RECEIVED

10:33 am, Sep 08, 2008

Alameda County
Environmental Health

March 12, 2008
Project SCA421211
SAP No. 135782

Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Re: Dual-Phase Extraction Feasibility Study and Batch Extraction Workplan
Shell-branded Service Station
4226 First Street
Pleasanton, California

Dear Mr. Wickham,

Delta Consultants, Inc. (DELTA), on behalf of Shell Oil Products US (SHELL), has prepared this Dual-phase Extraction Feasibility Study Workplan for remediation enhancement at the site referenced above (Figures 1 and 2). This work plan is prepared in response to a letter from the Alameda County Health Care Services Agency (ACHCSA) dated December 14, 2007. The ACHCSA letter indicated that the Draft Corrective Action Plan (CAP) submitted by SHELL dated November 2, 2007 was not sufficient to select the most suitable remedial action for the site. The letter requested that SHELL address technical comments and submit a Pilot Work Plan or Revised Draft CAP by February 14, 2008. Due to data loss resulting from a robbery at our offices DELTA requested and received a deadline extension to March 14, 2008.

RESPONSE TO TECHNICAL COMMENTS

The ACHCSA requested that SHELL evaluate soil vapor extraction (SVE) and dual-phase extraction (DPE) as potential remedial technology for the site. DELTA, in the Draft CAP, had concluded that air sparging and oxygen injection were considered unsuitable due to the fine-grained nature of soils at the site. ACHCSA, based on a review of site boring logs and cross-sections, concluded that highly permeable beds exist within the primarily fine-grained soils at the site.

Soil Descriptions and Classifications

Soil from the ground surface to a depth of approximately 95 feet below ground surface (bgs) is composed of silt, silty fine sand, or clayey fine sand. A geologic cross section is provided as Figure 3. The fine-grained soils are

classified on boring logs as ML, SM, and SC, respectively by the Unified Soil Classification System. The sandy soils typically contain 20% to 40% fines that reduce the permeability of the deposits. In the north-northeastern portion of the site, sediments become coarse grained. Borings MW-1, SB-7 and SB-5 (Attachment A) encountered coarse-grained sediments between a depth of approximately 20 feet and 55 feet bgs consisting of clayey sandy gravel (GP), gravelly sand with silt (SP), and clayey gravel (GC). DELTA concludes these are the soil layers referenced in the ACHCSA letter dated December 14, 2007, described as having moderate to high estimated permeability. A thick deposit of silt (ML) was encountered from approximately 55 feet bgs to the top of the lower aquifer at a depth of approximately 100 feet bgs.

Depth to groundwater in shallow monitoring wells is approximately 30 feet bgs and the groundwater flow direction is north to northeast.

Pumping Tests

Step drawdown tests were conducted to provide data for evaluating various remedial technologies for the Draft CAP. The tests were performed using Wells MW-1 and MW-4 (Figure 2). Well MW-1 is screened in soils described as gravelly sand with silt (SP), sandy gravel (GP), and clayey gravelly sand (SP). Well MW-4 is screened in soils described as sandy lean clay with gravel. The soil contained 10% to 20% gravel, 20% to 30% fine sand, and 50% to 70% clay.

The sustainable pumping rate for well MW-1 was determined to be 0.55 gallons per minute (gpm). A hydraulic conductivity of 3.59 x 10-5 cm/sec was calculated using the average pumping rate during the test (0.48 gpm). This value is typical of silt (Freeze and Cherry, 1979) and does seem consistent with boring log descriptions.

The step drawdown test at Well MW-4 produced a sustainable pumping rate of 0.4 gpm. A hydraulic conductivity of 3.17 x 10-5 centimeters per second (cm/sec) was calculated using the average pumping rate during the test of 0.48 gpm. This value is typical of silt (Freeze and Cherry, 1979) and is consistent with the description of soils on boring logs. The above results led DELTA to consider all site soils as low permeability.

Distribution of Petroleum Hydrocarbons and Methyl Tert-butyl Ether (MTBE)

Petroleum hydrocarbons and MTBE are concentrated in soils in the 30 to 55 foot depth interval (see Figure 3). The highest concentrations of MTBE were from soil samples in the northern portion of the site. The highest MTBE concentrations in recent soil samples were from MW-4 at depths of 44.5 and 55 feet (0.59 milligrams per kilogram (mg/kg) and 0.56 mg/kg). Tert-butyl alcohol (TBA) was not detected in any soil samples from the boring for well MW-4. A summary of recent soil analytical data is provided as Attachment B. A photoionization detector (PID) spike was recorded in the following borings, all located in the northern portion of the site (Figure2);

- S-1 at 30 and 35 feet bgs (400 and 575 parts per million (ppm),
- B-3 at 30 feet bgs (536 ppm)
- B-5 at 35 feet bgs (887 ppm),
- SB-4 at 35 feet bgs (650 ppm),
- SB-5 at 35 feet bgs (650 ppm)
- MW-4 at 34 to 44 feet bgs (106 to 762 ppm)

The ability to remove these narrow bands of contaminants is uncertain based on groundwater tests which indicated fine-grained soils. No such spikes were recorded for borings MW-3, SB-3 and B-1 located in the

central and southern portion of the site. However, the deepest PID reading in these three borings was at 30 feet bgs.

Analytical results indicate total petroleum hydrocarbons as gasoline (TPH-g), MTBE, and TBA are concentrated in shallow groundwater in the area of wells MW-1, MW-2 and MW-4 in the northern portion of the site (Figure 2). The maximum detected concentration of total petroleum hydrocarbons as gasoline (TPH-g) in groundwater have occurred in wells MW-1, MW-2 and MW-4. The highest concentrations of TPH-g and MTBE in groundwater are currently detected in well MW-4 at 8,200 micro grams per liter (ug/l) and 11,000 ug/l (June 2007). Analyses for the presence of TBA was not performed in groundwater samples from well MW-4. The highest detected current concentration of TBA in groundwater is 1,500 ug/l in well MW-1.

Analytical results indicate that MTBE and TBA have been detected at various depths. MTBE and TBA were detected in deep well MW-1B at 35 ug/l and 7.11 ug/l in the August 22, 2007 sampling.

INTERIM REMEDIAL ACTION WORKPLAN

DELTA/SHELL'S first priority was to reduce off-site migration of contaminants. Approximately 7,000 gallons of groundwater were extracted during activities in 2007. Groundwater extraction was also prompted in an attempt to reverse downward migration of contaminants towards the deeper aquifer. The ACHCSA in their letter dated December 12, 2007 concluded "...no further temporary groundwater extraction is requested at this site."

Based on elevated dissolved TPH-g and MTBE concentrations present in the vicinity of groundwater monitoring well MW-4, Delta recommends the performance of a Dual Phase Extraction (DPE) test. Specifically, Delta recommends a 5 day DPE Feasibility Study for the purpose of evaluating this technique for source area mitigation. The feasibility is assessed by estimating influent hydrocarbon concentration, hydrocarbon mass recovery rates, soil vapor radius of influence (ROI), and groundwater production rates.

Approximately one week after the DPE is completed groundwater extraction will be conducted at MW-1 to address off-site migration. Extraction will be continued until 20,000 gallons of groundwater have been extracted.

The following sections detail the proposed extraction activities.

Chemicals of Concern

TPH-g, MTBE, and TBA are the chemicals of concern in groundwater based on analytical results from previous and ongoing quarterly groundwater monitoring and sampling.

Pre-field Activities

DELTA will prepare a site-specific Health and Safety Plan, which will be reviewed daily by all field personnel. Prior to initiation of field activities, Calclean (or another contractor) and DELTA will notify the Bay Area Air Quality Management District (BAAQMD) of the upcoming event. DELTA and Calclean field personnel will oversee the operations of the 450-CFM system under permit. DELTA will obtain a temporary water storage tank and will extract a maximum of 10,000 gallons of groundwater during the event.

DPE Event

Delta proposes a 5-day High Vacuum DPE Test be conducted by extracting from well MW-4 which contains the highest detected concentration of contaminants. Well MW-4 is 47 feet deep and screened from 37 to 47 feet bgs.

The well casing is four inch diameter, schedule 40 PVC. Groundwater will be lowered by extracting groundwater to expose the well screens. Once the well screen is exposed, soil vapor will be extracted from the well by applying a high vacuum, up to 29 inches of mercury, to the well using a 25-horsepower, liquid ring pump.

Inlet flow rates, applied vacuums, induced vacuums, and inlet hydrocarbon concentrations will be measured at approximately 15-minute intervals for the first 2 hours, at 1 hour intervals during the third hour, at 2-hour intervals from the third hour to the twelfth hour, and at 4 hour intervals up until the 5th day. Vapor concentration will be measured using a Horiba MEXA 324JU, capable of analyzing petroleum hydrocarbons vapors up to 10,000 parts per million by volume (ppmv). Induced vacuums will be measured with vacuum gauges placed on wells MW-1, MW-2, MW-3 in order to monitor the negative pressure gradient induced by DPE. Induced vacuum will be measured hourly.

Using Tedlar bags, vapor samples will be collected from the DPE system influent vapor stream at the start, mid, and end of activities. Influent samples will be collected by the subcontractor and DELTA personnel throughout the test from wells MW-1 and MW-4, separately, and simultaneously. Vapor samples will be analyzed for TPH-g, benzene, toluene, ethybenzene and total xylenes (BTEX), TBA, and MTBE using USEPA Method TO-14. Both the vapor and groundwater samples will be logged on chain-of-custody forms, and submitted to Cal-Science Laboratories, Inc. for analysis. Pre and post groundwater samples will be collected and analyzed for TPH-g; BTEX compounds; MTBE; 1, 2 dichloroethane (1,2 DCA); tert-amyl methyl ether (TAME); TBA, di-isoproply ether (DIPE); 1,2-dibromoethane (EDB); ethyl tert-butyl ether (ETBE) and ethanol by USEPA Method 8260B.

Feasibility and Corrective Action Plan Report

Delta will prepare a *Feasibility Testing Results Report* that details the results of the high vacuum, dual phase extraction (HVDPE) tests. The results of the study will be used to evaluate long-term remedial options at the Site.

Possible remedial options for this site consist of one of the following:

1) a monitoring and natural attenuation program if dissolved concentrations are reduced to within Agency-acceptable limits,

2) a series of short-term remediation events if dissolved concentrations are reduced by 25% or more at the conclusion of this pilot study, or

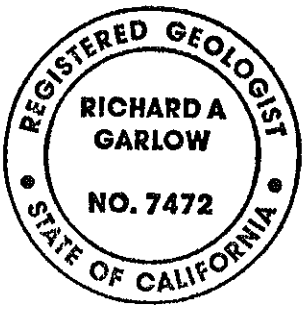
3) full remediation if hydrocarbon concentrations in soil and/or groundwater remain recalcitrant.

Batch Extraction

Approximately one week following completion of the DPE test a batch extraction will be conducted at MW-1 to reduce off-site migration. Water will be pumped into an onsite storage tank until 20,000 gallons have been removed. The groundwater will be disposed by Shell. The system will be visited on a weekly basis to monitor system operation. Monitoring wells MW-1, MW-2 and MW-4 will be sampled on a monthly basis (scheduling to not duplicate quarterly monitoring sampling) with sample analyses for TPHg, BTEX, MTBE and TBA to monitor concentrations.

Please call Richard Garlow (DELTA) (408) 826-1880 or Denis Brown (SHELL) at (707) 865-0251, if you have any questions regarding the contents of this report.

Sincerely,
Delta Consultants, Inc.



Richard A. Garlow, M.S., P.G.
Project Manager

Attachments:

Figure 1 – Site Location Map

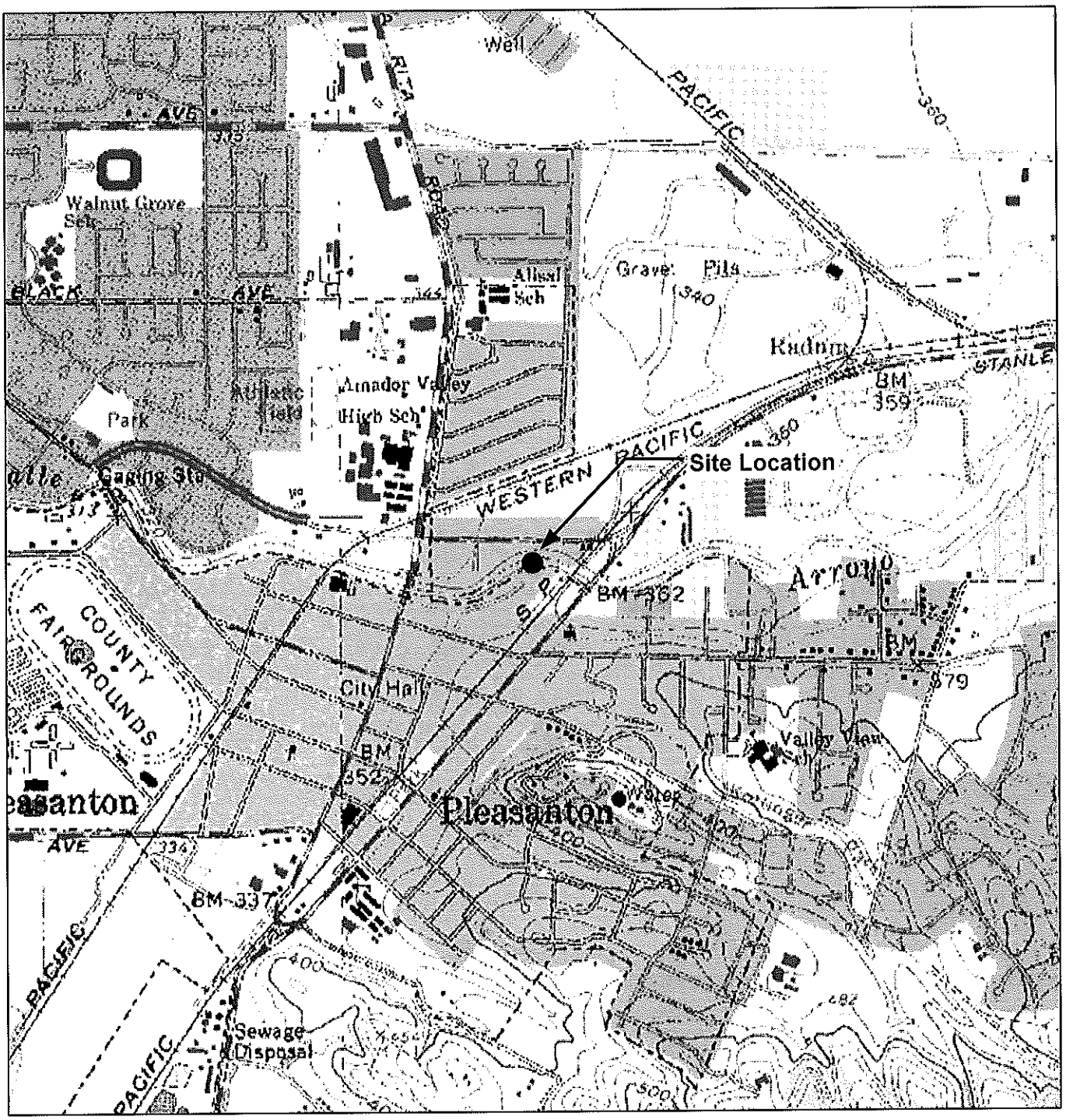
Figure 2 - Site Map

Figure 3 – Geologic Cross Section

Attachment A – Boring Logs

Attachment B – Soil analytical Data

cc: Denis Brown, Shell Oil Products US, Carson and Monte Rio, CA



GENERAL NOTES:
Base Map from: DeLorme Yarmouth, ME 04096
Source Data: USGS

North

QUADRANGLE LOCATION

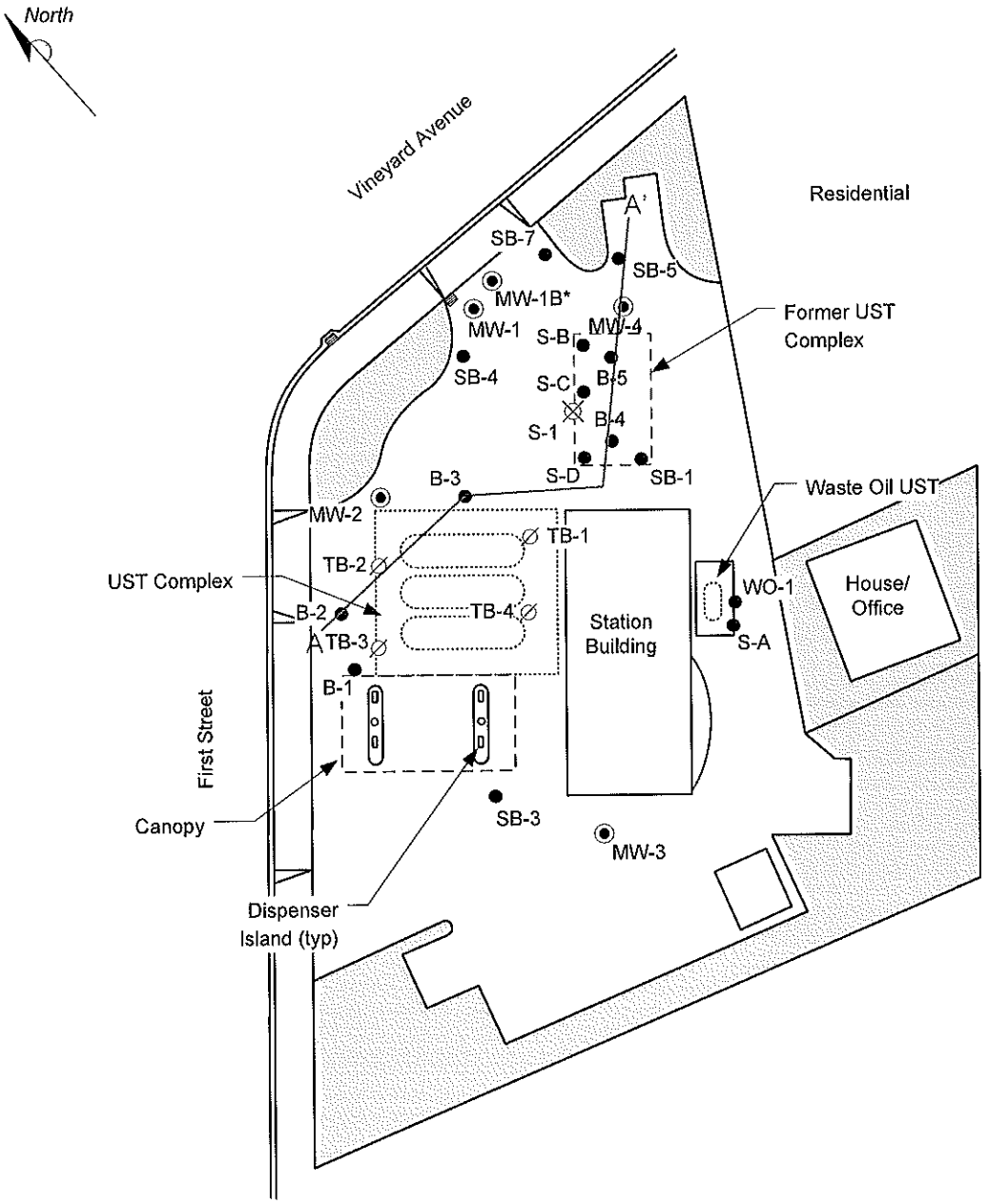
0 1,300 2,600
Scale, Feet

FIGURE 1
SITE LOCATION MAP

SHELL-BRANDED SERVICE STATION
4226 First Street
Pleasanton, California

PROJECT NO. SJ42-26F-1.2005	DRAWN BY V. F. 5/5/05
FILE NO. SJ42-26F-1.2005	PREPARED BY VF
REVISION NO.	REVIEWED BY

Delta
Environmental Consultants, Inc.



LEGEND

MW-2	◉	GROUNDWATER MONITORING WELL LOCATION
S-1	⊠	DESTROYED WELL
TB-1	∅	ABANDONED TANK BACKFILL WELL LOCATION
B-3	●	SOIL BORING LOCATION
A——A'		CROSS SECTION DIRECTION

0 40 FT

APPROX. SCALE

FIGURE 2

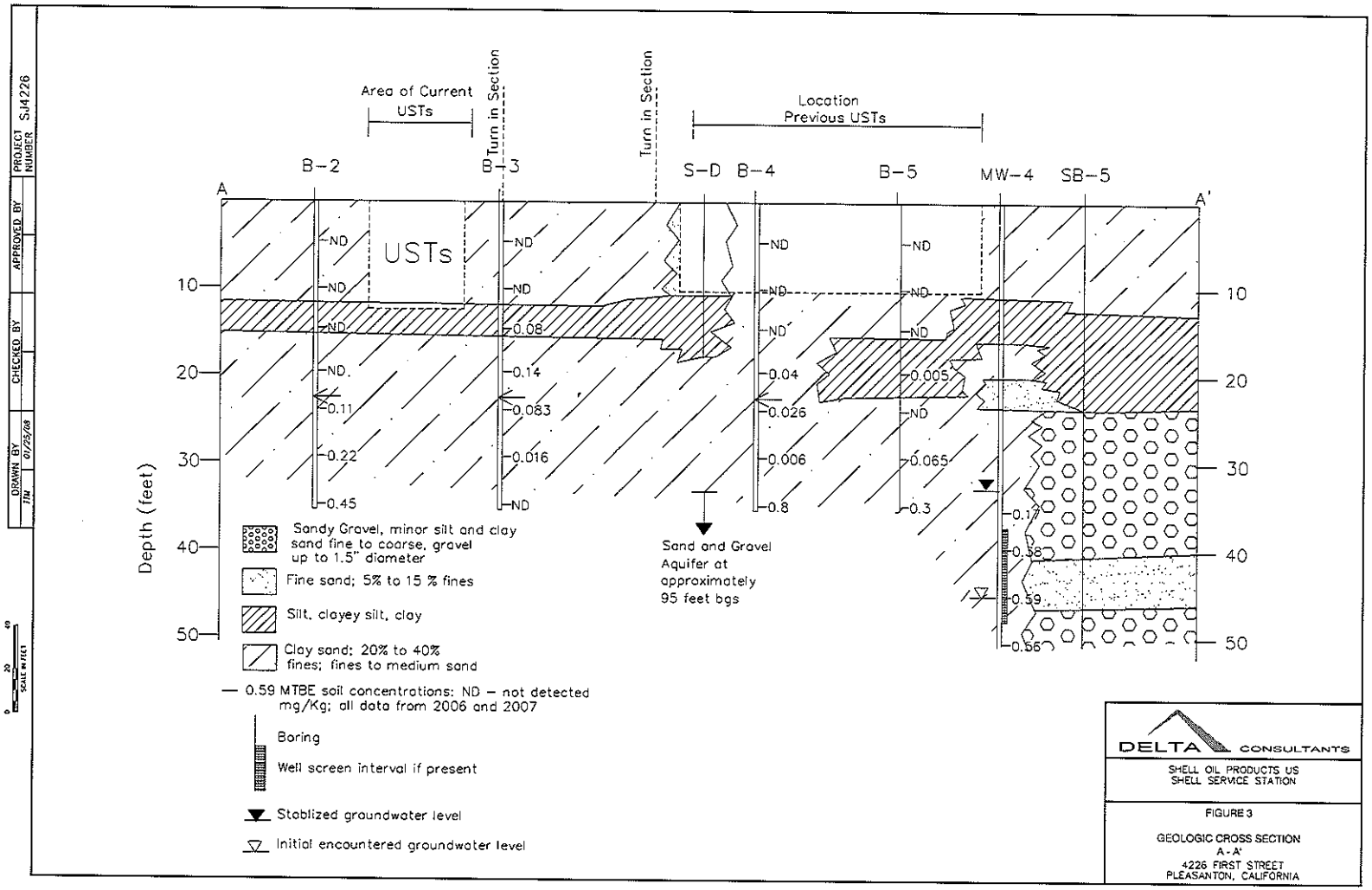
SITE MAP

SHELL-BRANDED SERVICE STATION
4226 First Street
Pleasanton, California

PROJECT NO. SJ422-6F1-X	DRAWN BY AD 6/15/07
FILE NO. SJ422-6F1-X	PREPARED BY AD
REVISION NO. 1	REVIEWED BY

DELTA

BaseMap from: Cambria Environmental Technology, Inc. and Toxichem Management Systems, Inc.


Area of Current USTs
Turn in Section
Turn in Section
Location Previous USTs
B-2
B-3
S-D
B-4
B-5
MW-4
SB-5
A
A'
USTs
Depth (feet)
10
20
30
40
50
ND
0.08
0.14
0.083
0.016
0.11
0.22
0.45
0.04
0.026
0.006
0.8
0.005
0.065
0.3
0.17
0.58
0.59
0.56
Sandy Gravel, minor silt and clay sand fine to coarse, gravel up to 1.5" diameter
Fine sand; 5% to 15 % fines
Silt, clayey silt, clay
Clay sand; 20% to 40% fines; fines to medium sand
Sand and Gravel Aquifer at approximately 95 feet bgs
0.59 MTBE soil concentrations: ND = not detected mg/Kg; all data from 2006 and 2007
Boring
Well screen interval if present
Stablized groundwater level
Initial encountered groundwater level
SCALE IN FEET
DRAWN BY JTN
01/23/08
CHECKED BY
APPROVED BY
PROJECT NUMBER SJ4226
DELTA CONSULTANTS
SHELL OIL PRODUCTS US
SHELL SERVICE STATION
FIGURE 3
GEOLOGIC CROSS SECTION
A - A'
4226 FIRST STREET
PLEASANTON, CALIFORNIA

ATTACHMENT A

BORING LOGS

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	BORING/WELL NAME	MW-1
JOB/SITE NAME	ple-4226	DRILLING STARTED	08-Apr-99
LOCATION	4226 First Street, Pleasanton, California	DRILLING COMPLETED	09-Apr-99
PROJECT NUMBER	241-0395	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	371.83 ft
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	371.20 ft
BORING DIAMETER	8"	SCREENED INTERVAL	37.5 to 57.5 ft bgs
LOGGED BY	B. Jakub	DEPTH TO WATER (First Encountered)	42.5 ft (08-Apr-99) ▽
REVIEWED BY	B. Jakub	DEPTH TO WATER (Static)	NA ▼

REMARKS: Hand augered to 5' bgs; located near NW planter/entrance to Shell station on Vineyard and W of SB-7.

TPHg (mg/kg)	BLOW COUNTS	RECOVERY	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
								ASPHALT.	0.3
								FILL.	1.5
						ML		Sandy SILT; (ML); brown (10YR4/3); very soft; wet; 5% clay, 70% silt, 25% fine to medium grained sand; low plasticity; moderate to low estimated permeability.	4.5
					5	ML		SILT; (ML); dark yellow brown (10YR4/6); stiff; moist; 5% clay, 85% silt, 8% sand, 2% fine grained gravel; low plasticity; low estimated permeability.	9.7
					10	ML		Clayey SILT; (ML); yellow brown (10YR5/8); stiff; damp; 38% clay, 50% silt, 2% fine grained sand, 10% fine to coarse subangular gravel; high plasticity; low estimated permeability.	15.0
<1.0	18 26 30		SB-6 -15.5		15	SP		Clayey Gravelly SAND; (SP); dark greenish gray (5GY4/1); dense; damp; 20% clay, 50% sand, 30% gravel; medium plasticity; low to moderate estimated permeability; wood fragments.	19.3
<1.0	13 11 20		SB-6 - 19.5		20	ML		Sandy SILT with Clay; (ML); olive (5Y4/3); very stiff; damp; 15% clay, 50% silt, 35% very fine grained sand; low plasticity; moderate to low estimated permeability.	24.5
<1.0	20 28 30		SB-6 - 25.0		25	SP		Gravelly SAND with Silt; (SP); olive (5Y4/3); dense; damp; 5% clay, 15% silt, 60% fine to medium grained sand, 20% gravel; no plasticity; high to moderate estimated permeability.	29.0
<1.0	40 43 45		SB-6 - 30.0		30	GP		Sandy GRAVEL; (GP); olive (5Y4/3); very dense; damp; 2% clay, 13% silt, 35% medium grained sand (red grains), 50% fine to coarse, subangular to subrounded gravel (chert); no plasticity; high estimated permeability.	34.0
	20 35				35			Clayey Gravelly SAND; (SP); dark yellow brown	

WELL DIAGRAM: Portland Type I/II; 2" diam., Schedule 40 PVC; Bentonite Seal

WELL LOG (TPH-G) G:\PLE4226\GINT\PLE4226.GPJ DEFAULT.GDT 8/11/99

Continued Next Page

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-1
JOB/SITE NAME	ple-4226	**DRILLING STARTED**	08-Apr-99
LOCATION	4226 First Street, Pleasanton, California	**DRILLING COMPLETED**	09-Apr-99

Continued from Previous Page

TPHg (mg/kg)	BLOW COUNTS	RECOVERY	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
<1.0	50		SB-6 - 35.0					(10YR4/6); very dense; damp; 20% clay, 10% silt, 40% medium grained sand, 30% fine to coarse grained gravel (sandstone/claystone, serpentinite, some MnO_2/Fe staining); low plasticity; moderate to low estimated permeability.		Monterey Sand #3
	20									
	45									
<1.0	50/4		SB-6 - 40.0		40					
						SP		▽		
	25							@ 44' - moist to wet.		
	45									
	45				45					2"-diam., 0.020" Slotted Schedule 40 PVC
	32				50					
	60/6							**Clayey GRAVEL with Silt**; (GC); dark yellow brown (10YR4/6); very dense; moist to wet; 25% clay, 15% silt, 20% fine to coarse grained sand, 40% fine to coarse grained gravel.	50.0	
						GC				
	15				55				55.2	
	40							**Clayey SILT**; (MH); light olive brown (2.5Y5/4); hard; damp; 25% clay, 75% silt; medium to high plasticity; very low estimated permeability; black MnO_2 blebs throughout.		
	50					MH			58.0	Bottom of Boring @ 58 ft

WELL LOG (TPH-G) G:\PLE4226\GINT\PLE4226.GPJ DEFAULT.GDT 8/11/99

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Oakland, CA 94608
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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	BORING/WELL NAME	SB-7
JOB/SITE NAME	ple-4226	DRILLING STARTED	07-Apr-99
LOCATION	4226 First Street, Pleasanton, California	DRILLING COMPLETED	07-Apr-99
PROJECT NUMBER	241-0395	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	8"	SCREENED INTERVAL	NA
LOGGED BY	B. Jakub	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	B. Jakub	DEPTH TO WATER (Static)	42.50ft (08-Apr-99)

REMARKS: Hand augered to 4' bgs; located E side of Vineyard exit near planter.

TPHg (mg/kg)	BLOW COUNTS	RECOVERY	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
								ASPHALT.	0.3	
								FILL.	1.5	
						ML		Sandy SILT; (ML); brown (10YR4/3); very soft; wet; 5% clay, 70% silt, 25% fine to medium grained sand; low plasticity; moderate to low estimated permeability.		
	11 12 19				5	ML		SILT; (ML); dark yellow brown (10YR4/6); stiff; moist; 5% clay, 85% silt, 8% sand, 2% fine grained gravel; low plasticity; low estimated permeability.	4.5	
	15 25 31				10	ML		Clayey SILT; (ML); yellow brown (10YR5/8); stiff; damp; 38% clay, 50% silt, 2% fine grained sand, 10% fine to coarse subangular gravel; high plasticity; low estimated permeability.	9.7	
<1.0	16 25 35		SB-7 -15.0		15	ML		@ 14.3 - olive brown (2.5Y4/4) mottled with olive; 20% clay, 78% silt, 2% fine grained gravel; medium plasticity; low estimated permeability.		
<1.0	11 22 25		SB-7 - 19.5		20	SP		Gravelly SAND with Silt; (SP); olive gray (5Y4/2); dense; damp; 3% clay, 15% silt, 62% fine to coarse grained sand, 20% fine to coarse grained gravel; no plasticity; high estimated permeability.	19.5 20.3	
						GP		Clayey Sandy GRAVEL; (GP); yellow brown (10YR5/6); 20% clay, 20% fine to coarse grained sand, 80% fine to coarse grained gravel (quartz, possibly chert); low to medium plasticity; low to moderate estimated permeability.	24.3	
<1.0	20 20 20		SB-7 - 24.5		25	SP		Gravelly SAND with Silt; (SP); yellow brown (10YR5/6); dense; damp; 3% clay, 15% silt, 52% medium grained sand, 25% fine grained gravel; no plasticity; high estimated permeability.	25.3	
						ML		Clayey SILT; (ML); stiff; damp; 30% clay, 60% silt, 10% fine grained sand; high plasticity; low estimated permeability; trace carbon.	29.0	
<1.0	35 38 40		SB-7 - 29.3		30	GP		Sandy GRAVEL with Clay; (GP); dark olive gray (5Y3/2); 15% clay, 5% silt, 35% fine to coarse grained sand, 45% fine to coarse grained gravel (quartz); low plasticity; moderate to high estimated permeability.		
	19 20				35			Clayey GRAVEL with Silt; (GC); yellow brown	34.0	

Continued Next Page

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Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	BORING/WELL NAME	SB-7
JOB/SITE NAME	ple-4226	DRILLING STARTED	07-Apr-99
LOCATION	4226 First Street, Pleasanton, California	DRILLING COMPLETED	07-Apr-99

Continued from Previous Page

TPHg (mg/kg)	BLOW COUNTS	RECOVERY	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
	50		SB-7 - 34.3					(10YR5/8); very dense; damp; 35% clay, 15% silt, 10% sand, 40% fine to coarse grained gravel (quartz); medium plasticity; moderate to low estimated permeability.		
	25 45 53							@ 39' - quartz, siltstone, chert gravels.		
<1.0			SB-7 - 40.0		40	GC				
								@ 44' - moist to wet.		
83	25 40 50/3		SB-7 - 44.5		45					
	20 30 50								49.0	
<1.0			SB-7 -49.5		50			Clayey GRAVEL; (GC); yellow brown (10YR5/4); very dense; moist to wet; 20% clay, 10% silt, 10% medium to coarse grained sand, 60% fine grained gravel; medium plasticity; low to moderate estimated permeability.		Portland Type I/II
	30 50/3									
<1.0			SB-7 - 54.3		55	GC				
	20 30 50/3								59.0	
<1.0			SB-7 - 59.5		60			Clayey SILT; (MH); mottled yellow brown (10YR4/6) and light brownish gray (2.5Y6/2); hard; dry; 20% clay, 70% silt, 10% very fine to fine grained sand; medium plasticity; low estimated permeability.		
	25 35 50/3					MH		@ 64' - dark brown MnO_2 or organic blebs throughout.		
<1.0			SB-7 - 64.5		65					
	17 32 50/4								69.0	
			SB-7 - 69.5		70			Clayey SILT; (MH); light olive brown (2.5Y5/4); hard; dry; 25% clay, 75% silt; medium plasticity; very low estimated permeability.		
	20 40							@ 74' - increasing mottled with yellow brown (10YR5/8)..	74.5	
					75					

WELL LOG (TPH-G) G:\PLE4226\GINT\PLE4226.GPJ DEFAULT.GDT 8/11/99

Continued Next Page

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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	BORING/WELL NAME	SB-7
JOB/SITE NAME	ple-4226	DRILLING STARTED	07-Apr-99
LOCATION	4226 First Street, Pleasanton, California	DRILLING COMPLETED	07-Apr-99

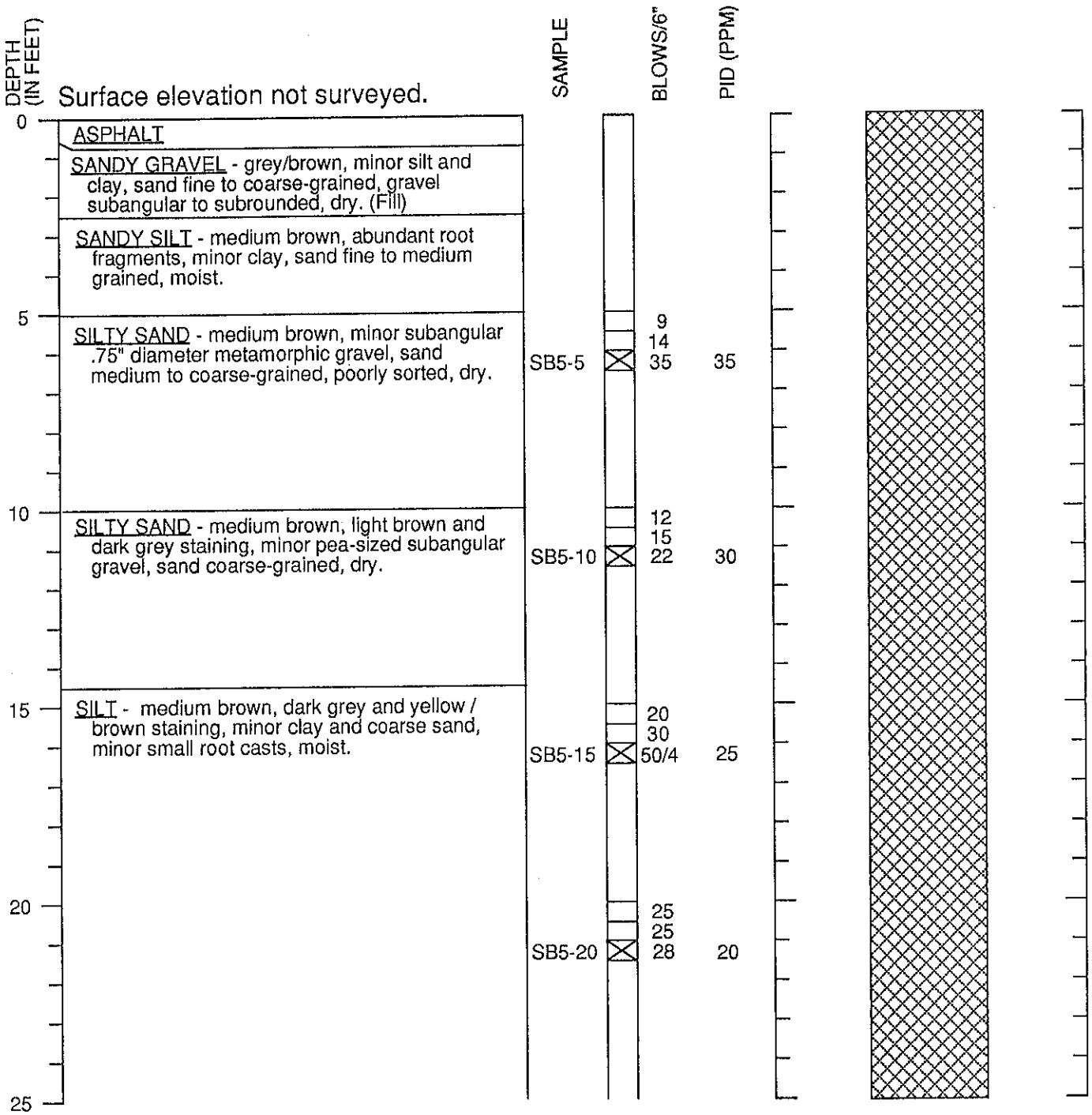
Continued from Previous Page

TPHg (mg/kg)	BLOW COUNTS	RECOVERY	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
	50/4		SB-7 - 74.5					@ 74' to 74.5' - black blebs, possibly MnO_2.		
	15 30 50/2		SB-7 - 79.5		80					
	15 25 50		SB-7 - 85.0		85	MH		@ 84' - dark yellow brown (10YR4/6); damp; 30% clay, 70% silt.		
	15 45 50				90					
	25 36 50		SB-7 - 94.5		95			@ 94' - MnO_2 blebs throughout; becomes siltier.		
	25 50/3		SB-7 - 100.0		100	SC		Clayey SAND with Gravel; (SC); dark yellow brown (10YR4/6); dense; damp; 30% clay, 5% silt, 50% fine to coarse grained sand, 15% fine grained gravel (quartz); medium plasticity; low to moderate estimated permeability.	99.0 100.0	Bottom of Boring @ 100 ft
								Ground water sample (SB-7-GW) collected.		

WELL LOG (TPH-G) G:\PLE4226\GINT\PLE4226.GPJ DEFAULT.GDT 8/11/99

Boring Log SB-5

Geologic Log



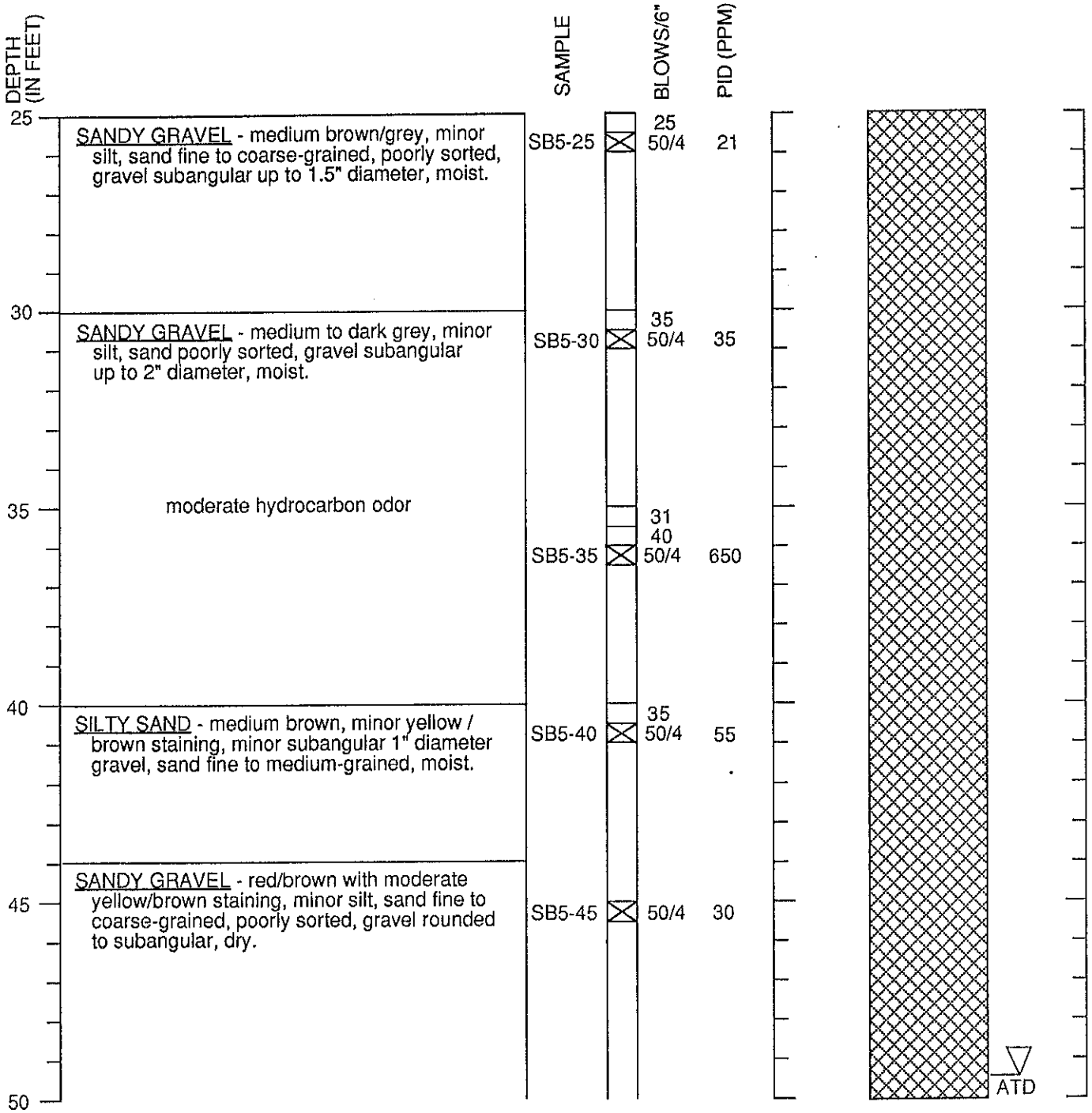
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Perched water encountered at 49.5 feet BGS.

HARTCROWSER

J-6006 *12/90*
Figure A-3
Page 1 of 3

Boring Log SB- 5

Geologic Log



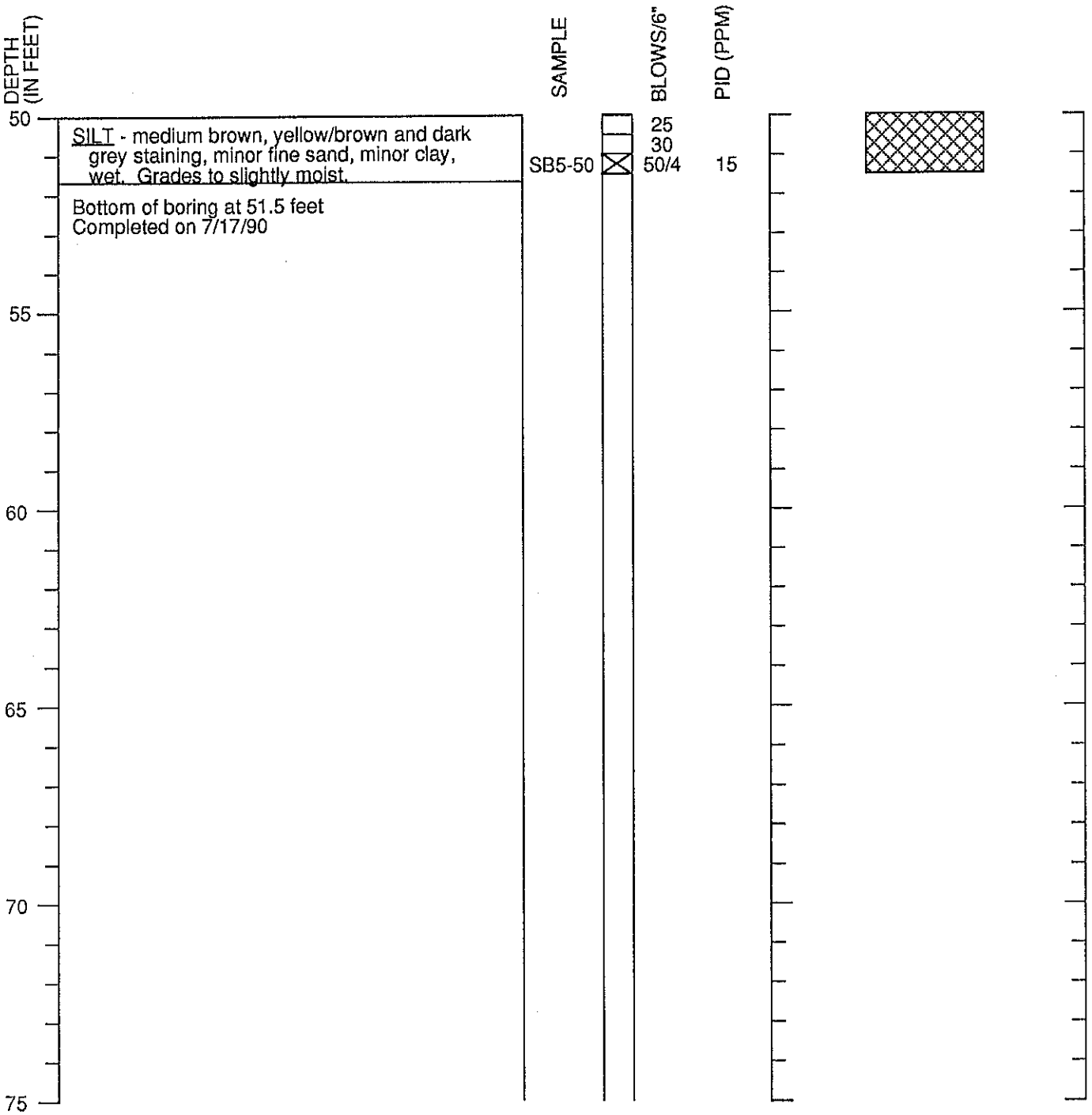
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Perched water encountered at 49.5 feet BGS

HARTCROWSER

J-6006 *12/90*
Figure A-3
Page 2 of 3

Boring Log SB-5

Geologic Log



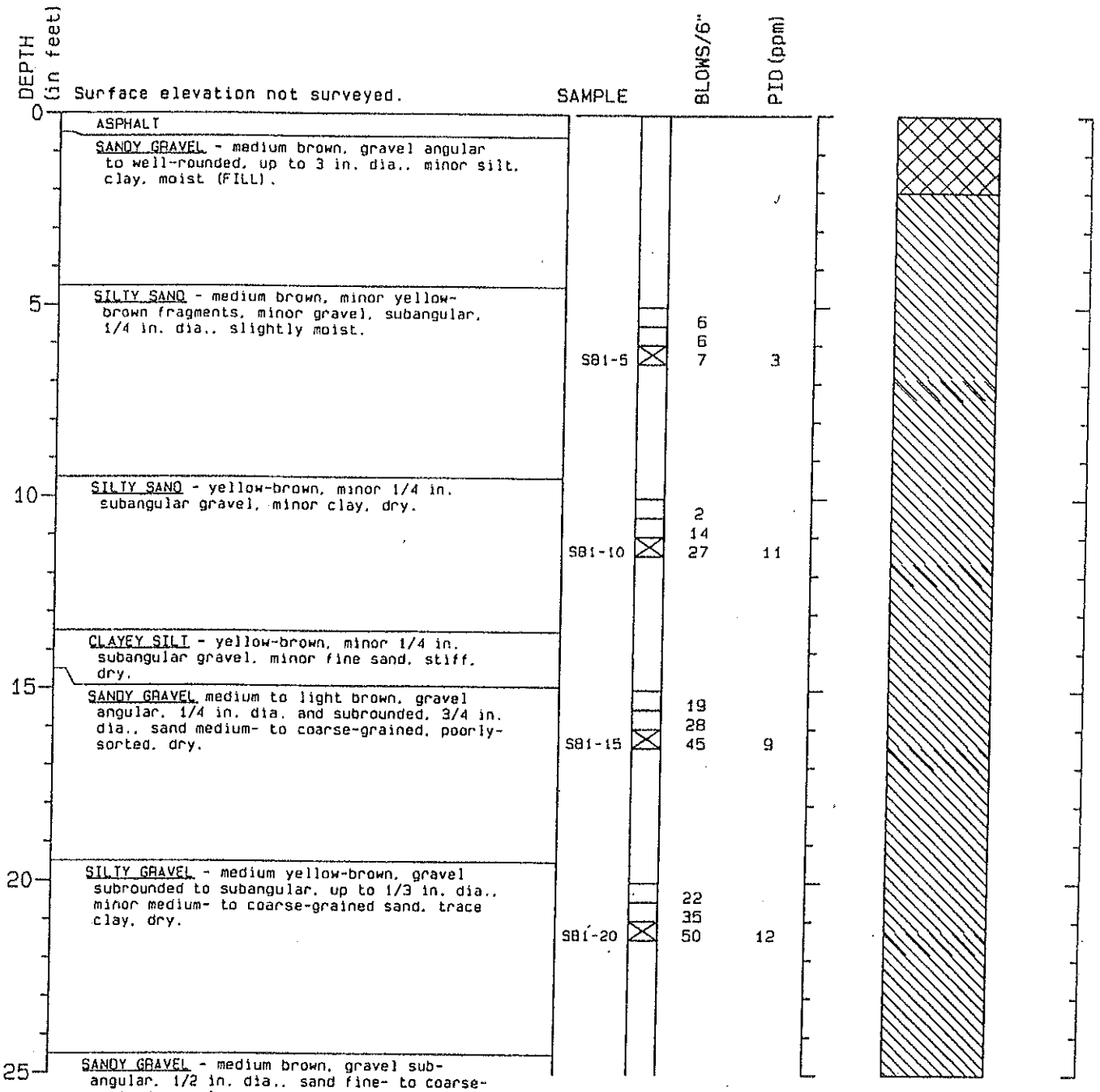
1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Perched water encountered at 49.5 feet.

HARTCROWSER

J-6006 12/90
Figure A-3
Page 3 of 3

Boring Log SB-1

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

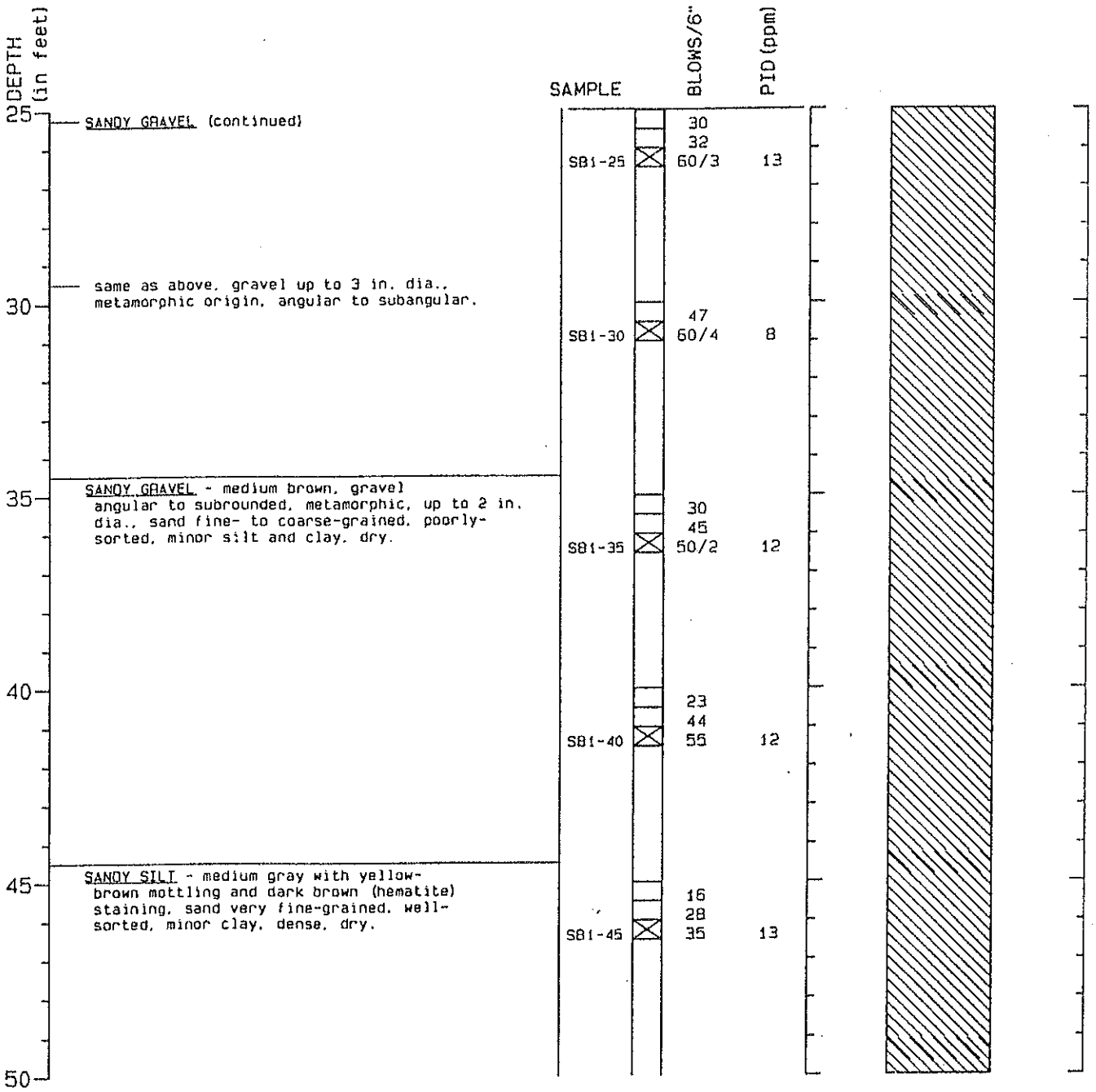
HARTCROWSER

J-6006 4/90

Figure A-2

Boring Log SB-1

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

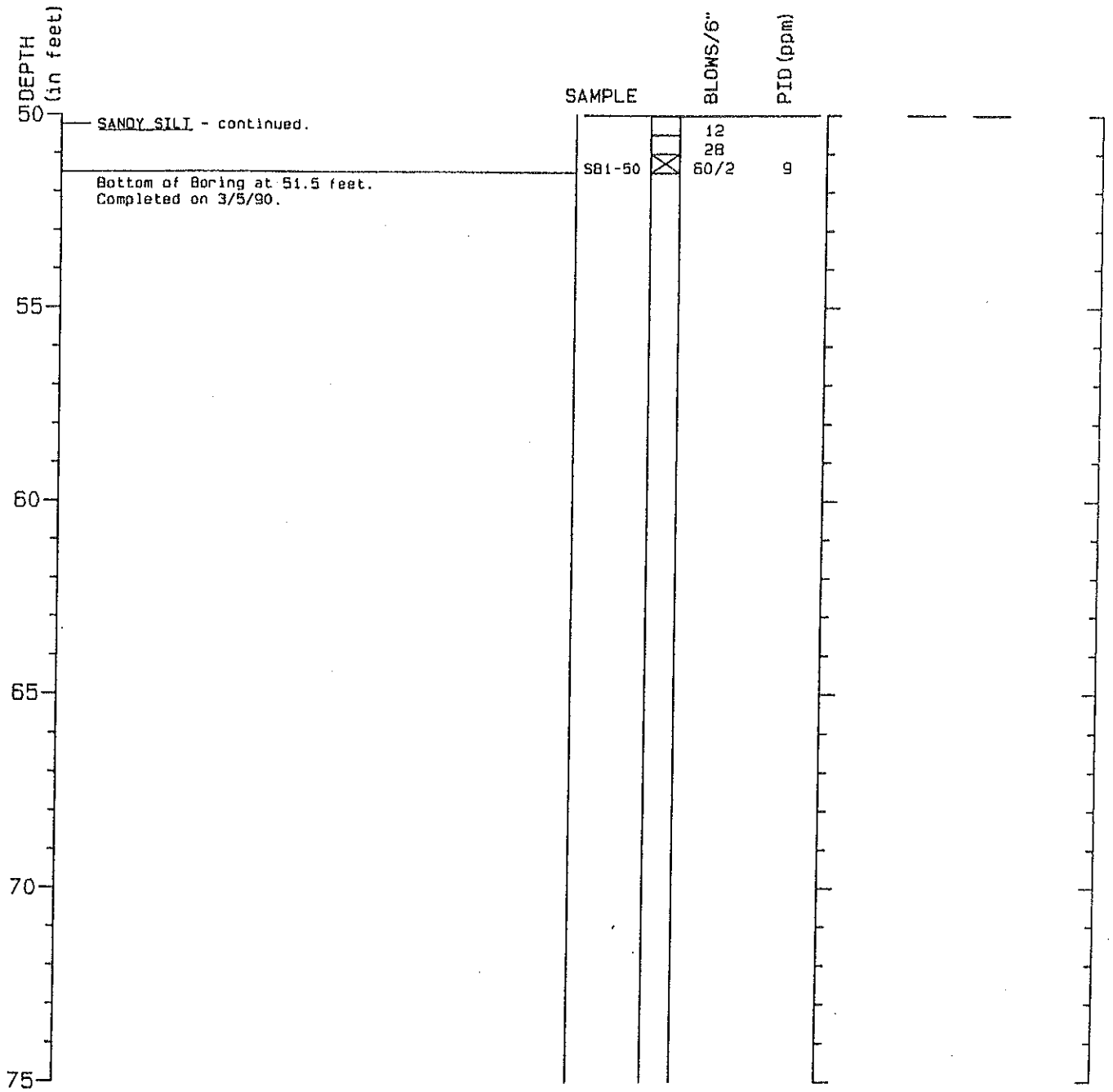
HARTCROWSER

J-6006 4/90

Figure A-2

Boring Log SB-1

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

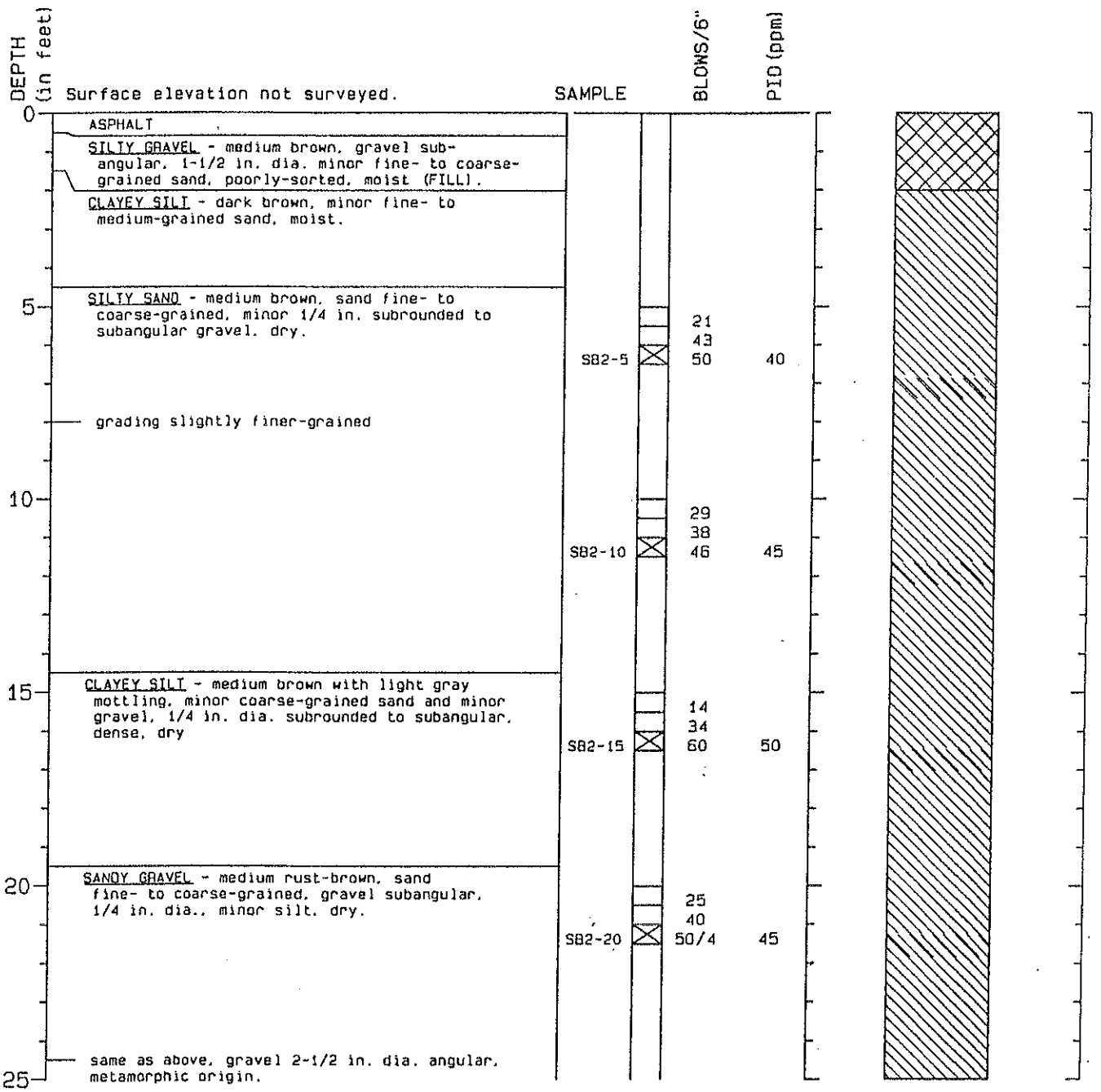
HARTCROWSER

J-6006 4/90

Figure A-2

Boring Log SB-2

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

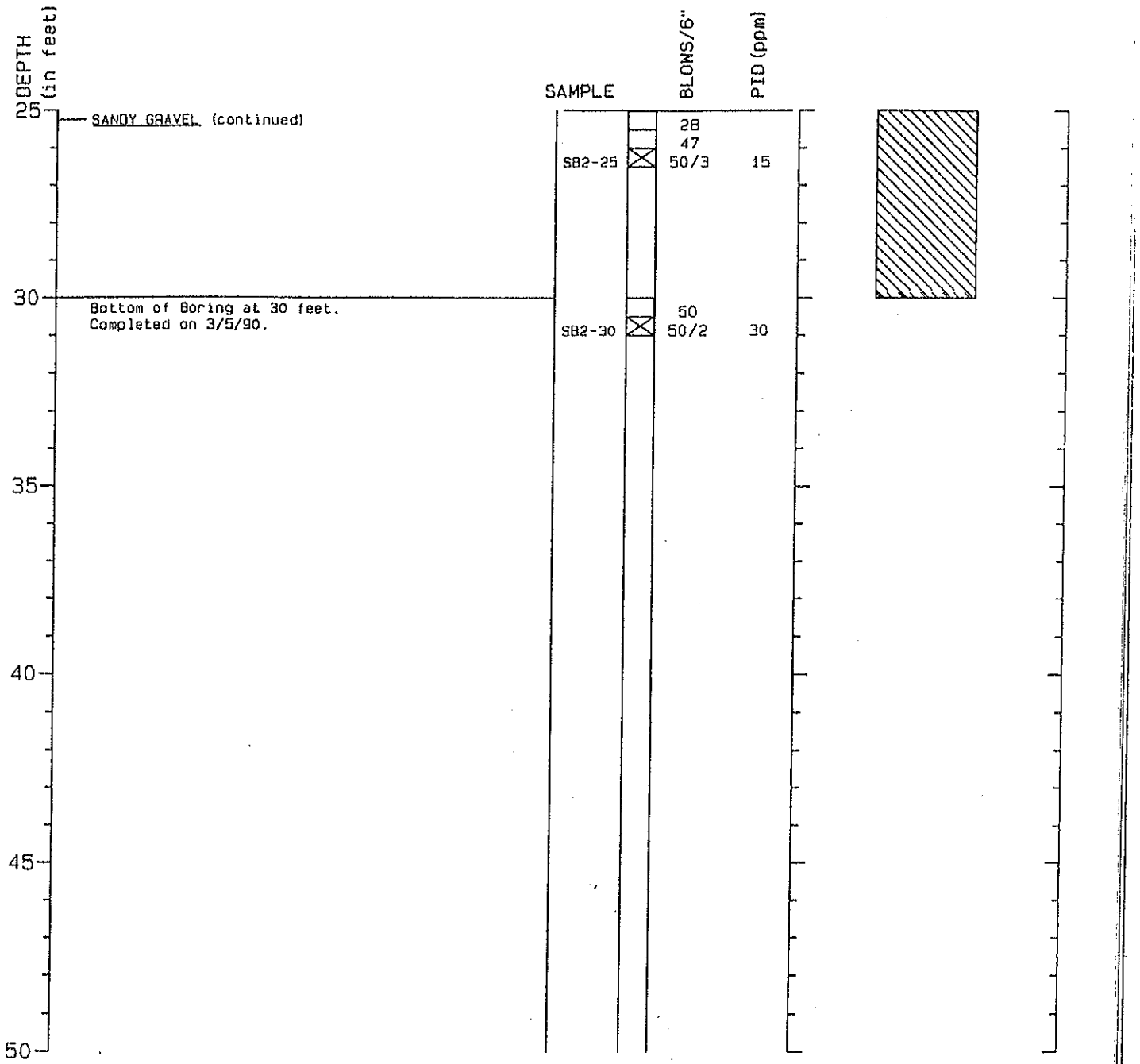
HARTCROWSER

J-6006 3/90

Figure A-3

Boring Log SB-2

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

HARTCROWSER

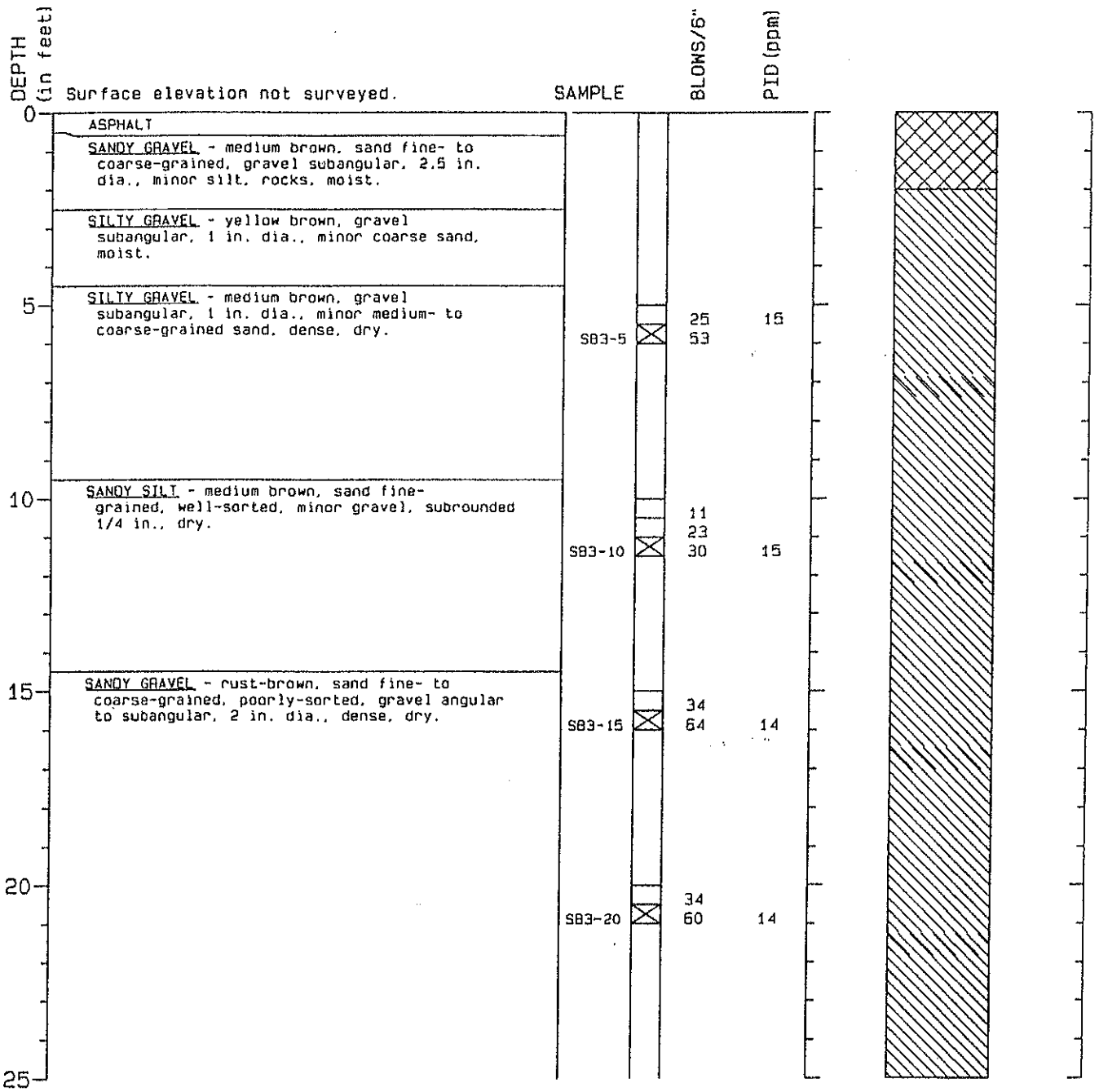
J-6006 3/90

Figure A-3

Page 2 of 2

Boring Log SB-3

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

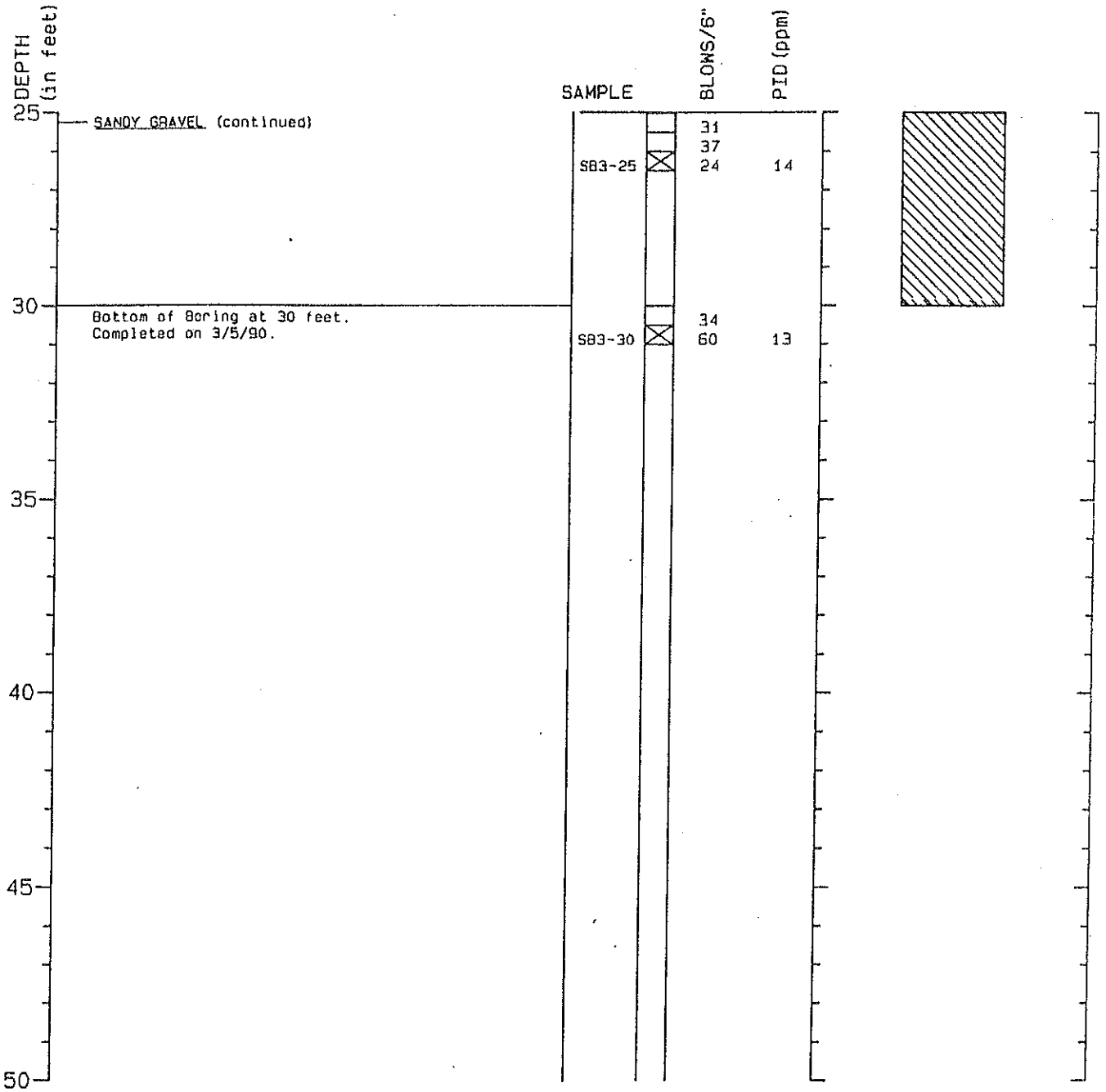
HARTCROWSER

J-6006 3/90

Figure A-4

Boring Log SB-3

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

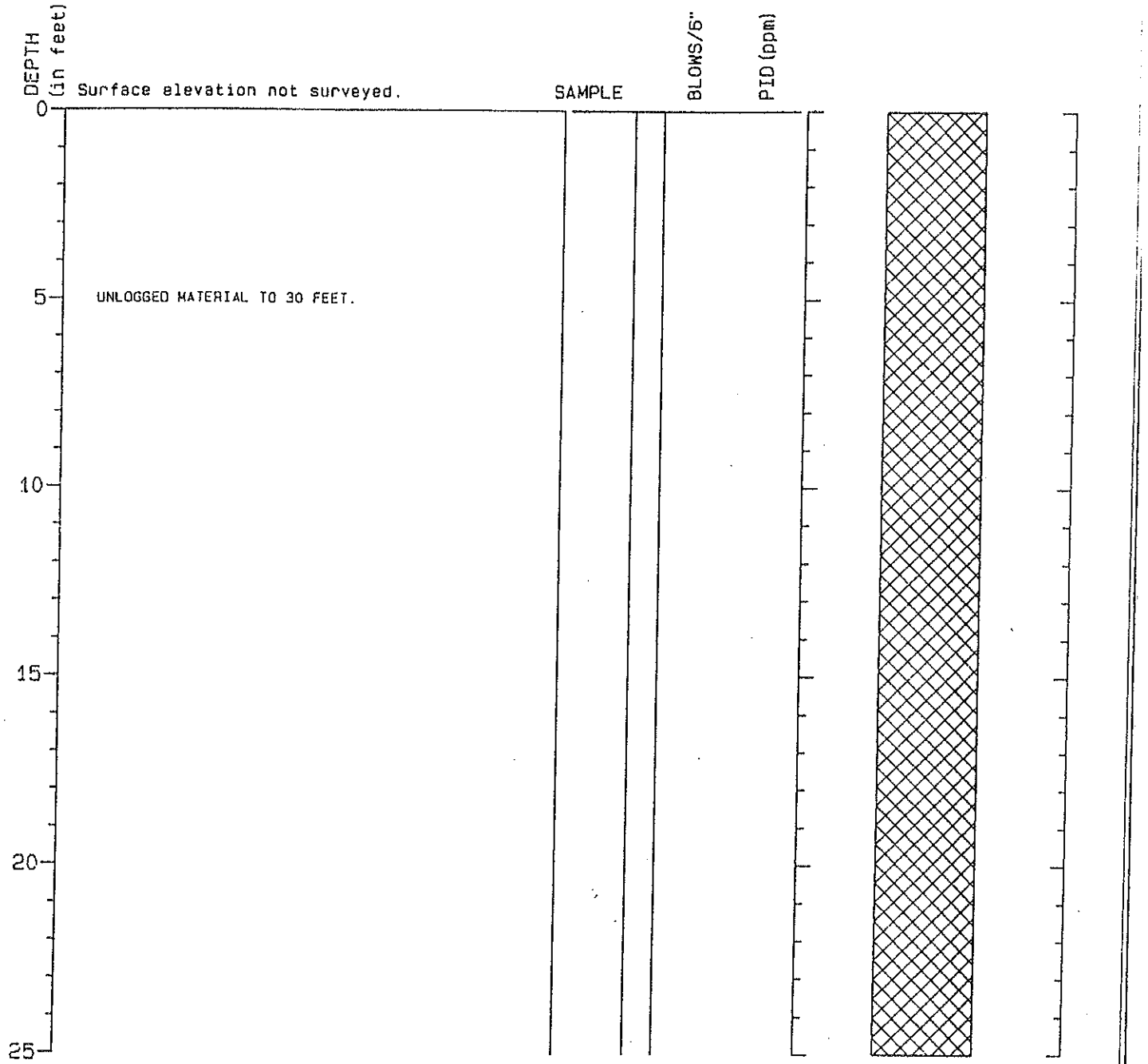
HARTCROWSER

J-6006 3/90

Figure A-4

Boring Log WA-1

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

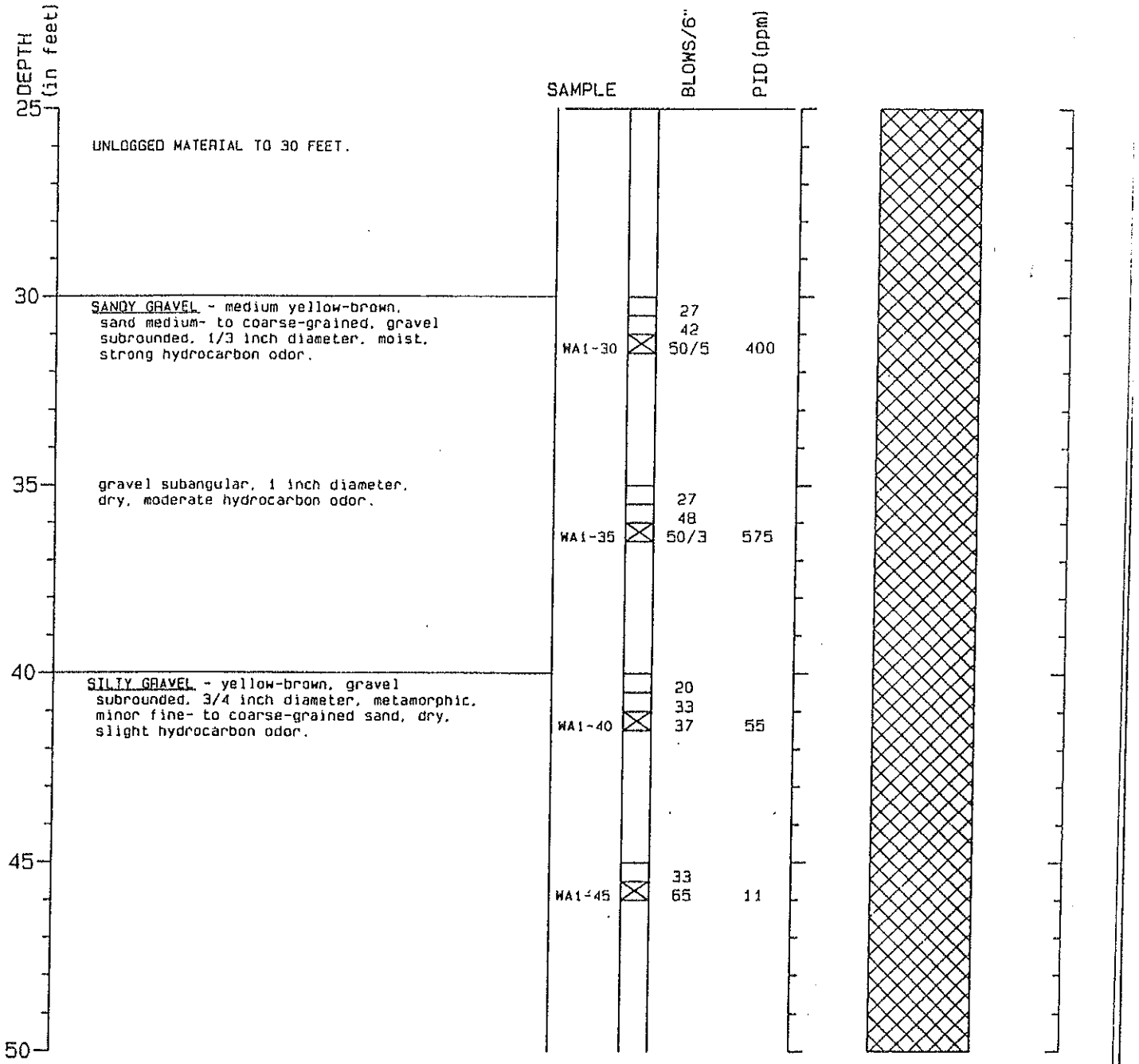
HARTCROWSER

J-6006 4/90

Figure A-5

Boring Log WA-1

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

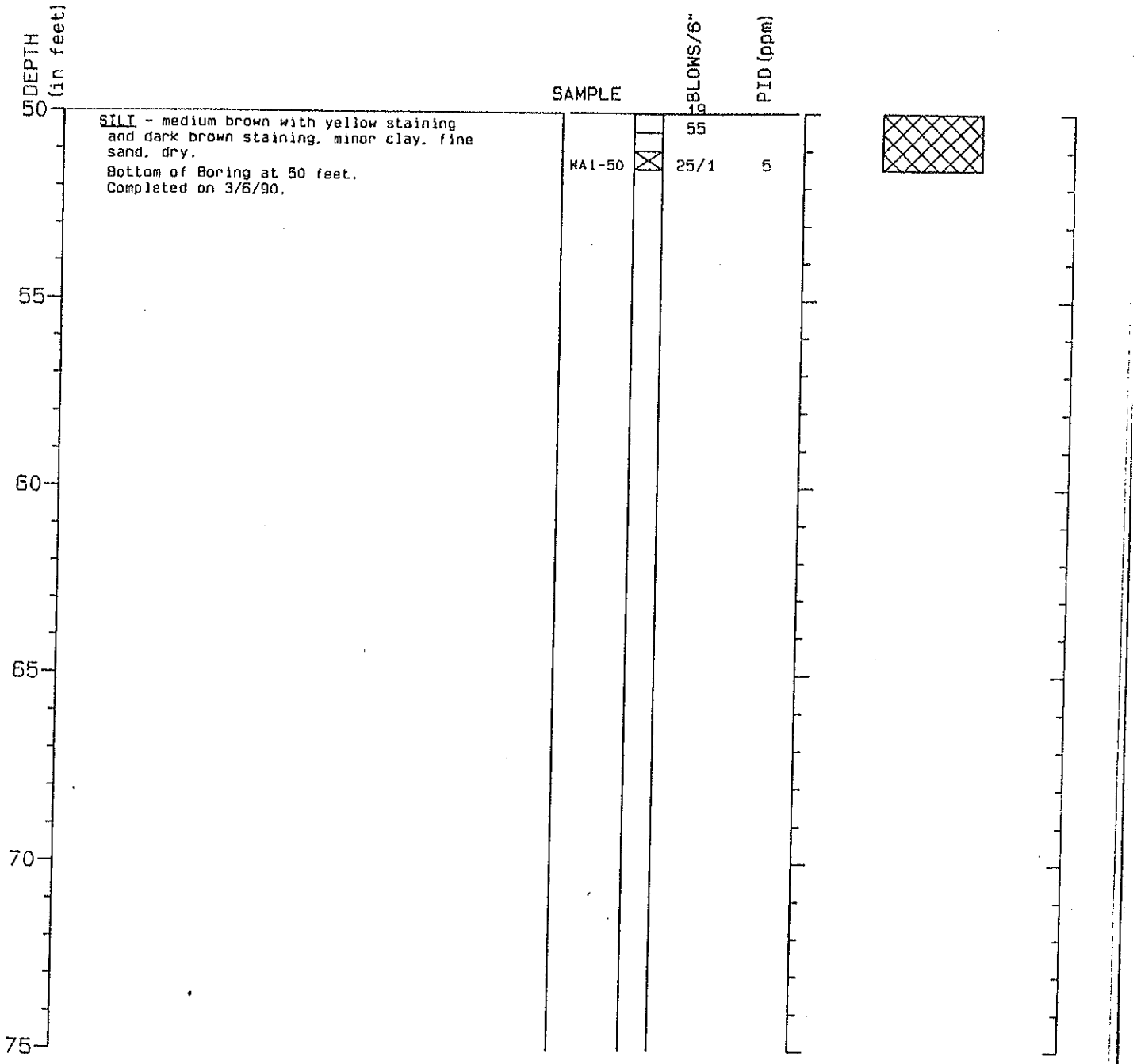
HARTCROWSER

J-6006 4/90

Figure A-5

Boring Log WA-1

Geologic Log



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil description and stratum lines are interpretive and actual changes may be gradual.
3. No free water encountered.

HARTCROWSER

J-6006 4/90

Figure A-5

Delta

Environmental Consultants, Inc.

Project No:	SJ42-26F-1	Client:	Shell Oil Products US	Well No: MW-1B
Logged By:	AP	Location:	4226 First Street	Page 1 of 6
Driller:	Gregg	Date Drilled:	8/23/2006	
Drilling Method:	HSA/AK (7')	Hole Diameter:	12"	
Sampling Method:	SS	Hole Depth:	108'	
Casing Type:	sch 40 PVC	Well Diameter:	4"	
Slot Size:	0.01	Well Depth:	108'	
Gravel Pack:	#2/12 sand	Casing Stickup:	-	
Elevation		Northing		Easting

Location Map

Please see site map

Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout					air knifed & hand augered	1			AF	~4" asphalt, ~8" baserock
						2				See Cambria's MW-1 boring log (attached) for soil lithology between 1 and 58.5 feet bg
						3				
						4				
						5				
						6				
						7				
						8				
						9				
						10				
						11				
						12				
						13				
						14				
						15				
						16				
						17				
						18				
						19				
						20				

Delta
Environmental Consultants, Inc.

Project No:	SJ42-26F-1	Client:	Shell Oil Products US	Well No: MW-1B
Logged By:	AP	Location:	4226 First Street	Page 2 of 6
Driller:	Gregg	Date Drilled:	8/23/2006	
Drilling Method:	HSA/AK (7')	Hole Diameter:	12"	
Sampling Method:	SS	Hole Depth:	108'	
Casing Type:	sch 40 PVC	Well Diameter:	4"	
Slot Size:	0.01	Well Depth:	108'	
Gravel Pack:	#2/12 sand	Casing Stickup:	-	
Elevation		Northing		Easting

Location Map

Please see site map

Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout						21				
						22				
						23				
						24				
						25				
						26				
						27				
						28				
						29				
						30				
						31				
						32				
						33				
						34				
						35				
						36				
						37				
						38				
						39				
						40				

Delta

Environmental Consultants, Inc.

Project No:	SJ42-26F-1	Client:	Shell Oil Products US	Well No: MW-1B	
Logged By:	AP	Location:	4226 First Street	Page 3 of 6	
Driller:	Gregg	Date Drilled:	8/23/2006	Location Map	
Drilling Method:	HSA/AK (7')	Hole Diameter:	12"	Please see site map	
Sampling Method:	SS	Hole Depth:	108'		
Casing Type:	sch 40 PVC	Well Diameter:	4"		
Slot Size:	0.01	Well Depth:	108'		
Gravel Pack:	#2/12 sand	Casing Stickup:	-		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout					41				
					42				
					43				
					44				
					45				
					46				
					47				
					48				
					49				
					50				
					51				
					52				
					53				
					54				
					55				
					56				
					57				
					58				
		dry	8.1	14 16 21	59 60			ML	**SILT**: mottled yellow brown and orangish brown, hard, 80-90% fines, <10% fine to very fine grained sands, low plasticity

Delta
Environmental Consultants, Inc.

Project No:	SJ42-26F-1	Client:	Shell Oil Products US	Well No: MW-1B
Logged By:	AP	Location:	4226 First Street	Page 4 of 6
Driller:	Gregg	Date Drilled:	8/23/2006	
Drilling Method:	HSA/AK (7')	Hole Diameter:	12"	
Sampling Method:	SS	Hole Depth:	108'	
Casing Type:	sch 40 PVC	Well Diameter:	4"	
Slot Size:	0.01	Well Depth:	108'	
Gravel Pack:	#2/12 sand	Casing Stickup:	-	
Elevation		Northing		Easting

Location Map

Please see site map

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout					61		ML	SILT (cont.)
					62			
					63			
		dry	11.5	10 12 14	64			
					65			
					66			
					67			
					68			
		dry	10.9	11 16 18	69			
					70			
					71			
					72			
					73			
		dry	9.9	11 13 17	74			
					75			
					76			
					77			
					78			
		dry	9.1	11 13 16	79			(80-90% fines, <10% very fine grained sands, medium plasticity)
					80			

Delta
Environmental Consultants, Inc.

Project No:	SJ42-26F-1	Client:	Shell Oil Products US	Well No: MW-1B
Logged By:	AP	Location:	4226 First Street	Page 5 of 6
Driller:	Gregg	Date Drilled:	8/23/2006	
Drilling Method:	HSA/AK (7')	Hole Diameter:	12"	
Sampling Method:	SS	Hole Depth:	108'	
Casing Type:	sch 40 PVC	Well Diameter:	4"	
Slot Size:	0.01	Well Depth:	108'	
Gravel Pack:	#2/12 sand	Casing Stickup:	-	
Elevation		Northing		Easting

Location Map

Please see site map

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout / Bentonite / Sand	▼				81		ML	SILT (cont.)
					82			
					83			
		dry	9.2	10 14 18	84 85		ML	**SILT with Sand**: mottled yellow brown and orange brown, hard, 70-80% fines, 20-30% very fine to fine grained sands, low to no plasticity
					86			
					87			
					88			
		moist	9.9	10 16 21	89 90			(15-25% very fine grained sands)
					91			
					92			
					93			
		dry	11.9	13 16 20	94 95			(20-30% very fine grained sands)
					96			
					97			
					98			
	▽	wet	8.1	11 16 20	99 100		SC	**Clayey SAND with Gravel**: brown, dense, 10-20% fines, 20-30% gravels up to 1" diameter, 60-70% medium to coarse grained sands (mostly coarse grained)

Delta
Environmental Consultants, Inc.

Project No:	SJ42-26F-1	Client:	Shell Oil Products US	Well No: MW-1B
Logged By:	AP	Location:	4226 First Street	Page 6 of 6
Driller:	Gregg	Date Drilled:	8/23/2006	
Drilling Method:	HSA/AK (7')	Hole Diameter:	12"	
Sampling Method:	SS	Hole Depth:	108'	
Casing Type:	sch 40 PVC	Well Diameter:	4"	
Slot Size:	0.01	Well Depth:	108'	
Gravel Pack:	#2/12 sand	Casing Stickup:	-	
Elevation		Northing		Easting

Location Map

Please see site map

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Sand					101			SC	**Clayey SAND with Gravel** (cont.)
					102				
					103				
		wet	0.7	13 17 19	104				(30-40% fines, 40-60% fine to coarse graines sands, 10-20% gravels up to 1" diameter)
					105				
					106				
		wet	0.8	13 17 20	107				(25-35% fines, 55-65% sand, 10-20% gravels up to 2" diameter)
					108				Bottom of boring at 108 feet bg
					109				
					110				
					111				
					112				
					113				
					114				
					115				
					116				
					117				
					118				
					119				
					120				

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-2
JOB/SITE NAME	Shell-branded service station	**DRILLING STARTED**	18-Jan-00
LOCATION	4226 First Street, Pleasanton, California	**DRILLING COMPLETED**	19-Jan-00
PROJECT NUMBER	241-0395	**WELL DEVELOPMENT DATE (YIELD)**	03-Feb-00
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	372.65 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	372.40 ft above msl
BORING DIAMETER	8"	**SCREENED INTERVAL**	26 to 46 ft bgs
LOGGED BY	B. Jakub	**DEPTH TO WATER (First Encountered)**	33.0 ft (18-Jan-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5' bgs.		

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
					ML		**ASPHALT.** **Sandy SILT**; (ML); dark brown; soft; damp; 3% clay, 80% silt, 15% fine grained sand, 2% gravel; low plasticity; low to moderate estimated permeability; palm tree roots.	0.5 4.0
				5	SM		**Silty SAND**; (SM); yellow brown; soft; damp; 2% clay, 43% silt, 50% sand, 5% gravel; low plasticity; moderate estimated permeability.	5.8
<1.0		MW-2-6.3'			MH		**Clayey SILT**; (MH); yellow brown; stiff; damp; 38% clay, 50% silt, 2% fine grained sand, 10% fine to coarse, subangular gravel; high plasticity; low estimated permeability.	6.6
					SM		**Silty SAND**; (SM); yellow brown; dense; damp; 2% clay, 40% silt, 50% sand, 8% gravel; no plasticity; high estimated permeability.	10.0
				10	SM		**Clayey Silty SAND**; (SM); yellow brown; stiff; damp; 15% clay, 30% silt, 50% sand, 5% gravel; low plasticity; moderate estimated permeability.	11.0
					SM		**Silty SAND**; (SM); yellow brown; dense; damp; 2% clay, 40% silt, 50% sand, 8% gravel; no plasticity; high estimated permeability. @ 12.8' - 10% clay, 38% silt, 50% sand, 8% gravel; moderate estimated permeability.	15.0
				15	ML		**Clayey SILT**; (ML); yellowish brown; stiff; damp; 15% clay, 80% silt, 3% sand, 2% gravel; medium plasticity; low estimated permeability.	16.5
<1.0		MW-2-16.5'			SM		**Gravelly Silty SAND**; (SM); yellow brown; damp; 5% clay, 25% silt, 45% fine to coarse grained sand, 25% gravel to 3/4"; high estimated permeability.	18.2
				20	SM		**Clayey Silty SAND**; (SM); yellow brown; damp; 15% clay, 25% silt, 50% sand, 10% fine gravel.	22.0
<1.0		MW-2-21.5'			GM		**Sandy Silty GRAVEL**; (GM); yellow brown; damp; 10% clay, 30% silt, 20% sand, 40% fine to coarse gravel; chert to 2".	
				25				26.0
<1.0		MW-2-26.0'			SM		**Gravelly Silty SAND**; (SM); very dense; damp; 5% clay, 30% silt, 40% sand, 25% gravel; no to low plasticity; moderate to high estimated permeability.	30.0
<1.0	35 50/6 38 50/6 45 50/6 24	MW-2-30.5'		30	GM		**Clayey Sandy Silty GRAVEL**; (GM); dark yellow brown; very dense; damp; 15% clay, 15% silt, 20% sand, 50% fine to coarse gravel; low plasticity; moderate estimated permeability. @ 31.7' - color change to dark greenish gray; chert to 2". ▽	33.5
				35			**Sandy Clayey GRAVEL**; (GC); very dense; wet to saturated; 25% clay, 15% silt, 20% sand, 40% gravel.	

WELL DIAGRAM: 4" diam., Schedule 40 PVC; Portland Type I/II; Bentonite Seal; Lonestar Sand #3

Continued Next Page

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-2
JOB/SITE NAME	Shell-branded service station	**DRILLING STARTED**	18-Jan-00
LOCATION	4226 First Street, Pleasanton, California	**DRILLING COMPLETED**	19-Jan-00

Continued from Previous Page

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
<1.0	50/6 40 50/6 35 50/6 50/6	MW-2-35.0'		40	GC		**Sandy Clayey GRAVEL**; (GC); very dense; wet to saturated; 25% clay, 15% silt, 20% sand, 40% gravel.	40.3	4"-diam., 0.020" Slotted Schedule 40 PVC
	37 50/6 29 50/6				ML		**Sandy Gravelly SILT**; (ML); hard; saturated; 12% clay, 58% silt, 15% sand, 15% gravel; medium plasticity; low estimated permeability.	43.5	
	27 50/6				ML		**Sandy Clayey SILT**; (ML); hard; saturated; 15% clay, 60% silt, 15% sand, 10% gravel.	45.0	
	26 50/6 12 19 27			45	ML		**Sandy SILT**; (ML); hard; saturated; 12% clay, 45% silt, 43% fine grained sand; slight plasticity ; low estimated permeability.	48.0	Bottom of Boring @ 48 ft

WELL LOG (SHELL) G:\PLEASA~4\GINT\PLE4226.GPJ DEFAULT.GDT 6/23/00

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-2
JOB/SITE NAME	Shell-branded service station	**DRILLING STARTED**	18-Jan-00
LOCATION	4226 First Street, Pleasanton, California	**DRILLING COMPLETED**	19-Jan-00
PROJECT NUMBER	241-0395	**WELL DEVELOPMENT DATE (YIELD)**	03-Feb-00
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	372.65 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	372.40 ft above msl
BORING DIAMETER	8"	**SCREENED INTERVAL**	26 to 46 ft bgs
LOGGED BY	B. Jakub	**DEPTH TO WATER (First Encountered)**	33.0 ft (18-Jan-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5' bgs.		

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
							ASPHALT.	0.5
					ML		**Sandy SILT**; (ML); dark brown; soft; damp; 3% clay, 80% silt, 15% fine grained sand, 2% gravel; low plasticity; low to moderate estimated permeability; palm tree roots.	4.0
				5	SM		**Silty SAND**; (SM); yellow brown; soft; damp; 2% clay, 43% silt, 50% sand, 5% gravel; low plasticity; moderate estimated permeability.	5.8
<1.0		MW-2-6.3'			MH		**Clayey SILT**; (MH); yellow brown; stiff; damp; 38% clay, 50% silt, 2% fine grained sand, 10% fine to coarse, subangular gravel; high plasticity; low estimated permeability.	6.6
					SM		**Silty SAND**; (SM); yellow brown; dense; damp; 2% clay, 40% silt, 50% sand, 8% gravel; no plasticity; high estimated permeability.	10.0
				10	SM		**Clayey Silty SAND**; (SM); yellow brown; stiff; damp; 15% clay, 30% silt, 50% sand, 5% gravel; low plasticity; moderate estimated permeability.	11.0
					SM		**Silty SAND**; (SM); yellow brown; dense; damp; 2% clay, 40% silt, 50% sand, 8% gravel; no plasticity; high estimated permeability. @ 12.8' - 10% clay, 38% silt, 50% sand, 8% gravel; moderate estimated permeability.	15.0
				15	ML		**Clayey SILT**; (ML); yellowish brown; stiff; damp; 15% clay, 80% silt, 3% sand, 2% gravel; medium plasticity; low estimated permeability.	16.5
<1.0		MW-2-16.5'			SM		**Gravelly Silty SAND**; (SM); yellow brown; damp; 5% clay, 25% silt, 45% fine to coarse grained sand, 25% gravel to 3/4"; high estimated permeability.	18.2
				20	SM		**Clayey Silty SAND**; (SM); yellow brown; damp; 15% clay, 25% silt, 50% sand, 10% fine gravel.	22.0
<1.0		MW-2-21.5'			GM		**Sandy Silty GRAVEL**; (GM); yellow brown; damp; 10% clay, 30% silt, 20% sand, 40% fine to coarse gravel; chert to 2".	26.0
<1.0		MW-2-26.0'		25	SM		**Gravelly Silty SAND**; (SM); very dense; damp; 5% clay, 30% silt, 40% sand, 25% gravel; no to low plasticity; moderate to high estimated permeability.	30.0
<1.0	35 50/6 38 50/6 45 50/6 24	MW-2-30.5'		30	GM		**Clayey Sandy Silty GRAVEL**; (GM); dark yellow brown; very dense; damp; 15% clay, 15% silt, 20% sand, 50% fine to coarse gravel; low plasticity; moderate estimated permeability. @ 31.7' - color change to dark greenish gray; chert to 2". ▽	33.5
				35			**Sandy Clayey GRAVEL**; (GC); very dense; wet to saturated; 25% clay, 15% silt, 20% sand, 40% gravel.	

WELL DIAGRAM

- 4" diam., Schedule 40 PVC
- Portland Type I/II
- Bentonite Seal
- Lonestar Sand #3

WELL LOG (SHELL) G:\PLEASA-4\GINTPLE4226.GPJ DEFAULT.GDT 6/23/00

Continued Next Page

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-2
JOB/SITE NAME	Shell-branded service station	**DRILLING STARTED**	18-Jan-00
LOCATION	4226 First Street, Pleasanton, California	**DRILLING COMPLETED**	19-Jan-00

Continued from Previous Page

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
<1.0	50/6 40 50/6 35 50/6 50/6 37 50/6 29 50/6 27 50/6 26 50/6 12 18 27	MW-2-35.0'		40 45	GC ML ML ML		**Sandy Clayey GRAVEL**; (GC); very dense; wet to saturated; 25% clay, 15% silt, 20% sand, 40% gravel. **Sandy Gravelly SILT**; (ML); hard; saturated; 12% clay, 58% silt, 15% sand, 15% gravel; medium plasticity; low estimated permeability. **Sandy Clayey SILT**; (ML); hard; saturated; 15% clay, 60% silt, 15% sand, 10% gravel. **Sandy SILT**; (ML); hard; saturated; 12% clay, 45% silt, 43% fine grained sand; slight plasticity ; low estimated permeability.	40.3 43.5 45.0 48.0	4"-diam., 0.020" Slotted Schedule 40 PVC Bottom of Boring @ 48 ft

WELL LOG (SHELL) G:\PLEASA~4\GINT\PLE4226.GPJ DEFAULT.GDT 6/23/00

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
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BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-3
JOB/SITE NAME	Shell-branded service station	**DRILLING STARTED**	18-Jan-00
LOCATION	4226 First Street, Pleasanton, California	**DRILLING COMPLETED**	19-Jan-00
PROJECT NUMBER	241-0395	**WELL DEVELOPMENT DATE (YIELD)**	03-Feb-00
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	375.90 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	375.05 ft above msl
BORING DIAMETER	8"	**SCREENED INTERVAL**	20 to 35 ft bgs
LOGGED BY	B. Jakub	**DEPTH TO WATER (First Encountered)**	25.0 ft (18-Jan-00) ▽
REVIEWED BY	S. Bork, RG# 5620	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 5' bgs.		

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	DEPTH (ft bgs)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
			0	ML	**ASPHALT.**	0.5
					SILT; (ML); brown; soft; damp; 2% clay, 90% silt, 7% fine grained sand, 1% gravel; no plasticity; moderate to low estimated permeability.	
<1.0	14 28 40	MW-3-5.0'	5	SM	**Silty SAND**; (SM); yellow brown; dense; damp; 2% clay, 43% silt, 55% sand.	5.3 5.8
					Clayey SILT; (ML); yellow brown; hard; wet; 15% clay, 60% silt, 5% sand, 10% fine to coarse, subangular gravel; medium plasticity; low estimated permeability.	
<1.0	26 50/6	MW-3-10.5'	10	ML		
<1.0	42 50/6	MW-3-15.5'	15		**Gravelly Silty SAND**; (SM); yellow brown; very dense; 5% clay, 20% silt, 60% fine grained sand, 15% fine, subangular to subrounded gravel.	15.0
<1.0	13 24 50/6	MW-3-20.5'	20	SM	@ 22' - silt layer noted by driller.	
<1.0	12 22 30	MW-3-25.5'	25	SM	▽ **Clayey Silty SAND**; (SM); yellow brown; dense; wet to saturated; 15% clay, 35% silt, 40% fine grained sand, 10% fine to coarse, subangular gravel; low plasticity; low estimated permeability.	25.0
	50/6		30	GM	**Sandy Silty GRAVEL**; (GM); very dense; 5% clay, 30% silt, 25% sand, 40% gravel; low plasticity; moderate estimated permeability.	30.0
			35			35.0

WELL DIAGRAM: 4" diam., Schedule 40 PVC; Portland Type I/II; Bentonite Seal; Lonestar Sand #3; 4"-diam., 0.020" Slotted Schedule 40 PVC

WELL LOG (SHELL) G:\PLEASA~4\GINT\PLE4226.GPJ DEFAULT.GDT 6/29/00

Continued Next Page

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Equiva Services LLC	**BORING/WELL NAME**	MW-3
JOB/SITE NAME	Shell-branded service station	**DRILLING STARTED**	18-Jan-00
LOCATION	4226 First Street, Pleasanton, California	**DRILLING COMPLETED**	19-Jan-00

Continued from Previous Page

TPHg (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
	15 36 46				ML		**SILT**: (ML); light brown; hard; 10% clay, 80% silt, 10% sand; low plasticity; low estimated permeability.		Bentonite Seal
	15 25 42			40	ML		**Clayey SILT**; (ML); hard; 20% clay, 70% silt, 10% fine grained sand; medium plasticity; low estimated permeability.	40.0 41.5	Bottom of Boring @ 41.5 ft

WELL LOG (SHELL) G:\PLEASA~4\GINTPLE4226.GPJ DEFAULT.GDT 6/23/00

Delta

Environmental Consultants, Inc.

Project No:	SJ42-26F-1	Client:	Shell Oil Products US	Well No: MW-4	
Logged By:	AP	Location:	4226 First Street	Page 1 of 3	
Driller:	Gregg	Date Drilled:	8/24/2006	Location Map	
Drilling Method:	HSA/AK (7')	Hole Diameter:	12"	Please see site map	
Sampling Method:	SS	Hole Depth:	50'		
Casing Type:	sch 40 PVC	Well Diameter:	4"		
Slot Size:	0.01	Well Depth:	47'		
Gravel Pack:	#2/12 sand	Casing Stickup:	-		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout				air knifed & hand augered	1			AF	~4" asphalt, ~8" baserock
					2				
					3				
					4				
					5				
					6				
					7				
					8				
		dry	0.1	3 4 5	9			SC	**Clayey SAND with Gravel**: dark brown to orangish brown, loose, 60-70% fine to coarse grained sands, 20-30% fines, 10-20% gravels up to 1" diameter
					10				
					11				
					12			CL	**Sandy Lean CLAY**: orangish brown, very stiff, 5-10% gravels up to 1" diameter, 35-45% fine grained sands, 50-60% fines, low plasticity
		moist	7.4	6 8 12	13				
					14				
					15				
					16				
					17			SC	**Clayey SAND**: orangish brown, medium dense, 20-30% fines, 70-80% fine grained sands, trace gravels up to 0.5" diameter, low plasticity
					18				
		moist	2	7 11 11	19				
					20				

Delta
Environmental Consultants, Inc.

Project No:	SJ42-26F-1	Client:	Shell Oil Products US	Well No: MW-4	
Logged By:	AP	Location:	4226 First Street	Page 2 of 3	
Driller:	Gregg	Date Drilled:	8/24/2006	Location Map	
Drilling Method:	HSA/AK (7')	Hole Diameter:	12"	Please see site map	
Sampling Method:	SS	Hole Depth:	50'		
Casing Type:	sch 40 PVC	Well Diameter:	4"		
Slot Size:	0.01	Well Depth:	47'		
Gravel Pack:	#2/12 sand	Casing Stickup:	-		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout					21			SC	Clayey SAND (cont.)
					22				
					23				
		moist	4.1	6 8 9	24 25			SP-SC	**Poorly Graded SAND with Clay**: brown, medium dense, 5-15% fines, 85-95% fine grained sands
					26				
					27				
					28				
		moist	7.2	11 13 17	29 30			SC	**Clayey SAND with Gravel**: brown, medium dense, 20-30% fines, 10-20% gravels up to 0.5" diameter, 50-70% fine to coarse grained sands
					31				
					32				
					33				
Bentonite	▼	moist	340	10 16 20	34 35			CL	**Sandy lean CLAY with Gravel**: brown, hard, 10-20% gravels up to 1" diameter, 20-30% fine grained sands (mostly in small inclusions or lenses), 50-70% fines, low plasticity
Sand		moist	555	12 14 17	36 37				
					38				
		moist	762	13 17 20	39 40				(orangish brown w/grey mottling, 15-25% gravels up to 1" diameter, 20-30% fine grained sands, 45-65% fines, low plasticity)

Delta

Environmental Consultants, Inc.

Project No:	SJ42-26F-1	Client:	Shell Oil Products US	Well No: MW-4	
Logged By:	AP	Location:	4226 First Street	Page 3 of 3	
Driller:	Gregg	Date Drilled:	8/24/2006	Location Map	
Drilling Method:	HSA/AK (7')	Hole Diameter:	12"	Please see site map	
Sampling Method:	SS	Hole Depth:	50'		
Casing Type:	sch 40 PVC	Well Diameter:	4"		
Slot Size:	0.01	Well Depth:	47'		
Gravel Pack:	#2/12 sand	Casing Stickup:	-		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Sand					41		CL	sandy lean CLAY w/gravel (cont.)
					42			
					43			
		moist	106	14 17 24	44			no grey mottling, 10-20% gravels, 20-30% fine grained sands, 50-70% fines
					45			
					46			
	▽				47			
Bentonite					48		CL	sandy lean CLAY: orangish brown, hard, 35-45% fine grained sands, 55-65% fines, low plasticity
		wet	27	11 17 20	49			
					50			Bottom of the boring is at 50 feet bg
					51			
					52			
					53			
					54			
					55			
					56			
					57			
					58			
					59			
					60			

BORING LOG

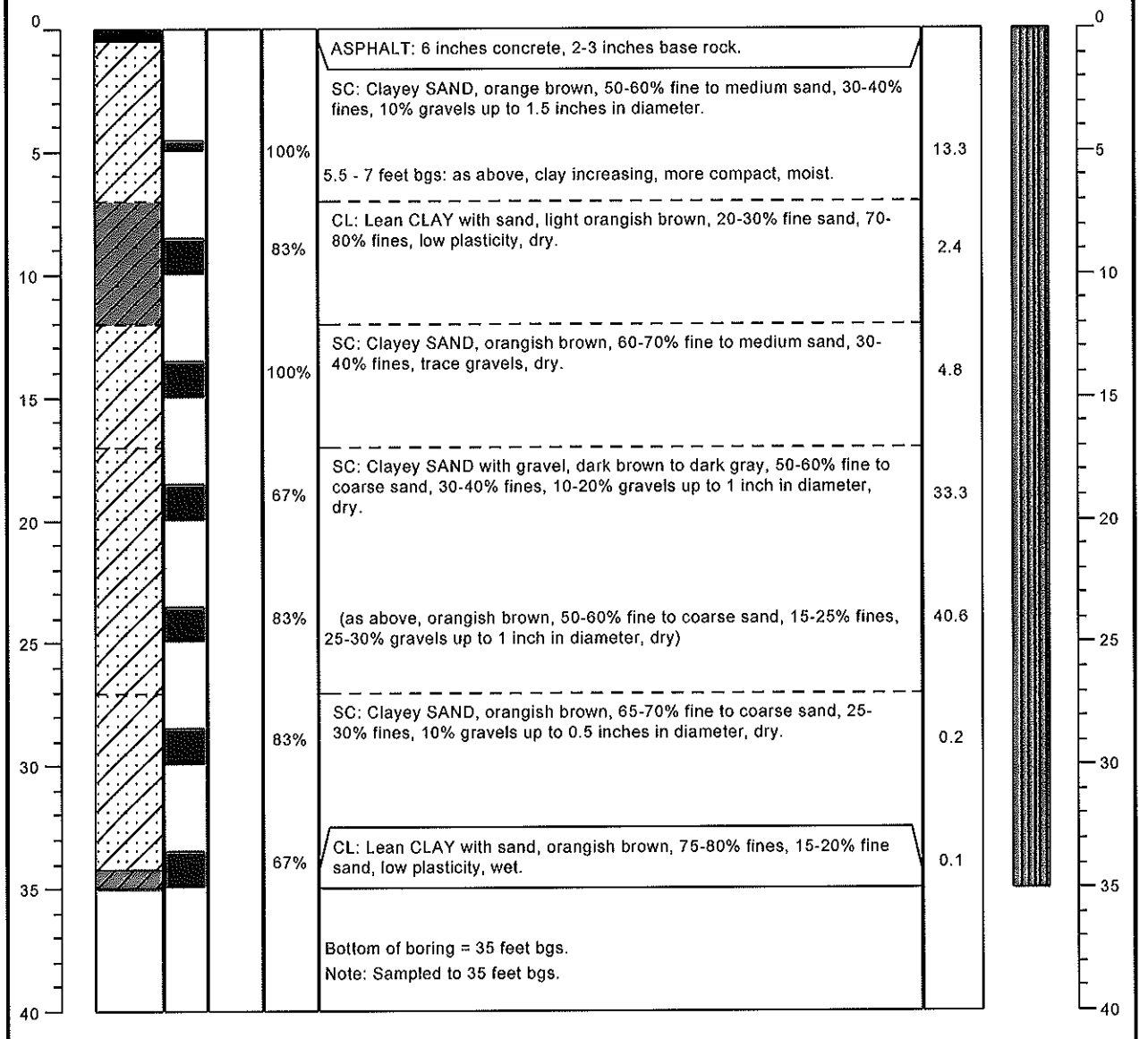
DELTA Xinogen

Client: Shell Oil Products US

Project Number: SJ4226F1X

Boring No. B-1

Address:	Drilling Date(s): 3/27/07	Boring diameter (in.): 8	Casing Material: NA
4226 1st Street	Drilling Company: Gregg	Sampling Method: Hand Auger/Split Spoon	Screen Interval: NA
Pleasanton, California	Drilling Method: HSA	Well Depth (ft.): NA	Screen slot size: NA
Logged By: Andy Persio	Boring Depth (ft): 35	Casing Diameter (in.): NA	Sand Pack: NA



DELTA Xinogen

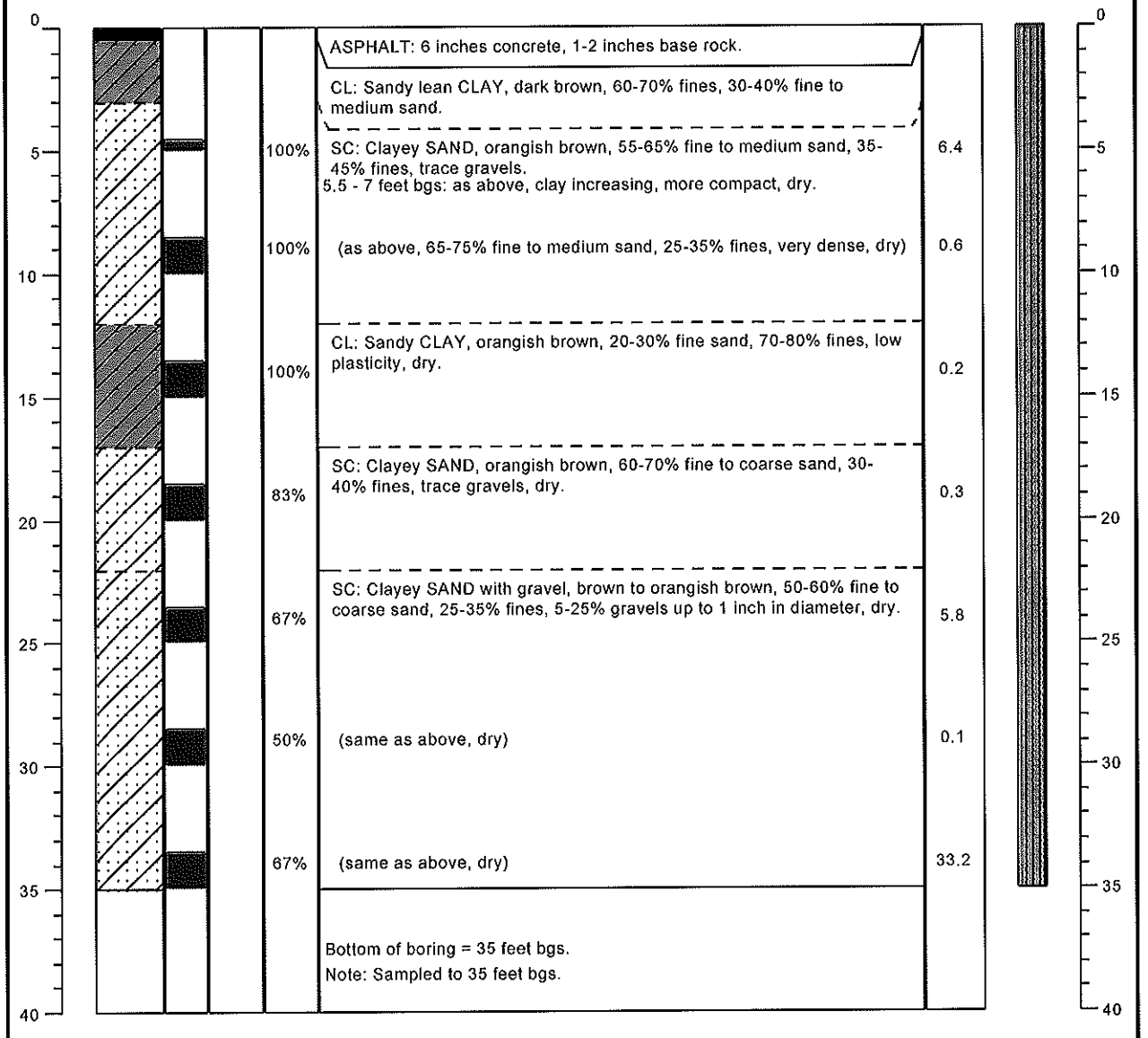
BORING LOG

Client: Shell Oil Products US

Project Number: SJ4226F1X

Boring No. B-2

Address:	Drilling Date(s): 3/27/07	Boring diameter (in.): 6	Casing Material: NA
4226 1st Street	Drilling Company: Gregg	Sampling Method: Hand Auger/Split Spoon	Screen Interval: NA
Pleasanton, California	Drilling Method: HSA	Well Depth (ft.): NA	Screen slot size: NA
Logged By: Andy Persio	Boring Depth (ft): 35	Casing Diameter (in.): NA	Sand Pack: NA



BORING LOG

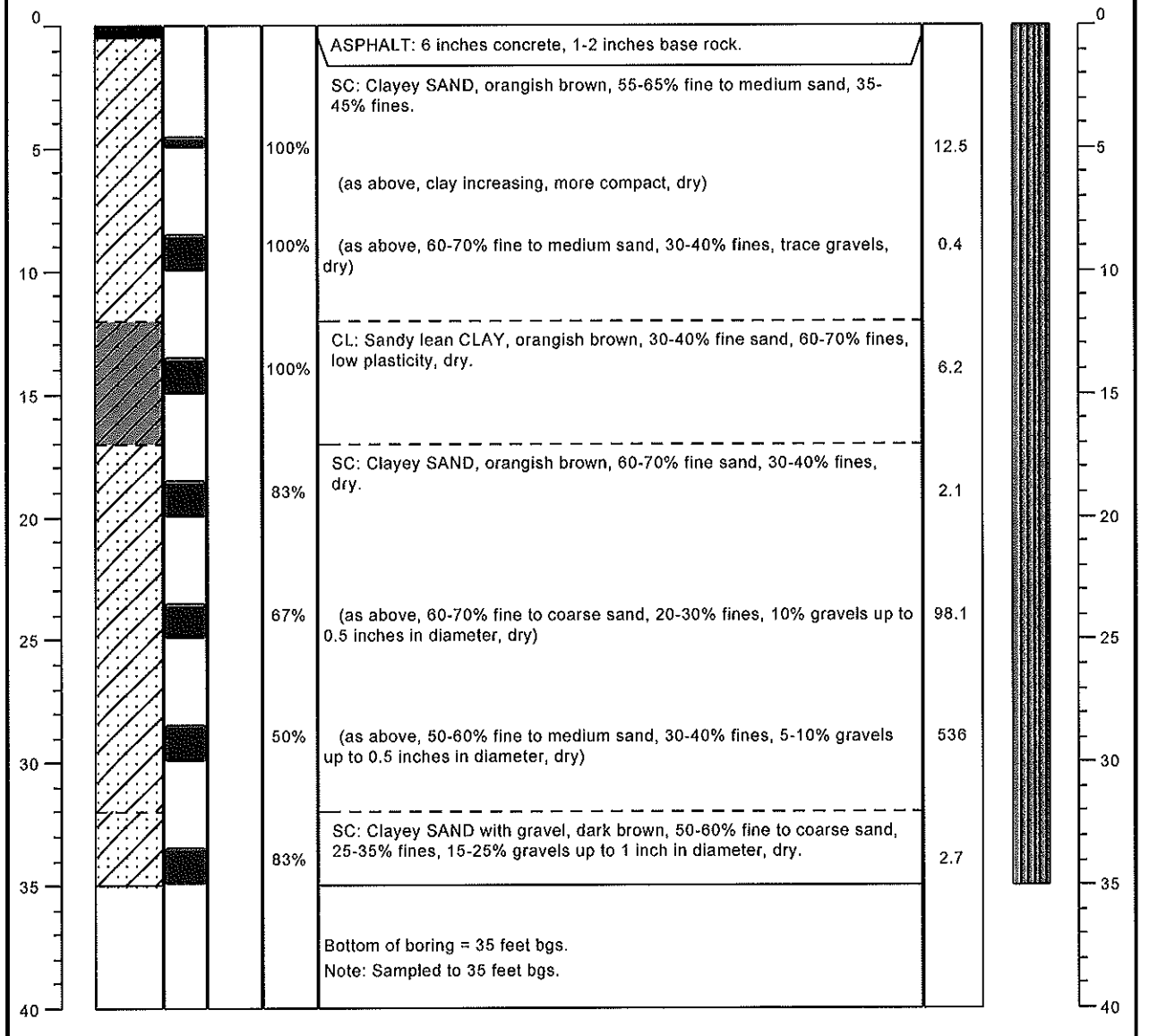
DELTA Xinogen

Client: Shell Oil Products US

Project Number: SJ4226F1X

Boring No. B-3

Address:	Drilling Date(s): 3/27-28/07	Boring diameter (in.): 8	Casing Material: NA
4226 1st Street	Drilling Company: Gregg	Sampling Method: Hand Auger/Split Spoon	Screen Interval: NA
Pleasanton, California	Drilling Method: HSA	Well Depth (ft.): NA	Screen slot size: NA
Logged By: Andy Persio	Boring Depth (ft): 35	Casing Diameter (in.): NA	Sand Pack: NA



BORING LOG

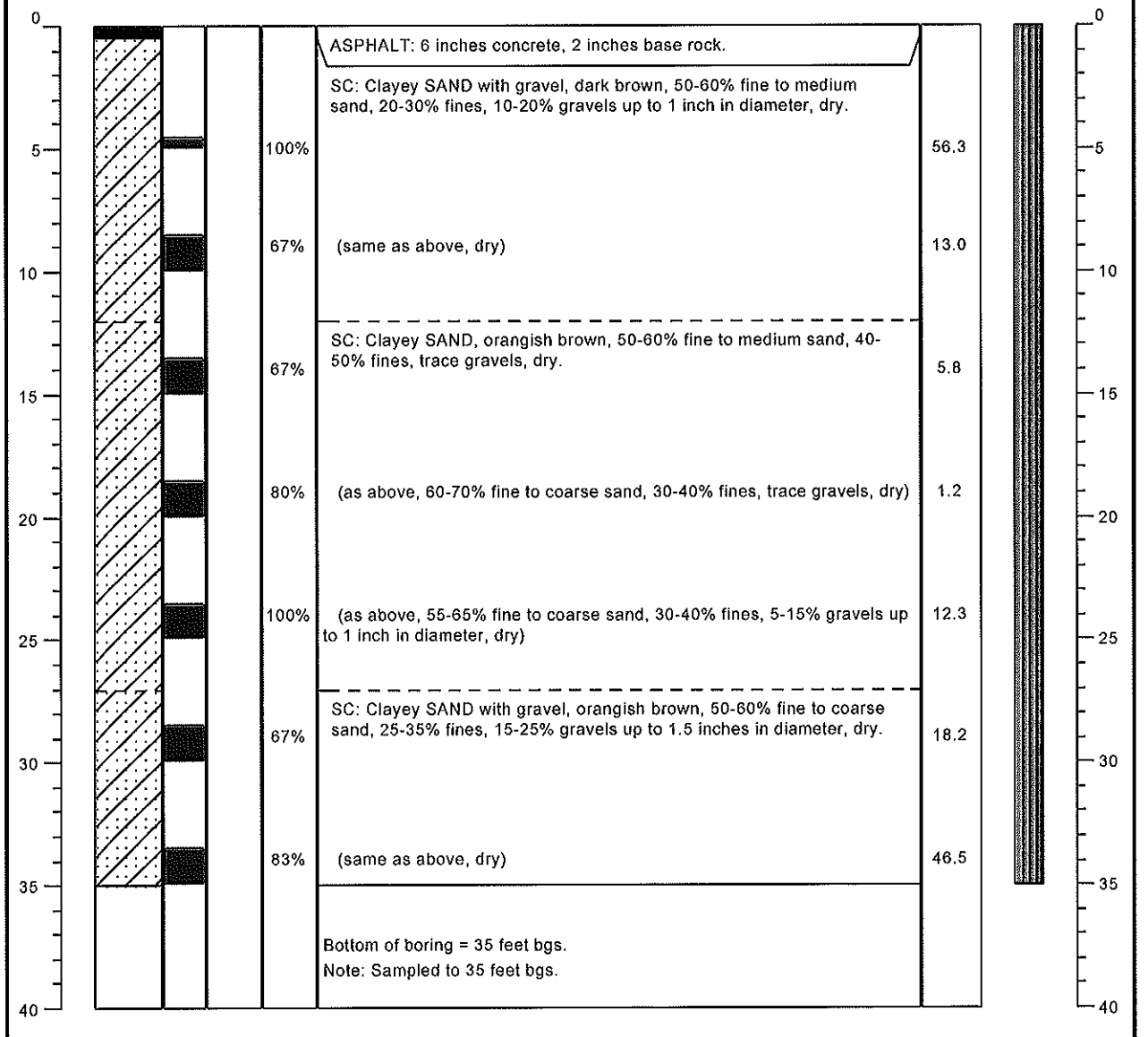
DELTA Inogen

Client: **Shell Oil Products US**

Project Number: **SJ4226F1X**

Boring No. B-4

Address:	Drilling Date(s): **3/27-28/07**	Boring diameter (in.): **6**	Casing Material: **NA**
4226 1st Street	Drilling Company: **Gregg**	Sampling Method: **Hand Auger/Split Spoon**	Screen Interval: **NA**
Pleasanton, California	Drilling Method: **HSA**	Well Depth (ft.): **NA**	Screen slot size: **NA**
Logged By: **Andy Persio**	Boring Depth (ft): **35**	Casing Diameter (in.): **NA**	Sand Pack: **NA**



BORING LOG

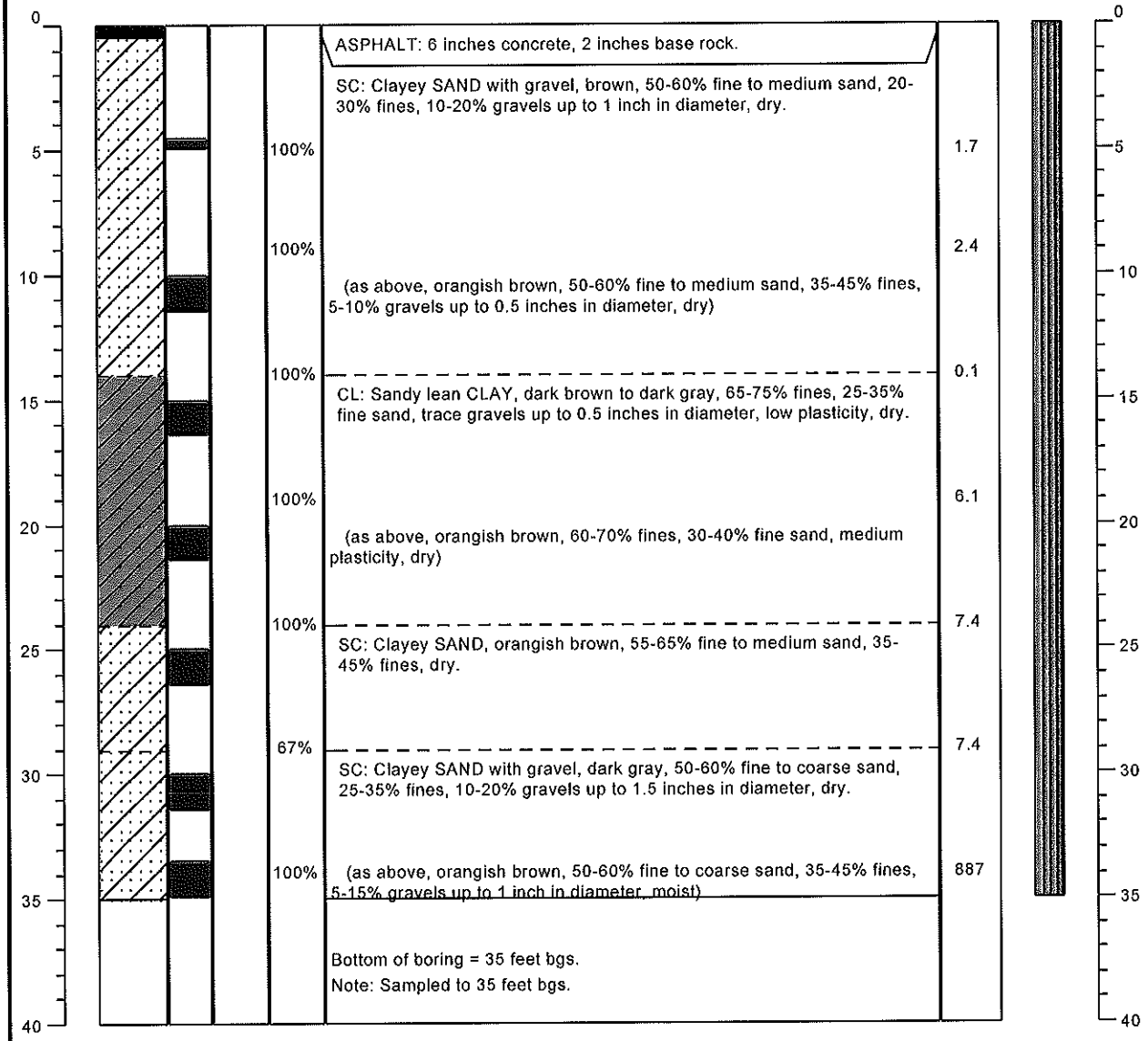
DELTA Xinogen

Client: Shell Oil Products US

Project Number: SJ4226F1X

Boring No. B-5

Address:	Drilling Date(s): 3/27-28/07	Boring diameter (in.): 6	Casing Material: NA
4226 1st Street	Drilling Company: Gregg	Sampling Method: Hand Auger/Split Spoon	Screen Interval: NA
Pleasanton, California	Drilling Method: HSA	Well Depth (ft.): NA	Screen slot size: NA
Logged By: Andy Persio	Boring Depth (ft): 35	Casing Diameter (in.): NA	Sand Pack: NA

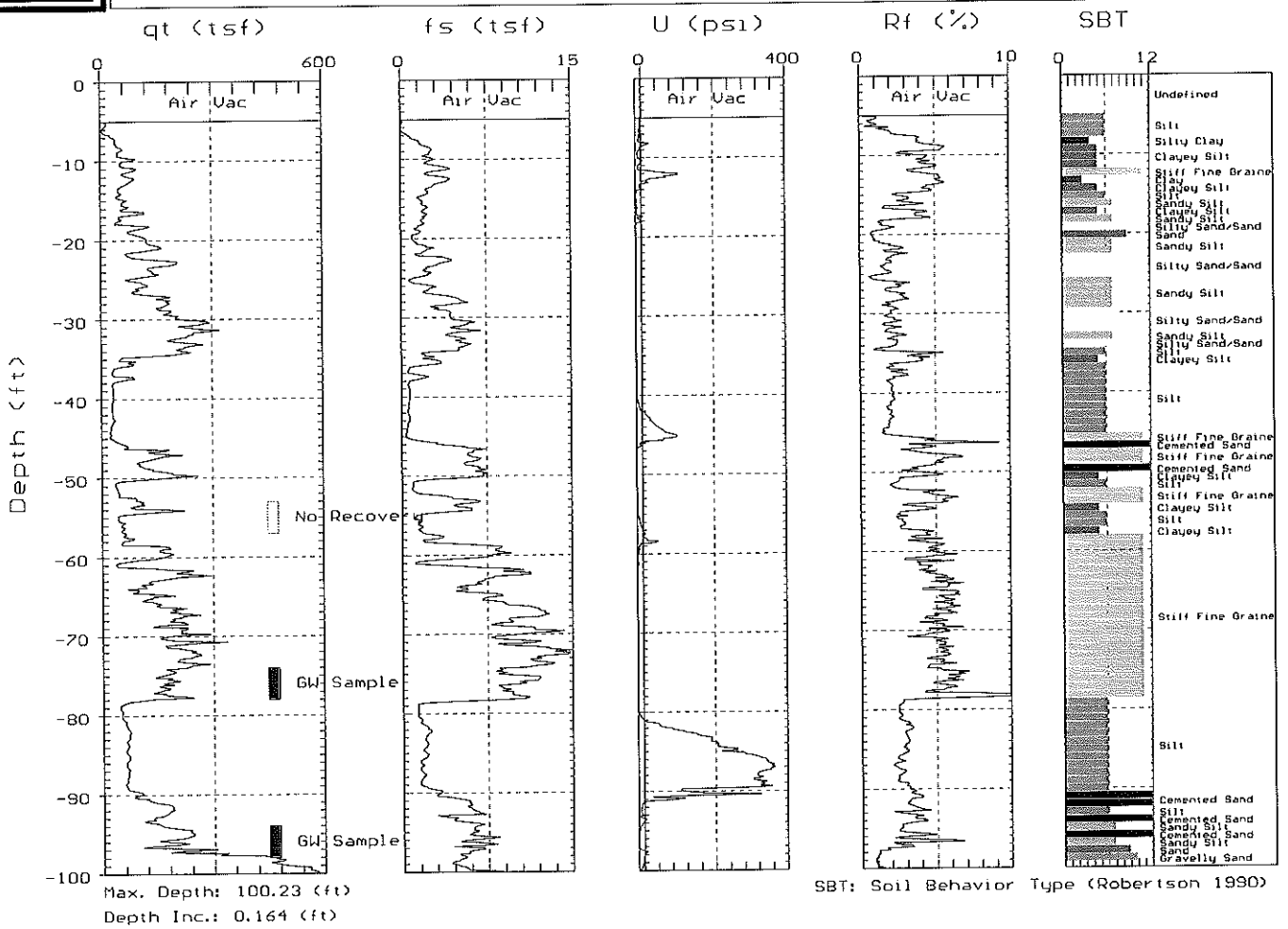


GREGG

DELTA ENV.

Site: 4212 FIRST ST.
Location: CPT-2

Engineer: L.DOOLEY
Date: 09/29/06 10:34



Max. Depth: 100.23 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

ATTACHMENT B

SOIL ANALYTICAL DATA

Table 1 Soil Analytical Results - Shell-branded Service Station Incident# 98995840
4226 First Street, Pleasanton, California

Sample	TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
	←		(concentrations reported in ppm)		→	
MW-2-6.3'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-2-16.5'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-2-21.5'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-2-26.0'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-2-30.5'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-2-35.0'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-3-5.0'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-3-10.5'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-3-15.5'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-3-20.5'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05
MW-3-25.5'	<1.0	<0.005	<0.005	<0.005	<0.010	<0.05

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tert-Butyl Ether by EPA 8020.
ppm = parts per million

Samples collected January 18 and 19, 2000

TABLE 1

CHEMICAL ANALYSIS OF SOIL SAMPLES
SHELL SERVICE STATION
4226 FIRST STREET
PLEASANTON, CALIFORNIA

Concentrations in mg/kg (parts per million)

Boring	Depth (ft)	TPH	Benzene	Toluene	Ethylbenzene	Xylene
SB-1	15	4.2	ND	ND	ND	ND
SB-1	35	18	ND	ND	ND	ND
SB-1	50	ND	ND	ND	ND	ND
SB-2	15	ND	ND	ND	ND	ND
SB-2	30	7.2	ND	0.17	ND	ND
SB-3	10	ND	ND	ND	ND	ND
SB-3	30	ND	ND	ND	ND	ND
WA-1	30	380	2.2	2.7	5.3	32
WA-1	35	290	1.8	0.35	0.24	1.5
WA-1	40	ND	ND	ND	ND	ND
WA-1	50	ND	ND	ND	ND	ND
Detection Limits:		1.0	0.050	0.10	0.10	0.10

Notes:
1) TPH - Total Petroleum Hydrocarbons (gasoline range) analyzed by EPA Methods 5030/8015
2) Benzene, Toluene, Ethylbenzene and Xylene analyzed by EPA Method 8020
3) ND- Not Detected at detection limit shown
4) SB-1, SB-2 and SB-3 samples collected March 5, 1990
   WA-1 samples collected March 6, 1990

TABLE 1

ANALYTICAL RESULTS OF SOIL SAMPLES

Concentrations in mg/kg (parts per million)

SHELL OIL COMPANY
4226 FIRST STREET
PLEASANTON, CALIFORNIA

Boring	TPH	Benzene	Toluene	Ethylbenzene	Xylenes
SB4-15	N.D.	N.D.	N.D.	N.D.	N.D.
SB4-35	N.D.	0.023	0.0071	N.D.	0.0055
SB4-50	N.D.	0.030	0.0059	N.D.	N.D.
SB5-35	820	65	3.7	6.5	65
SB5-40	N.D.	N.D.	N.D.	N.D.	N.D.
SB5-50	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS:	1.0	0.0050	0.0050	0.0050	0.0050

NOTES:
1) TPH - Total Petroleum Hydrocarbons (Gasoline Range) analyzed by EPA Methods 5030/8015.
2) Benzene, Toluene, Ethylbenzene and Xylene analyzed by EPA Method 8020.
3) ND - Not detected.

Table 1 Soil Analytical Results - Shell-branded Service Station Incident# 98995840
4226 First Street, Pleasanton, California

Sample	TPHg	Benzene	Toluene	Ethyl Benzene	Xylene	MTBE
	←			(ppm)		→
SB-6-15.5'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-6-19.5'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-6-25.0'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-6-30.0'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-6-35.0'	<1.0	0.0069	<0.0050	<0.0050	<0.0050	<0.025
SB-6-40.0'	<1.0	<0.0050	0.28	<0.0050	<0.0050	<0.025
SB-6-45.0'	<1.0	0.1	<0.0050	<0.0050	<0.0050	<0.025
SB-7-15.0'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-7-19.5'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-7-24.5'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-7-29.3'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-7-34.3'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-7-40.0'	83	<0.0050	0.37	0.26	0.26	<0.025
SB-7-44.5'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SB-7-59.5'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
SB-7-64.5'	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050

Abbreviations and Notes:

TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tert-Butyl Ether
ppm = parts per million

Samples collected April 7 through 9, 1999

Table 2
Summary of Soil Analytical Data
Shell Service Station
4226 First Street, Pleasanton, CA

Sample Designation	Date Sampled	Depth (feet)		TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Xylene and Ethyl-benzene (mg/kg)
S-B	9/27/1985	3.5 to 5	*	2	<0.1	<0.1	<0.4
S-B	9/27/1985	7 to 8.5	*	**460**	<2.0	**2**	**32**
S-B	9/27/1985	10.5 to 12		**610**	<2.0	**3.5**	**63**
S-B	9/27/1985	14 to 15.5		**1,300**	<2.5	**9.6**	**260**
S-B	9/27/1985	19 to 20.5		<2	<0.1	<0.1	<0.4
S-C	9/27/1985	10.5 to 12		<2	<0.1	<0.1	<0.4
S-D	9/27/1985	10.5 to 12		<2	<0.1	<0.1	<0.4

Notes:
mg/kg = milligrams per kilogram
TPH-G = Total petroleum hydrocarbons as gasoline
* Sample of gravel from UST pit

Table 2
Summary of Soil Analytical Data
Shell Service Station
4226 First Street, Pleasanton, CA

Sample Designation	Date Sampled	Depth (feet)	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylene (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)
MW-1B@65'	8/23/2006	65	<2.5	<0.025	<0.025	<0.025	<0.050	<0.025	<0.250
MW-1B@69.5'	8/23/2006	69.5	<2.5	<0.025	<0.025	<0.025	<0.050	<0.025	<0.250
MW-1B@95'	8/23/2006	95	<2.5	<0.025	<0.025	<0.025	<0.050	<0.025	<0.250
MW-4@35'	8/24/2006	35	**51**	<0.025	<0.025	<0.025	<0.050	**0.17**	<0.250
MW-4@36.5'	8/24/2006	36.5	**380**	<0.025	<0.025	**1.2**	**1.6**	**0.092**	<0.250
MW-4@39.5'	8/24/2006	39.5	**6.7**	<0.025	<0.025	**0.05**	**0.064**	**0.038**	<0.250
MW-4@44.5'	8/24/2006	44.5	<2.5	<0.025	<0.025	<0.025	<0.050	**0.59**	<0.250
MW-4@50'	8/24/2006	50	<2.5	<0.025	<0.025	<0.025	<0.050	**0.56**	<0.250

Notes:
mg/kg = milligrams per kilogram
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether