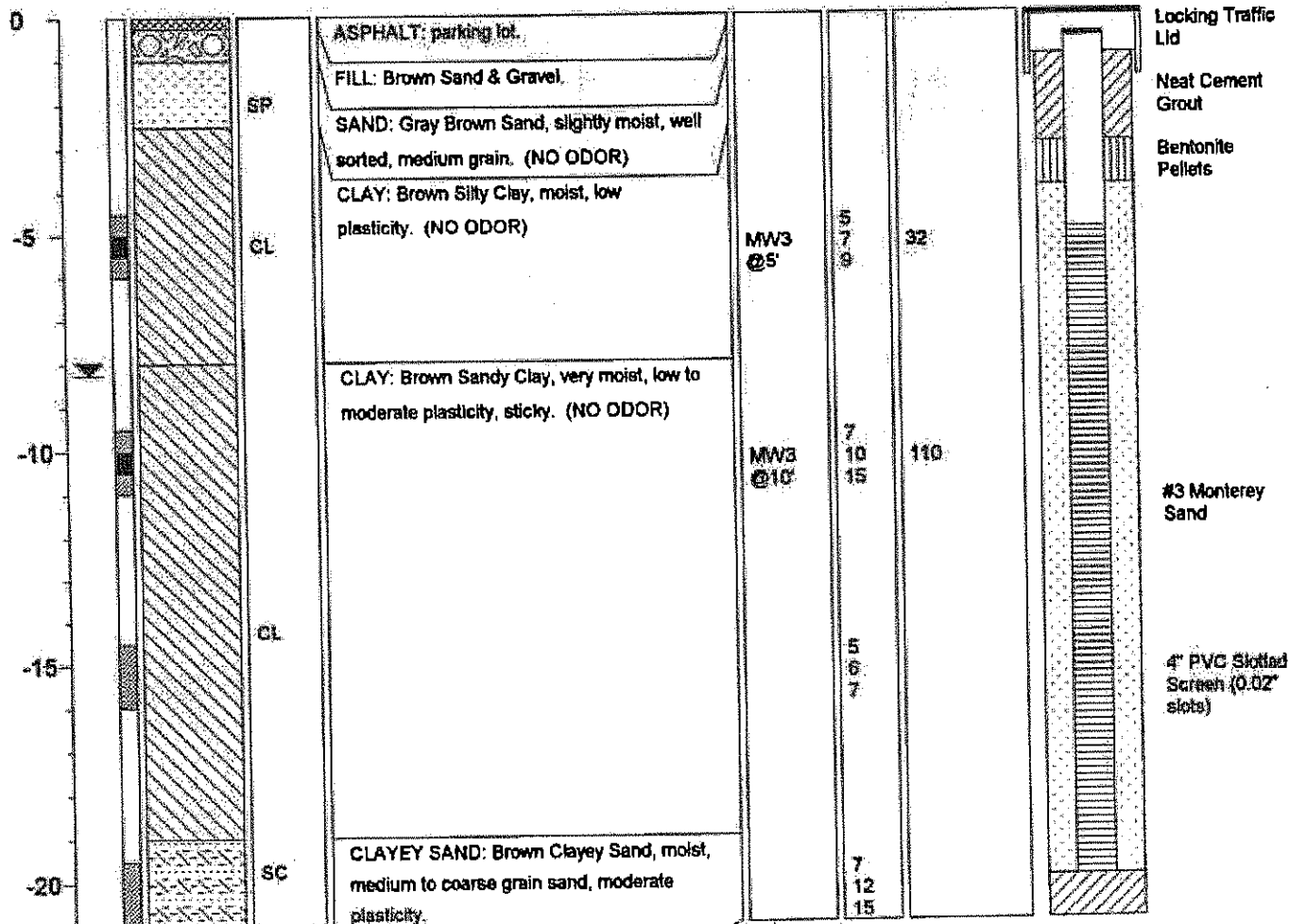
NOTES:

☒ Water level during drilling

☒ Water level in completed well

Page 1 of 1

DEPTH (feet)	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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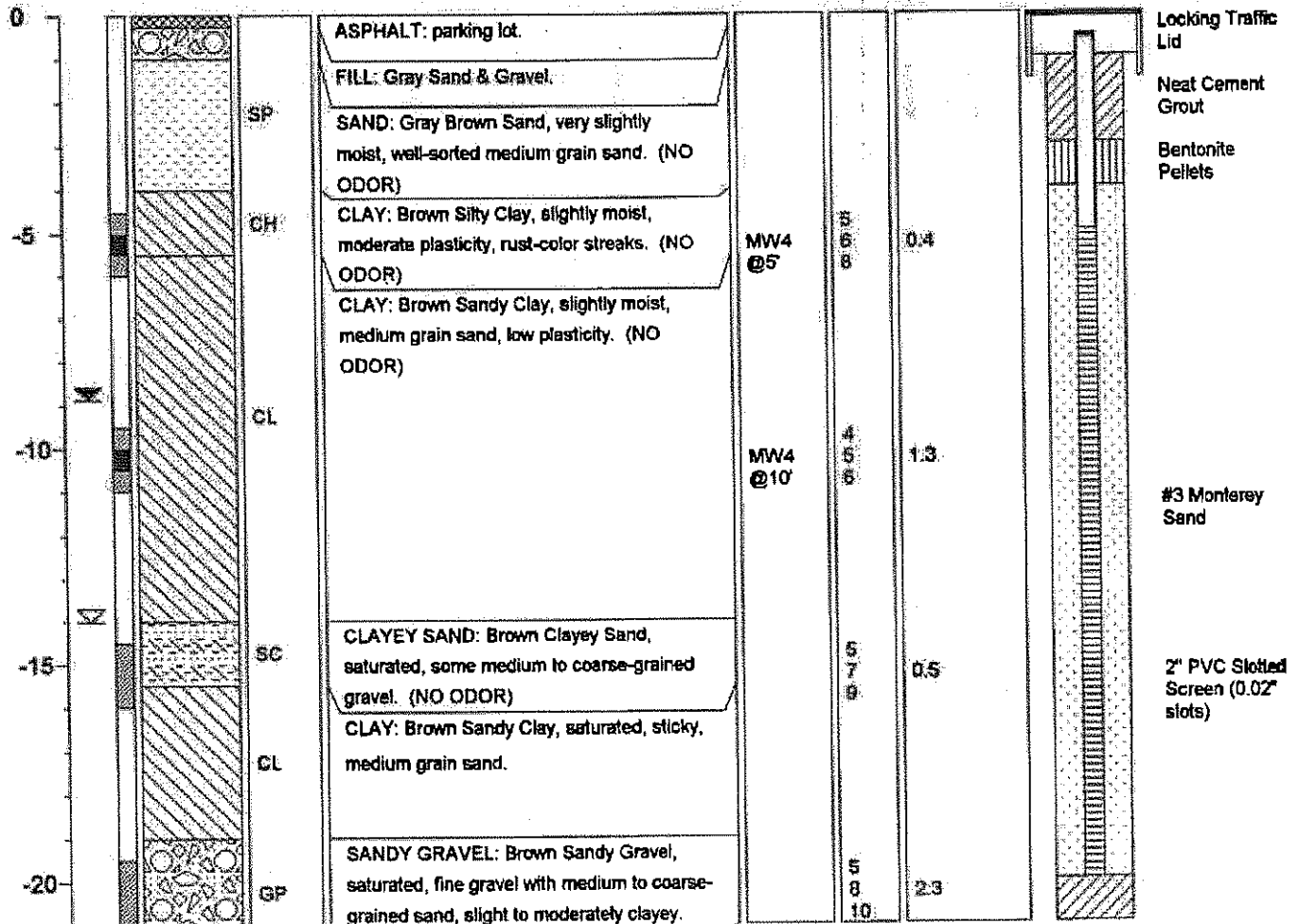
FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-4**

TOTAL DEPTH: **20'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Mobile B-61
LOGGED BY:	Fred Hayden	METHOD OF DRILLING:	8" Hollow Stem Augers
DATE DRILLED:	11-01-99	SAMPLING METHODS:	2" split barrel sampler
		HAMMER WT./DROP:	140 lb., 30 in.
NOTES:		☒ Water level during drilling ☒ Water level in completed well	Page 1 of 1

DEPTH (feet)	sample	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-5**

TOTAL DEPTH: **20'**

PROJECT INFORMATION

PROJECT: Golden Gate Petroleum
JOB NO.: 0277
SITE LOCATION: 421 23rd Avenue
Oakland, CA
LOGGED BY: Kenneth B. Alexander, RG, CH
DATE DRILLED: July 28, 2000

DRILLING INFORMATION

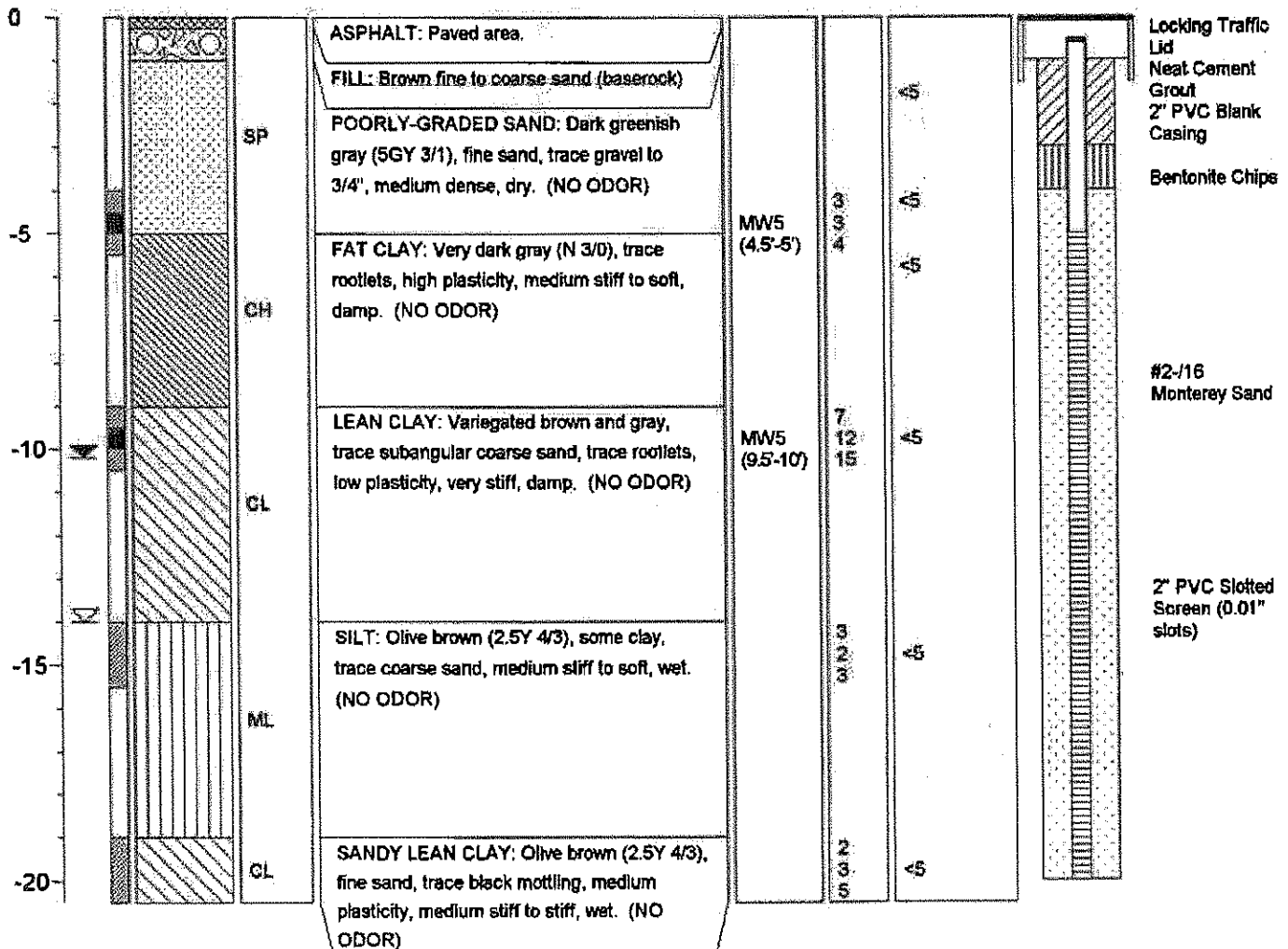
DRILLING CO.: Gregg Drilling & Testing
Martinez, CA
RIG TYPE: Rhino M-11
METHOD OF DRILLING: 8" Hollow Stem Augers
SAMPLING METHODS: 2" split barrel sampler
HAMMER WT./DROP: 140 lb., 30 in.

NOTES:
Sunny, mild

☒ Water level during drilling
☒ Water level in completed well

Page 1 of 1

DEPTH (feet)	sample	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	PID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-6**

TOTAL DEPTH: **20'**

PROJECT INFORMATION

PROJECT: Golden Gate Petroleum
JOB NO.: 0277
SITE LOCATION: 421 23rd Avenue
Oakland, CA
LOGGED BY: Kenneth B. Alexander, RG, CH
DATE DRILLED: July 28, 2000

DRILLING INFORMATION

DRILLING CO.: Gregg Drilling & Testing
Martinez, CA
RIG TYPE: Rhino M-11
METHOD OF DRILLING: 8" Hollow Stem Augers
SAMPLING METHODS: 2" split barrel sampler
HAMMER WT./DROP: 140 lb., 30 in.

NOTES:

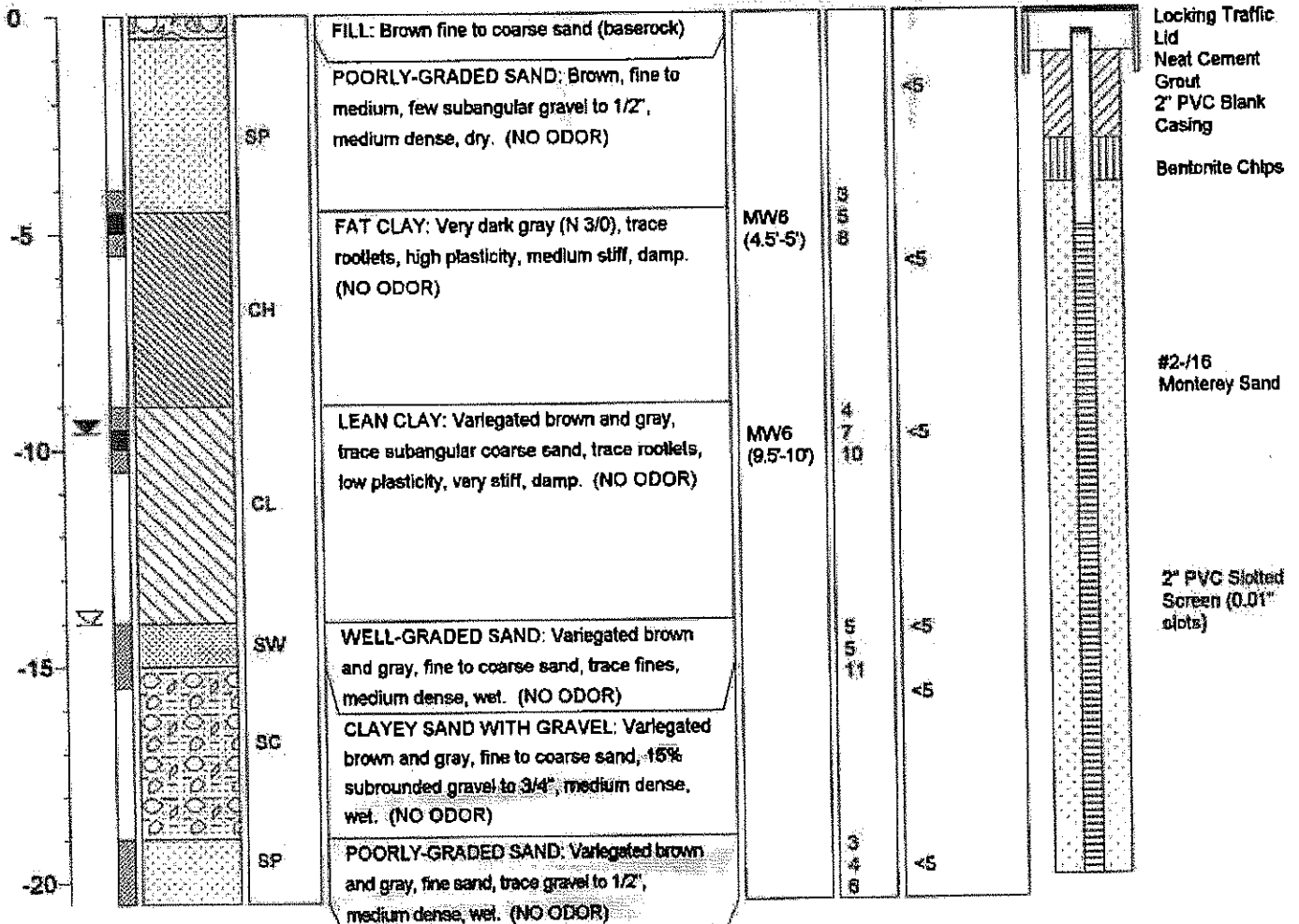
Sunny, mild

≡ Water level during drilling

≡ Water level in completed well

Page 1 of 1

DEPTH (feet)	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	PID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-7**

TOTAL DEPTH: **20'**

PROJECT INFORMATION

PROJECT: **Golden Gate Petroleum**
 JOB NO.: **0277**
 SITE LOCATION: **421 23rd Avenue**
Oakland, CA
 LOGGED BY: **Kenneth B. Alexander, RG, CH**
 DATE DRILLED: **July 28, 2000**

DRILLING INFORMATION

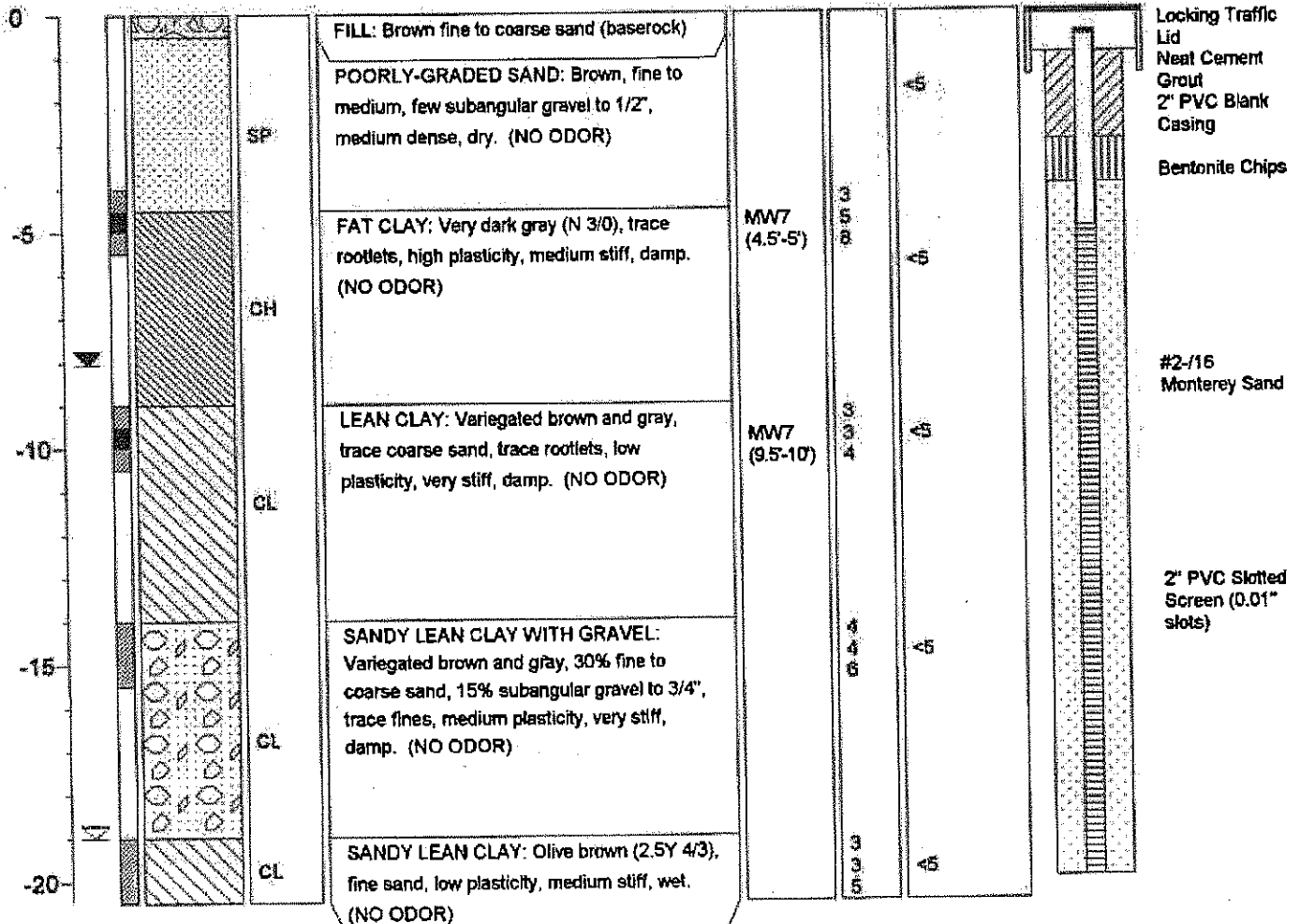
DRILLING CO.: **Gregg Drilling & Testing**
Martinez, CA
 RIG TYPE: **Rhino M-11**
 METHOD OF DRILLING: **8" Hollow Stem Augers**
 SAMPLING METHODS: **2" split barrel sampler**
 HAMMER WT./DROP: **140 lb., 30 in.**

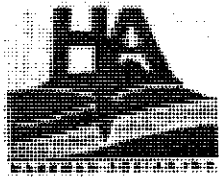
NOTES:
Sunny, mild

∞ Water level during drilling
 ∞ Water level in completed well

Page 1 of 1

DEPTH (feet)	sample	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	PID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

BOREHOLE NO.: **GP-1**

TOTAL DEPTH: **16'**

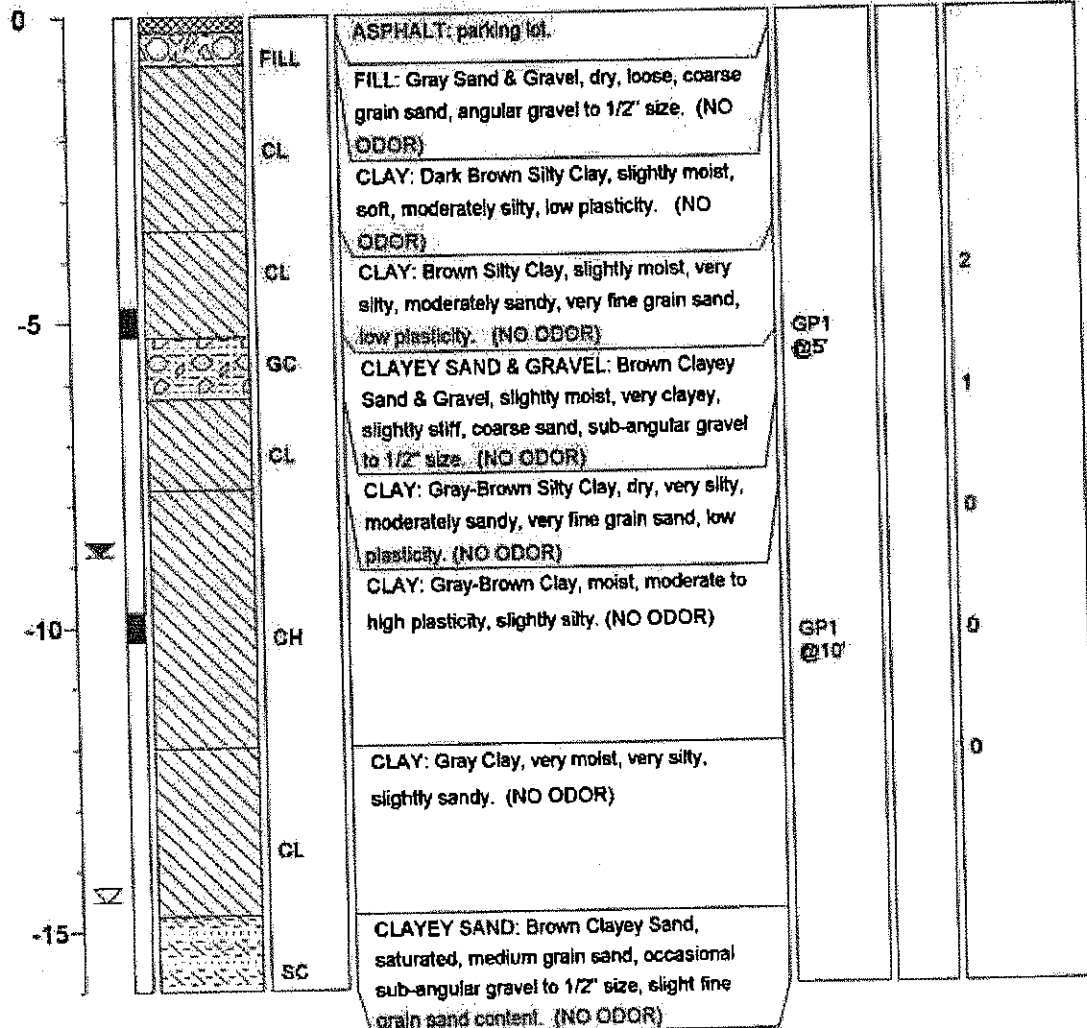
PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Geoprobe
LOGGED BY:	Gary Aguiar	METHOD OF DRILLING:	Direct Push
DATE DRILLED:	10-08-99	SAMPLING METHODS:	Macrocore Barrel
		HAMMER WT./DROP:	

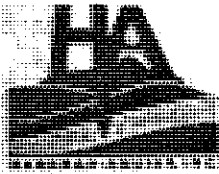
NOTES:

- ☒ Water level during drilling
- ☒ Water level in completed well

Page 1 of 1

DEPTH (feet)	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 5')	FID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

BOREHOLE NO.: **GP-2**

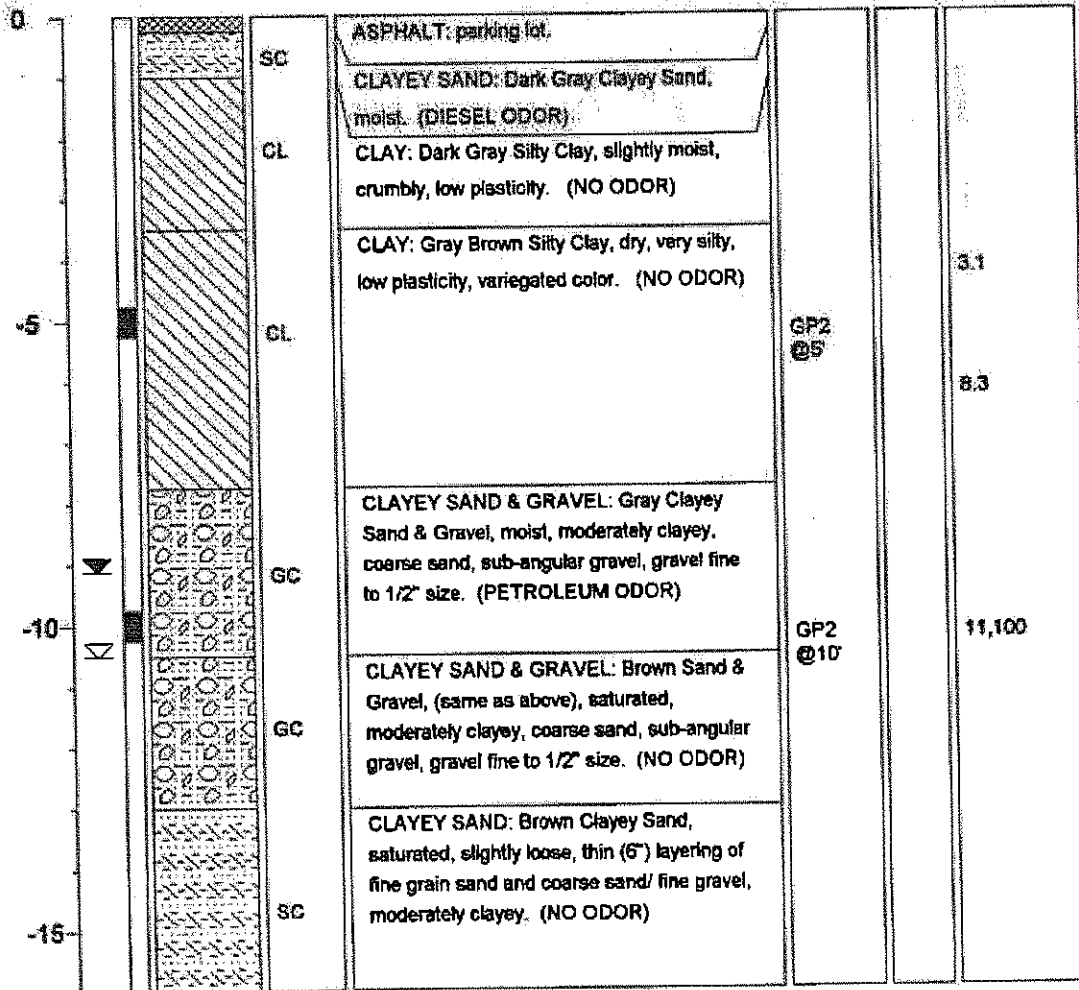
TOTAL DEPTH: **16'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Geoprobe
LOGGED BY:	Gary Aguiar	METHOD OF DRILLING:	Direct Push
DATE DRILLED:	10-08-99	SAMPLING METHODS:	Macrocore Barrel
NOTES:		HAMMER WT./DROP:	

∇ Water level during drilling
 ✕ Water level in completed well

Page 1 of 1

DEPTH (feet)	sample	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

BOREHOLE NO.: **GP-3**

TOTAL DEPTH: **16'**

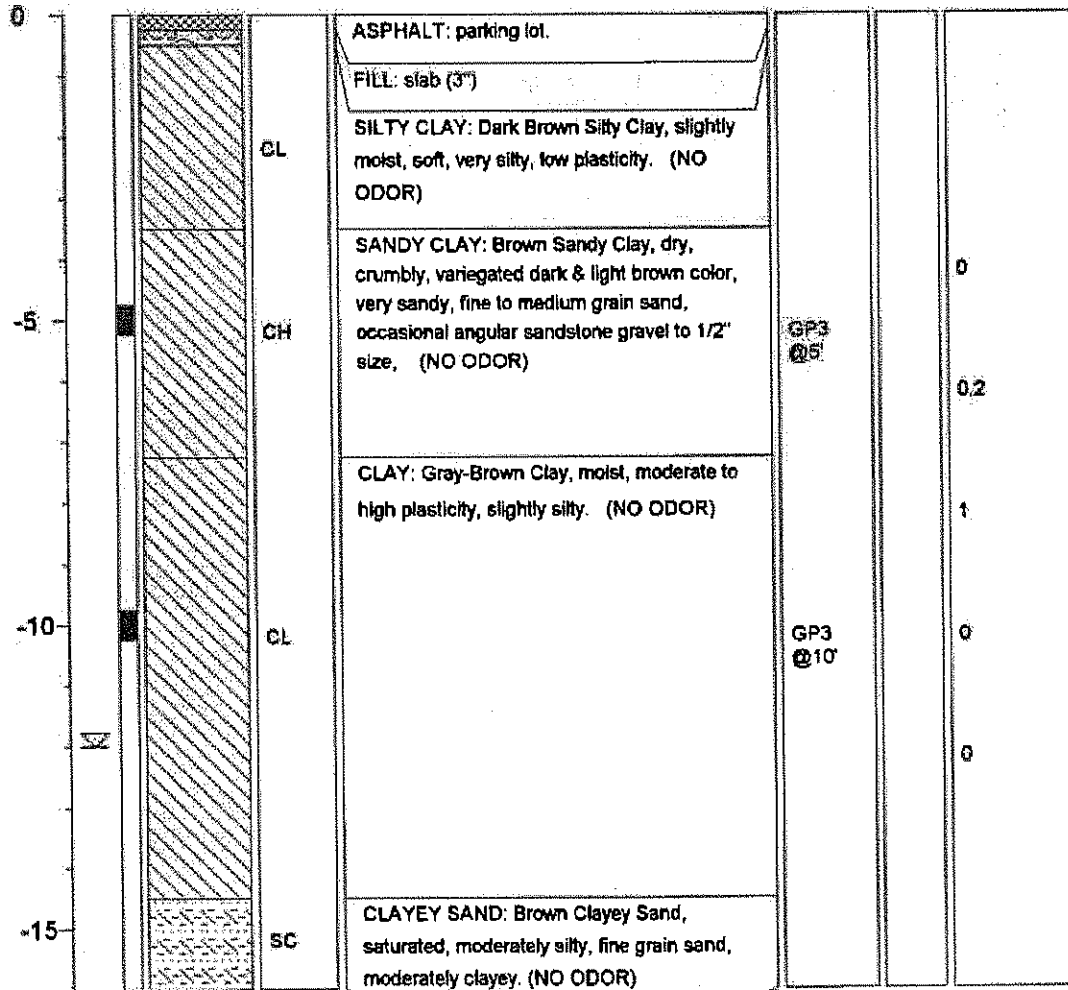
PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Geoprobe
LOGGED BY:	Gary Aguiar	METHOD OF DRILLING:	Direct Push
DATE DRILLED:	10-08-99	SAMPLING METHODS:	Macrocore Barrel
		HAMMER WT./DROP:	

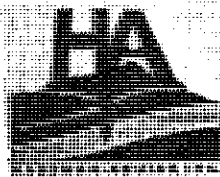
NOTES:
 low rate of groundwater recharge into borehole

- Water level during drilling
- Water level in completed well

Page 1 of 1

DEPTH (feet)	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

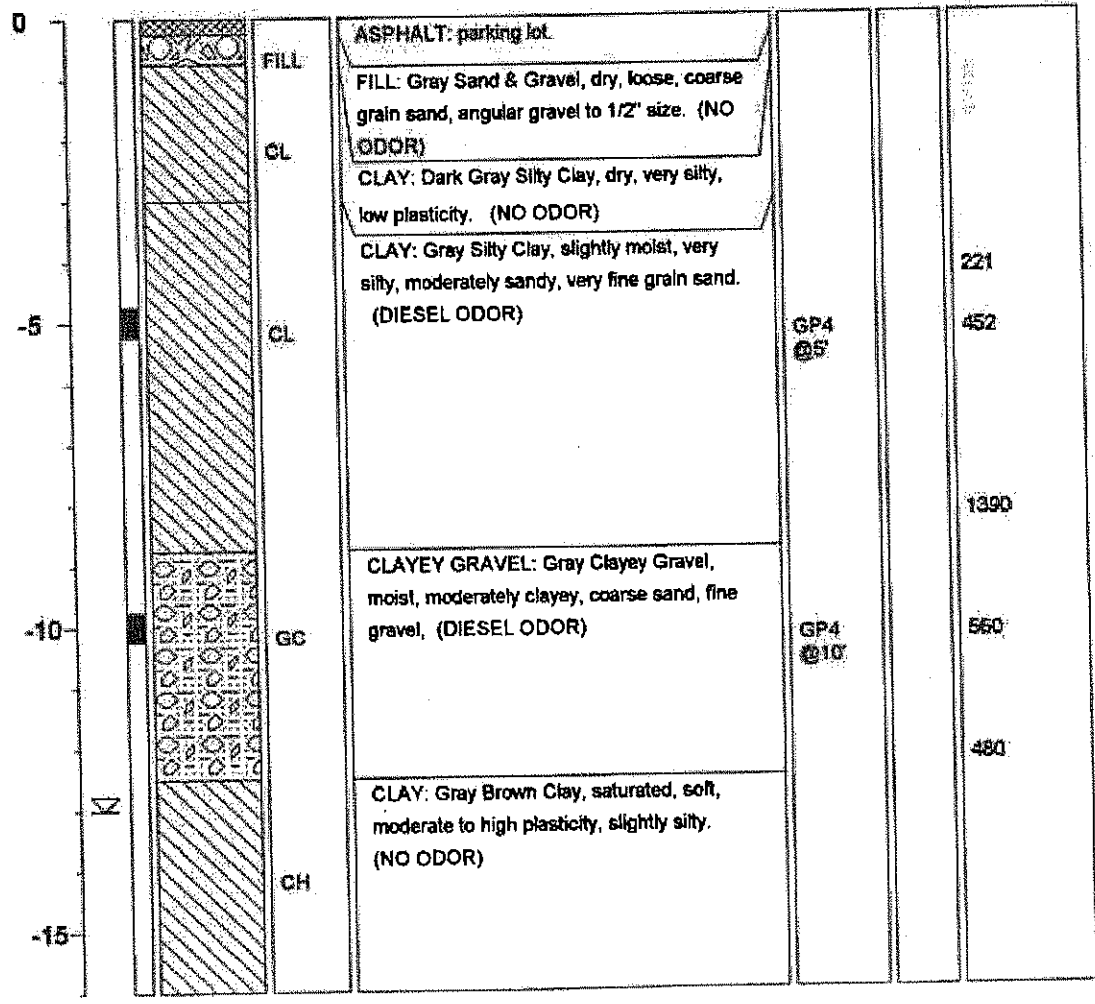
BOREHOLE NO.: **GP-4**
 TOTAL DEPTH: **16'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Geoprobe
LOGGED BY:	Gary Aguiar	METHOD OF DRILLING:	Direct Push
DATE DRILLED:	10-08-99	SAMPLING METHODS:	Macrocore Barrel
		HAMMER WT./DROP:	

NOTES: Page 1 of 1

☒ Water level during drilling
 ☒ Water level in completed well

DEPTH (feet)	sample	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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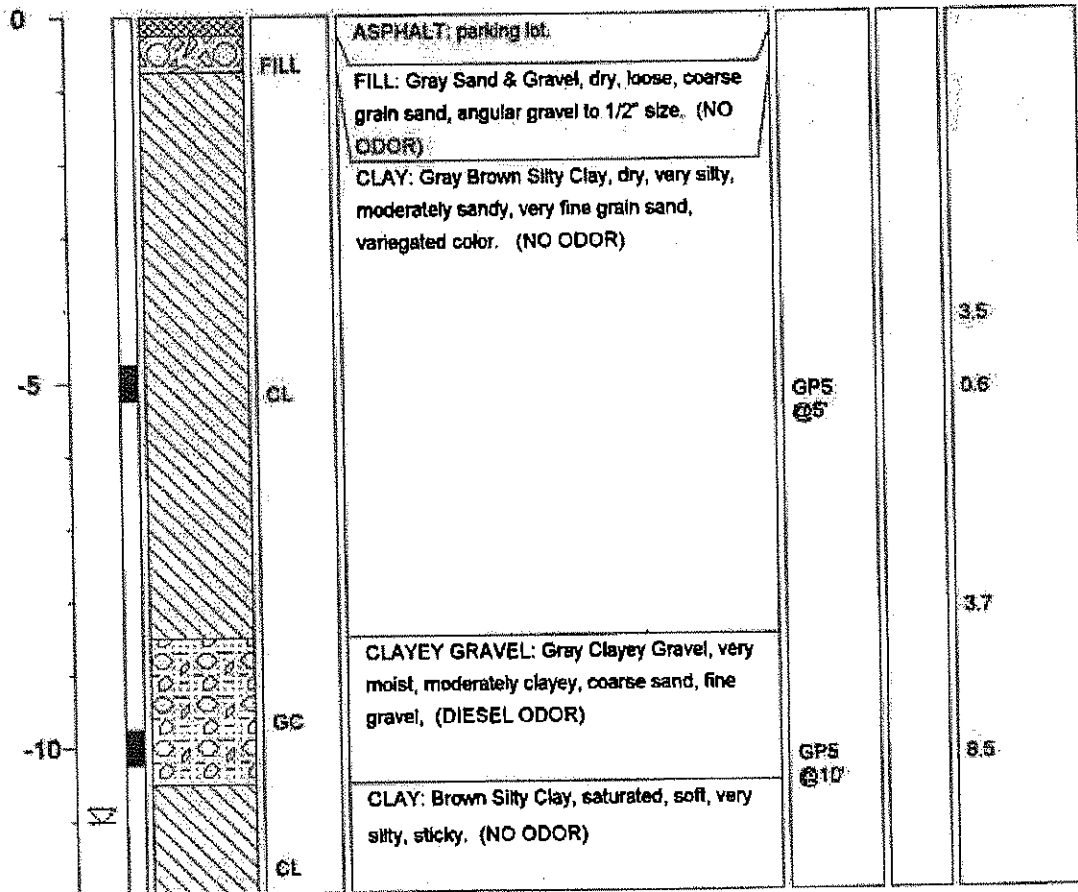
FIELD BOREHOLE LOG

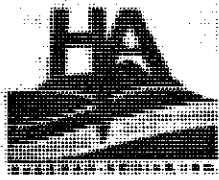
BOREHOLE NO.: **GP-5**

TOTAL DEPTH: **12'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Geoprobe
LOGGED BY:	Gary Aguiar	METHOD OF DRILLING:	Direct Push
DATE DRILLED:	10-08-99	SAMPLING METHODS:	Macrocore Barrel
NOTES:		HAMMER WT./DROP:	
		<input checked="" type="checkbox"/> Water level during drilling <input checked="" type="checkbox"/> Water level in completed well	Page 1 of 1

DEPTH (feet)	SOIL SAMPLE SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

BOREHOLE NO.: **GP-6**

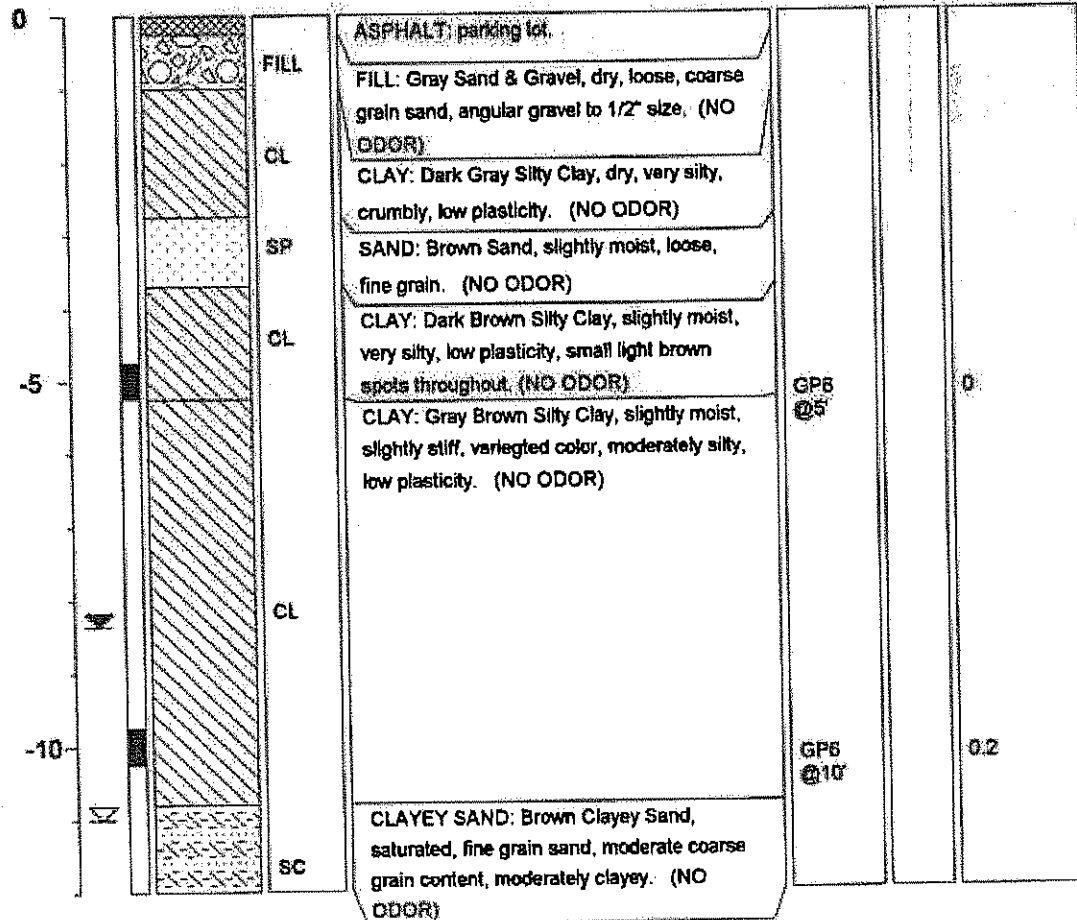
TOTAL DEPTH: **12'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Geoprobe
LOGGED BY:	Gary Aguiar	METHOD OF DRILLING:	Direct Push
DATE DRILLED:	10-08-99	SAMPLING METHODS:	Macrocore Barrel
NOTES:		HAMMER WT./DROP:	

☑ Water level during drilling
☑ Water level in completed well

Page 1 of 1

DEPTH (feet)	SOIL SAMPLE SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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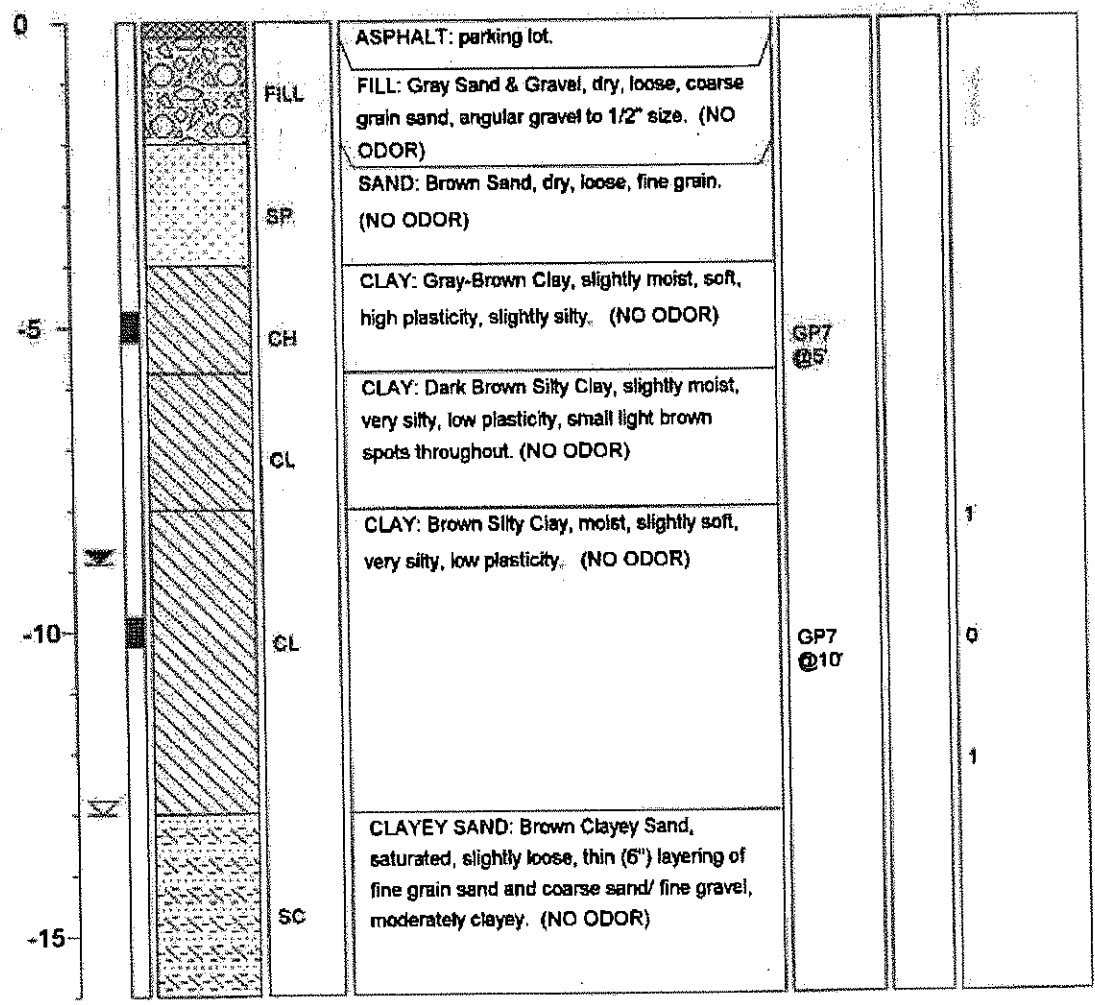
FIELD BOREHOLE LOG

BOREHOLE NO.: **GP-7**
 TOTAL DEPTH: **16'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Geoprobe
LOGGED BY:	Gary Aguiar	METHOD OF DRILLING:	Direct Push
DATE DRILLED:	10-08-99	SAMPLING METHODS:	Macrocore Barrel
		HAMMER WT./DROP:	

NOTES:	☒ Water level during drilling ☑ Water level in completed well	Page 1 of 1
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DEPTH (feet)	sample	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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FIELD BOREHOLE LOG

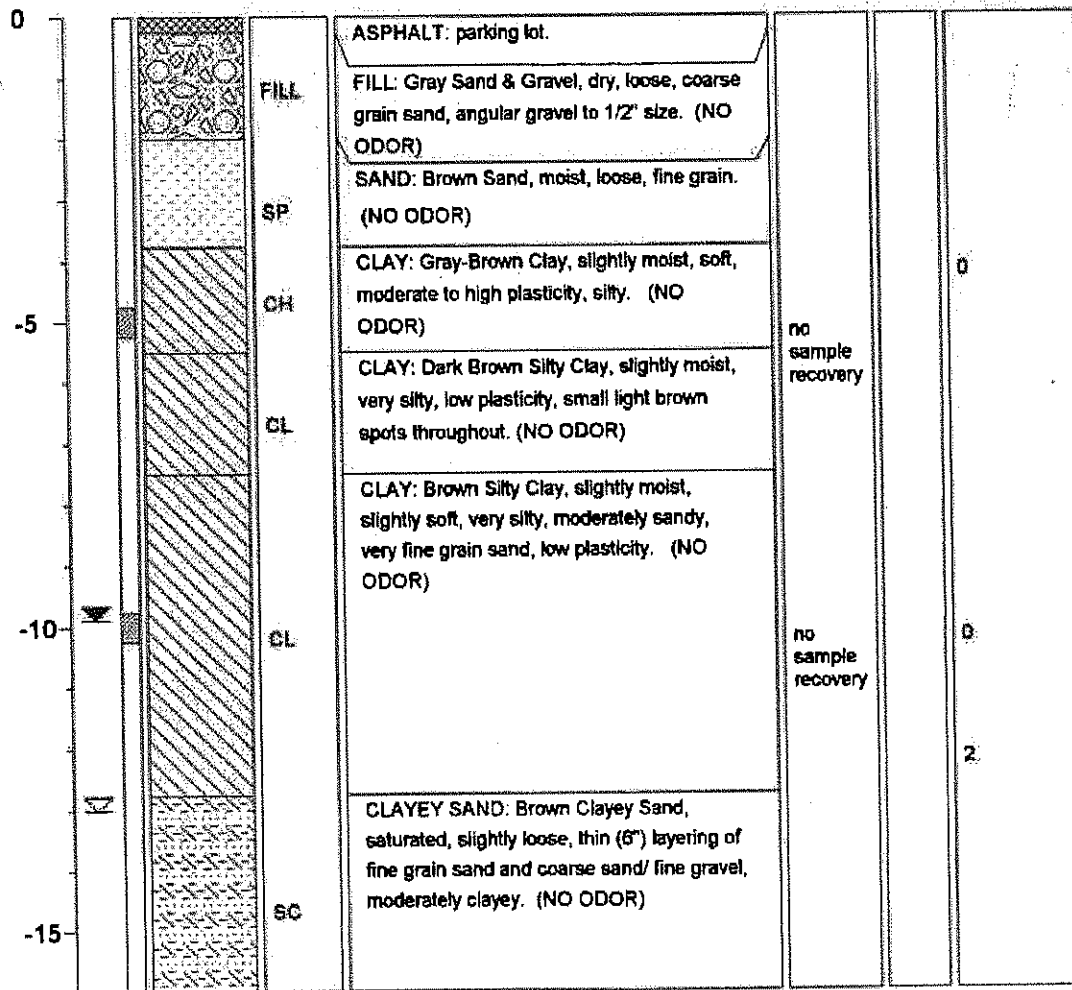
BOREHOLE NO.: **GP-8**

TOTAL DEPTH: **16'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Golden Gate Petroleum	DRILLING CO.:	Gregg Drilling
JOB NO.:	0277		Martinez, CA
SITE LOCATION:	421-23rd Avenue Oakland, CA	RIG TYPE:	Geoprobe
LOGGED BY:	Gary Aguiar	METHOD OF DRILLING:	Direct Push
DATE DRILLED:	10-08-99	SAMPLING METHODS:	Macrocore Barrel
NOTES:		HAMMER WT./DROP:	

☒ Water level during drilling
 ☒ Water level in completed well

DEPTH (feet)	sample	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE NUMBER	Blows (per 6")	FID (ppm)	WELL COMPLETION
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MONITORING WELL LOCATION <u>421 23rd Avenue, Oakland, CA</u>				GEOPROBE NUMBER <u>GP-A</u>			
DRILLING AGENCY <u>Gregg Drilling & Testing</u>		DRILLER <u>Brandon</u>		DATE STARTED <u>1/13/09</u> DATE FINISHED			
DRILLING EQUIPMENT <u>Truck mounted Geoprobe</u>				COMPLETION DEPTH <u>12 feet</u>	SAMPLER <u>Direct Push</u>		
DRILLING METHOD <u>direct push</u>		DRILL BIT <u>NA</u>		NO. OF SAMPLES	DIST. <u>3</u>		
SIZE AND TYPE OF CASING <u>NA</u>		FROM	TO	FT.	WATER LEVEL		
TYPE OF PERFORATION <u>NA</u>		FROM	TO	FT.	FIRST <u>≅ 12 feet</u>		
SIZE AND TYPE OF PACK <u>NA</u>		FROM	TO	FT.	COMPL. <u>≅ 8 feet</u>		
TYPE OF SEAL		LOGGED BY:			CHECKED BY:		
NO. 1 <u>Neat Cement</u>		FROM	0	TO	12	FT.	
NO. 2 <u>NA</u>		FROM		TO		FT.	
				C. Dittmar		M. Bonkowski	

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Well Construction
0			6" AC FILL		
0			Hand Auger To 5 Feet		
5			SAND, fine, brown, moist	SP	
5			SILTY CLAY, black, moist, no odor	CL	
5			>9,999 ppm		
5			grades to		
5			SILTY CLAY, brown, moist, no odor	CL	
5			1,130 ppm		
5			SAND, fine, brown, moist	SP	
10			SILTY SAND, medium, brown, wet, no odor	SM	
10			808 ppm		
15			BOH 12 feet. Groundwater first encountered ≅ 12 feet.		
20					
25					
30					
35					

MONITORING WELL LOCATION 421 23rd Avenue, Oakland, CA				GEOPROBE NUMBER GP-B	
DRILLING AGENCY Gregg Drilling & Testing		DRILLER Brandon		DATE STARTED DATE FINISHED 1/13/09	
DRILLING EQUIPMENT Truck mounted Geoprobe				COMPLETION DEPTH 20 feet	SAMPLER Direct Push
DRILLING METHOD direct push		DRILL BIT NA		NO. OF SAMPLES	DIST. 5
SIZE AND TYPE OF CASING NA		FROM	TO	FT.	WATER LEVEL
TYPE OF PERFORATION NA		FROM	TO	FT.	FIRST \cong 20 feet
SIZE AND TYPE OF PACK NA		FROM	TO	FT.	COMPL. \cong 10 feet
TYPE OF SEAL		NO. 1 Neat Cement	FROM 0	TO 20	FT.
		NO. 2 NA	FROM	TO	FT.
				LOGGED BY: C. Dittmar	
				CHECKED BY: M. Bonkowski	

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Well Construction
			6" AC FILL		
			Hand Auger To 5 Feet		
			SAND, brown, moist, slight odor	SP	
5			1492 ppm		
			CLAYEY SAND, gray black, moist, slight odor	SC	
			SAND, medium, gray black, moist, slight odor	SP	
10			590 ppm		
			GRAVELLY SAND, black, moderate odor	SW	
			SILTY GRAVEL, orange brown		
15			310 ppm		
			CLAYEY SILT, brown, moist, no odor	ML	
			grades to		
20			10 ppm		
			SAND, fine, orange brown, moist/wet, no odor	SP	
			BOH 20 feet. Groundwater first encountered \cong 20 feet.		
25					
30					
35					