

November 8, 2000

ENVIRONMENTAL
 PROTECTION
 00 NOV 13 PM 5:30

eva chu
 Alameda County Health Care Services Agency
 1131 Harbor Bay Parkway, Suite 250
 Alameda, California 94502

Re: **Potential Receptor Survey and Conduit Study**
 Shell-branded Service Station
 11989 Dublin Boulevard
 Dublin, California
 Incident # 98995328
 Cambria Project # 242-0548-006



Dear Ms. chu:

Cambria Environmental Technology, Inc. (Cambria) prepared this *Potential Receptor Survey and Conduit Study* on behalf of Equiva Services LLC. This report was prepared in response to the Alameda County Health Care Services Agency May 1, 2000 request for a well survey and a conduit study. The procedures, results and conclusions are presented below.

WELL RECEPTOR SURVEY

Cambria reviewed Department of Water Resources (DWR) files to locate records of municipal and private wells within ½ mile of the Shell-branded service station at 11989 Dublin Boulevard, Dublin California.

Of the 67 wells identified by the DWR records, 65 wells were located within ½ mile of the site. Copies of the well completion reports provided by the DWR are included in Appendix A.

The well survey results, presented in Table 1 and Figure 1, are summarized below.

- 47 monitoring wells. Three groundwater-monitoring wells exist on the subject property;
- 6 domestic wells were identified during this investigation. The closest domestic well is located approximately 800 feet to the west of the site in the upgradient direction;
- 1 irrigation well;
- 2 test wells; and
- 5 destroyed wells.

are any of the domestic wells dg of site? No, not according to fig. 1

Oakland, CA
 San Ramon, CA
 Sonoma, CA

**Cambria
 Environmental
 Technology, Inc.**

1144 65th Street
 Suite B
 Oakland, CA 94608
 Tel (510) 420-0700
 Fax (510) 420-9170

Static groundwater level for monitoring wells on January 27, 2000 ranged from approximately 6 feet below grade (fbg) in the west to approximately 20 fbg in the east. Groundwater flow direction from the last three quarterly monitoring events is to the east. Dublin Creek, located ¼ mile to the southwest, also flows to the east. Given the groundwater flow direction at the site, the domestic wells and irrigation well are unlikely to be impacted.

what about Dublin Creek, could it be impacted? to the east SE, creek is ≈ 3/8 mi away

CONDUIT STUDY



Cambria performed a conduit study to identify potential vertical and horizontal migration pathways in the vicinity of the site due to utility conduits and associated backfill. Cambria obtained sanitary sewer maps from Dublin San Ramon Services District. Utility locations and sanitary sewer conduits are mapped on Figure 2.

A sanitary sewer conduit runs east along Dublin Boulevard as shown on Figure 2. Based on our discussions with Dublin San Ramon Services District, sewer lines are typically buried at a depth of approximately 10 feet to the top of the pipe. At this time, Cambria has been unable to obtain information on the utility conduits in the area. Once we obtain the information we will submit the findings in a forthcoming report.

CONCLUSIONS

The well survey identified 47 monitoring wells, 7 domestic wells, one irrigation well, five destroyed wells, and two test wells within ½ mile of the site. Only monitoring wells are located downgradient of the subject site. The closest domestic well is located approximately 800 feet west of the site in the upgradient direction. It is unlikely that the site will impact this well. It is unlikely that the site would impact any wells in the study area.

CLOSING

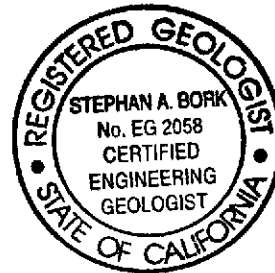
Thank you for your continued assistance with this project. If you have any questions regarding the contents of this report, please call Barbara Jakub at (510) 420-3309.

Sincerely,
Cambria Environmental Technology, Inc.



Barbara Jakub for
Shannon Couch
Staff Geologist

[Signature]
Stephen A. Bork, C.E.G., C.H.G.
Associate Hydrogeologist

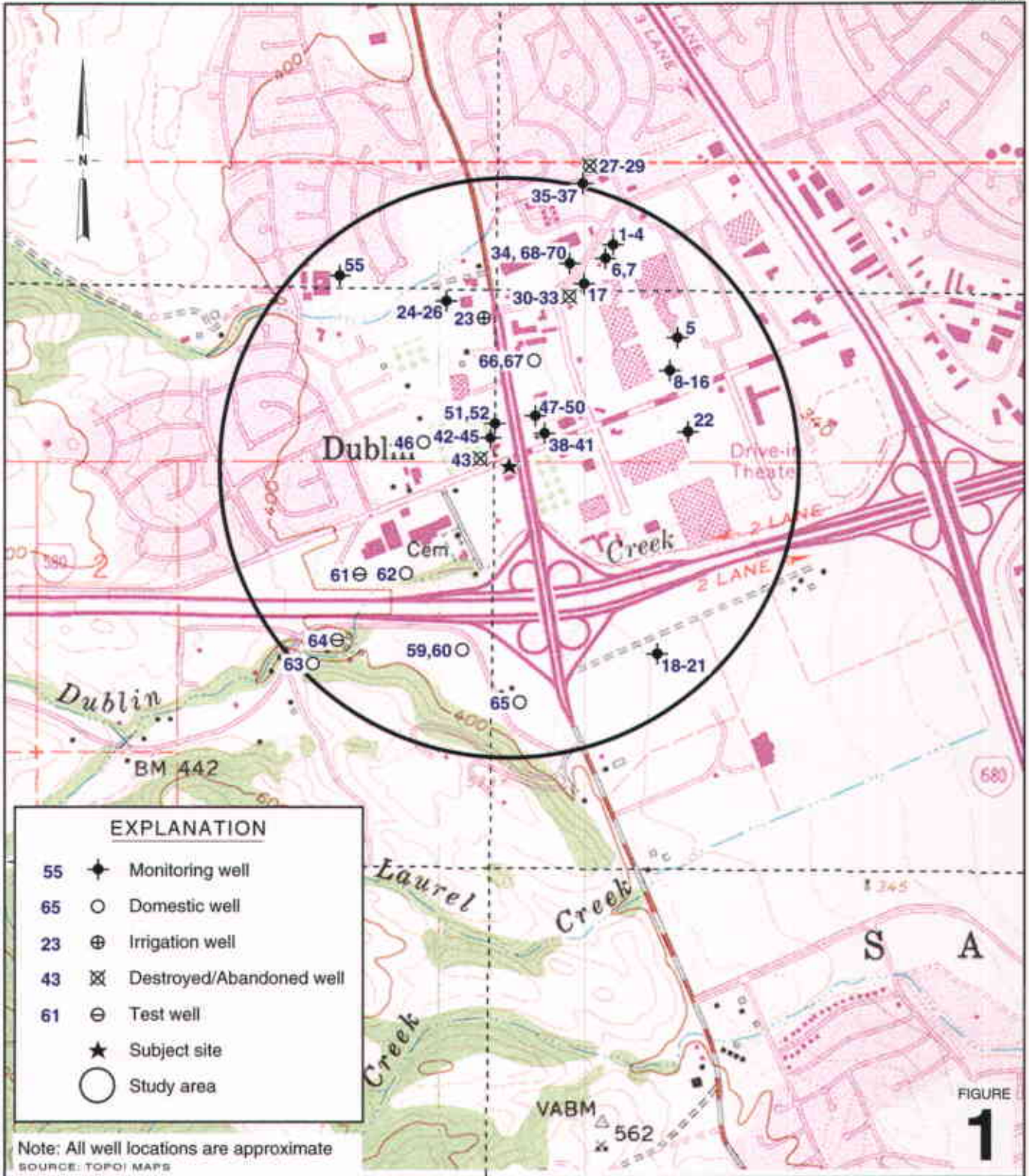


Figures: 1 - Area Well Survey
 2 - Underground Utility Location Map

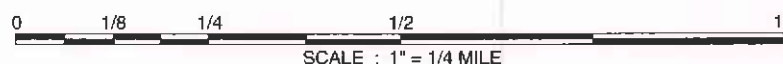
Table: 1 - Well Survey Results

Attachment: A - Water Well Drillers' Reports

cc: Karen Petryna, Equiva Services LLC, P.O. Box 7869, Burbank, California 91510-7869



G:\DUBLIN\11989\FIGURES\WELL_SURVEY.A1









Shell-branded Service Station
 11989 Dublin Boulevard
 Dublin, California
 Incident #98995328



C A M B R I A

Area Well Survey
 (1/2 Mile Radius)

EXPLANATION

- MW-1  Monitoring well location
- SB-1  Soil boring locations for November 16, 1997 investigation
- SB-1  Soil boring locations for August 5, 1998 investigation
- MH  Manhole
-  Storm drain inlet
- - - Sanitary sewer line
-  Direction of flow

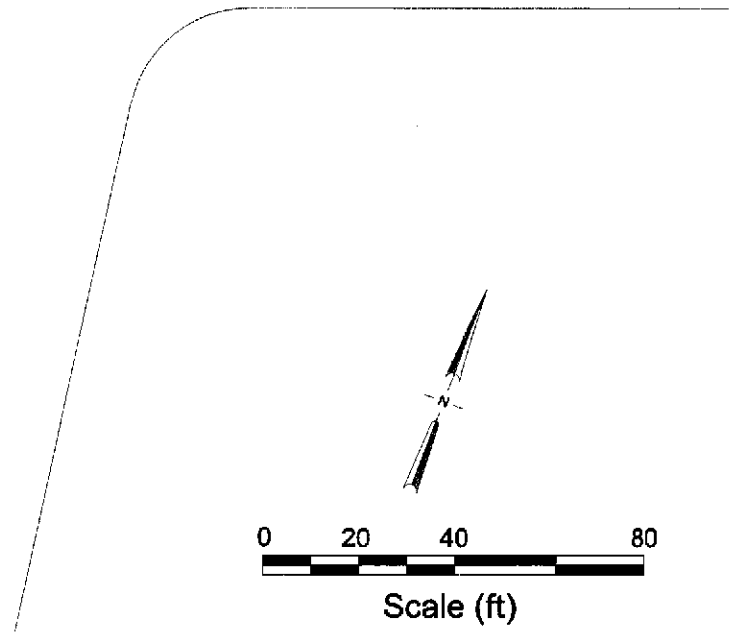
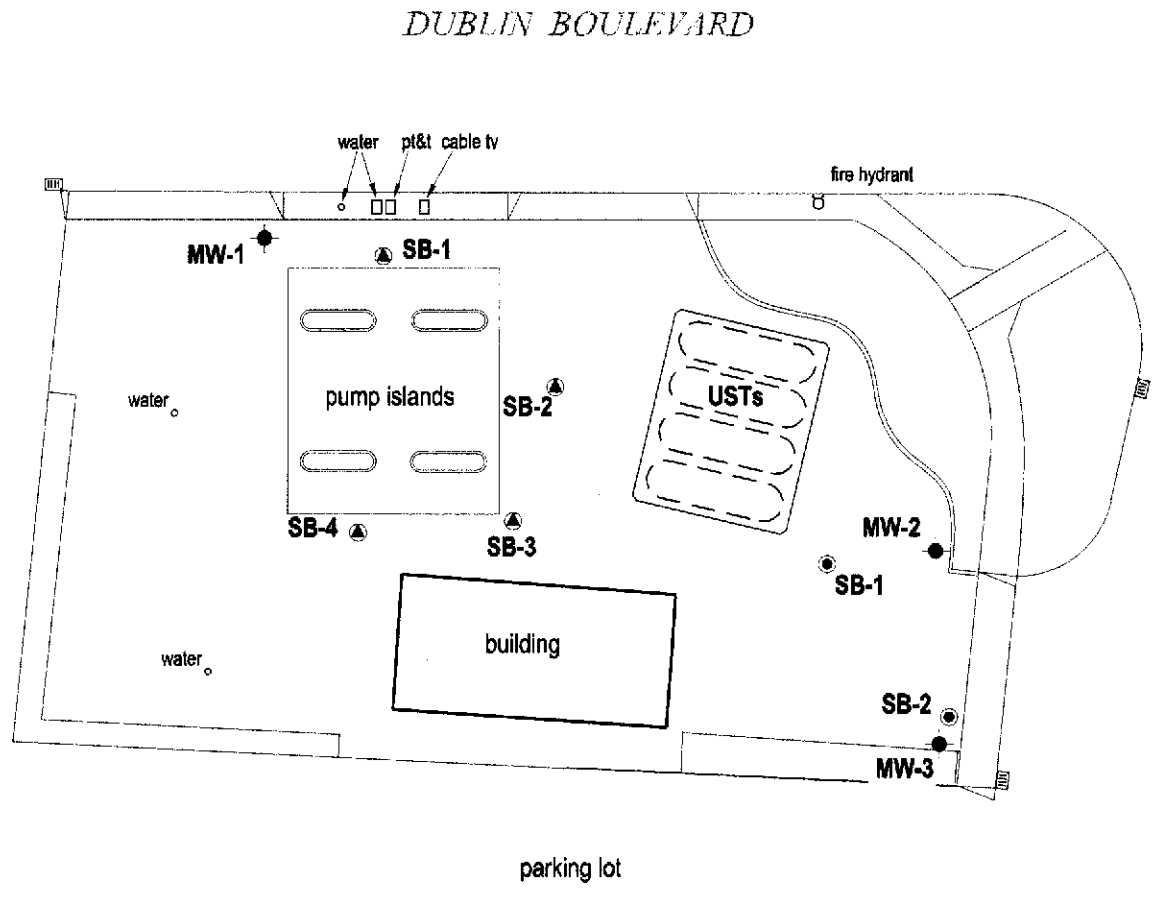
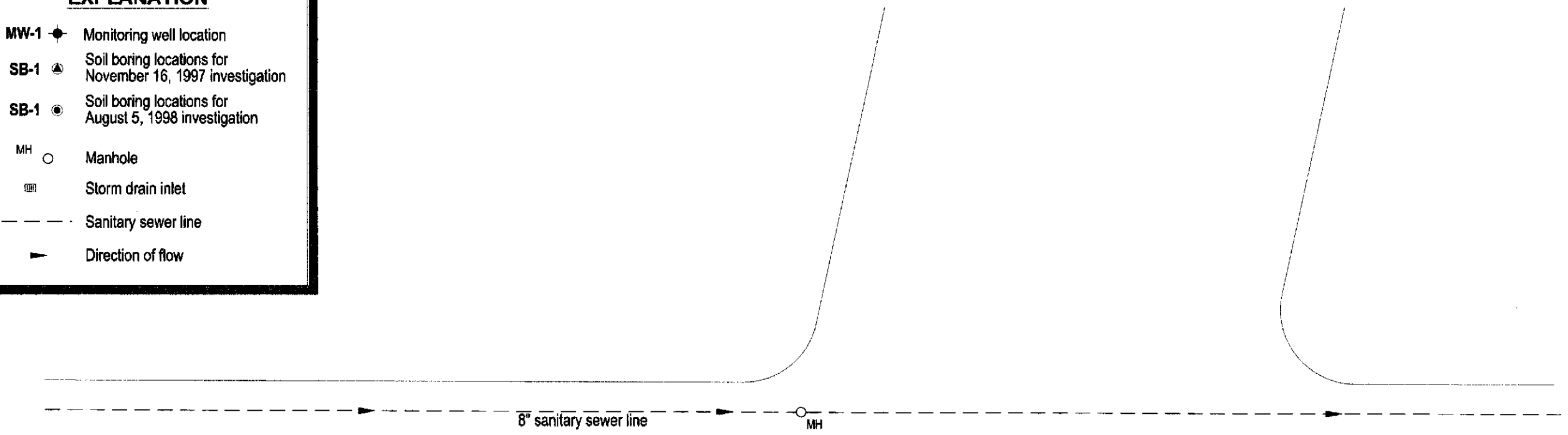


FIGURE
2

Shell-branded Service Station
 11989 Dublin Boulevard
 Dublin, California
 Incident #98995328



C A M B R I A

Underground Utility Location Map

Table 1. Well Survey Results - Shell-branded Service Station, 11989 Dublin Blvd. Dublin California. Incident # 98995328

LOCATION	Well ID	Installation Date	Owner	Use	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)
26	337045	July 27, 1990	Public Storage Inc.	DEST	60		
27	107240	August 7, 1992	Dougherty Regional Fire Authority	DEST	30		
28	107241	August 7, 1992	Dougherty Regional Fire Authority	DEST	30		
29	107242	August 7, 1992	Dougherty Regional Fire Authority	DEST	30		
30	412699A	April 3, 1996	Exxon Company, USA	DEST	25		
31	412699B	April 3, 1996	Exxon Company, USA	DEST	26		
32	412699C	April 3, 1996	Exxon Company, USA	DEST	28		
33	412699D	April 3, 1996	Exxon Company, USA	DEST	26		
34	471514	September 21, 1993	Chevron USA, Inc.	MON	18	3-18	0-2.5
35	425488	September 23, 1993	Dougherty Regional Fire Authority	MON	25	9-24	0-7
36	425486	September 22, 1993	Dougherty Regional Fire Authority	MON	26	10-25	0-8
37	425487	September 24, 1993	Dougherty Regional Fire Authority	MON	26	9-24	0-7
38	340308	March 27, 1990	Chevron USA, Inc.	MON	37	21-36	0-20
39	340307	March 26, 1990	Chevron USA, Inc.	MON	37	22-37	0-20
40	340306	March 26, 1990	Chevron USA, Inc.	MON	37.5	21-36	0-20
41	340305	March 28, 1990	Chevron USA, Inc.	MON	37.5	21-36	0-20
42	364661A	November 7, 1990	Unocal Corp.	MON	20	4-20	0-3
43	364661B	November 6, 1990	Unocal Corp.	MON	24	4-23	0-3
44	364661C	November 6, 1990	Unocal Corp.	MON	20	4-20	0-3
45	364661D	November 6, 1990	Unocal Corp.	MON	20	4-20	0-3
46	33973	July 5, 1979	Dublin Historical Society	DOM	110	60-110	0-30
47	423799	December 6, 1991	Chevron USA, Inc.	MON	35.5	15-35	0-14
48	482155A	November 25, 1992	Chevron USA, Inc.	MON	51.5	22.5-50	0-22
49	482155B	November 24, 1992	Chevron USA, Inc.	MON	31.5	25-30	0-23
50	482155C	November 25, 1992	Chevron USA, Inc.	MON	31.5	25-30	0-23
51	495421A	October 4, 1993	Unocal Corp.	MON	25	10-25	0-8

Table 1. Well Survey Results - Shell-branded Service Station, 11989 Dublin Blvd. Dublin California. Incident # 98995328

LOCATION	Well ID	Installation Date	Owner	Use	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)
Well Locations provided by the State of California Department of Water Resources							
1	01-488A	February 20, 1991	Target Stores Inc.	MON	20.5	5-20	0-3
2	01-488B	February 20, 1991	Target Stores Inc.	MON	20.5	5-20	0-3
3	01-488C	February 19, 1991	Target Stores Inc.	MON	20.5	5-20	0-3
4	01-488D	February 19, 1991	Target Stores Inc.	MON	23	5-20	0-3
5	01-217M	November 8, 2000	Montgomery Ward	DEST	18		
6	285520	June 13, 1991	Target Stores Inc.	MON	20	5-20	0-3
7	285529	September 19, 1991	Target Stores Inc.	MON	15	4.5-14.5	0-3
8	01-413R	January 11, 1989	Montgomery Ward	MON	21	6-21	0-5
9	01-413S	January 20, 1989	Montgomery Ward	MON	12.5	2-12.5	.1-2
10	01-413T	January 12, 1989	Montgomery Ward	MON	12.5	2-12.5	.1-2
11	01-413U	January 12, 1989	Montgomery Ward	MON	12.5	2-12.5	.1-2
12	01-413V	February 8, 1989	Montgomery Ward	MON	22	6.5-22	0-4
13	01-413W	December 2, 1988	Montgomery Ward	MON	26.5	10.5-26.5	0-9.5
14	01-413X	December 1, 1988	Montgomery Ward	MON	13.5	1-13.5	0-1
15	01-217N	August 15, 1989	Montgomery Ward	MON	23	8-23	0-6
16	01-217O	August 15, 1989	Montgomery Ward	MON	25	10-25	0-8
17	01-555R	December 13, 1993	Enea Plaza	MON	23	8-23	0-8
18	01-490H	May 10, 1991	Stoneridge Chrysler/Plymouth	MON	30	15-30	0-15
19	01-490I	May 10, 1991	Stoneridge Chrysler/Plymouth	MON	30	15-30	0-15
20	01-490J	May 11, 1991	Stoneridge Chrysler/Plymouth	MON	30	15-30	0-15
21	01-490K	May 11, 1991	Stoneridge Chrysler/Plymouth	MON	30	15-30	0-15
22	372623	November 20, 1991	Bedford Properties	MON	30	20-30	0-18
23	3S/1W-2B 1	December 13, 1950	R. Banke	IRR	200		
24	253972D	June 1, 1976	Zone 7 Water Agency	MON	47	37-42	24-26
25	337044	July 27, 1990	Public Storage Inc.	DEST	80		

Table 1. Well Survey Results - Shell-branded Service Station, 11989 Dublin Blvd. Dublin California. Incident # 98995328

LOCATION	Well ID	Installation Date	Owner	Use	Depth (fbg)	Screened Interval (fbg)	Sealed Interval (fbg)
52	495421B	October 4, 1993	Unocal Corp.	MON	25	10-25	0-8
53	405163	September 15, 1992	US Geological Survey	MON	503		0-503
54	11746	November 19, 1948	DeLucci	DOM	72		
55	3S/1W-2B2		C.R. Nisen	UNK	33		
56	3S/1W-2K		C.R. Nisen	UNK	35		
57	107488	December 27, 1978	R.B. Furniture	DEST	57		
58	120078	September 25, 1975	Blank	DOM	150	50-150	0-50
59	3S/1W-2 SE		Joe Martin	UNK	204	84-96	
60	3S/1W-2 SE		Joe Martin	UNK	112	32-108	
61	62404	July 12, 1963	Volk-McLain Communities Inc.	TEST	568		0-568
62	62405	August 29, 1963	Volk-McLain Communities Inc.	DOM	593	189-517	0-82
63	162222	March 30, 1985	Walter Panganiban	DOM	400	40-400	0-20
64	162220	March 25, 1985	Walter Panganiban	TEST	300		
65	3S/1W-2 SW		Jim Nutt	UNK	80	30-50	
66	3S/1W-2	November 7, 1958	Roy Neidt	UNK	76	35-72	
67	24364		Coffee	DOM	44		

Notes and Abbreviations:

Location = Column number refers to map location on Figure 1.

Well ID = California State well identification number as recorded by the Department of Water Resources in Sacramento, California.

MON = Monitoring well

DEST = Destroyed well. (Wells do not have screens or seals)

IRR = Irrigation well.

DOM = Domestic well.

TEST = Test well (Wells do not have screens or seals)

UNK = Unknown or unspecified type of well

Attachment A

Water Well Drillers Reports

61-488A

35/IW ID4 (1)

SOIL DRILLING LOG



SB/MW # : MW-1
 # D- 22078
 Page 1 of 2
 Sampler: J. LOVE
John Love
 SIGNATURE OF SAMPLER

PROJECT TARGET-DUBLIN LOCATION APPROX. 70' SE OF TANK VAULT
 TOC ELEVATION 340.20' (MSL) DATE(S) 2/20/91 TOTAL DEPTH 20.5'
 MONITORING DEVICE 580B OVM SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD 5' Continuous Core SUBCONTRACTOR & EQPT GREGG/B-53
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO 0.0' - 5.0' HAND AUGER;
 MEMO 5.0' - 20.0' CONTINUOUS CORE.

Depth Below Surface (ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details
	Blows 6"-6"-6"	BPF								
0.0 - 1.0	Hand Auger		5.0 - 10.0		0	0.0' - 1.0' ASPHALT & BASE.	FB	[Pattern]	5.0	Ground Surface Vault Box Locking Pressure Cap Portland Cement with 5% Bentonite 4" ID Sch 40 PVC Blank Casing 30 Mesh Sand Pack 4" ID Sch 40 PVC Well Screen 0.010" Slot 10" Borehole 16/30 Mesh Sand Pack
1.0 - 4.0						1.0' - 4.0' SILTY CLAY: (0,10,45,45); very dark grayish brown (2.5Y3/2); high plastic fines; very stiff; moist. Trace pebbles.	CH	[Pattern]		
4.0 - 5.0						4.0' - 5.0' SILTY CLAY: (0,5,50,45) olive (5Y4/2); high plastic fines; stiff; moist. Trace pebbles.	CH	[Pattern]		
5.0 - 8.5						5.0' - 8.5' CLAYEY SILT: (0,10,50,40) olive (5Y4/2) with white (2.5Y8/2) mottles; medium plastic fines; stiff; moist to very moist.	CL	[Pattern]		
8.5 - 12.0						8.5' - 12.0' SILTY CLAY: (0,20,40,40); olive (5Y4/2) with white (2.5Y8/2) mottles; medium plastic fines; moderately graded, fine grained sand; stiff; moist to very moist.	CL	[Pattern]		
12.0 - 12.5						12.0' - 12.5' SANDY SILT WITH CLAY: (0,30,40,30) pale yellow (5Y7/3); low to medium plastic fines; moderately graded, fine grained sand; firm to stiff; very moist to saturated.	CL	[Pattern]		
12.5 - 14.0	15.0 - 20.0			0	See Following Page.	12.5' - 14.0' SANDY SILT WITH CLAY: (0,40,35,25) pale yellow (5Y7/3); low plastic fines; moderately graded, medium grained sand; soft to firm; very moist to saturated. Trace shells.	ML/CL	[Pattern]	15.0	
14.0 - 15.0							CL	[Pattern]		15.0

Campbell
 SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
 SENIOR GEOLOGIST
 TITLE

Cliff Campbell
 SIGNATURE OF REVIEWER
 PRINCIPAL HYDROGEOLOGIST CEG # 1455
 TITLE

35/1W 1D4

SOIL DRILLING LOG

SB/MW # : MW-1
 # D- 22078
 Page 2 of 2
 Sampler: J. LOVE



J. Love
 SIGNATURE OF SAMPLER

PROJECT TARGET-DUBLIN LOCATION APPROX. 70' SE OF TANK VAULT
 TOC ELEVATION 340.20' (MSL) DATE(S) 2/20/91 TOTAL DEPTH 20.5'
 MONITORING DEVICE 580B OVM SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD 5' Continuous Core SUBCONTRACTOR & EQPT. GREGG/B-53
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO 0.0' - 5.0' HAND AUGER;
 MEMO 5.0' - 20.0' CONTINUOUS CORE.

Depth Below Surface (ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details	
	Blows 6"-6'-6"	BPF									
17.5			15.0-20.0		0	14.0' - 15.0' CLAYEY SILT: (0, 10,50,40) light brownish gray (2.5Y6/2) to white (2.5Y8/2) with olive yellow (2.5Y6/6) blebs; medium plastic fines; very stiff; moist.	SM				
20					0	15.0' - 15.5' SILTY SAND: (0, 50,40,10); light yellowish brown (2.5Y6/4); slightly plastic fines; poorly graded, fine grained sand; soft; saturated.	CL				
22.5							15.5' - 17.5' SILTY CLAY: (0, 20,45,35) dark grayish brown (2.5Y4/2); medium plastic fines; poorly graded, fine grained sand, very stiff; moist to very moist.	CL			
25							18.0' - 20.5' CLAYEY SILT: (0, 10,50,40); dark grayish brown (2.5Y4/2); medium plastic fines; stiff; moist to very moist.				
27.5											
30											

J. Love
 SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
 SENIOR GEOLOGIST
 TITLE

Clifford Campbell
 SIGNATURE OF REVIEWER
 PRINCIPAL HYDROGEOLOGIST
 CEG # 1455
 TITLE

35/W 1D5

SOIL DRILLING LOG

SB/MW # : MW-2
 # D- 22077
 Page 1 of 2
 Sampler: J. LOVE
John Love
 (SIGNATURE OF SAMPLER)



PROJECT TARGET-DUBLIN LOCATION APPROX. 60' NE OF TANK VAULT
 TOC ELEVATION 340.27' (MSL) DATE(S) 2/19/91 TOTAL DEPTH 20.5'
 MONITORING DEVICE 580B OVM SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD 5' Continuous Core SUBCONTRACTOR & EQPT GREGG/B-53
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO 0.0' - 5.0' HAND AUGER;
 MEMO 5.0' - 20.0' CONTINUOUS CORE.

Depth Below Surface(ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details
	Blows 6"-6'-6"	BPF								
0.0' - 1.0'						ASPHALT & BASE.	RB	[Cross-hatched]		Ground Surface Vault Box
1.0' - 3.0'						CLAYEY SILT: (0,25,40,35); dark gray (5Y4/1) medium plastic fines; well graded sand; stiff; moist.	CL	[Diagonal lines]		Locking Pressure Cap
3.0' - 7.0'						SILTY CLAY: (0,20,40,40); olive gray (5Y5/2); medium to high plastic fines; fine grained sand; very stiff; moist.	CH	[Horizontal lines]		Portland Cement with 5% Bentonite
7.0' - 10.0'			5.0-10.0		55	CLAYEY SILT: (0,10,65,25); light olive gray (5Y6/2); low plastic fines; soft to firm; very moist to saturated. Petroleum odor.	CH	[Horizontal lines]		4" ID Sch 40 PVC Blank Casing
8.0' - 10.0'					548	Increased sand; saturated.	CL	[Diagonal lines]		30 Mesh Sand Pack
10.0' - 12.0'						CLAYEY SILT WITH SAND: (0,25,50,25) dark olive gray (2.5Y3/2); low plastic fines; poorly graded, fine grained sand; firm; very moist.	(SC)	[Diagonal lines]		4" ID Sch 40 PVC Well Screen 0.010" Slot
12.0' - 14.0'			10.0-15.0			CLAYEY SILT WITH SAND: (0,25,50,25) pale olive (5Y6/3); low plastic fines; moderately graded, fine grained sand; firm; very moist.	ML/CL	[Cross-hatched]		10" Borehole
14.0' - 15.0'						SILTY CLAY: (0,10,45,45) olive gray (5Y5/2); high plastic fines; very stiff; moist.	ML/CL	[Cross-hatched]		16/30 Mesh Sand Pack
15.0' - 20.0'			15.0-20.0				CH	[Horizontal lines]		

Campbell in lead
 SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
 SENIOR GEOLOGIST

Clifton Davenport
 SIGNATURE OF REVIEWER
 PRINCIPAL HYDROGEOLOGIST CEG # 1455

TITLE

TITLE

35/1W 1D5

SOIL DRILLING LOG



SB/MW # : MW-2
 # D- 22077
 Page 2 of 2
 Sampler: J. LOVE
John Love
 SIGNATURE OF SAMPLER

PROJECT TARGET-DUBLIN LOCATION APPROX. 60' NE OF TANK VAULT
 TOC ELEVATION 340.27' (MSL) DATE(S) 2/19/81 TOTAL DEPTH 20.5'
 MONITORING DEVICE 580B OVM SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD 5' Continuous Core SUBCONTRACTOR & EQPT GREGG/B-53
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO 0.0' - 5.0' HAND AUGER;
 MEMO 5.0' - 20.0' CONTINUOUS CORE.

Depth Below Surface (ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details
	Blows 6"-6'-6"	BPF								
17.5			15.0-20.0		0	15.0' - 17.0' CLAYEY SILT WITH SAND: (0,25,50,25) pale olive (5Y6/3); low plastic fines; poorly graded, fine grained sand; firm; very moist to saturated.	ML/CL		20.0' - 20.5'	4" ID Sch 40 PVC Well Screen 0.010" Slot 10" Borehole 16/30 Mesh Sand Pack TD
						17.0' - 18.0' CLAYEY SILT WITH SAND: (0,25,45,30) light olive gray (5Y6/2); medium plastic fines; poorly graded, fine grained sand; stiff; very moist.	CL			
20						18.0' - 19.0' SANDY SILT: (0,30,50,20) pale olive (5Y6/3); low plastic fines; poorly graded, fine grained sand; soft to firm; very moist to saturated. 18.5' - 3" clayey sand lense.	ML-CL			
22.5						19.0' - 20.5' SILTY CLAY: (0,10,45,45) olive gray (5Y4/2) high plastic fines; very stiff; moist.	CH			
25										
27.5										
30										

Campbell, Wood
 SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
 SENIOR GEOLOGIST
 TITLE

William DeWitt
 SIGNATURE OF REVIEWER
 PRINCIPAL HYDROGEOLOGIST CEG # 1455
 TITLE

SOIL DRILLING LOG



SB/MW # : MW-3
 # D- 22076
 Page 1 of 2
 Sampler: J. LOVE
J. Love
 SIGNATURE OF SAMPLER

PROJECT TARGET-DUBLIN LOCATION APPROX. 35' NW OF TANK VAULT
 TOC ELEVATION 341.00' (MSL) DATE(S) 2/19/91 TOTAL DEPTH 20.5'
 MONITORING DEVICE 580B OVM SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD 5' CORE BARREL SUBCONTRACTOR & EQPT GREGG/B-53
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO 0.0' - 5.0' HAND AUGER;
 MEMO 5.0' - 20.0' CONTINUOUS CORE.


Depth Below Surface (ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details
	Blows 6"-6'-6"	BPF								
0.0 - 1.0						0.0' - 1.0' ASPHALT & BASE.	RB			Ground Surface Vault Box
1.0 - 3.0						1.0' - 3.0' CLAYEY SILT: (0,25,40,35); dark gray (5Y4/1); medium plastic fines; well graded sand; very stiff; moist.	CL			Locking Pressure Cap
3.0 - 6.0						3.0' - 6.0' CLAYEY SILT: (0,10,50,40); dark gray (5Y4/1); medium to high plastic fines; very stiff; moist.	CL			Portland Cement with 5% Bentonite
6.0 - 10.0			5.0-10.0		0	6.0' - 10.0' SILTY CLAY: (0,20,40,40); grayish brown (2.5Y5/2); medium to high plastic fines; poorly graded, fine grained sand; stiff to very stiff; moist.	CL			4" ID Sch 40 PVC Blank Casing
10.0 - 12.0						10.0' - Grayish brown (2.5Y5/2) with (2.5Y8/2) blebs.	CL/CH			30 Mesh Sand Pack
12.0 - 14.0						10.0' - 12.0' CLAYEY SILT WITH SAND: (0,25,40,35); black (5Y2.5/1) with white (2.5Y8/2) blebs; medium plastic fines; poorly graded, fine grained sand; stiff; very moist to saturated.	CL			4" ID Sch 40 PVC Well Screen 0.020 Slot
14.0 - 16.5						12.0' - 14.0' CLAYEY SILT WITH SAND: (0,30,40,30); light olive gray (5Y6/2) with white (2.5Y8/2); low to medium plastic fines; moderately graded, fine grained sand; firm to stiff; moist to very moist.	CL			10" Borehole
16.5 - 20.0			15.0-20.0		0	14.0' - 16.5' SANDY SILT WITH CLAY: (0,35,40,25); pale olive (5Y6/3); low to medium plastic fines; skip graded sand; soft to firm; vary moist to saturated.	ML/CL			12/20 Mesh Sand Pack

Campbell M. Leach
 SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
 SENIOR GEOLOGIST
 TITLE

Clifton D. ...
 SIGNATURE OF REVIEWER
 PRINCIPAL HYDROGEOLOGIST CEG # 1455
 TITLE

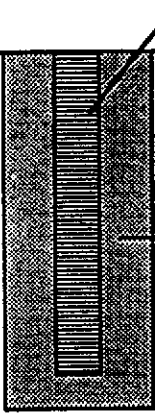
3S/IW ID6

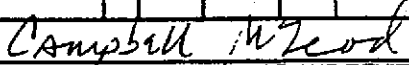
SOIL DRILLING LOG


SB/MW # : MW-3
 # D- 22078
 Page 2 of 2
 Sampler: J. LOVE

 SIGNATURE OF SAMPLER



PROJECT TARGET-DUBLIN LOCATION APPROX. 35' NW OF TANK VAULT
 TOC ELEVATION 341.00' (MSL) DATE(S) 2/19/91 TOTAL DEPTH 20.5'
 MONITORING DEVICE 580B OVM SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD 5' CORE BARREL SUBCONTRACTOR & EQPT GREGG/B-53
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO 0.0' - 5.0' HAND AUGER;
 MEMO 5.0' - 20.0' CONTINUOUS CORE.

Depth Below Surface (ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details
	Blows 6"-6'-6"	BPF								
17.5			15.0-20.0		0	See Previous Page.			20.0' 20.5'	 4" ID Sch 40 PVC Well Screen 0.020 Slot 10" Borehole 12/20 Mesh Sand Pack TD
						16.5' - 17.5' SANDY SILT WITH CLAY: (0,35,40,25); olive gray (5Y4/2); low to medium plastic fines; skip graded sand; soft to firm; very moist to saturated.	ML/CL			
						17.5' 18.5' SILTY CLAY: (0, 25,35,40); olive gray (5Y4/2); medium plastic fines; poorly graded, fine grained sand; moist to very moist.	ML/CL			
						18.5' - 19.0' SILTY SAND: (0, 50,45,5) olive gray (5Y4/2); slightly plastic fines; poorly graded, fine grained sand; very moist to saturated.	CL			
22.5						19.0' - 20.5' SILTY CLAY: (0, 20,35,45); very dark grayish brown (2.5Y3/2); medium plastic fines; very stiff; poorly graded, fine grained sand; moist.	ML/SM			
25							CL			
27.5										
30										


 SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
 SENIOR GEOLOGIST


 SIGNATURE OF REVIEWER
 PRINCIPAL HYDROGEOLOGIST CEG # 1455

TITLE

TITLE

35/IW ID7

(4)

SOIL DRILLING LOG



SB/MW # : MW-4
 # D- 22079
 Page 1 of 2
 Sampler: J. LOVE

 SIGNATURE OF SAMPLER

PROJECT TARGET-DUBLIN LOCATION APPROX. 10' SOUTH OF TANK VAULT
 TOC ELEVATION 342.11' (MSL) DATE(S) 2/20/91 TOTAL DEPTH 23.0'
 MONITORING DEVICE 580B OVM SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD 5' Continuous Core SUBCONTRACTOR & EQPT GREGG/B-53
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO 0.0' - 5.0' HAND AUGER;
 MEMO 5.0' - 15.0' MODIFIED CALIFORNIA SPLIT SPOON; 15.0' - 23.0' CONTINUOUS CORE.

Depth Below Surface(ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details
	Blows 6"-6"-6"	BPF								
0.0' - 2.0'	Hand Auger					GRASS & TOP SOIL.				Ground Surface Vault Box
2.0' - 6.0'					1.0	SILTY CLAY: (0,10,45,45) black (10YR2/1); high plastic fines; very stiff; moist.	CH			Locking Pressure Cap
5.0' - 6.5'	12-26-36	62	5.0-6.5		49.9	Petroleum odor.				Portland Cement with 5% Bentonite
6.0' - 9.5'	10-15-20	35	6.5-8.0	55462 55463	822	SILTY CLAY: (0,5,50,45) olive gray (5Y5/2); high plastic fines; very stiff; moist; petroleum odor.	CH			4" ID Sch 40 PVC Blank Casing
8.0' - 9.5'	10-20-30	50	8.0-9.5		7.6	Olive gray (5Y5/2) with yellowish brown (2.5Y6/4) mottles.	CH			30 Mesh Sand Pack
9.5' - 12.5'	10-15-20	35	9.5-11.0		0	CLAYEY SILT: (0,15,50,35) gray (5Y6/1); medium plastic fines; poorly graded, fine grained sand; firm to stiff; moist.	CL			4" ID Sch 40 PVC Well Screen 0.010" Slot
10.0' - 12.5'	10-20-20	40	11.0-12.5		0					10" Borehole
12.5' - 14.0'	10-21-22	43	12.5-14.0		0					
14.0' - 15.0'	10-24	34	14.0-15.0		0	CLAYEY SILT: (0,10,50,40) dark greenish gray (5GY4/1) medium plastic fines; stiff; moist to saturated.	CL			16/30 Mesh Sand Pack
15.0' - 20.0'			15.0-20.0		0					

Campbell, Wood
 SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
 SENIOR GEOLOGIST

 TITLE

Clifton Campbell
 SIGNATURE OF REVIEWER
 PRINCIPAL HYDROGEOLOGIST CEG # 1455

 TITLE

01-488 D

3S/IW ID7

SOIL DRILLING LOG

SB/MW # : MW-4
 # D- 22079
 Page 2 of 2
 Sampler: J. LOVE
J. Love
 SIGNATURE OF SAMPLER



PROJECT TARGET-DUBLIN LOCATION APPROX. 10' SOUTH OF TANK VAULT
 TOC ELEVATION 342.11' (MSL) DATE(S) 2/20/91 TOTAL DEPTH 23.0'
 MONITORING DEVICE 580B OVM SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD 5' CONTINUOUS CORE SUBCONTRACTOR & EQPT GREGG/B-53
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO 0.0' - 5.0' HAND AUGER;
 MEMO 5.0' - 15.0' MODIFIED CALIFORNIA SPLIT SPOON; 15.0' - 23.0' CONTINUOUS CORE.

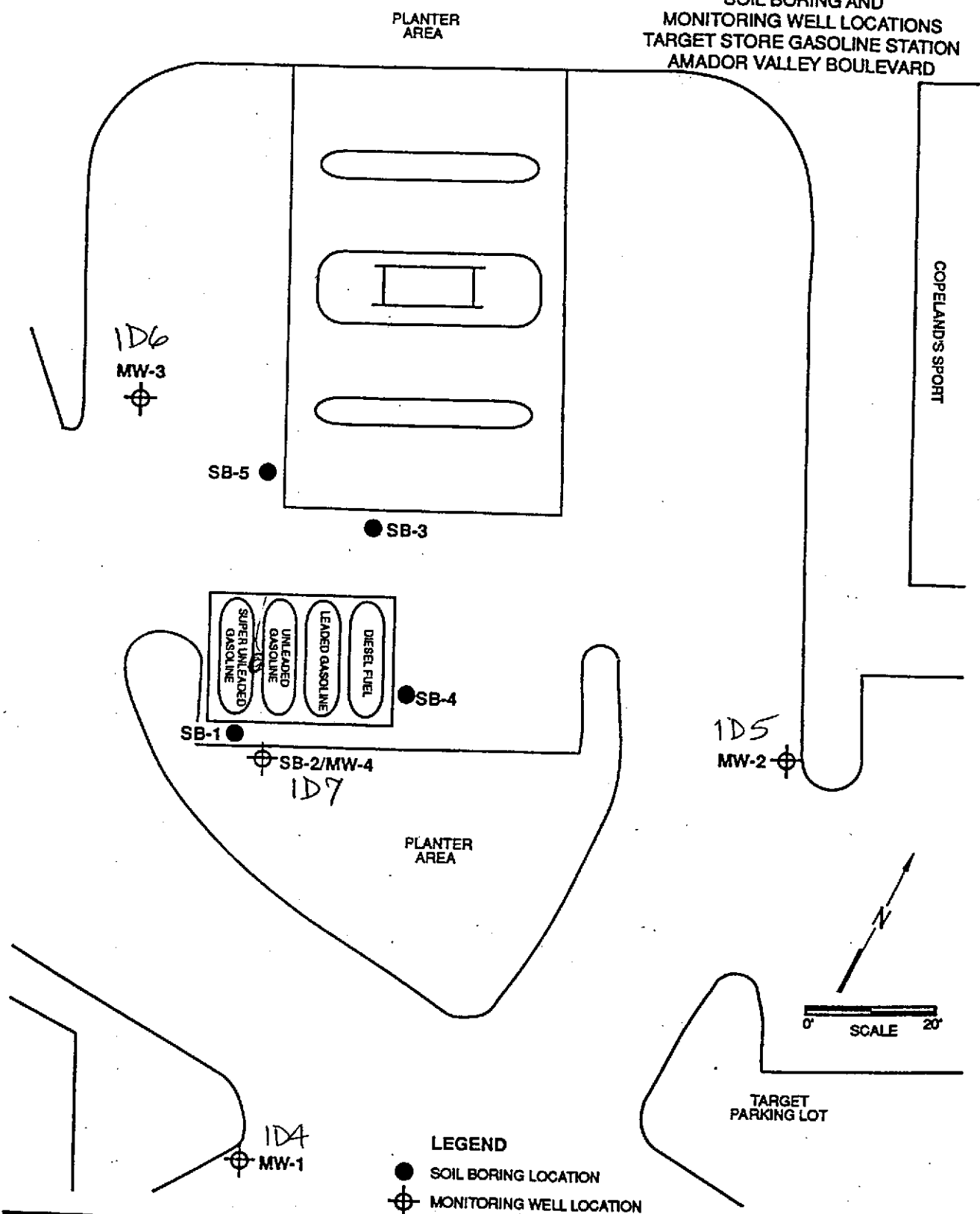
Depth Below Surface (ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details
	Blows 6"-6"-6"	BPF								
17.5						15.0' - 18.0' CLAYEY SILT: (0, 10,55,35) light gray (2.5Y7/2) to olive yellow (2.5Y6/6); medium plastic fines; stiff; very moist.	CL			
20			20.0-23.0		0	18.0' - 19.5' CLAYEY SILT WITH SAND: (0,25,45,30) dark grayish brown (2.5Y4/2); medium plastic fines; moderately graded, fine grained sand; stiff; moist to saturated.	CL			
22.5						19.5' - 20.0' SILTY SAND: (0, 55,45,0) dark grayish brown (2.5Y4/2); poorly graded, fine grained sand; soft; saturated.	SM			
25						20.0' - 23.0' SILTY CLAY: (0, 15,40,45) dark grayish brown (2.5Y3/2); medium plastic fines; poorly graded, fine grained sand; very stiff; moist to very moist.	CL			
27.5										
30										

Campbell
 SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
 SENIOR GEOLOGIST
 TITLE

Alton
 SIGNATURE OF REVIEWER
 PRINCIPAL HYDROGEOLOGIST
 CEG # 1455
 TITLE

AMADOR VALLEY BLVD.

FIGURE 2
SOIL BORING AND
MONITORING WELL LOCATIONS
TARGET STORE GASOLINE STATION
AMADOR VALLEY BOULEVARD



- LEGEND**
- SOIL BORING LOCATION
 - ⊕ MONITORING WELL LOCATION

418-290-1739 Fax 418-770-9608		A.D. Sedlich and Assoc. Inc. 6267 th - Inaugural Avenue Newark, CA 94560		Project Name: Montgomery Ward	
Boring/Well ID: 1188002R-6		Date Started: 11/8		Date Completed: 11/8	
Project and Task Number: 1188002R		Datum:		No. of Samples:	
Size and Type of Casing: 4" PVC		Completion Depth:		Water Level Depth:	
Drilling Method/Equip: Mobil Hollow Stem		Perf:		From: To:	
Drilling Agency: Viking		Pack:		From: To:	
Driller:		Drill Bit:		Seal 1: From: To:	
Elev TOC: MSL		Elev WL: MSL		Seal 2: From: To:	

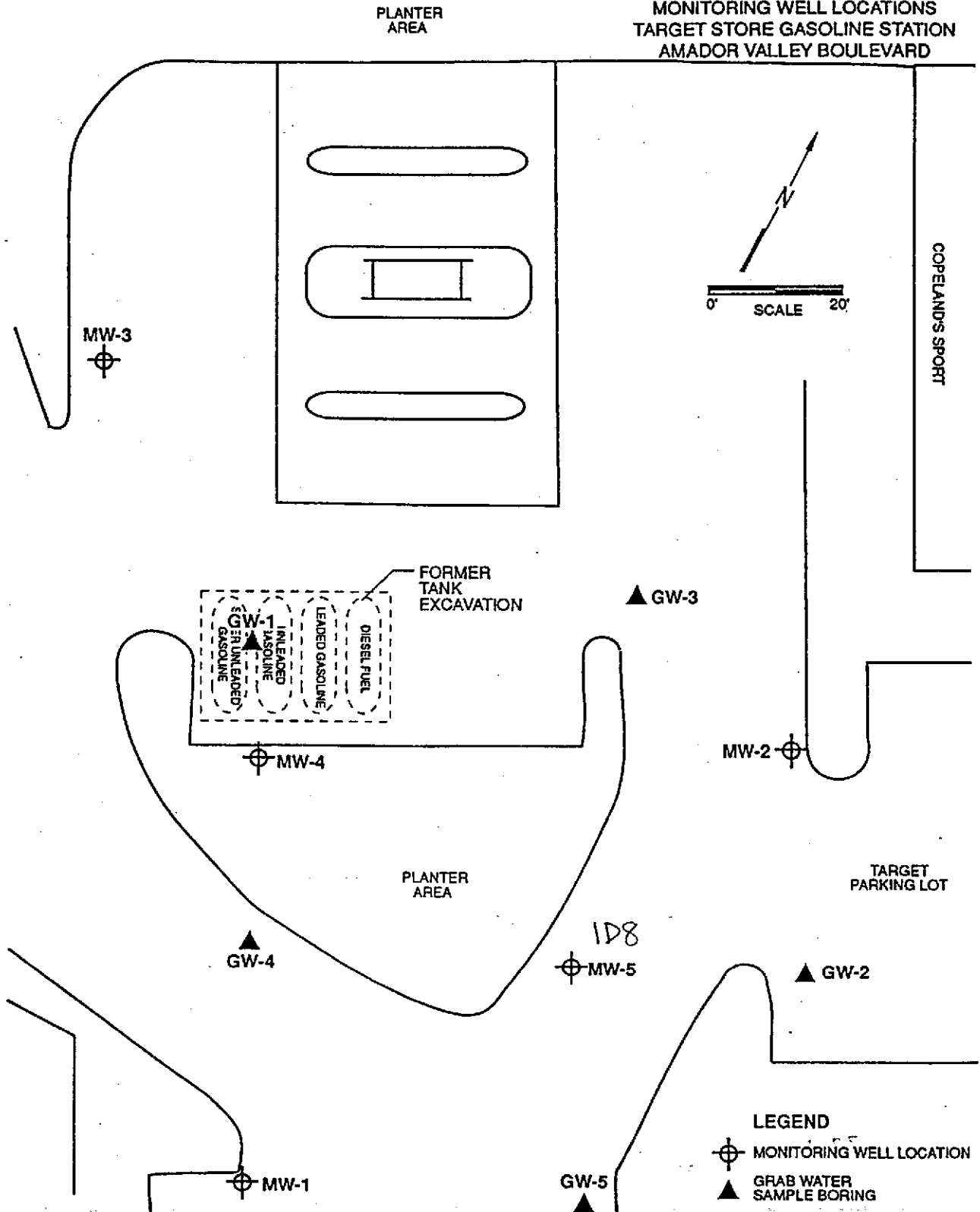
Depth (feet)	Sample	Blws/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
5			Casing removed Bore hole redrilled to 12" diameter and 18' depth Mixture concrete/bentonite used to fill bore hole to within 3.5 feet of grade. Concrete used to fill to within 6-8" of grade. Blacktop to grade.	*	
10					
15			WELL CLOSURE - Well 3S/IW- 106 IE3		
20					
25					
30					

Logged by:
Figure
Page 1 of

* INDICATE WELL COVER AND / OR LOCK

35/1W 1D8

FIGURE 2
SOIL BORING AND
MONITORING WELL LOCATIONS
TARGET STORE GASOLINE STATION
AMADOR VALLEY BOULEVARD



- LEGEND
- ⊕ MONITORING WELL LOCATION
 - ▲ GRAB WATER SAMPLE BORING

CONFIDENTIAL

**STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)**

REMOVED

SOIL DRILLING LOG



SB/MW # : MW-5
 # D- 24120
 Page 1 of 2
 Sampler: B. WRIGHT

SIGNATURE OF SAMPLER

PROJECT TARGET LOCATION DUBLIN, CALIFORNIA
 TOC ELEVATION 340.09 (MSL) DATE(S) 6/13/91 TOTAL DEPTH 20.0'
 MONITORING DEVICE HNu SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD CONTINUOUS CORE SUBCONTRACTOR & EQPT ASE B-61
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO _____
 MEMO _____

Depth Below Surface (ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details
	Blows 6"-6'-6"	BPF								
0.0 - 5.0	Hand Auger		0.0-5.0		4	0.0' - 1.0' ASPHALT & BASE.	RB			Traffic Rated Vault Box Locking Cap
1.0 - 5.0						1.0' - 5.0' SILTY CLAY: (0, 15, 45, 40); very dark gray (2.5Y 3/0); high plastic fines; stiff; moist.	CH-CL			Portland Cement with 5% Bentonite
5.0 - 10.0			5.0-10.0		4	5.0' - 11.0' SANDY CLAY: (0, 30, 40, 30); very dark gray (5Y3/1) with olive (5Y4/3) mottles; medium plastic fines; fine grained sand, stiff; moist.	CL			4" ID Sch 40 PVC Blank Casing
10.0 - 15.0			10.0-15.0		0	11.0' - 12.0' CLAYEY SAND: (0, 50, 35, 15); very dark gray (2.5Y3/0); low plastic fines; fine to medium grained sand, soft; saturated.	SC			30 Mesh Sand Pack
12.0 - 13.0						12.0' - 13.0' SANDY CLAY: (0, 35, 40, 25); olive (5Y4/3); medium plastic fines; fine grained sand, slightly stiff; very moist.	CL			4" ID Sch 40 PVC Well Screen 0.01" Slot
13.0 - 20.0			15.0-20.0		0	13.0' - 20.0' SILTY CLAY: (0, 20, 45, 35); olive gray (5Y4/2); high plastic fines; stiff; moist.	CL			10" Borehole 16/30 Mesh Sand Pack

Campbell/Wood
 SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
 SENIOR GEOLOGIST
 TITLE

 SIGNATURE OF REVIEWER
 PRINCIPAL HYDROGEOLOGIST CEG # 1455
 TITLE

35/IW 1D8

SOIL DRILLING LOG

SB/MW # : MW-5
 # D- 24120
 Page 2 of 2
 Sampler: B. WRIGHT



SIGNATURE OF SAMPLER

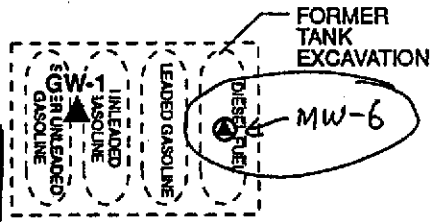
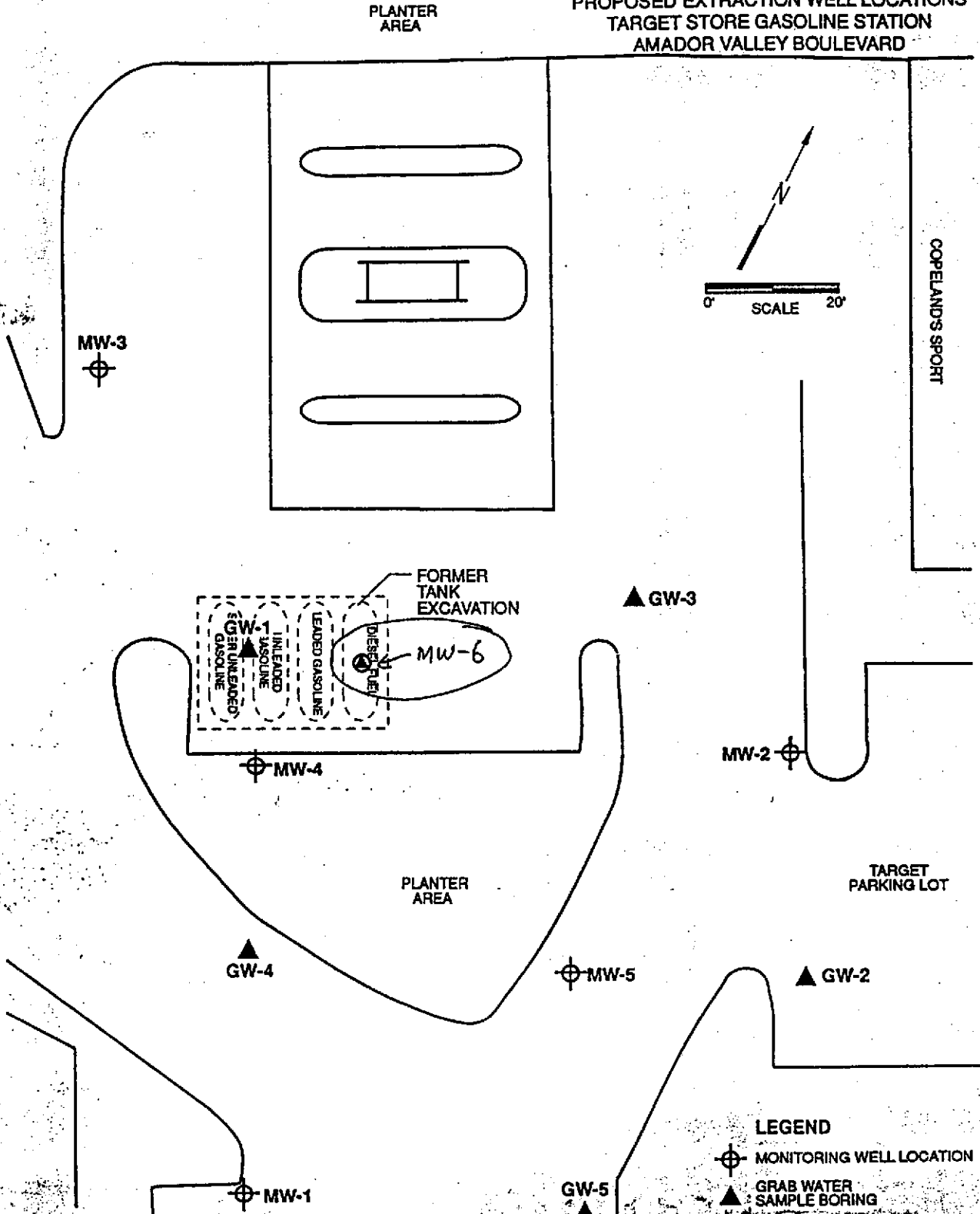
PROJECT _____ TARGET _____ LOCATION DUBLIN, CALIFORNIA
 TOC ELEVATION _____ (MSL) DATE(S) 6/13/91 TOTAL DEPTH 20.0'
 MONITORING DEVICE HNu SCREENED INTERVAL 5.0' - 20.0'
 SAMPLING METHOD CONTINUOUS CORE SUBCONTRACTOR & EQPT ASE B-61
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO _____
 MEMO _____

Depth Below Surface (ft.)	Penetration Results		Sampler Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details
	Blows 6"-6'-6"	BPF								
17.5			15.0-20.0		0	See Previous Page.	CL			
20									20' T.D.	
22.5										
25										
27.5										
30										

SIGNATURE OF FIELD SUPERVISOR AND REVIEWER _____
 SENIOR GEOLOGIST
 TITLE _____

SIGNATURE OF REVIEWER _____
 PRINCIPAL HYDROGEOLOGIST CEG # 1455
 TITLE _____

FIGURE 1
SOIL BORING, MONITORING WELL AND
PROPOSED EXTRACTION WELL LOCATIONS
TARGET STORE GASOLINE STATION
AMADOR VALLEY BOULEVARD



- LEGEND**
- ⊕ MONITORING WELL LOCATION
 - ▲ GRAB WATER SAMPLE BORING
 - WELL MW-6

CONFIDENTIAL

**STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)**

REMOVED

35/1W1D9

SB/MW #: MW-6

D-23085

Page 1 of 1

Sampler: M. Christensen

SOIL DRILLING LOG

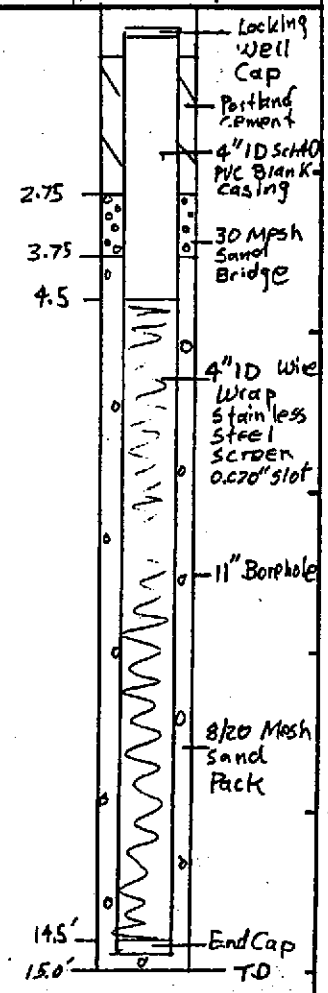


SIGNATURE OF SAMPLER

PROJECT Target - Dublin LOCATION 25' NNE from MW-4.
 ELEVATION (MSL) DATE(S) 9-19-91 TOTAL DEPTH 15'
 MONITORING DEVICE 580 B OVM, LEL, Dregger SCREENED INTERVAL 4.5'-14.5'
 SAMPLING METHOD 5' Core Barrel SUBCONTRACTOR & EQPT REGG DRILLING MOBILE B-53
 PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO
 MEMO LEL-3% Drill Cuttings, Benzene, Dregger - 7 ppm Drill Cuttings

Depth Below Surface (ft.)	Penetration Results		Sampler Depth Interval (ft.)	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Sampled Depth	Borehole Abandonment/ Well Construction Details	Vault Box
	Blows 6"-6'-6"	BPF									
0.0-5.0	NA	NA	0.0-5.0		2.2	0.0'-12.0' SILTY GRAVELS (50,35,15,0); light yellowish brown (10YR 6/4); non-plastic fine to fine to coarse sand; angular to sub-angular gravel; well graded; dense; slightly moist. Fill material.	GW		0.0-5.0		
5.0-10.0			5.0-10.0		2.9	5'- (45,35,15,5); brown (10YR 5/3). 8' - Saturated.			5.0-10.0		
10.0-15.0			10.0-15.0		6.1	1'-10" - Product Sheen on sample and cuttings.			10.0-15.0		
12.5-13.0					395	12.5-13.0' SANDS (15,80,5,0); variegated; non-plastic; fine to coarse; well graded; dense; saturated. Product Sheen.	SW		12.5-13.0		
13.0-15.0					35.1	13.0-15.0' SILTY CLAY (0,20,40,40); grayish brown (2.5Y 5/2) streaked with gray (2.5Y 6/6) and light gray (10YR 7/1); high plastic; fine sand; stiff; moist.	CL		13.0-15.0		

8' V



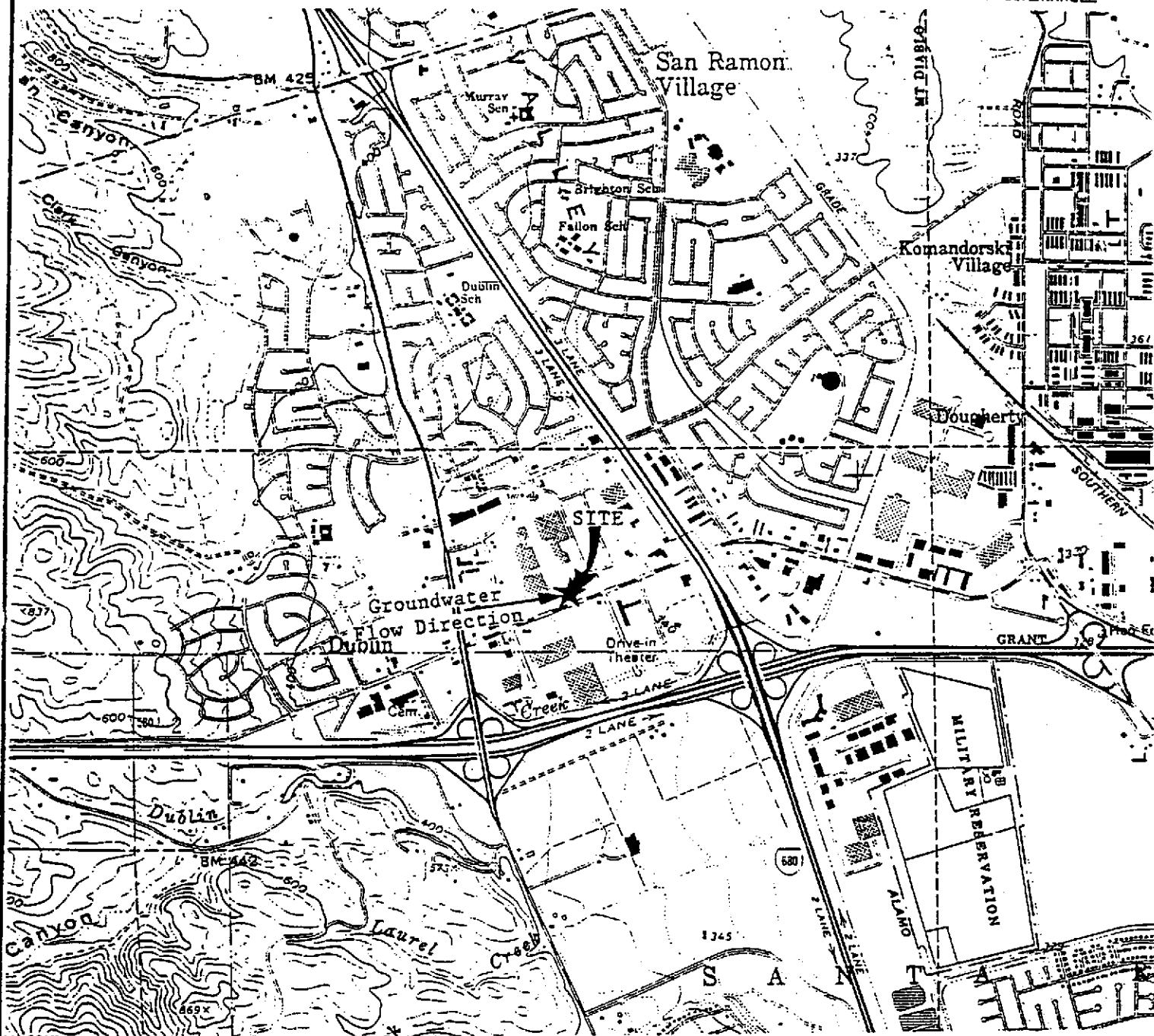
SIGNATURE OF FIELD SUPERVISOR AND REVIEWER

SIGNATURE OF REVIEWER

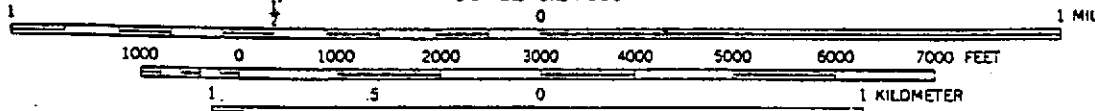
TITLE

TITLE

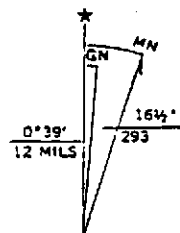
DUBLIN QUADRANGLE
 CALIFORNIA
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 NW/4 LIVERMORE 15' QUADRANGLE



SCALE 1:24000



CONTOUR INTERVAL 40 FEET
 DOTTED LINES REPRESENT 10-FOOT CONTOURS
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



UTM GRID AND 1980 MAGNETIC NO DECLINATION AT CENTER OF SHEET

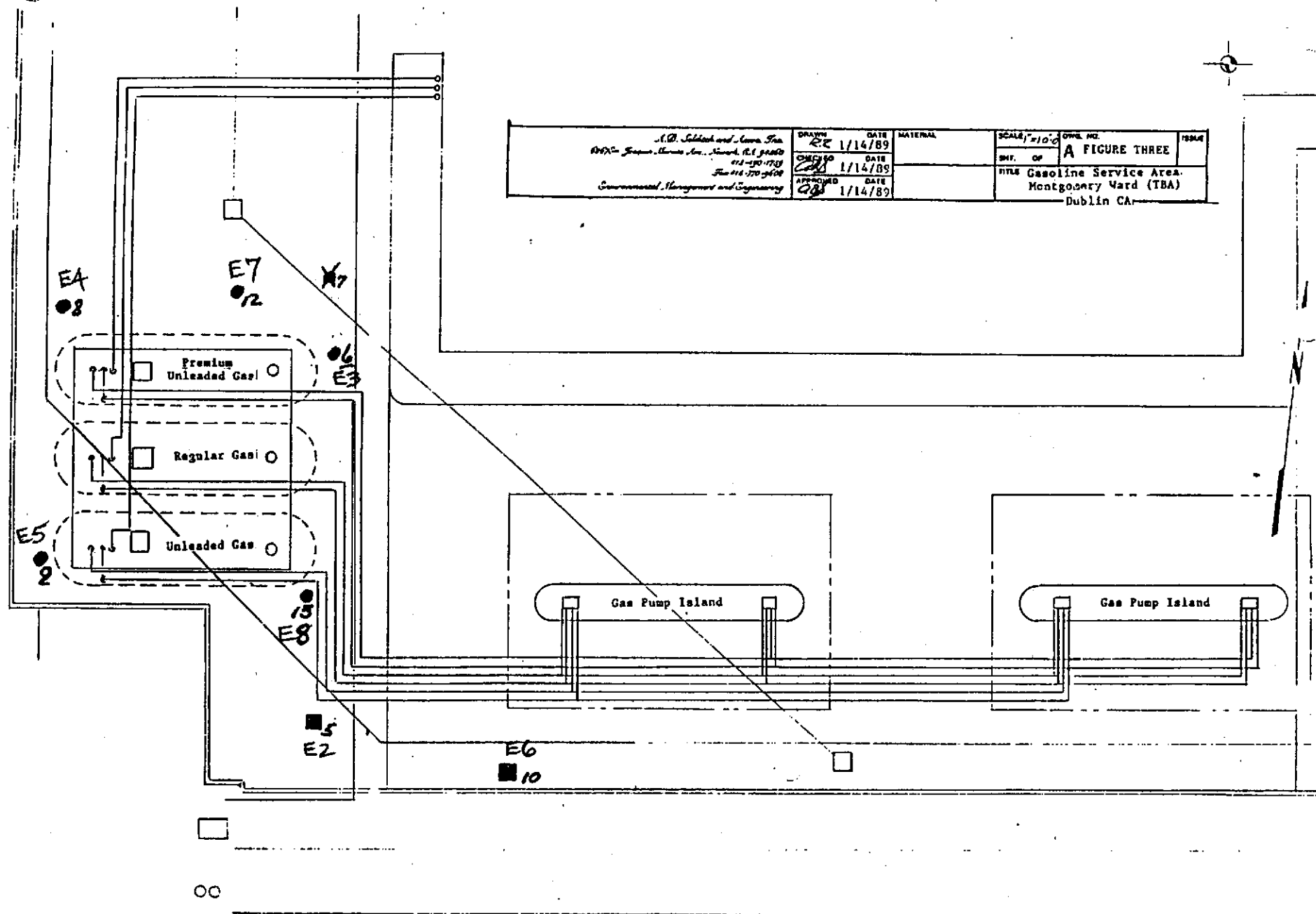
A.D. Seibert and Assoc. Inc.
 2000 - James Street Ave., Newark, Ct. 06460
 203-290-1743
 Fax 203-770-9608

DRAWN <i>ABS</i>	DATE 1/14/89	MATERIAL
CHECKED <i>ABS</i>	DATE 1/14/89	
APPROVED	DATE	

SCALE	DWG. NO. A Figure 2.	15
SHT. OF		
TITLE	MONTGOMERY WARD	

S/W IE2 TO IE8

J.D. Schick and Assoc. Inc. 6000 In. Square, Meriden Ave., Newark, N.J. 07102 Tel: 973-770-1700 Fax: 973-770-4100 Environmental Management and Engineering		DRAWN EE 1/14/89	DATE 1/14/89	MATERIAL	SCALE: 1"=10'-0"	SHEET NO. A FIGURE THREE	ISSUE
CHECKED GDB 1/14/89		DATE 1/14/89	TITLE Gasoline Service Area Montgomery Ward (TBA) Dublin CA				
APPROVED GDB 1/14/89		DATE 1/14/89					



- Vapor/Product Removal Well
- Monitoring Well
- X Abandoned

Dublin Blvd.

Figure 3

01-41325

01-413R-X

A.D. Selditch and Assoc. Inc.
6267E- Joaquin Murietta Ave., Newark, CA 94560

Exhibit I

WELL LOG

35/IW IEZ

415-400-1759 Fax 415-770-9008		A.D. Seibach and Assoc. Inc. 62675 - Joannin, Maraca - Ave., Newark, Ct. 04560		Project Name: MONTGOMERY WARD DUBLIN	
Boring/Well ID: 1188002R-5		Date Started: 1/11/89		Date Completed: 1/11/89	
Project and Task Number: 1188002R		Datum:		No. of Samples: 41	
Size and Type of Casing: 2" PVC		Completion Depth: 22'		Water Level Depth: 12" ATD	
Drilling Method/Equip: DIEDRICH D-25		Perf: 0.02 Slotted		From: 7' To: 22'	
Drilling Agency: ENSCOI		Pack: Sand		From: 5' To: 22'	
Driller: Cam		Drill Bit 3' Hollow Core		Seal 1: Bentonite	
Elev TOC: MSL		Elev WL: MSL		Seal 2: Concrete	
				From: 4' To: 5'	
				From: Grade To: 4"	

Depth (feet)	Sample	Blws/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
			AC Black top		
			BC Gravel, medium brown, sandy, silty, slightly moist.		
			Clay, medium to dark brown, sandy, silty, moist, becoming more sandy.		
5			Clay, light brown, stiff, moist, slightly silty.		
	15				Sample No. 5-1-2 No Odor
10			Clay, light gray, mottled brown, soft moist to wet.		
	11				Sample No. 5-2-2 Slight odor at tip ▽ ATD
15			Clay, light gray, mottled brown, sandy, wet soft.		
	5				Sample No 5-3-2 No Odor
20			Clay, light brown mottled gray, soft moist.		
	8				Sample No. 5-4-2 No Odor
			Bottom Of Boring		
25					
30					

Logged by: IMH

Figure

Page 1 of

* INDICATE WELL COVER AND / OR LOCK

WELL LOG

35/IW 1E3

415-190-1739 Fax 415-770-9608		A.D. Seidlich and Assoc. Inc. 6267 ^{1/2} - Joaquin Muravia Ave., Newark, C.I. 94560		Project Name: Montgomery Ward Dublin	
Boring/Well ID: 1188002-R-6		Date Started: 1-11-89		Date Completed: 1-20-89	
Project and Task Number: 1188002-R1		Datum:		No. of Samples: None	
Size and Type of Casing: 4" PVC		Completion Depth: 12'6"		Water Level Depth: 11'6"	
Drilling Method/Equip: Mobil B-61		Perf: 0.020 Slots		From: 2' To: 12'6"	
Drilling Agency: ENSCO		Pack: Pea Gravel		From: 2' To: 12'6"	
Driller: Scott Davison		Drill Bit: 10" Hollow Core		Seal 1: Bentonite	
Elev TOC: MSL		Elev WL: MSL		Seal 2: Concrete	
				From: 1' To: 2'	
				From: 0' To: 1'	

Depth (feet)	Sample	Blows/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
			AC		
			BC Gravel, light brown, sandy, silty, moist		
			Gravel, light to dark, gray, moist.		
			"Pea gravel"		
5					
10					
			Bottom of Boring		▽ ATD
			Refusal--Concrete Pad, Suspected Tank Hold Down		Strong product odor on bottom auger. Permanent "Cap" on bottom of casing
15					
20					
25					
30					

Logged by: IMH
Figure
Page 1 of 1

* INDICATE WELL COVER AND LOCK

WELL LOG

415-190-1739 Fax 415-770-9608		A.D. Sedlitz and Assoc. Inc. 62673 - Joaquin Surveo Ave., Newark, CA 94560		Project Name: Montgomery Ward Dublin	
Boring/Well ID: 1188002-R-7/		Date Started: 1/11/89		Date Completed: 1/12/89	
Project and Task Number: 1188002-R/		Datum:		No. of Samples:	
Size and Type of Casing: 4" PVC		Completion Depth:		Water Level Depth:	
Drilling Method/Equip: Diedrich D-25		Perf:		From: To:	
Drilling Agency: ENSCO		Pack:		From: To:	
Driller: CAM		Drill Bit: 6" cont. flight		Seal 1: From: To:	
Elev TOC: MSL		Elev WL: MSL		Seal 2: From: To:	

Depth (feet)	Sample	Blws/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
			ACI		
			BC gravel, light brown, sandy, silty, moist		
			Clay, medium gray, silty, moist		
			Bottom of Boring		
5			BORING ABANDONED		Note: Hit white PVC irrigation line @ 1'± Damage repaired 1-12-89
10					
15					
20					
25					
30					

* INDICATE WELL COVER AND / OR LOCK

Logged by: IMH
Figure
Page 1 of 1

WELL LOG

01-4137
35/IW 1E4

415-490-1759 FAX 415-770-9608		A.D. Sellitch and Assoc. Inc. 6267 th - Joaquin, Murietta Ave., Newark, CA 94560		Project Name: Montgomery Ward Dublin	
Boring/Well ID: 1188002-R-8		Date Started: 1-12-89		Date Completed: 1/12/89	
Project and Task Number: 1188002-R		Datum:		No. of Samples: None	
Size and Type of Casing: 4" PVC		Completion Depth: 12'6"		Water Level Depth: 11'6"	
Drilling Method/Equip: Mobil B-61		Perf: 0.020 Slot		From: 2' To: 12'6"	
Drilling Agency: ENSCO		Pack: Pea Gravel		From: To: 12'6"	
Driller:		Drill Bit: 10" hollow stem		Seal 1: Concrete	
Elev TOC: MSL		Elev WL: MSL		Seal 2: Bentonite	
				From: Grade To: 2"	
				From: 2' To: 2'	

Depth (feet)	Sample	Blws/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
			ACI		
			BC Gravel, light brown, sandy, silty, moist.		
5			Gravel, light to dark gray, moist. "Pea gravel"		
10					
			Refusal--Concrete Slab Believed to be Tank Holddown Slab		▽ ATD
			Bottom of Boring		Free product at bottom of boring
15					
20					
25					
30					

Logged by: IMH
Figure
Page 1 of 1

* INDICATE WELL COVER AND / OR LOCK

WELL LOG

35/1W 1E5

415-490-1739 Fax 415-770-9608		A.D. Selditch and Assoc. Inc. 62674 - Joaquín Murrieta Ave., Newark, CA 94560		Project Name:	
Boring/Well ID: 1188002-R-9		Date Started: 1-12-89		Date Completed: 1-20-89	
Project and Task Number: 1188002-R		Datum:		No. of Samples: None	
Size and Type of Casing: 4" PVC		Completion Depth: 12.5'		Water Level Depth: 11.5'	
Drilling Method/Equip: Mobil B-611		Perf: 0.020 slots		From: 2' To: 12.5'	
Drilling Agency: ENSCO		Pack: Pea Gravel		From: 2' To: 12.5'	
Driller: Scott		Drill Bit: 10" Hollow Stem		Seal 1: Bentonite	
Elev TOC: MSL		Elev WL: MSL		Seal 2: Concrete	
				From: 0' To: 1'	

Depth (feet)	Sample	Blws/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
			AC!		
			BC Gravel, light brown, sandy, silty, slightly moist.		(Gray PVC conduit for abandoned electrical at 14"-)
5			Gravel, light to dark gray, moist. "Pea Gravel"		
10			Refusal--Concrete Slab Believed to be Tank Holddown Slab		△ ATD
			Bottom of Boring		Slight product odor
15					
20					
25					
30					

Logged by: IMH
 Figure
 Page 1 of 1

* INDICATE WELL COVER AND/OR LOCK

WELL LOG

01-4134
35/1W IEG

415-790-1759 Fax 415-770-9608		A.D. Sellbach and Assoc. Inc. 6367 th - Joaquin Murcia Ave., Newark, C.A. 94560		Project Name:	
Boring/Well ID: 1188002R-10		Date Started: 2/8/89		Date Completed: 2/8/89	
Project and Task Number: 1188002R		Datum:		No. of Samples: 4	
Size and Type of Casing: 2" PVC		Completion Depth: 22'6"		Water Level Depth: 12'6" ATD	
Drilling Method/Equip: Mobile Drill B-34		Perf: 0.020 Slots		From: 6'6" To: 22"	
Drilling Agency: ENSCO		Pack: #3 Sand		From: 5' To: 22"	
Driller: Frank		Drill Bit: 8" Hollow Core		Seal 1: Bentonite	
Elev TOC: MSL		Elev WL: MSL		From: 4' To: 5'	
		Seal 2: Concrete		From: 0' To: 4'	

Depth (feet)	Sample	Blws/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
			GC (Ground Cover)	*	
			Gravel, light to medium gray, clayey, sandy, silty, slightly moist, fine to coarse.	*	
			Clay (CL), medium to dark gray, trace gravel, sandy, silty, moist.	*	
5		40	Clay (CL), brown-gray, sandy, silty, slightly moist, stiff to very stiff.	*	5-1-2
10		21	Clay (CL), as above, less stiff	*	10-2-2 ▽ ATD
15		10	Clay (CL), light to medium brown, sandy, silty, moist, firm. Trace rootlets.	*	15-3-2
20		8	Clay (CL), light to medium brown, sandy, silty, moist, soft.	*	20-4-2
			Bottom of Boring		
25					
30					

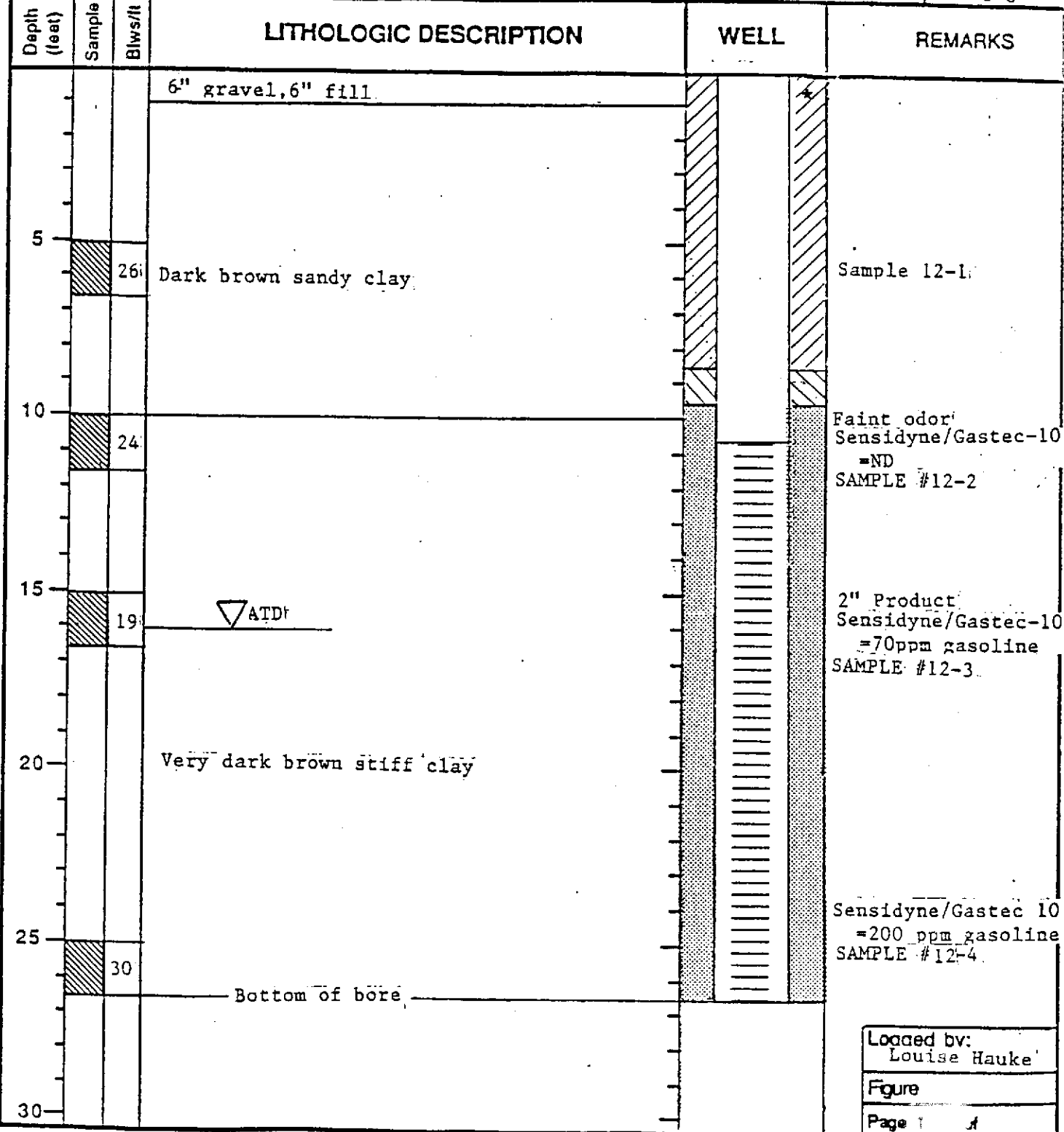
Logged by: IMH
 Figure
 Page 1 of 1

* INDICATE WELL COVER AND / OR LOCK

WELL LOG

35/IW 1E7

115-400-1754 Fax 115-770-9008		A.D. Selditch and Assoc. Inc. 62675 - Joann Maria Inc., Newark, Ct. 94500		Project Name: Montgomery Ward, Dublin CA	
Boring/Well ID: 1188002R-12		Date Started: 12-2-88		Date Completed: 12-2-88	
Project and Task Number: 1188002R		Datum:		No. of Samples: 4	
Size and Type of Casing: 4" PVC		Completion Depth: 26'6"		Water Level Depth: 16' ATD	
Drilling Method/Equip: Mobile B-61		Perf: 0.02"		From: 10'6" To: 26'6"	
Drilling Agency: ENSCO		Pack: Monterey Sand #2		From: 9'6" To: 26'6"	
Driller: Scott Davison		Drill Bit: 8" Hollow Core		Seal 1: Bentonite	
Elev TOC: MSL		Elev WL: MSL		From: 8'6" To: 9'6"	
		Seal 2: Concrete		From: 0' To: 8'6"	



Logged by:
Louise Hauke

Figure

Page 1 of 1

* INDICATE WELL COVER AND / OR LOCK

31-413X

WELL LOG

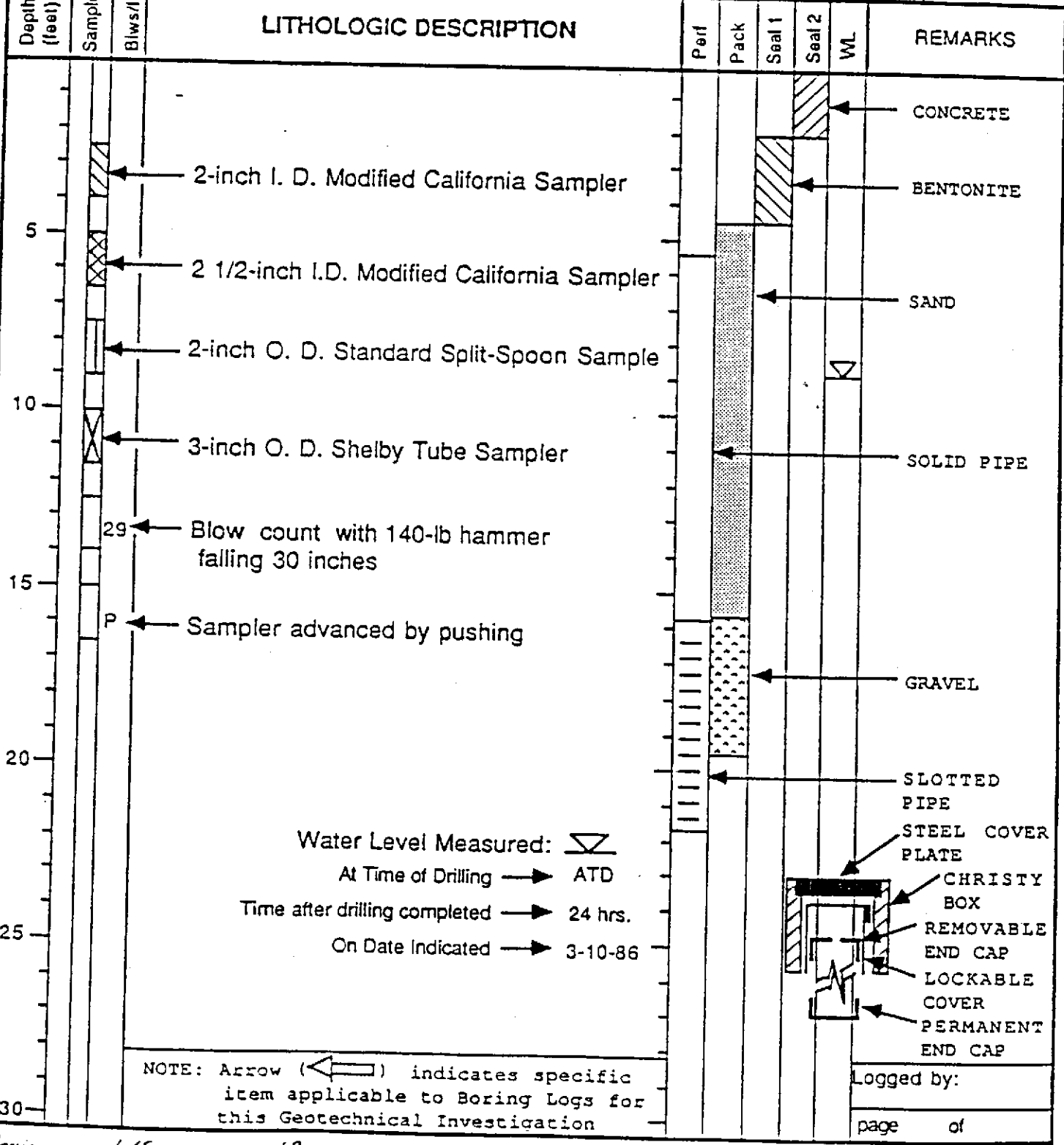
35/W 1E8

115-190-1759 Fax 115-770-9008		A.D. Seibich and Assoc. Inc. 6267 th - Jocassee - Murree Ave., Newark, G.L. 94560		Project Name: Montgomery Ward Dublin:	
Boring/Well ID: 1188002R-13		Date Started: 12-1-88		Date Completed: 12-1-88	
Project and Task Number: 1188002R		Datum:		No. of Samples: 21	
Size and Type of Casing: 4" pvc		Completion Depth: 13'6"		Water Level Depth: NA	
Drilling Method/Equip: Mobile B-611		Perf: 0.02"		From: 1'0" To: 13'6"	
Drilling Agency: Ensco		Pack: Monterey Sand #2		From: 1'0" To: 13'6"	
Driller: Scott Davison		Drill Bit: 8" Hollow Core		Seal 1: Bentonite	
Elev TOC: MSL		Elev WL: MSL		Seal 2:	
				From: To:	

Depth (feet)	Sample	Blows/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
			6" Asphalt		
5	51		Pea gravel		No odor Sample Lost
10					
15			100% Product Wet Pea Gravel		Strong gasoline odor
			Refusal at 13'6" - 12" concrete slab		Disturbed pea gravel (Sample #11-0-1) Gasoline Sample #RW-1
20					
25					
30					

Logged by: *[Signature]*
 Figure _____
 Page 1 of ____

415-100-1759		<i>A.D. Seidich and Assoc. Inc.</i>		Project Name:	
Fax 415-770-9608		62673- Soanin Street - Newark, Ct 06560			
Boring/Well ID:		Date Started:		Date Completed:	
Project and Task Number:		Datum:		No. of Samples:	
Size and Type of Casing:		Completion Depth:		Water Level Depth:	
Drilling Method/Equip:		Perf:		From:	To:
Drilling Agency:		Pack:		From:	To:
Driller:	Drill Bit:	Seal 1:		From:	To:
Elev TOC:	MSL	Elev WL:	MSL	Seal 2: From: To:	



WELL LOG

01-217N 15,16
35/IW 1E9 / E10

185-190-1759		<i>A.D. Seelich and Assoc. Inc.</i>		Montgomery Ward	
Tel: 415-770-9608		62671 - Jacques Maréchal - Inc., Newark, Ct. 94860		Project Name: Dublin	
Well ID: 1188002R-15		Date Started: 8-15-89		Date Completed: 8-15-89	
Project and Task Number: 1188002R		Datum:		No. of Samples: 5	
Size and Type of Casing: 4" PVC		Completion Depth: 23'		Water Level Depth: 17.5' *1	
Drilling Method/Equip: Mobil Drill		Perf: .02		From: 8' To: 23'	
Drilling Agency: Ensco		Pack: #2 Sand		From: 6' To: 23'	
Driller: Scott		Drill Bit:		Seal 1: Bentonite	
Elev TOC: MSL		Elev WL: MSL		From: 5' To: 6'	
		Seal 2: Concrete		From: 0' To: 5'	

Depth (feet)	Sample	Blws/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
			AC & BC		
			Clay, dark gray, moist, gravelly, sandy, silty		
5	8	8	Clay, as above, decrease in gravel.		15-2-1 Gas Tech 0 no odor.
			Clay, dark gray, moist, silty, firm,		
	3	4	Clay, medium to light brown, slightly moist, sandy, silty, rootlets, soft to firm.		15-2-2 Gas Tech 0 No odor.
		6	Becoming medium to dark brown.		
15	7	12	Becoming very stiff. Free water in "root canals".		15-2-3 Gas Tech 0 No odor.
		14			
	5	6	Clay, medium brown, moist, becoming more soft and mottled light gray	▽ ATD	15-2-4 Gas Tech 0 No odor.
20		12	Decrease in "rootlets".		
	8	9	Clay, as above, soft to firm.		15-2-5 Gas Tech 0 No odor.
25		10	Bottom of Boring		

*1-Water at time of drilling, 17.5' up to 13' within 5 minutes

Logged by: IMH

Figure

Page 1 of

* INDICATE WELL COVER AND/OR LOCK

WELL LOG

01-217φ
35/1W 1E10

118-190-1739		<i>A.D. Seidlich and Assoc. Inc.</i>		Project Name: Montgomery Ward	
7 415-770-9608		6267 th - <i>Joaquin Murria Inc.</i> , Newark, C.L. 94560		Dublin	
Log/Well ID: 1188002R-16		Date Started: 8-15-89		Date Completed: 8-15-89	
Project and Task Number: 1188002R		Datum:		No. of Samples: 5	
Size and Type of Casing: 4" PVC		Completion Depth: 26.5		Water Level Depth: 14	
Drilling Method/Equip: Mobil Drill		Perf: .02		From: 10 To: 25	
Drilling Agency: Ensco		Pack: #2 Sand		From: 8 To: 25	
Driller: Scott		Drill Bit: 10" Hollow		Seal 1: Bentonite From: 7 To: 8	
Elev TOC: MSL		Elev WL: MSL		Seal 2: Concrete From: 0 To: 7	

Depth (feet)	Sample	Blws/ft	LITHOLOGIC DESCRIPTION	WELL	REMARKS
			Concrete and Gravel	*	
			Gravel, gray, 3/4" ±, clean drain rock.	*	Abandoned power service
5	6	6	Clay, light to medium brown, slightly sandy, slightly moist, firm.	*	16-2-1 Gas Tech 0 No odor.
	7	7			
	3	4	Clay as above, mottled light gray,	*	16-2-2 Gas Tech 0 No odor.
	7	7			
15	6	4	Clay, light to medium brown, mottled green-gray. Free moisture in "root canals".	*	16-2-3 Gas Tech 0 No odor.
	10	10			
20	6	8	Clay, as above, becoming mottled light gray.	*	16-2-4 Gas Tech 0 No odor.
	9	9			
25	6	8	Clay, as above, becoming more firm.	*	16-2-5 Gas Tech 0 No odor.
	10	10			
			Bottom of Boring.		
			NOTE: Strong product odor on top of water at completion.		
30					

Logged by: LMH
Figure _____
Page 1 of _____

* INDICATE WELL COVER AND / OR LOCK



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94566 (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

6900 Amador Plaza Road

LOCATION OF PROJECT (7575 Dublin Blvd.)

Dublin CA 94568

PERMIT NUMBER

LOCATION NUMBER

CLIENT

Name Montgomery Ward

Address 39201 Fremont Blvd Phone 415/794-2317

City Fremont Zip 94538

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT

Name A. D. Selditch & Assoc.

Murieta

Address 6267-E Joaquin/ Phone 415/490-1759

City Newark Zip 94560

DESCRIPTION OF PROJECT

Water Well Construction x Geotechnical Investigation

Cathodic Protection General

Well Destruction Contamination x

PROPOSED WATER WELL USE

Domestic Industrial Irrigation

Municipal Monitoring x Other

PROPOSED CONSTRUCTION

Drilling Method:

Fluid Rotary Air Rotary Auger

Cable Other Bucket Rig

DRILLER'S LICENSE NO. 476668

WELL PROJECTS

Drill Hole Diameter 24-26 in. Maximum

Casing Diameter 16 in. Depth 30 ft.

Surface Seal Depth 8 ft. Number 1

GEOTECHNICAL PROJECTS

Number of Borings 1 Maximum

Hole Diameter 24-26 in. Depth 30 ft.

ESTIMATED STARTING DATE 11/8/89

ESTIMATED COMPLETION DATE 11/9/89

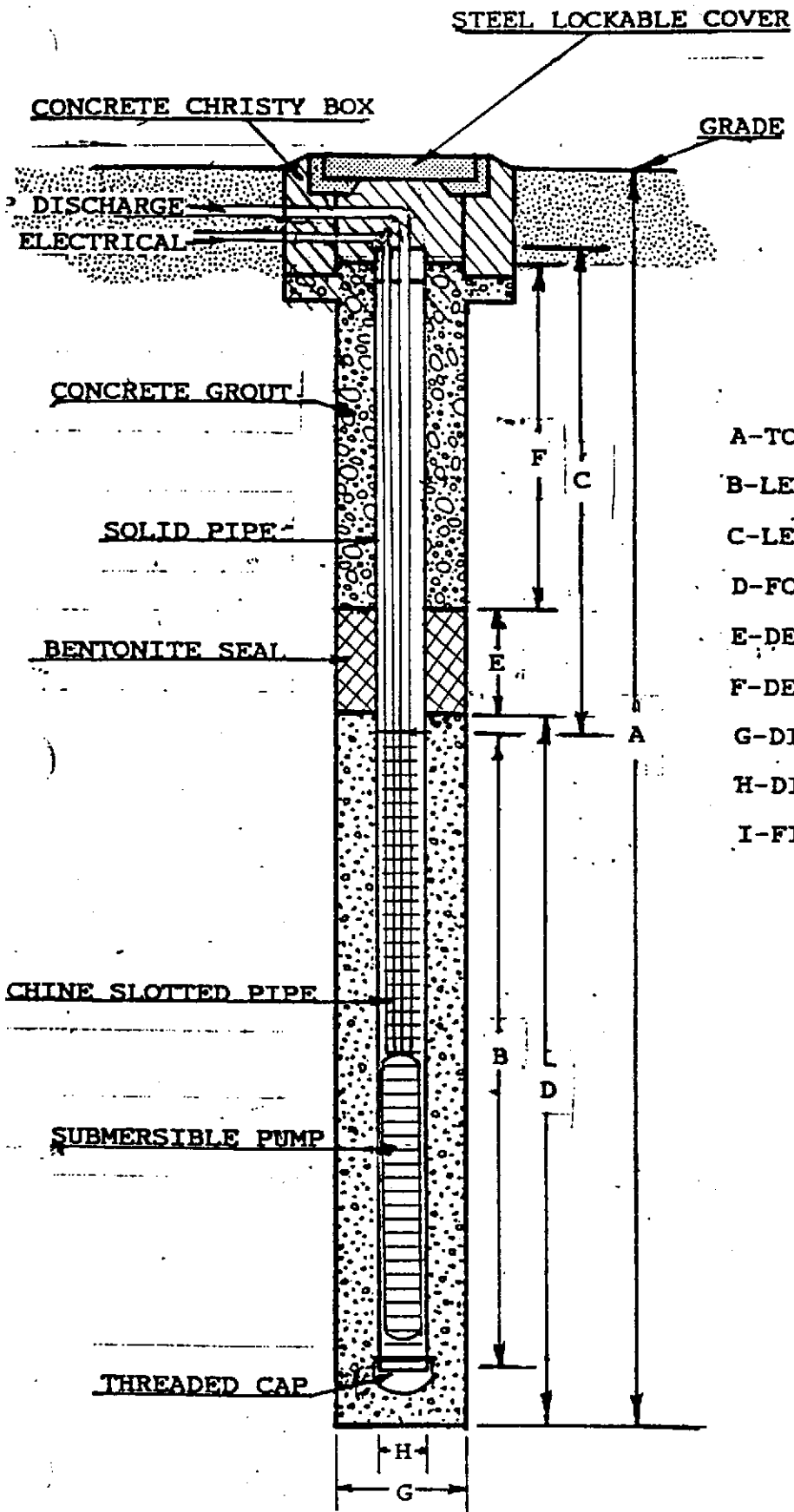
I hereby agree to comply with all requirements of this Ordinance and Alameda County Ordinance No. 73-68.

Approved Date

APPLICANT'S

SIGNATURE Date 10/15/89

Alan D. Selditch

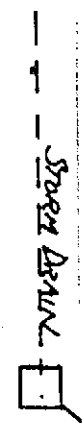


A-TOTAL DRILL DEPTH	<u>30'</u>
B-LENGTH OF SLOTTED CASING	<u>20' 22"</u>
C-LENGTH OF SOLID CASING	<u>10'</u>
D-FOOTAGE OF FILTER PACK	<u>21'</u>
E-DEPTH OF BENTONITE SEAL	<u>7'</u>
F-DEPTH OF CONCRETE GROUT	<u>8'</u>
G-DIAM. OF BORE	<u>24"-26"</u>
H-DIAM. OF CASING	<u>16" A"</u>
I-FILTER MEDIA	<u>1 1/2" GRAVEL</u>

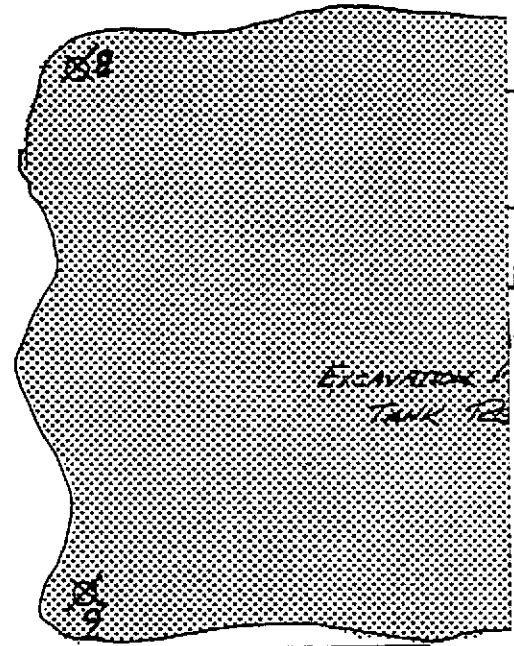
CONSTRUCTION DETAILS
WELL
MONITORING--OTHER

35/1W 1E9 & 1E10
01-217N, Ø

WELL 1E9 → 15



TO BE REPLACED BY 24"
GROUNDWATER
DEPRESSION WELL



16

A.D. SELDITCH & ASSOC.

MONTGOMERY WARD &
DUNN, Co. PA

WELL LOG

PERMIT 93636

01-555R 35/1W 1E11

Project	<u>Enea Plaza</u>	Well Number	<u>MW-4</u>
Location	<u>Amador Plaza Road, Dublin, California.</u>	Diameter of Boring	<u>8 inches</u>
Project #	<u>93-035</u>	Total Depth of Boring	<u>23 feet</u>
Geologist	<u>John Alt, CEG</u>	Date Started	<u>December 13, 1993</u>
Drill Company	<u>Great Sierra Exploration 1763</u>	Date Completed	<u>December 13, 1993</u>
Comments	<u>Drilled using hollow-stem auger, with split-spoon sampler.</u>		

Depth in Feet	WELL CONSTRUCTION DETAIL	Sample #	Blow Counts	Graphic Log	DESCRIPTION	
0	<p>2" dia. PVC casing</p> <p>grout</p> <p>grout</p> <p>Bentonite seal</p> <p>2" dia. PVC casing with .02" slots</p> <p>#3 Lonestar sand</p>				sod	
1					Black silty CLAY, organic, moist, topsoil fill.	
2						
3						
4						
5						
6			1			Black CLAY with gray motteling, some sand and small angular gravel, plastic, moist, stiff.
7						
8						
9						
10						
11			2	2 2 3		Gray silty CLAY, moist, some sand, plastic, tan motteling,
12						
13						grading to
14						
15						
16			3	3 3 3		Light brown CLAY, wet, some silt, minor gray motteling.
17						
18						
19						
20						

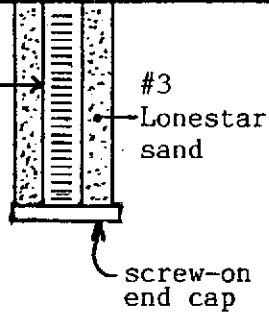
WELL LOG

Project Name Enea Plaza

Well Number MW-4

Project Number 93-035

Page 2 of 2

Depth in Feet	WELL CONSTRUCTION DETAIL	Sample #	Blow Counts	Graphic Log	DESCRIPTION
20			4		
21	 <p>2" dia. PVC casing with .02" slots</p> <p>#3 Lonestar sand</p> <p>screw-on end cap</p>	4	5		Light brown CLAY, as above, with sand, thin beds of brown clayey sand.
22			7		
23					Bottom of boring
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					

35/1W IN1 TO IN4

~~16-19~~

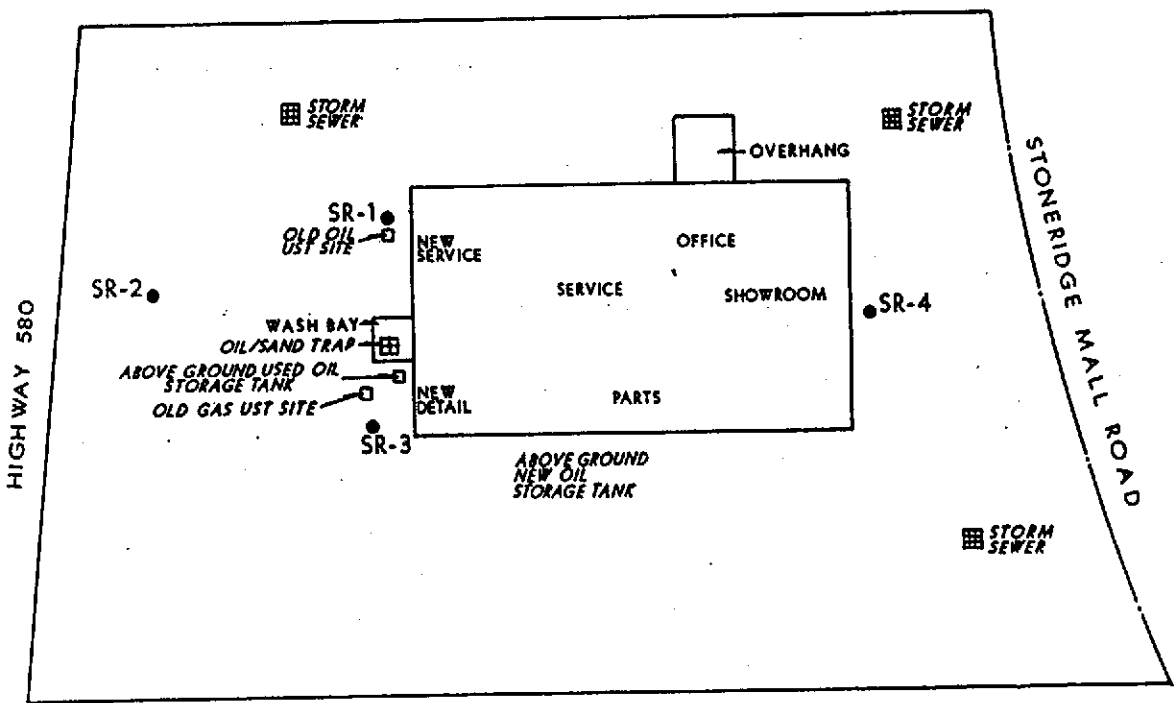
18-21

The monitoring wells were completed with 2-inch ID PVC well casing. Twenty feet of slotted well casing (0.01 inch slot) was placed in each of the holes intercepting at least fifteen feet of the saturated zone in each hole. The hole annulus in the screened intervals of each of the wells was backfilled with clean #2/12 sand. a one-foot bentonite plug was then placed above the sand to prevent surface leakage from entering the screened zone. The remaining portion of each hole was filled with cement (type II) grout. At the surface a 12-inch diameter steel box and lid were cemented in place, flush with the ground surface. A locking cap and paddle lock were installed on the 2-inch PVC casing at each well.

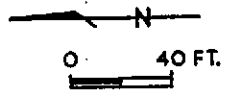
After obtaining piezometric level data, each monitoring well was developed to clean the well and stabilize the sand and aquifer materials around the perforations. The wells were developed with a mechanical pump until the water was reasonably free of sand, silt, and turbidity. This involved pumping approximately 8 gallons of water from each well. After development water samples were obtained from each well using the same mechanical pumping technique employed during development.

Site Geology

The soils encounter during the drilling consisted of unconsolidated deposits ranging in size from clay to large gravel. The soils at the surface, and to a depth of about 9-10 feet, consists of dark brown, dry, poorly to weakly plastic silty clay (CL). Below this horizon, to the bottom of each hole is an intercalated series of moderate brown, poorly graded silty clayey gravels (GC), silty gravelly clays and silty clays (CL), and lessor clayey silts (ML). Soils in this interval are generally poorly to weakly plastic and are wet below about 15 feet.



EXPLANATION
 SR-1. MONITOR SITE



**FIGURE 3
 SITE MAP**

**STONERIDGE
 CHRYSLER-PLYMOUTH
 5440 STONERIDGE MALL ROAD
 PLEASANTON, CALIFORNIA**

FROM GOLDSWORTHY, MICHAEL G.,
 JOB NO. 8514, 1/17/86, DRWG. 1

JGR CONSULTANTS GROUP
ENVIRONMENTAL ENGINEERS

5/28/91

35/1W IN1 TO IN4
 01-490H-K

Page 1 of 1

LOG OF TEST BORING NO. SRI

JBR
Consultants

PROJECT STONERIDGE DATE 5/10/91

Group
Salt Lake City, Utah

LOGGED BY T.O.M. BORING TYPE 8" HSA

DEPTH FEET	WELL CONST.	GRAPHIC LOG	SAMPLES	BLOW COUNT	SOIL CLASS	DESCRIPTION
0			SR1-1			DARK BROWN, SILTY CLAY. POORLY SORTED. POOR PLASTICITY. DRY
5			SR1-2		CL	AS ABOVE
10			SR1-3	3.5.9	ML	MODERATE TO DARK BROWN, SILTY CLAY, MINOR BLACK STREAKING LOC., WEAK PLASTICITY. DRY
15			SR1-4	2.3.4		MODERATE BROWN, CLAYEY SILT. WITH MINOR GRAVEL
20			SR1-5	2.2.3	GC	AS ABOVE W/MODERATE GRAVEL, WET
25			SR1-6	2.2.4	CL	MODERATE BROWN, CLAYEY SILT AND SILTY CLAY W/LESSOR CLAYEY GRAVELS, WET
30			SR1-7	3.3.5		
30			TD			

none 801-943-4144

Page 1 of 1

LOG OF TEST BORING NO. SR2

JBR
Consultants

PROJECT STONERIDGE DATE 5/10/91

Group
Salt Lake City, Utah

LOGGED BY T.O.M. BORING TYPE 8" HSA

DEPTH FEET	WELL CONST. LOG	GRAPHIC	SAMPLES	BLOW COUNT	SOIL CLASS	DESCRIPTION
0			SR2-1			DARK BROWN, SILTY GRAVELY CLAY, WITH PLASTICITY, POORLY GRADED, DRY
5			SR2-2		CL	
10			SR2-3	5.11.11	GC	MODERATE ORANGISH BROWN, CLAYEY GRAVEL, POORLY SORTED, DRY
15			SR2-4	3.6.2	CL	MODERATE TO DARK BROWN, SILTY CLAY, VERY POOR PLASTICITY, DRY
20			SR2-5	5.3.5	GC	MODERATE ORANGISH BROWN, CLAYEY SILTY SANDY GRAVEL, DRY
25						AS ABOVE. WET
30			SR2-6	3.3.3	CL	MODERATE BROWN, SILTY CLAY WEAK TO MODERATE PLASTICITY
30			TD			
35						
40						
45						
50						

Page 1 of 1

LOG OF TEST BORING NO. SR3

JBR
Consultants

PROJECT STONERIDGE DATE 5/11/91

Group
Salt Lake City, Utah

LOGGED BY T.O.M. BORING TYPE 8" HSA

DEPTH FEET	WELL CONST. LOG	GRAPHIC SAMPLES	BLOW COUNT	SOIL CLASS	DESCRIPTION
0					
		SR3-1			MODERATE TO DARK BROWN, SANDY SILTY GRAVELY CLAY, POOR PLASTICITY, DRY
		SR3-2			MODERATE BROWN, SILTY CLAY, WEAK PLASTICITY, DRY
5				CL	
		SR3-3a SR3-3b	3, 3, 6		AS ABOVE - W / MINOR BLACK STREAKING
10					
		SR3-4	2, 2, 3	CL & GC	MODERATE BROWN, SILTY GRAVELY CLAY TO SILTY CLAYEY GRAVEL, VERY POORLY GRADED, DRY
15					
		SR3-5	2, 2, 2		MODERATE ORANGISH BROWN, SILTY CLAY, MINOR-SAND GRAVEL, POOR PLASTICITY, WET
20				CL	
25					
		SR3-6	4, 4, 7	ML	MODERATE BROWN, SILTY CLAYEY SAND, WET
30	.TD				
35					
40					
45					
50					

01-490K
35/1W IN4

Page 1 of 1

LOG OF TEST BORING NO. SR4

JBR
Consultants

PROJECT STONERIDGE DATE 5/11/91

Group
Salt Lake City, Utah

LOGGED BY T.O.M. BORING TYPE 8" HSA

DEPTH FEET	WELL CONST.	GRAPHIC LOG	SAMPLES	BLOW COUNT	SOIL CLASS	DESCRIPTION
0			SR4-1			DARK BROWN TO MODERATE BROWN, SANDY, SILTY CLAY, V. WEAK PLASTICITY, DRY
5			SR4-2		CL	
10			SR4-3	5, 8, 12		MODERATE ORANGISH BROWN, CLAYEY SILT, MODERATELY WELL GRADED, POORLY PLASTIC, DAMP
15			SR4-4	2, 2, 3	ML	
20			SR4-5	4, 4, 8		MODERATE ORANGISH BROWN, CLAYEY SANDY GRAVEL, POORLY SORTED, WET
25					GC	
30			SR4-6	4, 5, 6		MODERATE ORANGISH BROWN, INTERCALATED SILTY CLAY, CLAYEY GRAVEL AND CLAYEY SILT, WET, SOME BLACK STREAKING
30					CL-ML	
35						
40						
45						
50						

SCREEN
TD

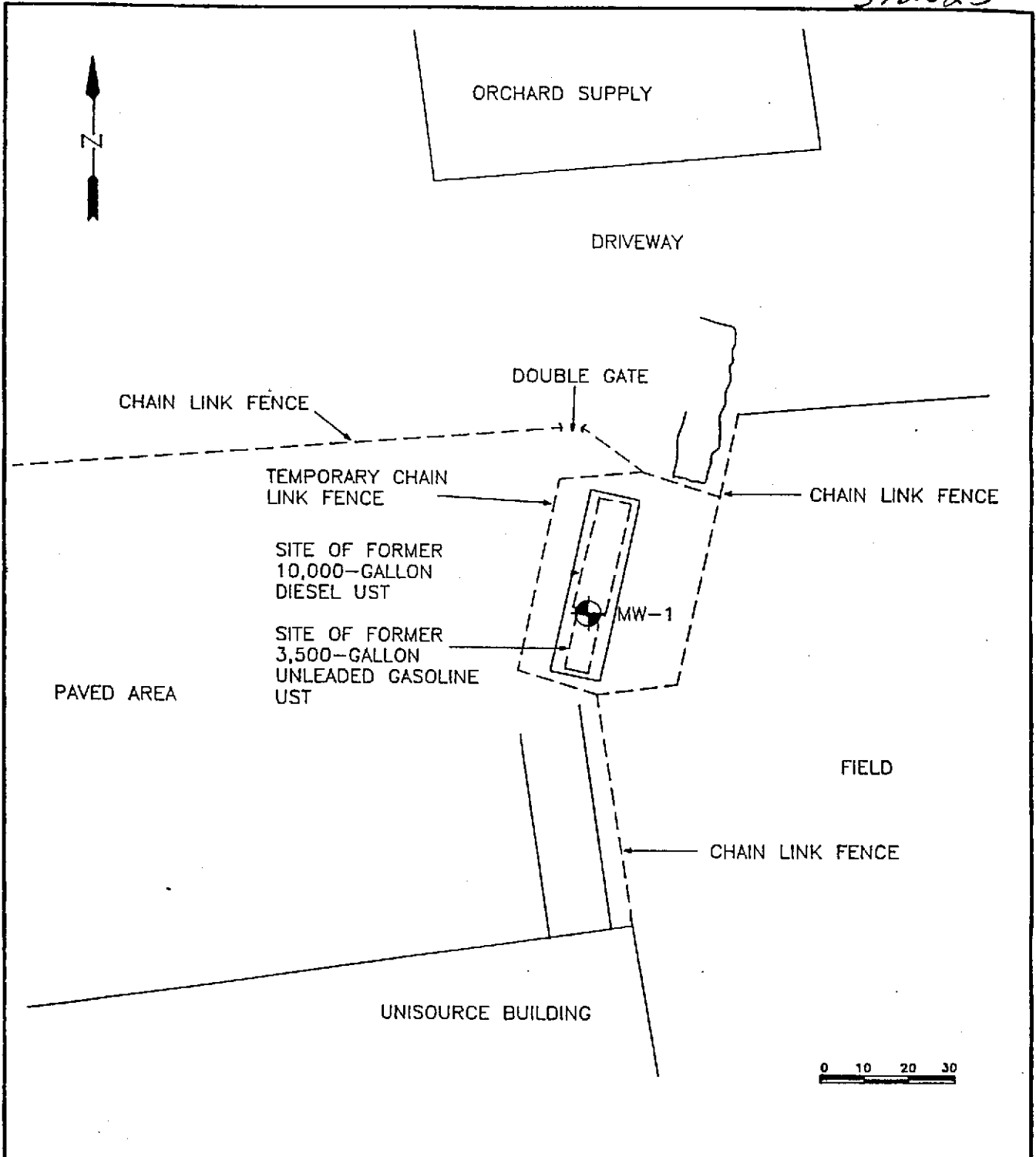
CONFIDENTIAL

**STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)**

REMOVED

35/W 1M1

372623



ENG	URIAH, INC.
CHK BY	MMB
APP BY	
DRAWN	SKM
DATE	12/18/91
SCALE	AS SHOWN
CAD NO	17530001
PRJ NO	P1753



MITTELHAUSER CORPORATION

SITE PLAN

BEDFORD PROPERTIES, INC.
6700 GOLDEN GATE DRIVE
DUBLIN, CALIFORNIA

DRWG NO

FIGURE 2

REV

0

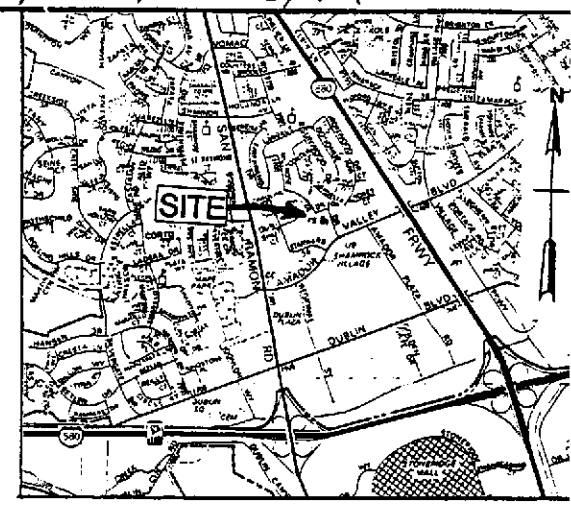
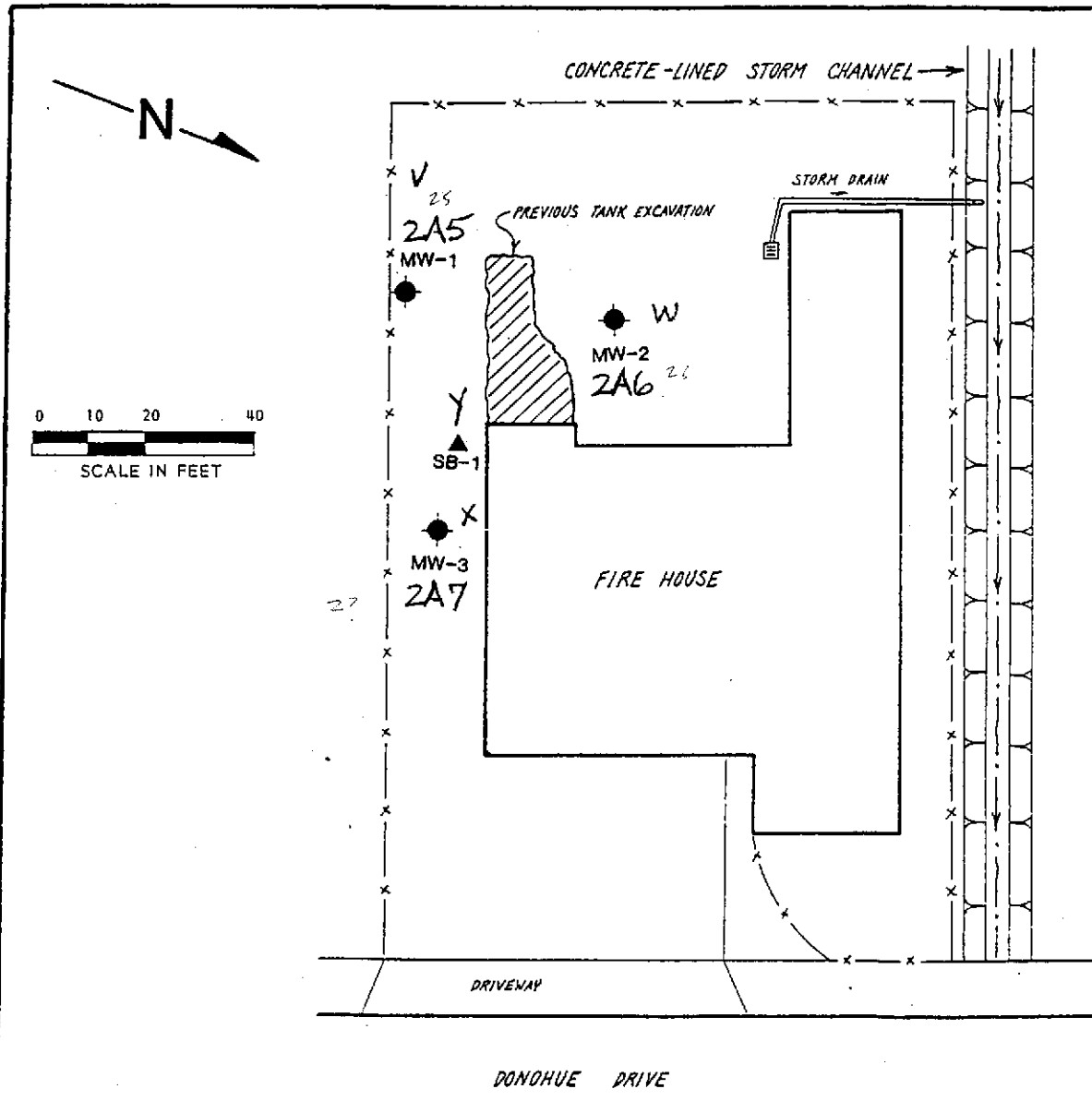
MITTELHAUSER
corporation

BORING NO.: MW-1		PROJECT NO.: 1753-05		PROJECT NAME: BEDFORD - 6700 GOLDEN GATE DRIVE, DUBLIN	
BORING LOCATION: TANK PIT AT TANK JUNCTURE			ELEVATION AND DATUM: NA		
DRILLING AGENCY: HEW DRILLING		DRILLER: ANIBEL		DATE & TIME STARTED:	DATE & TIME FINISHED:
DRILLING EQUIPMENT: 8" DIAMETER HOLLOW-STEM AUGER				11/20/91 10:25 am	11/20/91 11:20 am
COMPLETION DEPTH: 30 FEET		BEDROCK DEPTH: NA		LOGGED BY:	CHECKED BY:
FIRST WATER DEPTH: 20 FEET		NO. OF SAMPLES: 1		R. PAPLER	
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	BLOW COUNT PER 6" PVD	REMARKS
0	6" ASPHALT				
0-5	SILTY GRAVEL (GW): light brown, damp, becoming moist with depth, gravel fine to coarse and well rounded (FBI).	CW	See attached diagram.		Borehole drilled using 8" OD hollow-stem augers. Samples collected using a 2 1/2" OD California-modified split-spoon sampler lined with brass tubes driven by a 140# downhole hammer falling 30".
5-10	Gradational color change to grayish brown with slight increase in moisture.				
10-15					
15-17	Drilling ceases at ~17 feet.	☒			Groundwater later stabilized at 18.28 feet, 1:18 pm.
17-20	SILTY CLAY (CH): brown, moist, firm, plastic.	CH			
20-21	SANDY SILT (ML/SM) interbedded with SILTY GRAVEL (GW); brown, wet, gravel: fine and well rounded, medium dense with some orange and gray mottling.	ML/SM & GW		5 8 4	Groundwater first encountered at 20 feet.
21-25	SILTY CLAY (CH): gray, wet, soft, plastic, microporous.	CH		1 3 6	
25-30				1 3 3	Borehole terminated at 30'. 2" diameter PVC well with 10 feet of screen constructed in borehole 11/20/91. Boring terminated at 30 feet at 11:20 a.m.

CONFIDENTIAL

**STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)**

REMOVED



VICINITY MAP

LEGEND:

- MW - Denotes Approximate Location of Monitoring Facilities installed on 5/16 and 5/17/90
- ▲ SB-1 Denotes Approximate Location of Soil Boring drilled and backfilled with neat cement on 5/16/90

SITE PLAN

MONITORING FACILITY INSTALLATIONS & CHEMICAL TESTS
 7494 DONOHUE DRIVE
 DUBLIN, CALIFORNIA
 FOR DOUGHERTY REGIONAL FIRE AUTHORITY

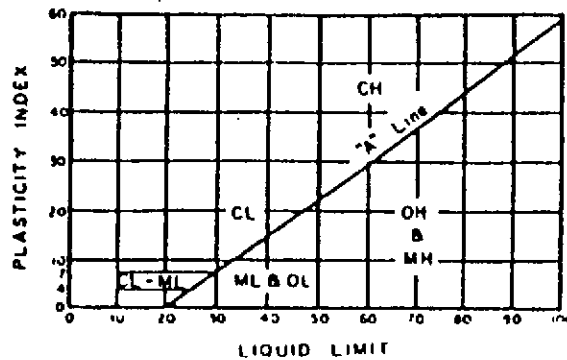
Job No. P90103
 June 1990
 FIGURE: 1

BSK
 & Associates

Base By: Hageman-Schank, Inc., print titled: "Site Map", Figure 2, undated

LEGEND FOR TEST HOLE LOGS

METHOD OF SOIL CLASSIFICATION (Unified Soil Classification System)			
MAJOR DIVISIONS	SYMBOLS	TYPICAL NAMES	
COARSE GRAINED SOILS (More than 1/2 of coarse fraction > no. 200 sieve size)	GRAVELS		
	(More than 1/2 of coarse fraction > no. 4 sieve size)		
	GW	Well graded gravels or gravel-sand mixtures, little or no fines	
	GP	Poorly graded gravels or gravel-sand mixtures, little or no fines	
	GM	Silty gravels, gravel-sand-silt mixtures	
	GC	Clayey gravels, gravel-sand-clay mixtures	
	SANDS (More than 1/2 of coarse fraction < no. 4 sieve size)	SW	Well graded sands or gravelly sands, little or no fines
		SP	Poorly graded sands or gravelly sands, little or no fines
SM		Silty sands, sand-silt mixtures	
SC		Clayey sands, sand-clay mixtures	
FINE GRAINED SOILS (More than 1/2 of soil < no. 200 sieve size)	SILTS & CLAYS		
	LL < 50		
	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
	OL	Organic silts and organic silty clays of low plasticity	
	SILTS & CLAYS		
LL > 50			
MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
CH	Inorganic clays of high plasticity, fat clays		
OH	Organic clays of medium to high plasticity, organic silty clays, organic silts		



PLASTICITY CHART

Key to Samples

- Indicates depth of undisturbed sample □ Sample not recovered
- ⊗ Indicates depth of disturbed sample
- ▨ Indicates depth of Standard Penetration Split Spoon Sample

DATE: 5/16/90
 LOGGED BY: KAO
 ELEVATION: +350 T.O.C.
 WATER LEVEL: +339.99 (6/6/90)
 EQUIPMENT: Mobile B-53, 8" Hollow Stem Auger.

LOG DESIGNATION MW-1

27

JOB: P90103
 FIGURE: 3

01-461V

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS / FOOT (2)	MOISTURE %	DRY DENSITY, PCF	SAMPLES	U.S.C.S.	SOIL OR ROCK DESCRIPTION	NOTES
						PVT	3-1/2" Asphaltic Concrete, 9" Aggregate Base	
						CH	SILTY CLAY: Dark brown mottled white, moist, few small pores, stiff	
5	2.0	23			1		Grades slightly gray	PID* = 0.0
10	2.0	22			2			PID = 3.1 in auger PID = 22 in sample
15						CL-CH	SILTY CLAY: Dark gray, moist, no pores to few pores, very stiff ▽ 1 hr AD**	
20	2.0	23			3	CL	SANDY CLAY: Grey mottled white and brown, no pores, very stiff ▽ ATD***	PID = 2.2 in auger PID = 0.0
25	3/18	14			4		some small pores grades with some pea gravel grades darker gray	PID = 0.0

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

- (1) SAMPLER INSIDE DIAM.
- (2) 140lb HAMMER - 30 INCH DROP.
- (P) HYDRAULICALLY PUSHED

BSK
 & Associates

DATE: 5/16/90
 LOGGED BY: KAO
 ELEVATION: +350 T.O.C.
 WATER LEVEL: +339.99 (6/6/90)
 EQUIPMENT: Mobile B-53, 8" Hollow Stem Auger

LOG DESIGNATION MW-1 (continued)

01-461V

JOB: P90103
 FIGURE: 3

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS / FOOT (2)	MOISTURE %	DRY DENSITY, PCF	SAMPLES	U.S.C.S.	SOIL OR ROCK DESCRIPTION	NOTES
30	1 3/8"	10			5	CL	SANDY CLAY: Dark gray, mottled white and yellow, no pores, moist, very stiff	
	1 3/8"	14			6			Boring terminated at 30 feet Monitoring Well installed having 8-1/2 feet of solid over 20 feet of slotted casing 8 feet of cement surface seal

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

- (1) SAMPLER INSIDE DIAM.
- (2) 140# HAMMER - 30 INCH DROP.
- (P) HYDRAULICALLY PUSHED



DATE: 5/17/90
 LOGGED BY: KAO
 ELEVATION: +349.54 T.O.C.
 WATER LEVEL: +340.06 (6/6/90)
 EQUIPMENT: Mobile B-53, 8" Hollow Stem Auger

LOG DESIGNATION MW-2 28

01-461W

JOB: P90103
 FIGURE: 4

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS / FOOT (2)	MOISTURE %	DRY DENSITY, PCF	SAMPLES	U.S.C.S.	SOIL OR ROCK DESCRIPTION	NOTES
						PVT	3" Asphaltic Concrete, 8" Aggregate Base	
						CH	SILTY CLAY: Dark brown, moist, few small pores, stiff	PID = 2.0
5	2.0	27			1		Slight discoloration to greenish-gray, and dark brown. Hydrocarbon odor	PID = 0.0 PID = 59 cuttings
10	2.0	19			2		Mottled white	PID = 135 PID = 72.0
							▽ 2 Hrs. AD	
15	2.0	27			3	CL	SILTY CLAY: Grey-black mottled white and dark brown, wet, few small pores, no hydrocarbon odor	PID = 0.0 cuttings PID = 0.0
							▽ ATD	
20	1 3/8"	10			4		Grades to light brown mottled light gray	
							Grades with sand	
25								

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

- (1) SAMPLER INSIDE DIAM.
- (2) 140lb HAMMER - 30 INCH DROP.
- (P) HYDRAULICALLY PUSHED



DATE: 5/17/90
 LOGGED BY: KAO
 ELEVATION: +349.54 T.O.C.
 WATER LEVEL: +340.06 (6/6/90)
 EQUIPMENT: Mobile B-53, 8" Hollow Stem Auger

LOG DESIGNATION MW-2 (continued)

01-461W

JOB: P90103
 FIGURE: 4

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS / FOOT (2)	MOISTURE %	DRY DENSITY, PCF	SAMPLES	U.S.C.S.	SOIL OR ROCK DESCRIPTION	NOTES
0	3 3/8"	10			5	CL	SANDY CLAY: Light brown mottled light gray, wet, few small pores, stiff Grades with some pea gravel.	
30	3 3/8"	18			6		Stiff, no pores.	Boring terminated at 30 feet. Monitoring Well installed having 15 feet of solid over 15 feet of slotted casing. 13 feet of cement surface seal

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

- (1) SAMPLER INSIDE DIAM.
- (2) 140lb HAMMER - 30 INCH DROP.
- (P) HYDRAULICALLY PUSHED



DATE: 5/16/90
 LOGGED BY: KAO
 ELEVATION: +349.60 T.O.C.
 WATER LEVEL: +339.78 (6/6/90)
 EQUIPMENT: Mobile B-53, 8" Hollow Stem Auger

LOG DESIGNATION MW-3 ²⁷

JOB: P90103
 FIGURE: 5

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS / FOOT (2)	MOISTURE %	DRY DENSITY, PCF	SAMPLES	U.S.C.S.	SOIL OR ROCK DESCRIPTION	NOTES
						PVT	3-1/2 to 4" Asphaltic Concrete, 8" Aggregate Base	PID = 0.0
						CL ML	SILTY CLAY/CLAYEY SILT: Brown, moist, no pores, stiff	
5	2.0	23			1	CH	SILTY CLAY: Dark brown to black, mottled white, moist, few small pores, stiff	PID = 0.0
10	2.0				2	CL	SANDY CLAY: Light brown, moist, no pores, stiff	PID = 2.8 in auger
							Strong hydrocarbon odor.	PID = 164
15	2.0	37			3	CH	SILTY CLAY: Dark brown, mottled green and light brown, damp, some small pores, stiff	PID = 43 cuttings
							Grades less stiff.	PID - 3.0 sample
20	1 3/8"	9			4		Wet	
							Grades dark brown mottled white	
25								

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

- (1) SAMPLER INSIDE DIAM.
- (2) 140 LB HAMMER - 30 INCH DROP.
- (P) HYDRAULICALLY PUSHED

BSK
 & Associates

DATE: 5/16/90
 LOGGED BY: KAO
 ELEVATION: +349.60 T.O.C.
 WATER LEVEL: +339.78 (6/6/90)
 EQUIPMENT: Mobile B-53, 8" Hollow Stem Auger

LOG DESIGNATION MW-3 (continued)

01-4618

JOB: P90103
 FIGURE: 5

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS / FOOT (2)	MOISTURE %	DRY DENSITY, PCF	SAMPLES	U.S.C.S.	SOIL OR ROCK DESCRIPTION	NOTES
	1 3/8" 8"	18			5	CH	SILTY CLAY: Dark brown mottled green and light brown, some small pores, stiff	
						CL	SANDY CLAY: Light brown mottled gray, moist, no pores, stiff	
30	1 3/8" 8"	17			6			Boring terminated at 30 feet Monitoring Well installed having 14 ft. solid over 15 ft. slotted casing 13 ft. of cement surface seal

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

- (1) SAMPLER INSIDE DIAM.
- (2) 140LB HAMMER - 30 INCH DROP.
- (P) HYDRAULICALLY PUSHED

BSK
 & Associates

DATE: 5/16/90

LOGGED BY: KAO

ELEVATION:

WATER LEVEL: Not encountered.

EQUIPMENT: Mobile B-53, 8" Hollow Stem Auger

LOG DESIGNATION SB-1

01-4614

JOB: P90103

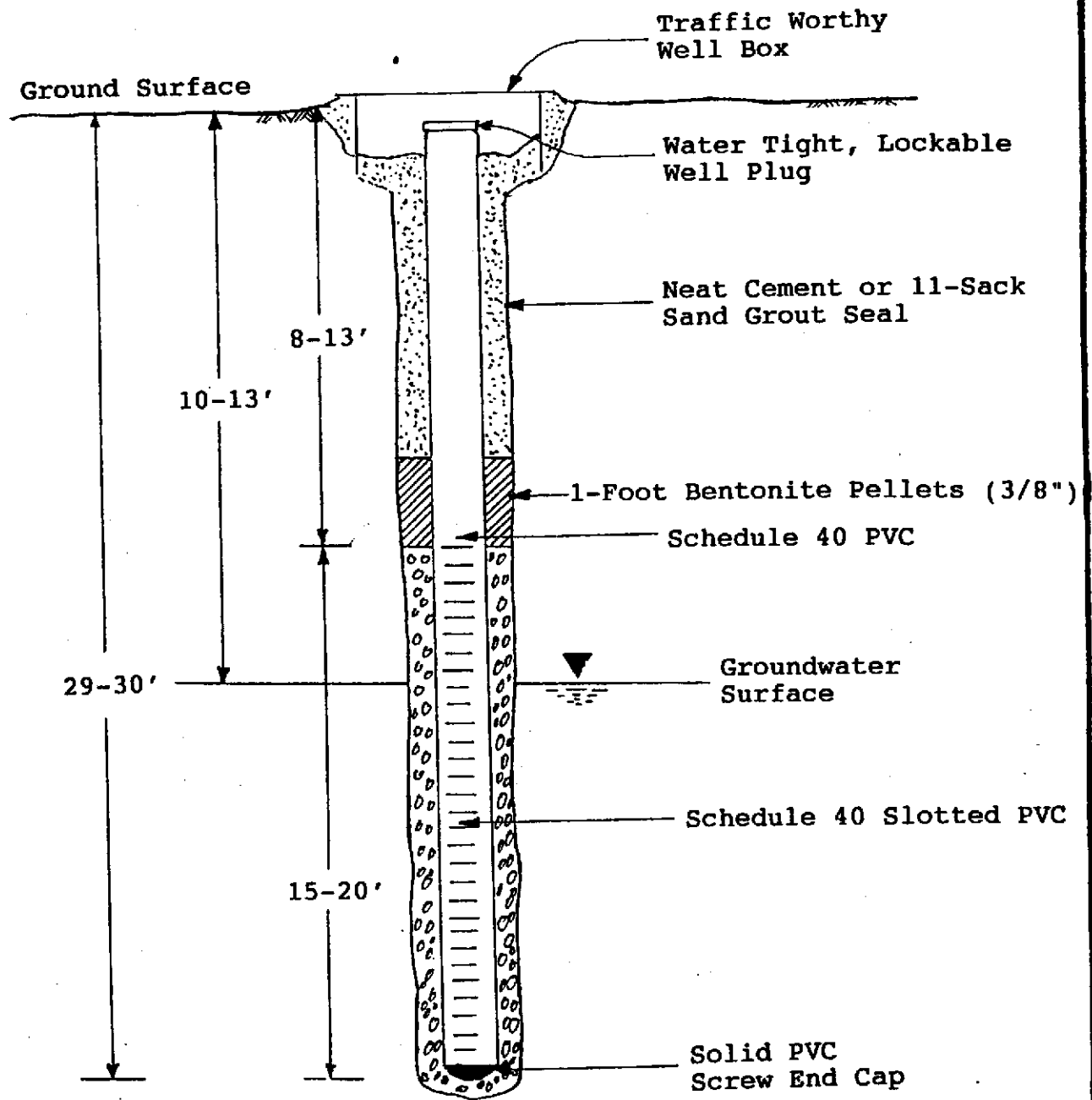
FIGURE: 6

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS / FOOT (2)	MOISTURE %	DRY DENSITY, PCF	SAMPLES	U.S.C.S.	SOIL OR ROCK DESCRIPTION	NOTES
						PMT	3" Asphaltic Concrete, 8" Aggregate Base	
						CH	SILTY CLAY: Dark brown, moist to damp, no pores, firm to stiff	PID = 0.0
5	2.0	20			1			PID = 0.0 cuttings
						CH	SILTY CLAY: (Discolored) green-gray, no pores, damp, firm to stiff	PID = 0.0
10	2.0	16			2		Grades darker gray	PID = 73.0
							Very strong hydrocarbon odor	PID = 359
	2.0	19			3		Some small pores.	PID = 37
15								Boring terminated at 13 feet.
								Backfilled with neat cement
20								
25								

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

- (1) SAMPLER INSIDE DIAM.
(2) 140 LB HAMMER - 30 INCH DROP.
(P) HYDRAULICALLY PUSHED

BSK
& Associates



GROUNDWATER MONITORING WELL PROFILE

(Not to Scale)

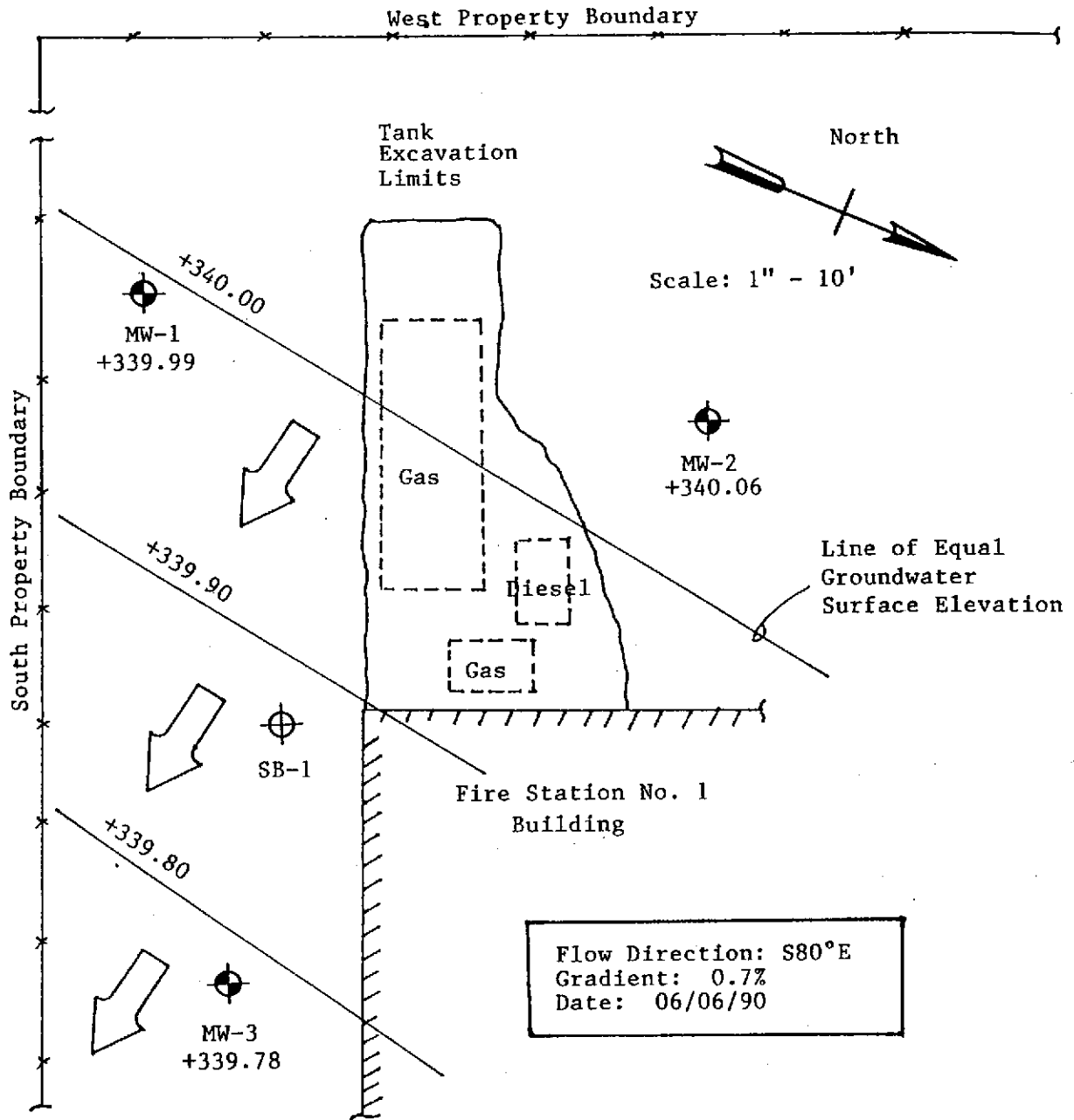
Job No.: P90103
 May, 1990
 Figure: 7

BSK
 & Associates

CHECKED BY





DATE

BY



Flow Direction: S80°E
 Gradient: 0.7%
 Date: 06/06/90

GROUNDWATER FLOW DIRECTION AND GRADIENT

-  - Approximate Former Tank Location and Content
-  - Groundwater Flow Direction
-  - Approximate Location, Elevation and Designation of Groundwater Monitoring Well
-  - Approximate Location and Designation of Exploratory Soil Boring

Job No. P90103
 June 1990
 FIGURE: 8

BSK
 & Associates

3S/IW 2A5 TO 2A7

25-27

27-29

August 19, 1992

BSK JOB NO. P92186.1

Aztec Consultants
2110 Omega Road, Suite B
San Ramon, CA 94583

Attention: Mr. Glenn D. Miller
Construction Manager

Subject: Well Abandonment Services - Existing Monitoring Wells
Fire Station No. 1
7494 Donohue Drive
Dublin, California
For Dougherty Regional Fire Authority

Gentlemen:

As requested and authorized by Mr. Ken Bugica of Brava, Inc. (the general contractor) and in accordance with our Proposal PR92212 to Brava, Inc., BSK & Associates has performed and completed closure of three shallow groundwater monitoring wells at the location referenced above.

The three thirty foot wells were installed in 1990 (BSK Job No. P90103) as shown on Figure, 1, Site Plan, under Alameda County Flood Control And Water Conservation District - Zone 7 (Zone 7) Permit No. 90289. The wells were closed as permitted by Zone 7, Permit No. 92395, under the field supervision of a BSK Staff Geologist.

Well closure was accomplished by drilling out each well using a truck-mounted Mobile B-53 rig and 8 inch outside diameter, continuous flight, hollow-stem auger. A guide placed into the well pipe in advance of the auger was used to guide the advancing auger to the final well depth. Drill cuttings were continuously monitored for evidence of the well being destroyed, such as PVC shards and annular sand. Evidence for complete well destruction was observed at each well location. Subsequent to well removal by drilling, each boring was then backfilled to the present grade with neat cement, placed by tremie from the bottom of the boring, and displacing water in the boring ahead of the rising cement.

BSK & Associates appreciates this opportunity to have been of service to you in this matter. If there are questions or concerns regarding this submittal, please contact us.

Respectfully submitted,

BSK & Associates

Alex Y. Eskandari, P.E.
Manager - Geo-Environmental Services

AYE/TWB:twb/kl
(repl\em\P92186.1)

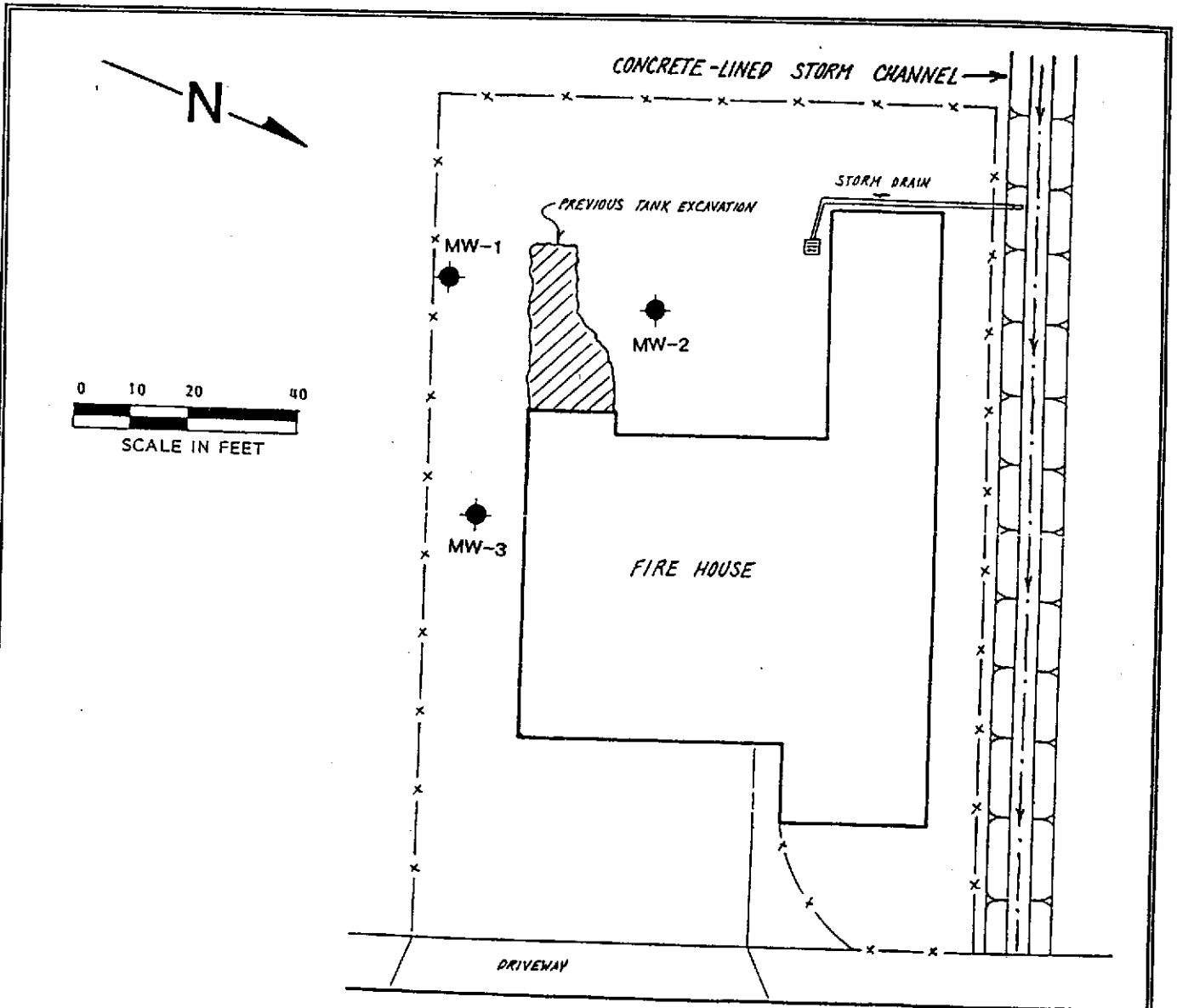
Distribution:

Aztec Consultants (1 copy)
Brava, Inc. (1 copy)
Alameda County - Zone 7 Water Agency (1 copy)

6 **CONFIDENTIAL**

**STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)**

REMOVED



LEGEND:

● - MW Denotes Approximate Location Of Monitoring Facilities
Closed August 7, 1992.

Source: BSK Report P90103, June 1990

Scale: 1" = 30'

<p>WELL ABANDONMENT SERVICES - EXISTING MONITORING WELLS FIRE STATION NO. 1 7494 DONOHUE DRIVE DUBLIN, CALIFORNIA</p>	<p>SITE PLAN JOB NO. P92186.1 AUGUST 1992 FIGURE: 1</p>	<p>BSK & ASSOCIATES</p>
---	--	--

10/1W
01-566K 2A8
01-566L 2A9
01-566M 2A10
01-566N 2A11

28-31

30-33



8 April 1996

Craig A. Mayfield
Alameda County Flood Control and Water Conservation District
Zone 7 Water Resources Management
5997 Parkside Drive
Pleasanton, California 94588-5127

RE: Destruction of four groundwater monitoring wells at Exxon RS 7-0210, 7840 Amador Valley Boulevard, Dublin, California (permit number 96255)

Dear Mr. Mayfield:

Exxon Company, U.S.A (Exxon) contracted EA Engineering, Science, and Technology (EA) to oversee the destruction of four groundwater monitoring wells (MW1-MW4) at the above referenced site. Exxon received a letter from the Alameda County Health Care Services (ACHCS) on 18 March 1996 stating that the San Francisco Regional Water Quality Control Board (SF-RWQCB) and ACHCS had reviewed the case closure summary and subsequently granted case closure at the site. In order to receive a remedial action completion notice, four monitoring wells at the site had to be decommissioned. The groundwater monitoring wells were destroyed in compliance with the Alameda County Flood Control and Water Conservation (ACFCWC) Zone 7 regulations, under permit number 96255.

On 3 April 1996, an EA geologist oversaw the destruction of groundwater monitoring wells MW1 through MW4 (Figure 1) at the site. Woodward Drilling of Rio Vista (C-57 581639) was subcontracted to remove the well boxes, overdrill the first 2 feet of well casing, grout, and soil, and pressure-grout the remainder of the wells to depths ranging from 25 feet below ground surface (bgs) to 28 feet bgs. Grouting was performed by tremie piping cement into each well at a pressure of 40 to 60 psi for approximately 10 minutes. The overdrilled portion of each boreholes was backfilled with soil and patched at the surface with ready-set cement.

EA has completed the requirements set forth by ACFCWD, Zone 7, for the destruction of wells at the site. Enclosed is a copy of the well destruction permit and a site map showing former well locations. Please call me if you have any questions.

Sincerely,

Diana Conkle

Diana Conkle
Staff Geologist

DC/ds 70210LRPT496.LRT1.2
Enclosures

cc: Marla Guensler, Exxon Company, U.S.A
Eva Chu, Alameda County Health Care Services

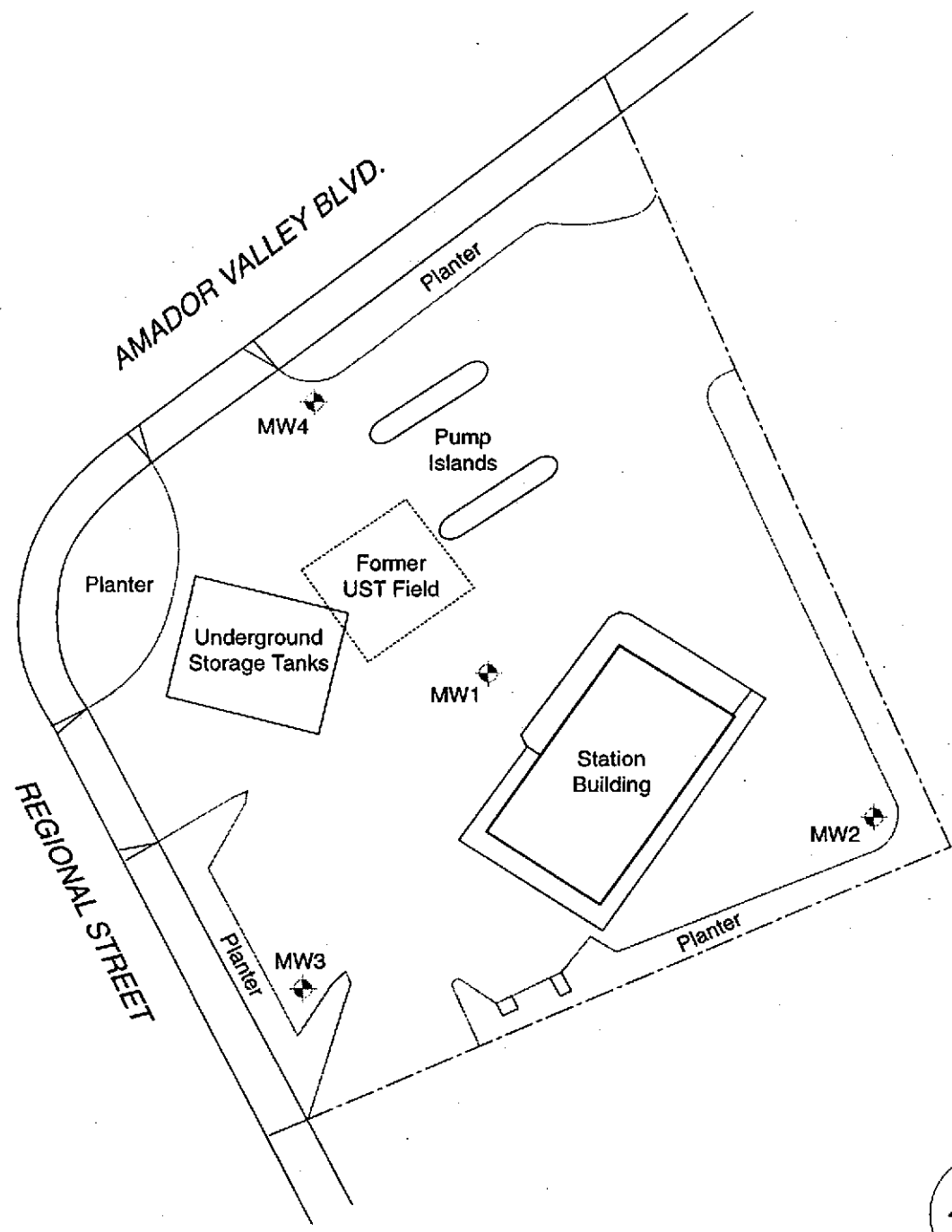
1679

CONFIDENTIAL

**STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)**

REMOVED

01-566-K-N



Approx. Scale (feet)

Figure 1. Site map showing former groundwater monitoring well locations, Exxon RS 7-0210, Dublin, California.



Drawn	ELA	Date	4/4/96
Reviewed		Date	
Rev		Date	
Final		Date	

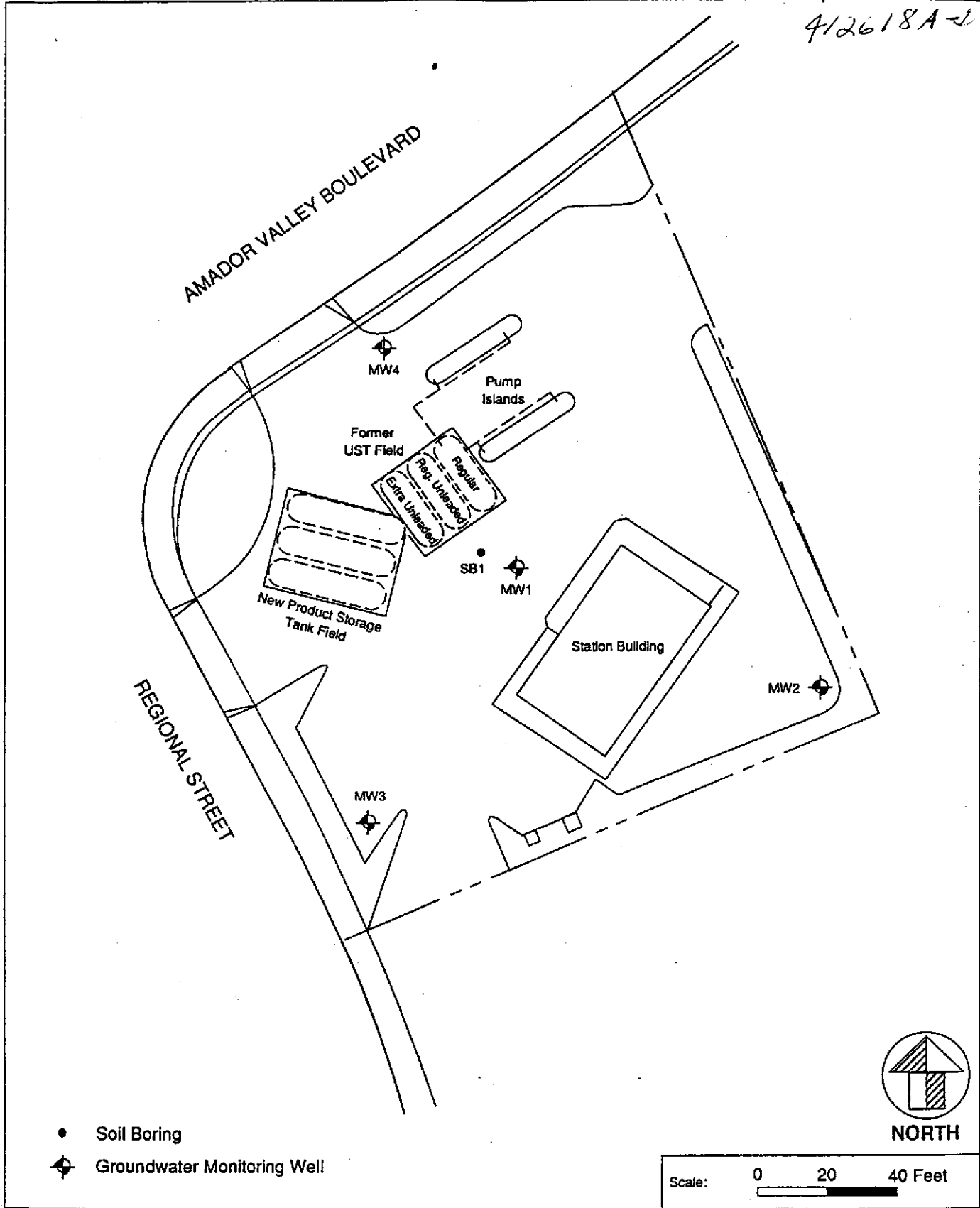


Figure 5. Locations of groundwater monitoring wells, Exxon RS 7-0210, 7840 Amador Road, Dublin, California.



Drawn	RK	Date	6/10/92
Reviewed		Date	
Rev. 1		Date	
Final		Date	



412618A

CLIENT Exxon Company U.S.A.	SITE NUMBER SS 9-0210	LOCATION 7840 Amador Valley Rd. Dublin, CA
--------------------------------	--------------------------	--

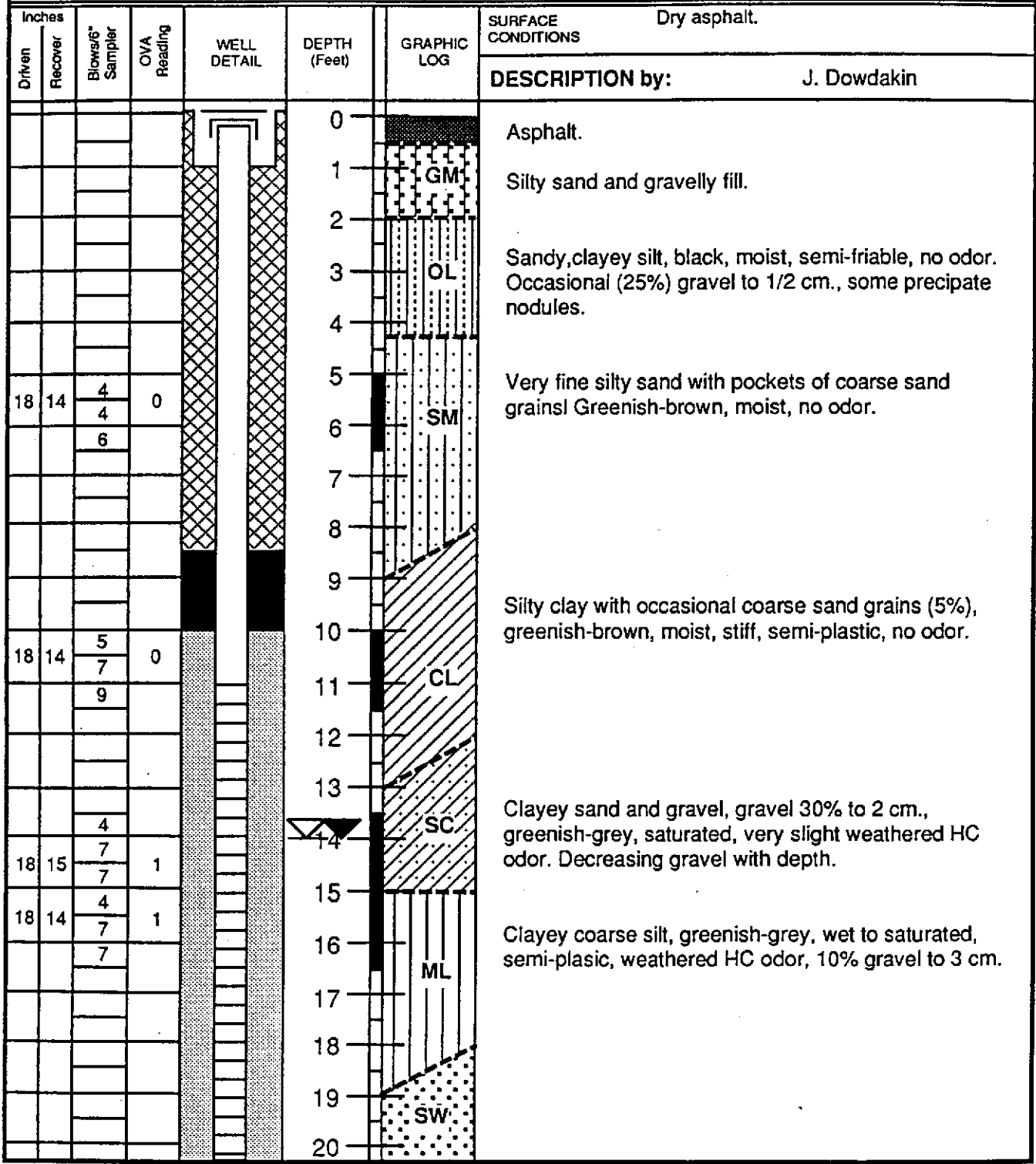
LOG OF SOIL BORING MW1

DRILLING AND SAMPLING METHODS: 10.25" Hollow Stem Auger, 2" Split Spoon Sampler

Coordinates: *LS*

WATER LEVEL	14.15		DRILLING	
TIME	17:25		START	FINISH
DATE	4/14/92		TIME	TIME
REFERENCE	TOC		15:00	17:50
			DATE	DATE
			5/14/92	5/14/92

Elevation top of casing:
Casing below surface:



4/26/8A

35/1W-2A8

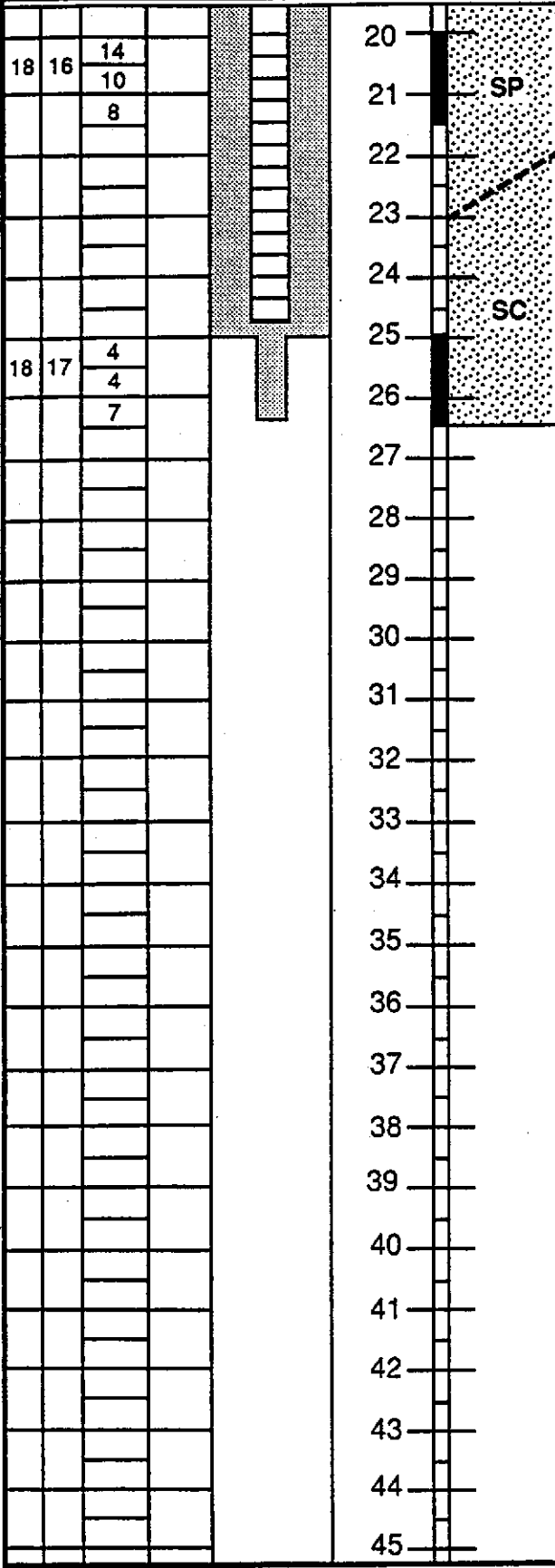


LOG OF SOIL BORING MW1

CLIENT
Exxon Company U.S.A.

SITE NUMBER
RS 7-0210

LOCATION
7840 Amador Rd.
Dublin, CA



Sand and gravel, greenish-brown, saturated, no odor.

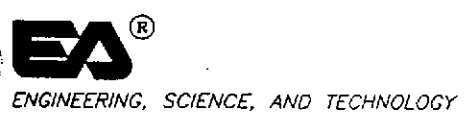
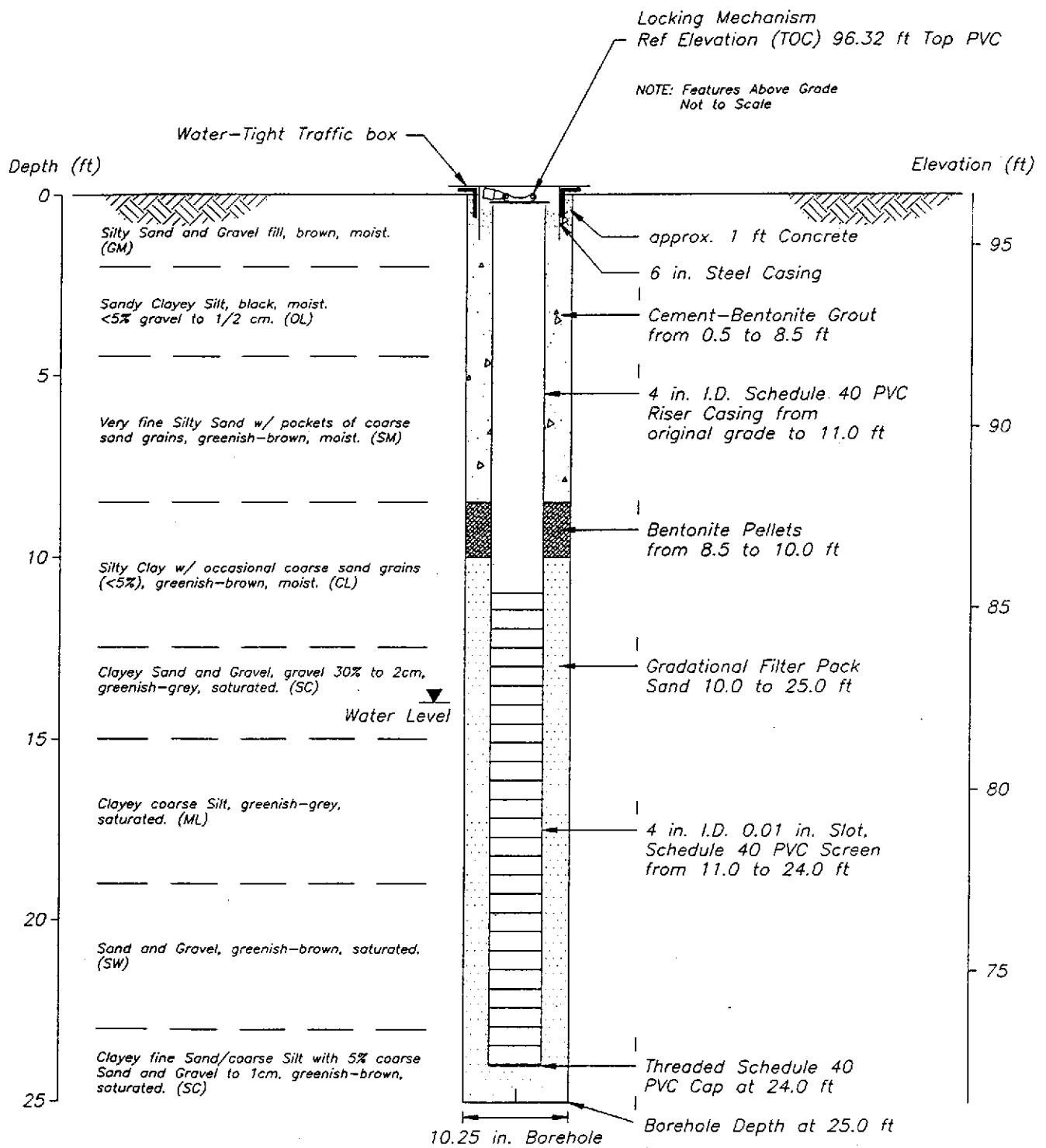
Clayey, very fine sand/coarse silt with 5% coarse sand and gravel to 1 cm., greenish-brown, saturated, no odor.

SS/1W 270

412618A

WELL NO: MW1

WELL COMPLETION DIAGRAM



Client: EXXON
 Site: RS 7-0210

Location: DUBLIN, CA

412618B



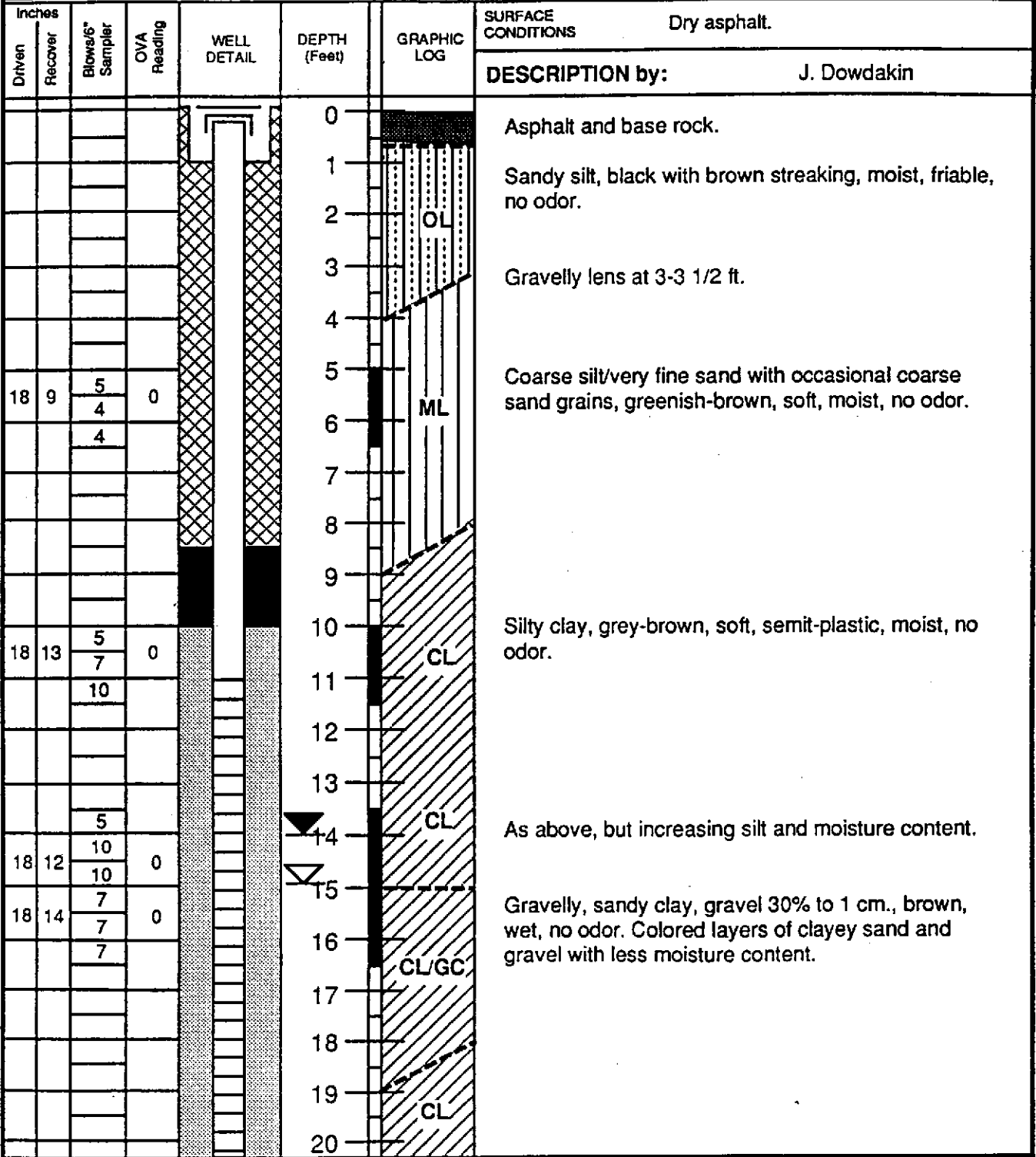
CLIENT: Exxon Company U.S.A. SITE NUMBER: SS 9-0210 LOCATION: 7840 Amador Valley Rd. Dublin, CA

LOG OF SOIL BORING MW2

DRILLING AND SAMPLING METHODS: 10.25" Hollow Stem Auger, 2" Split Spoon Sampler

Coordinates:
Elevation top of casing:
Casing below surface:

WATER LEVEL	14.9	14.25		DRILLING	
TIME	16:00	9:30		START	FINISH
DATE	5/13/92	5/14/92		TIME 15:30	TIME 18:00
REFERENCE	Surf.	TOC		DATE 5/13/92	DATE 5/13/92



412618B

3S/W-2A9

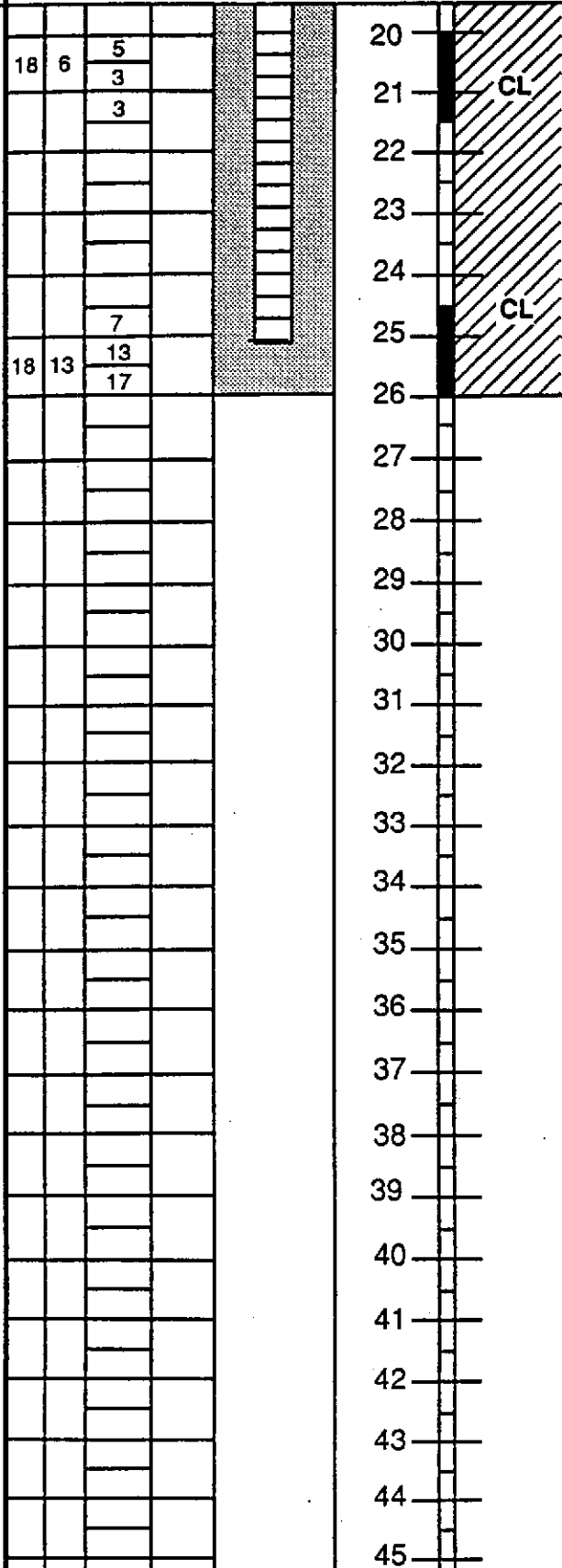


LOG OF SOIL BORING MW2

CLIENT
Exxon Company U.S.A.

SITE NUMBER
RS 7-0210

LOCATION
7840 Amador Rd.
Dublin, CA



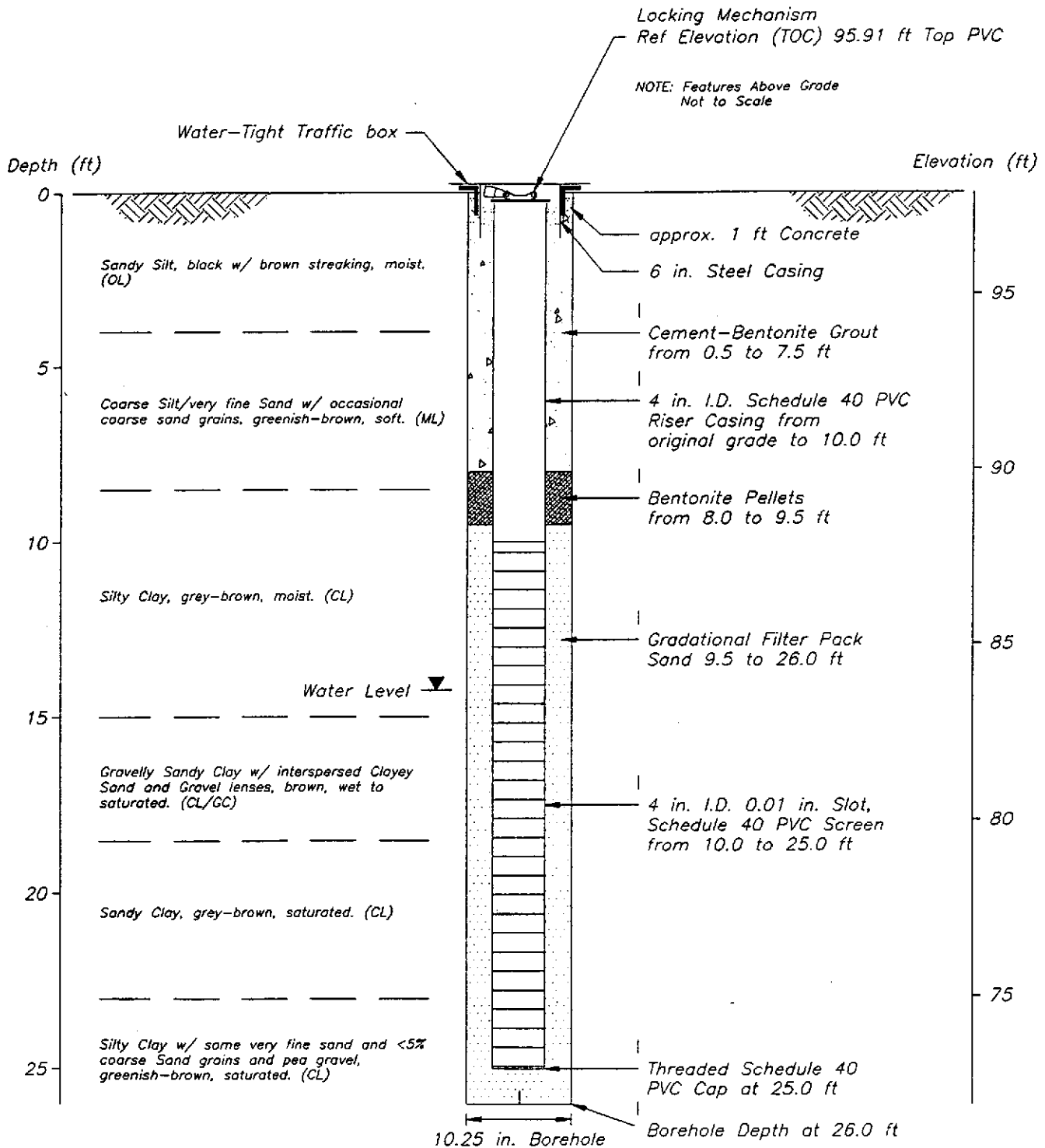
Sandy clay, sand size varies in lenses, very fine to fine, grey-brown, saturated, soft, no odor.

Silty clay with some very fine sand and occasional (<5%) coarse sand and pea gravel, green-brown, saturated, plastic, soft.

22/11/2011

412618B

WELL NO: MW2 WELL COMPLETION DIAGRAM



ENGINEERING, SCIENCE, AND TECHNOLOGY

Client: EXXON

Location: DUBLIN, CA

Site: RS 7-0210

412618C



CLIENT Exxon Company U.S.A.		SITE NUMBER SS 9-0210		LOCATION 7840 Amador Valley Rd. Dublin, CA	
DRILLING AND SAMPLING METHODS 10.25" Hollow Stem Auger 2" Split Spoon Sampler					
WATER LEVEL	~18.0	16.4	16.00	DRILLING	
TIME	8:40	9:40	16:40	START	FINISH
DATE	5/14/92	5/14/92	5/14/92	TIME	TIME
REFERENCE	Surf.	TOC	TOC	DATE	DATE

LOG OF SOIL BORING MW3

Coordinates:

Elevation top of casing:
Casing below surface:

Inches		Blows/ Sampler	OVA Reading	WELL DETAIL	DEPTH (Feet)	GRAPHIC LOG	SURFACE CONDITIONS	
Driven	Recover						Dry asphalt.	
							DESCRIPTION by: J. Dowdakin	
					0		Asphalt.	
					1		Sandy silt, black, moist, no odor.	
					2	OL		
					3			
					4		Gravelly lens at 3 1/4 - 4'.	
					5		Silty sand, brown, moist, no odor.	
18	14	7/- 7/5	0		6	SL		
18	14	7/11 -/11	0		7		As above, but coarser. (Note: No liners in splitspoon sample taken 5 - 6.5'. Section resampled 5.5-7', but possibly disturbed.)	
					8			
					9			
18	14	7 11 13	0		10	ML	Clayey silt, greenish-brown, moist, semi-friable, no odor, black flecks and root casts.	
					11			
					12			
					13	SM		
					14		Silty sand, brown, very moist, nonodor. Silty, sandy clay with 10 % gravel to 1 cm., brown, very moist, no odor.	
18	12	13 14	0		15			
18	14	5 10	0		16	CL	As above, but increasing moisture content.	
					17			
18	15	5 5	0		18	SC	Clayey fine sand, brown, saturated, no odor.	
18	15	9 5	0		19	SM	Well-graded silty sand, brown, saturated, no odor.	
					20	SC	Clayey fine sand, brown, saturated, no odor.	

412618C

35/1W-2A10

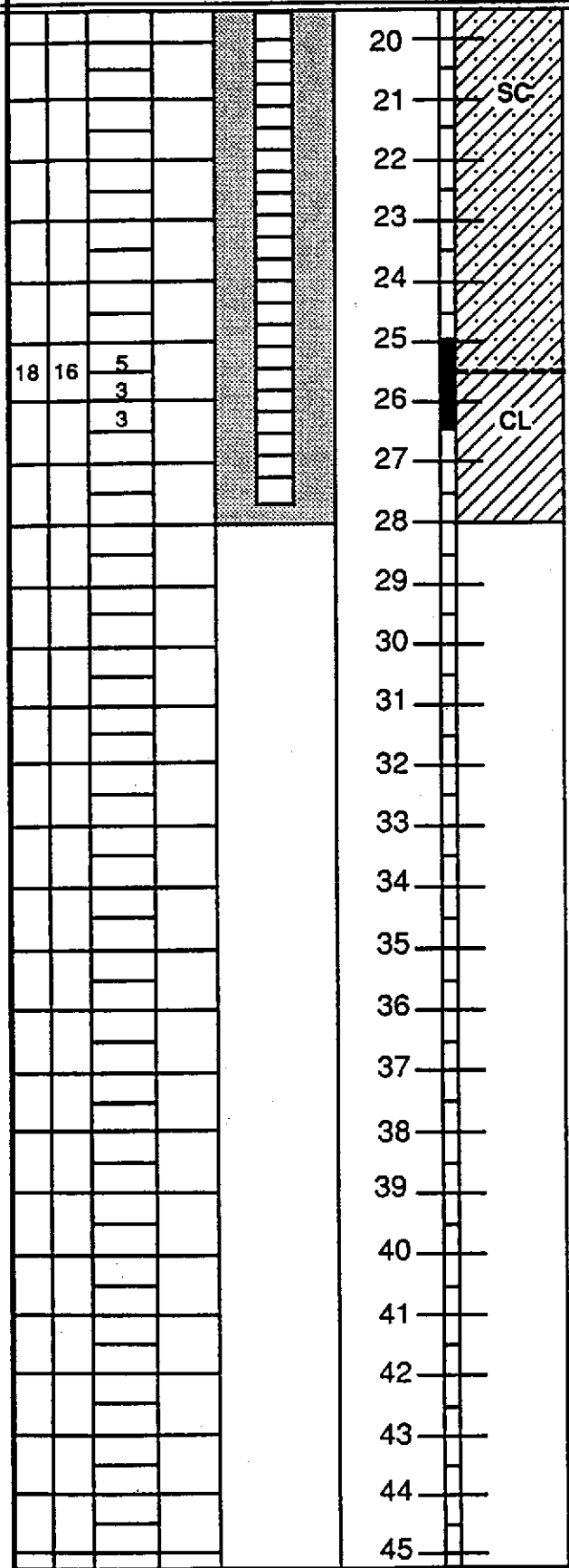


LOG OF SOIL BORING MW3

CLIENT
Exxon Company U.S.A.

SITE NUMBER
RS 7-0210

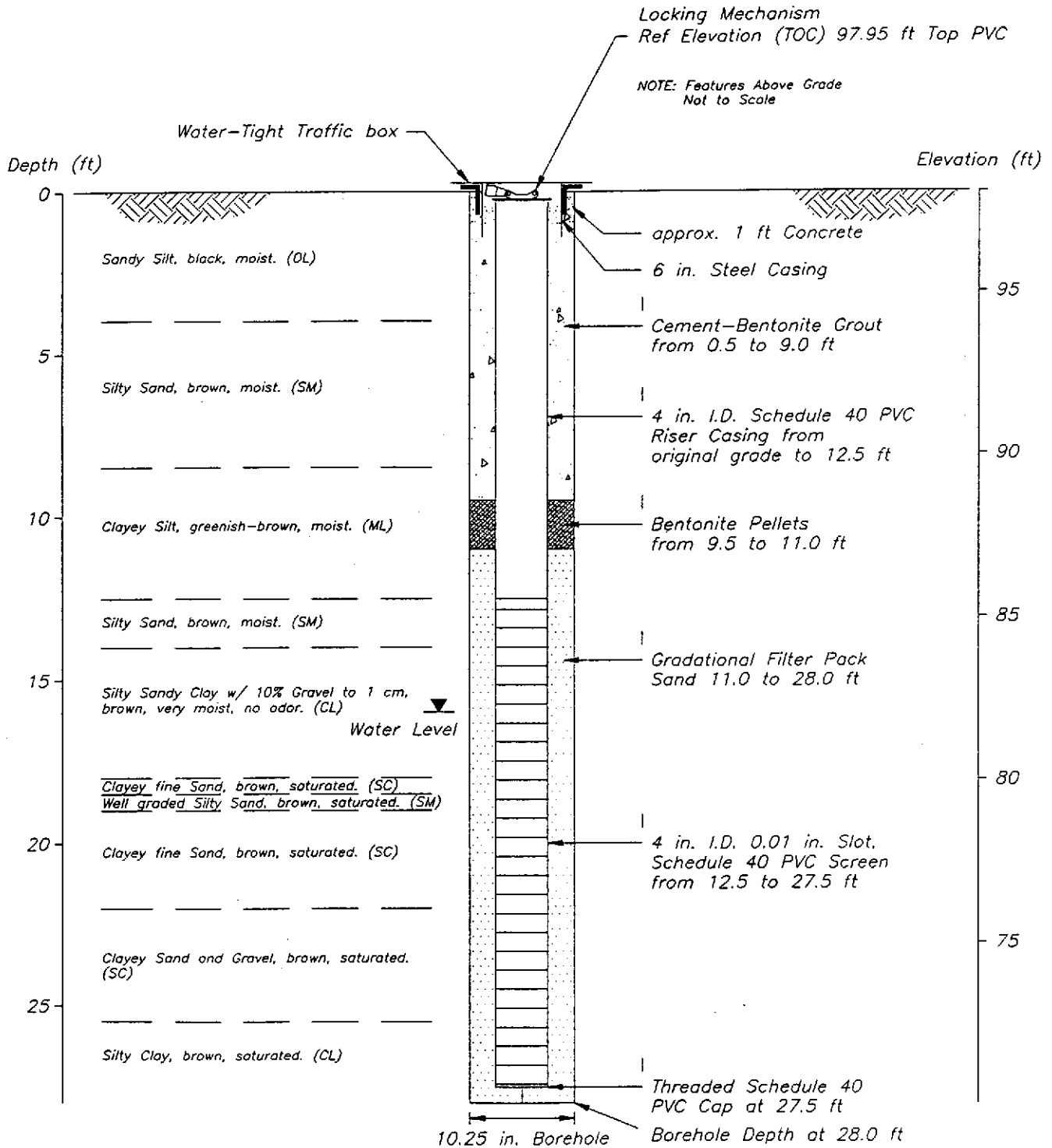
LOCATION
7840 Amador Rd.
Dublin, CA



Clayey sand and gravel, gravel to 1 cm., brown, saturated, no odor.

Silty clay, brown, saturated, no odor, increasing softness with depth.

WELL NO: MW3 WELL COMPLETION DIAGRAM



ENGINEERING, SCIENCE, AND TECHNOLOGY

Client: EXXON

Location: DUBLIN, CA

Site: RS 7-0210

412618D



CLIENT Exxon Company U.S.A.	SITE NUMBER SS 9-0210	LOCATION 7840 Amador Valley Rd. Dublin, CA
--------------------------------	--------------------------	--

LOG OF SOIL BORING MW4

DRILLING AND SAMPLING METHODS: 10.25" Hollow Stem Auger, 2" Split Spoon Sampler

Coordinates:
Elevation top of casing:
Casing below surface:

WATER LEVEL	14.8	14.5		DRILLING	
TIME	12:30	15:30		START	FINISH
DATE	5/14/92	5/14/92		TIME 10:30	TIME 14:15
REFERENCE	Surf.	TOC		DATE 5/14/92	DATE 5/14/92

Inches Driven	Inches Recover	Blows/6" Sampler	OVA Reading	WELL DETAIL	DEPTH (Feet)	GRAPHIC LOG	SURFACE CONDITIONS
							Dry asphalt.
							DESCRIPTION by: J. Dowdakin
					0		Asphalt.
					1	GM	Sandy, silty gravel fill.
					2		
					3	OL	Sandy silt, brownish-black, moist, no odor.
					4		
18	12	10	0		5		Sandy silt, grey-brown, dry to moist, no odor.
		10			6	ML	
		10			7		
					8		
					9		
18	12	5	0		10	CL	Silty clay, greenish-brown moist, no odor, semi-plastic, some fine root casts and white precipitate.
		8			11		
		8			12		
					13		
		5			14	SM	Silty sand with 20% gravel to 1 cm, brown, moist to wet, no odor.
18	7	7	0		15		
		7			16	SC	Clayey sand, brown, saturated, no odor.
18	8	4	0		17		
		4			18		
		4			19	SM	
					20		

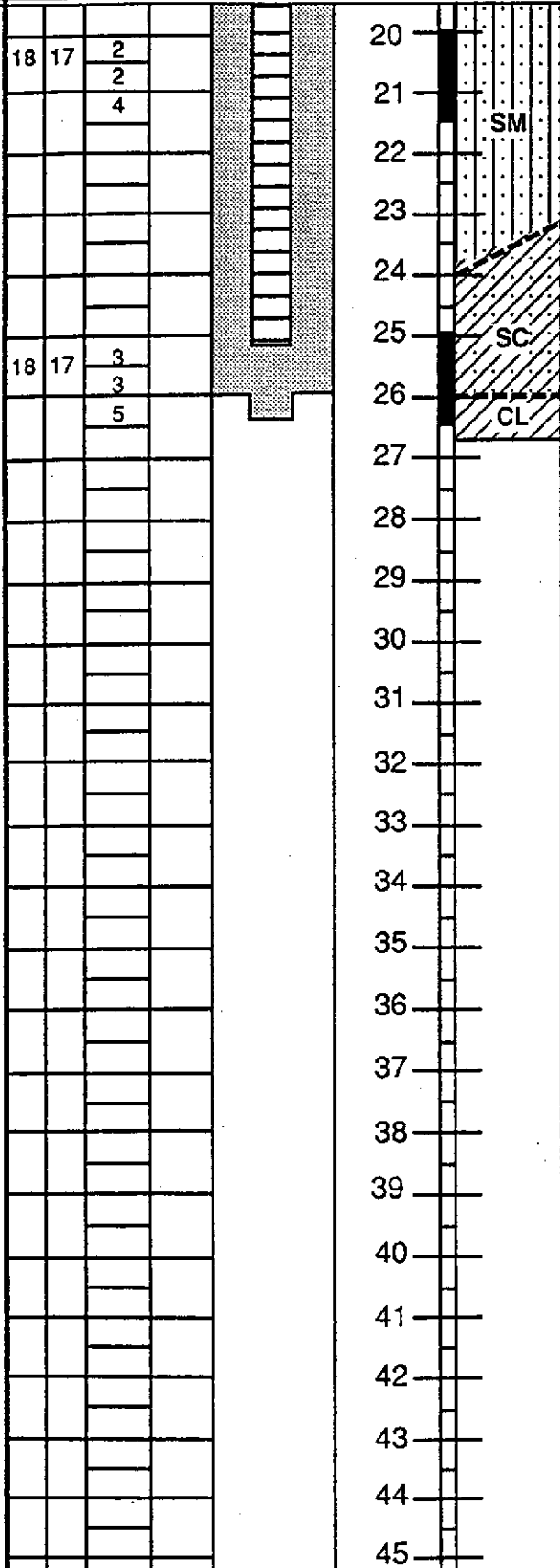


LOG OF SOIL BORING MW4

CLIENT
Exxon Company U.S.A.

SITE NUMBER
RS 7-0210

LOCATION
7840 Amador Rd.
Dublin, CA

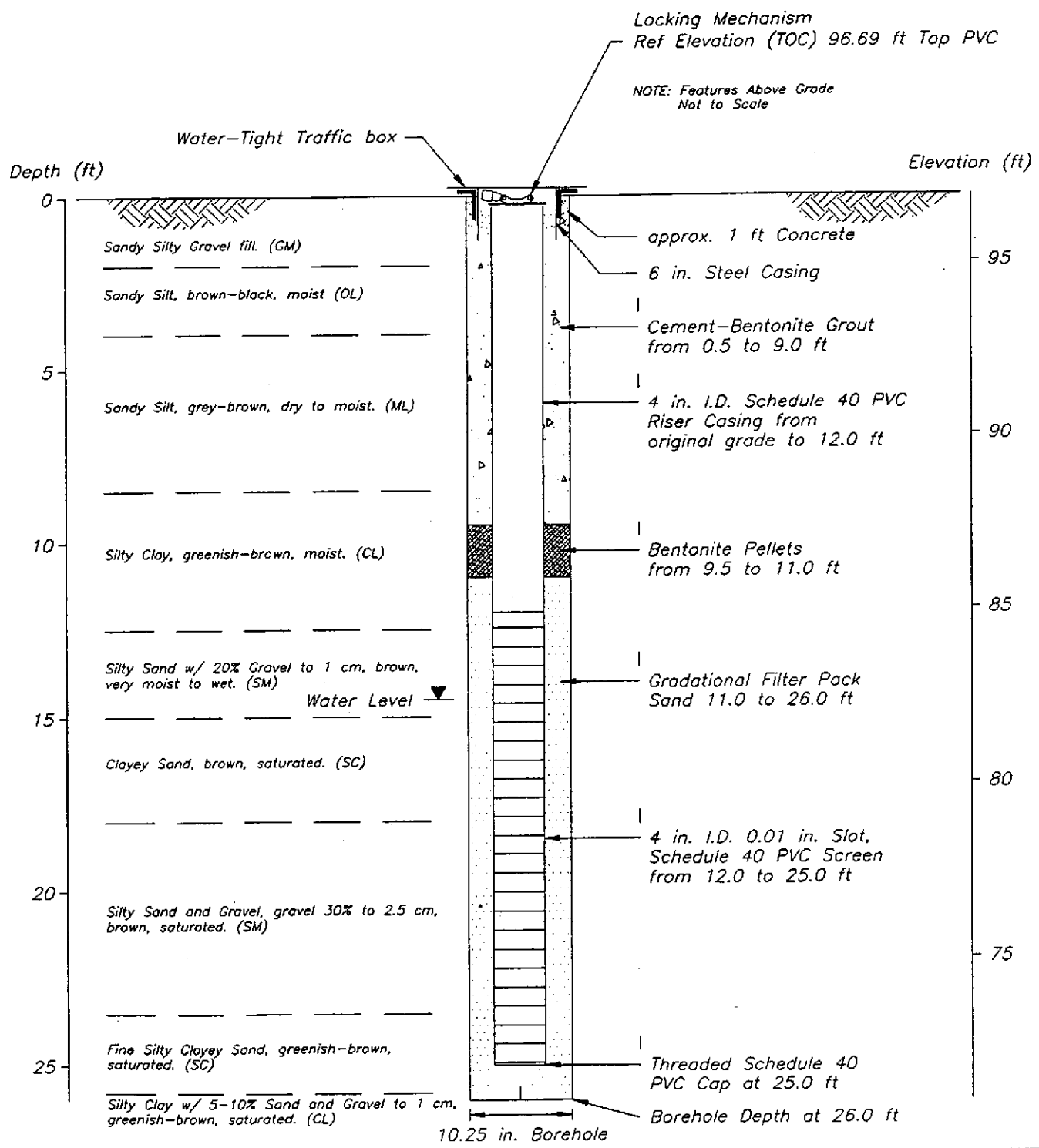


Silty sand and gravel, gravel 30% to 2 1/2 cm., brown, saturated, no odor.

Fine silty, clayey sand, greenish-brown, semi-stiff, saturated, no odor.

Silty clay with some sand and gravel to 1 cm (<10%), greenish-brown, semi-stiff, saturated, no odor.

WELL NO: MW4 WELL COMPLETION DIAGRAM



ENGINEERING, SCIENCE, AND TECHNOLOGY

Client: EXXON

Location: DUBLIN, CA

Site: RS 7-0210

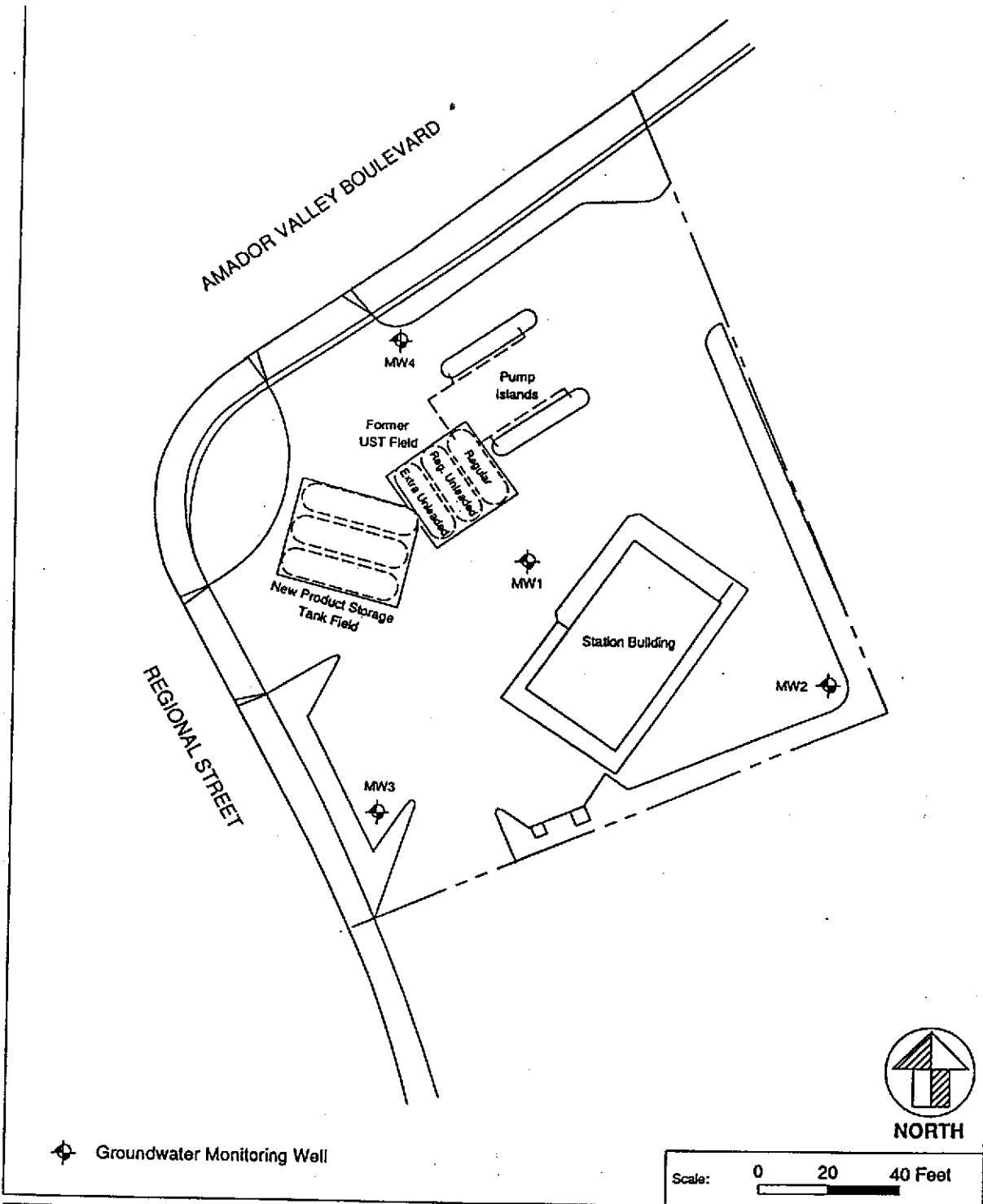


Figure 5. Location of groundwater monitoring wells, Exxon RS
 7-0210, 7840 Amador Road, Dublin, California.

EA® (510) 283-7077

Drawn	RK	Date	6/10/92
Reviewed		Date	
Rev. 1		Date	
Final		Date	

MDRW/7-0210/ROU/JUN92

PERMIT 92207 }
 C57-554979 } West Hazmat 1621

01-5081 2211W 4A0



CLIENT: Exxon Company U.S.A. SITE NUMBER: SS 9-0210 LOCATION: 7840 Amador Valley Rd. Dublin, CA

LOG OF SOIL BORING MW1

Coordinates:

Elevation top of casing:

Casing below surface:

DRILLING AND SAMPLING METHODS		10.25" Hollow Stem Auger 2" Split Spoon Sampler			
WATER LEVEL	14.15			DRILLING	
TIME	17:25			START	FINISH
DATE	4/14/92			TIME 15:00	TIME 17:50
REFERENCE	TOC			DATE 5/14/92	DATE 5/14/92

Inches				WELL DETAIL	DEPTH (Feet)	GRAPHIC LOG	SURFACE CONDITIONS	
Driven	Recover	Blows/6" Sampler	OVA Reading				Dry asphalt.	
					0		DESCRIPTION by: J. Dowdakin	
					1	GM	Asphalt.	
					2		Silty sand and gravelly fill.	
					3	OL	Sandy, clayey silt, black, moist, semi-friable, no odor. Occasional (25%) gravel to 1/2 cm., some precipitate nodules.	
					4			
18	14	4	0		5		Very fine silty sand with pockets of coarse sand grains! Greenish-brown, moist, no odor.	
		4			6	SM		
		6			7			
					8			
					9			
18	14	5	0		10		Silty clay with occasional coarse sand grains (5%), greenish-brown, moist, stiff, semi-plastic, no odor.	
		7			11	CL		
		9			12			
					13			
		4			14	SC	Clayey sand and gravel, gravel 30% to 2 cm., greenish-grey, saturated, very slight weathered HC odor. Decreasing gravel with depth.	
18	15	7	1		15			
		7			16	ML	Clayey coarse silt, greenish-grey, wet to saturated, semi-plastic, weathered HC odor, 10% gravel to 3 cm.	
18	14	4	1		17			
		7			18			
					19			
					20	SW		

01-508U

5/13/92



LOG OF SOIL BORING MW2

Coordinates:

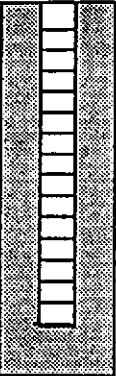

Elevation top of casing:

Casing below surface:

CLIENT Exxon Company U.S.A.	SITE NUMBER SS 9-0210	LOCATION 7840 Amador Valley Rd. Dublin, CA		
DRILLING AND SAMPLING METHODS 10.25" Hollow Stem Auger 2" Split Spoon Sampler				
WATER LEVEL	14.9	14.25	DRILLING	
TIME	16:00	9:30	START	FINISH
DATE	5/13/92	5/14/92	TIME	15:30
REFERENCE	Surf.	TOC	DATE	18:00
			DATE	5/13/92
			DATE	5/13/92

Inches Driven	Recover	Blows/6" Sampler	OVA Reading	WELL DETAIL	DEPTH (Feet)	GRAPHIC LOG	SURFACE CONDITIONS	DESCRIPTION by:
					0		Dry asphalt.	J. Dowdakin
					1			Asphalt and base rock.
					2	OL		Sandy silt, black with brown streaking, moist, friable, no odor.
					3			Gravelly lens at 3-3 1/2 ft.
					4			
18	9	5	0		5	ML		Coarse silt/very fine sand with occasional coarse sand grains, greenish-brown, soft, moist, no odor.
		4			6			
		4			7			
					8			
					9			
18	13	5	0		10	CL		Silty clay, grey-brown, soft, semit-plastic, moist, no odor.
		7			11			
		10			12			
					13			
		5			14	CL		As above, but increasing silt and moisture content.
18	12	10	0		15			
		10			16			
18	14	7	0		17	CL/GC		Gravelly, sandy clay, gravel 30% to 1 cm., brown, wet, no odor. Colored layers of clayey sand and gravel with less moisture content.
		7			18			
		7			19			
					20	CL		

01-508U

18	6	5		20		<p>Sandy clay, sand size varies in lenses, very fine to fine, grey-brown, saturated, soft, no odor.</p>		
		3		21			CL	
		3		22				
18	13	7		23				
		13		24				
		17		25			CL	<p>Silty clay with some very fine sand and occasional (<5%) coarse sand and pea gravel, green-brown, saturated, plastic, soft.</p>
				26				
				27				
	28							
	29							
				30				
				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				
				40				
				41				
				42				
				43				
				44				
				45				

LOG OF SOIL BORING MW3

DRILLING AND SAMPLING METHODS: 10.25" Hollow Stem Auger, 2" Split Spoon Sampler

Coordinates:

WATER LEVEL	~18.0	16.4	16.00	DRILLING	
TIME	8:40	9:40	16:40	START	FINISH
DATE	5/14/92	5/14/92	5/14/92	TIME	TIME
REFERENCE	Surf.	TOC	TOC	DATE	DATE

Elevation top of casing:

Casing below surface:

Inches Driven	Recover	Blows/6" Sampler	OVA Reading	WELL DETAIL	DEPTH (Feet)	GRAPHIC LOG	SURFACE CONDITIONS
							Dry asphalt.
							DESCRIPTION by: J. Dowdakin
					0		Asphalt.
					1		Sandy silt, black, moist, no odor.
					2	OL	
					3		
					4		Gravelly lens at 3 1/4 - 4'.
					5		Silty sand, brown, moist, no odor.
18	14	7/- 7/5	0		6	SL	
18	14	7/11 -/11	0		7		As above, but coarser. (Note: No liners in splitspoon sample taken 5 - 6.5'. Section resampled 5.5-7', but possibly disturbed.)
					8		
					9		
18	14	7 11	0		10	ML	Clayey silt, greenish-brown, moist, semi-friable, no odor, black flecks and root casts.
					11		
					12		
					13	SM	
					14		Silty sand, brown, very moist, nonodor. Silty, sandy clay with 10 % gravel to 1 cm., brown, very moist, no odor.
18	12	13 14	0		15		
18	14	5 10	0		16	CL	As above, but increasing moisture content.
					17		
18	15	3 5	0		18	SC	Clayey fine sand, brown, saturated, no odor.
18	15	9 5	0		19	SM	Well-graded silty sand, brown, saturated, no odor.
					20	SC	Clayey fine sand, brown, saturated, no odor.

01-508 Y

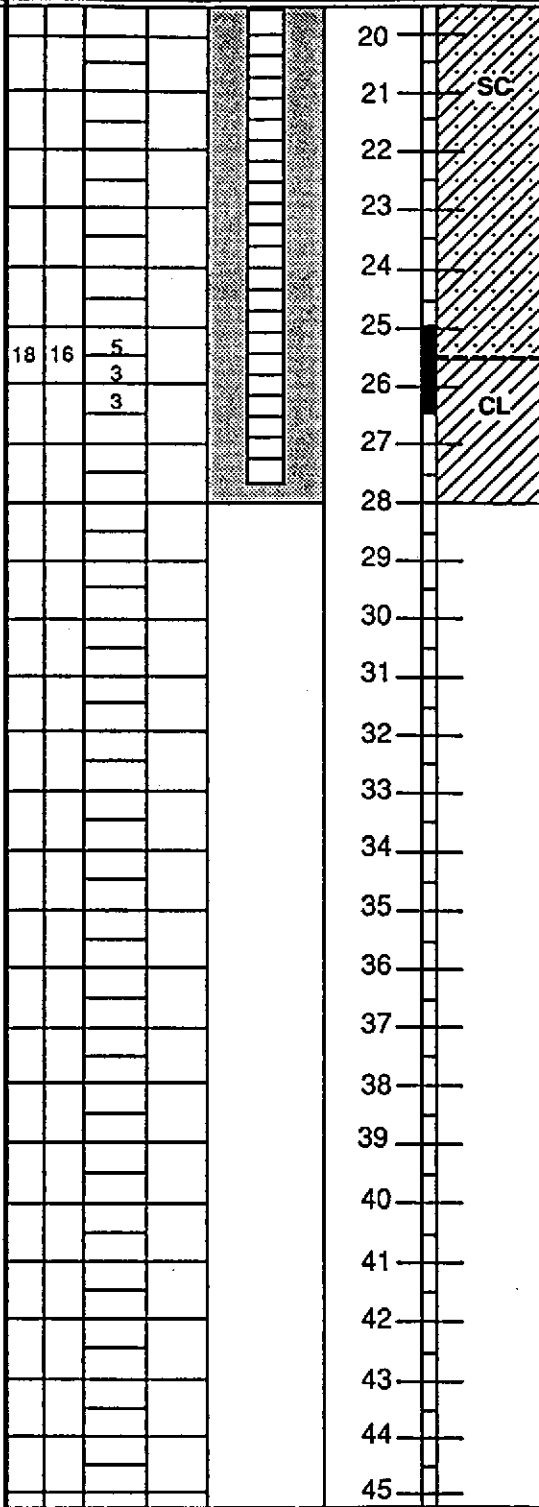


LOG OF SOIL BORING MW3

CLIENT
Exxon Company U.S.A.

SITE NUMBER
RS 7-0210

LOCATION
7840 Amador Rd.
Dublin, CA



Clayey sand and gravel, gravel to 1 cm., brown, saturated, no odor.

Silty clay, brown, saturated, no odor, increasing softness with depth.

LOG OF SOIL BORING MW4

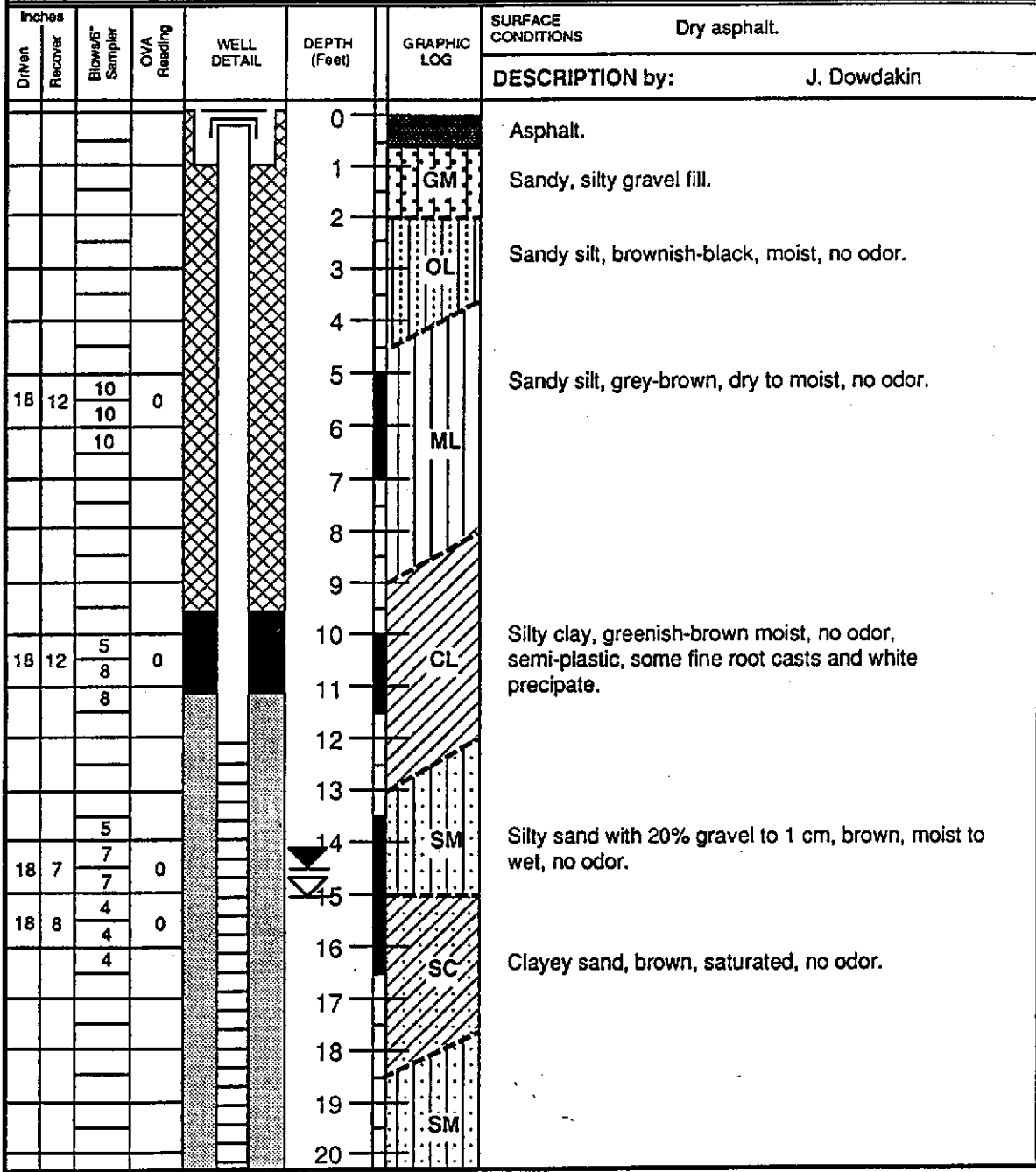
DRILLING AND SAMPLING METHODS: 10.25" Hollow Stem Auger, 2" Split Spoon Sampler

Coordinates:

WATER LEVEL	14.8	14.5	DRILLING	
TIME	12:30	15:30	START	FINISH
DATE	5/14/92	5/14/92	TIME 10:30	TIME 14:15
REFERENCE	Surf.	TOC	DATE 5/14/92	DATE 5/14/92

Elevation top of casing:

Casing below surface:



01-508W

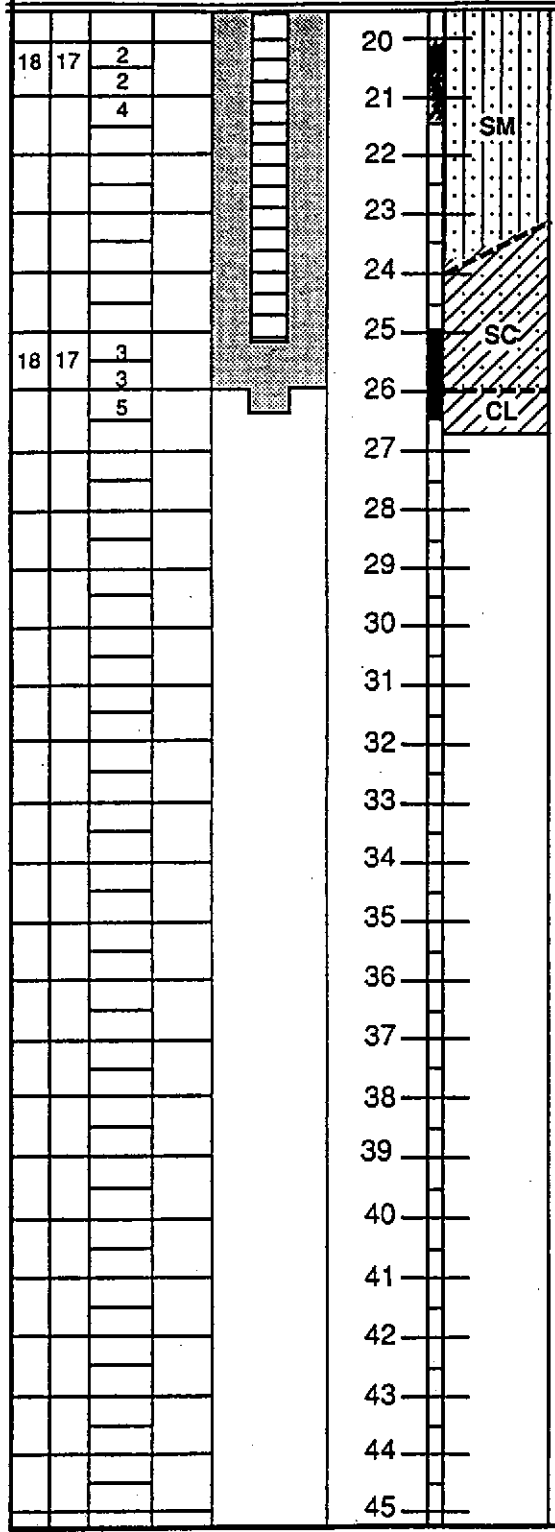


LOG OF SOIL BORING MW4

CLIENT
Exxon Company U.S.A.

SITE NUMBER
RS 7-0210

LOCATION
7840 Amador Rd.
Dublin, CA



Silty sand and gravel, gravel 30% to 2 1/2 cm., brown, saturated, no odor.

Fine silty, clayey sand, greenish-brown, semi-stiff, saturated, no odor.

Silty clay with some sand and gravel to 1 cm (<10%), greenish-brown, semi-stiff, saturated, no odor.

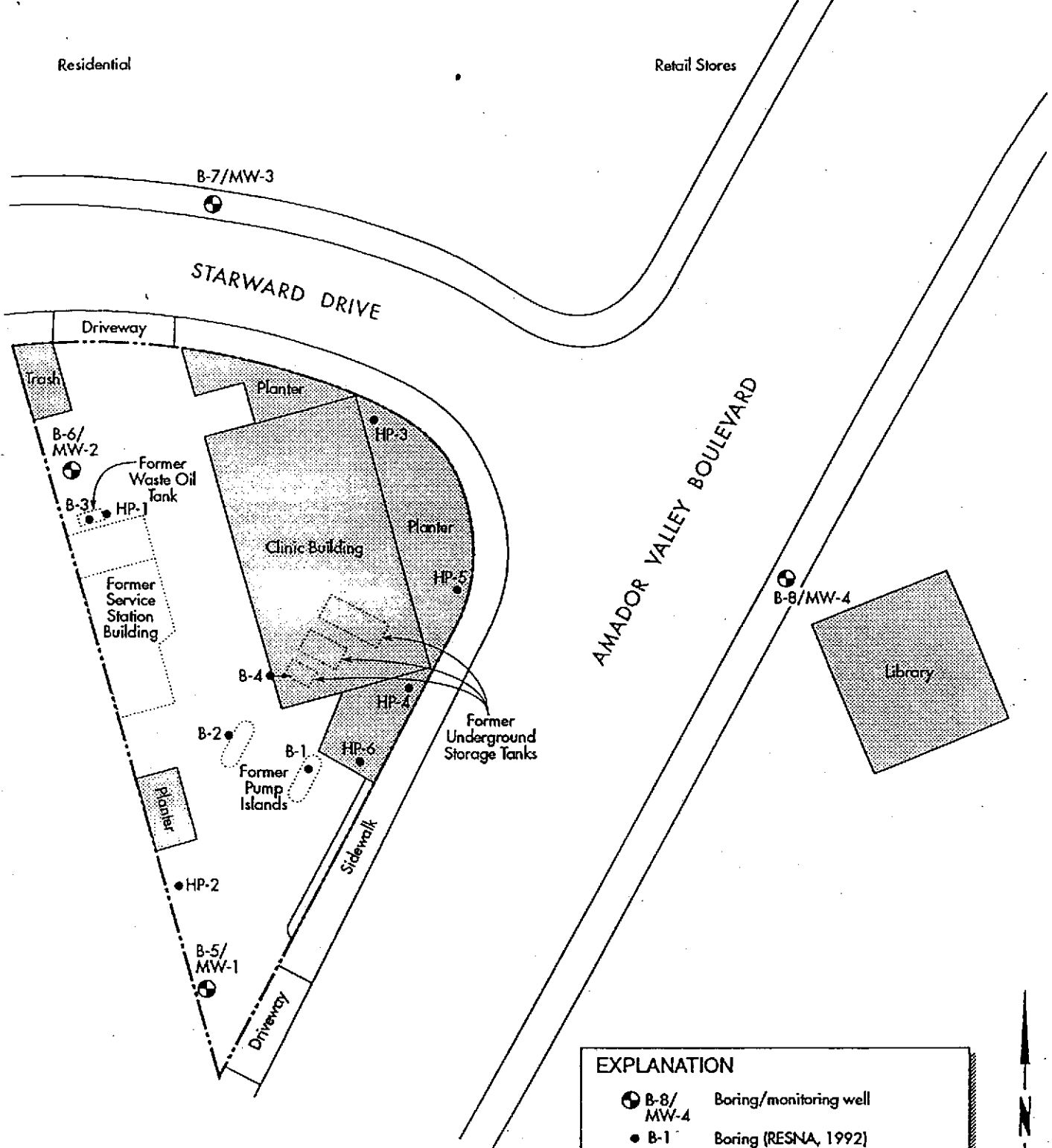
CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

Residential

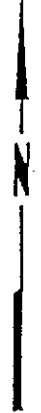
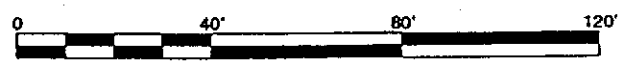
Retail Stores



EXPLANATION

- ⊕ B-8/MW-4 Boring/monitoring well
- B-1 Boring (RESNA, 1992)
- ⊖ B-4 Angled boring (RESNA, 1992)
- HP-1 Hydropunch (PEG, 1993)

Source: Site Map by Pacific Environmental Group, Inc.; USGS Topographic Map, 7.5 minute series, Dublin, Calif. quadrangle, 1980



CONFIDENTIAL

**STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)**

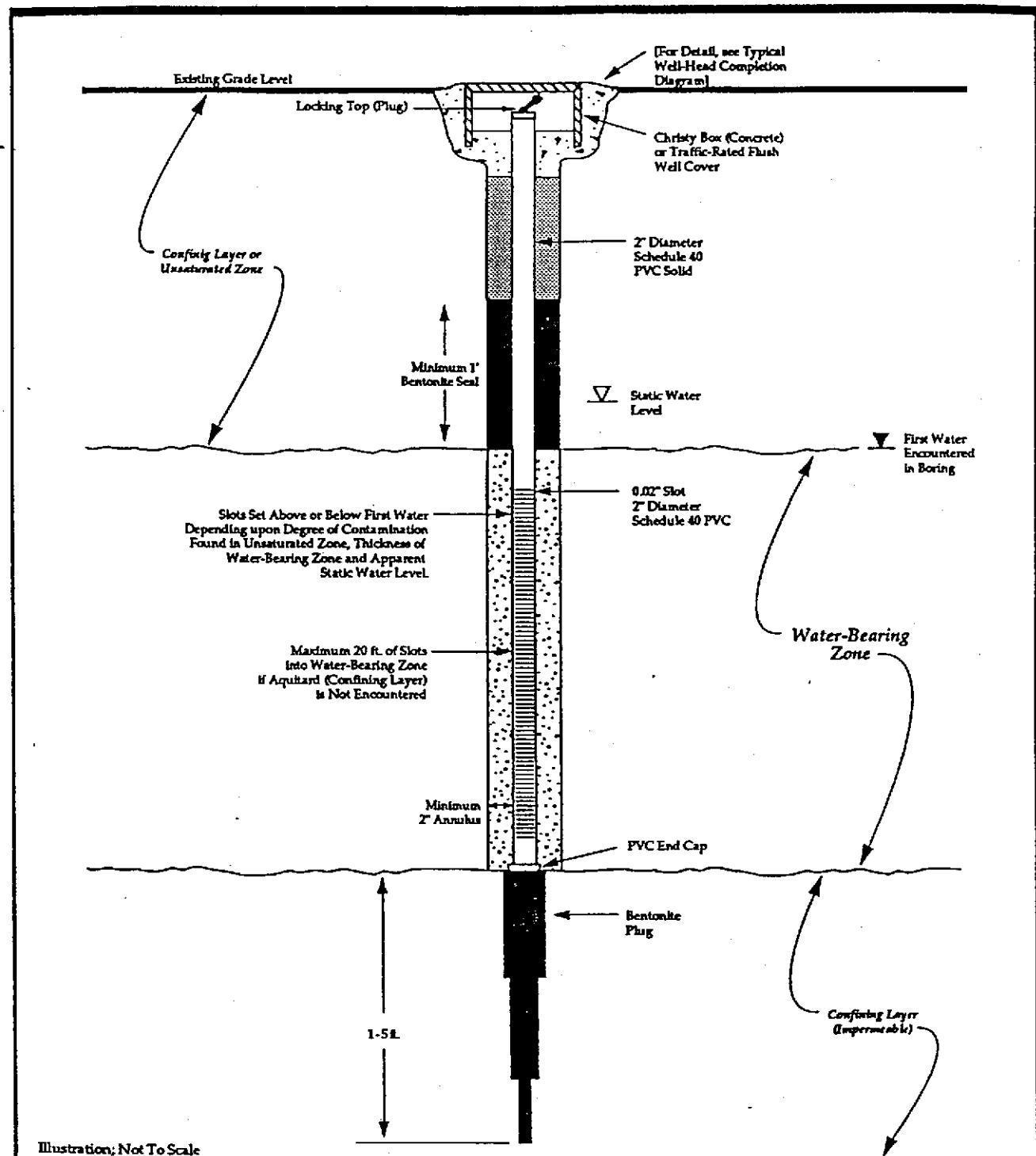
REMOVED

348

471514-47277

201 IN 2012

Groundwater Monitor Well (2" casing)



LEGEND	
	Concrete
	Grout (Cement Type I, II, Portland + 3-5% Bentonite)
	Sand

Typical Groundwater Monitor Well Construction Details (2" Casing)

MW-1

FIGURE 3

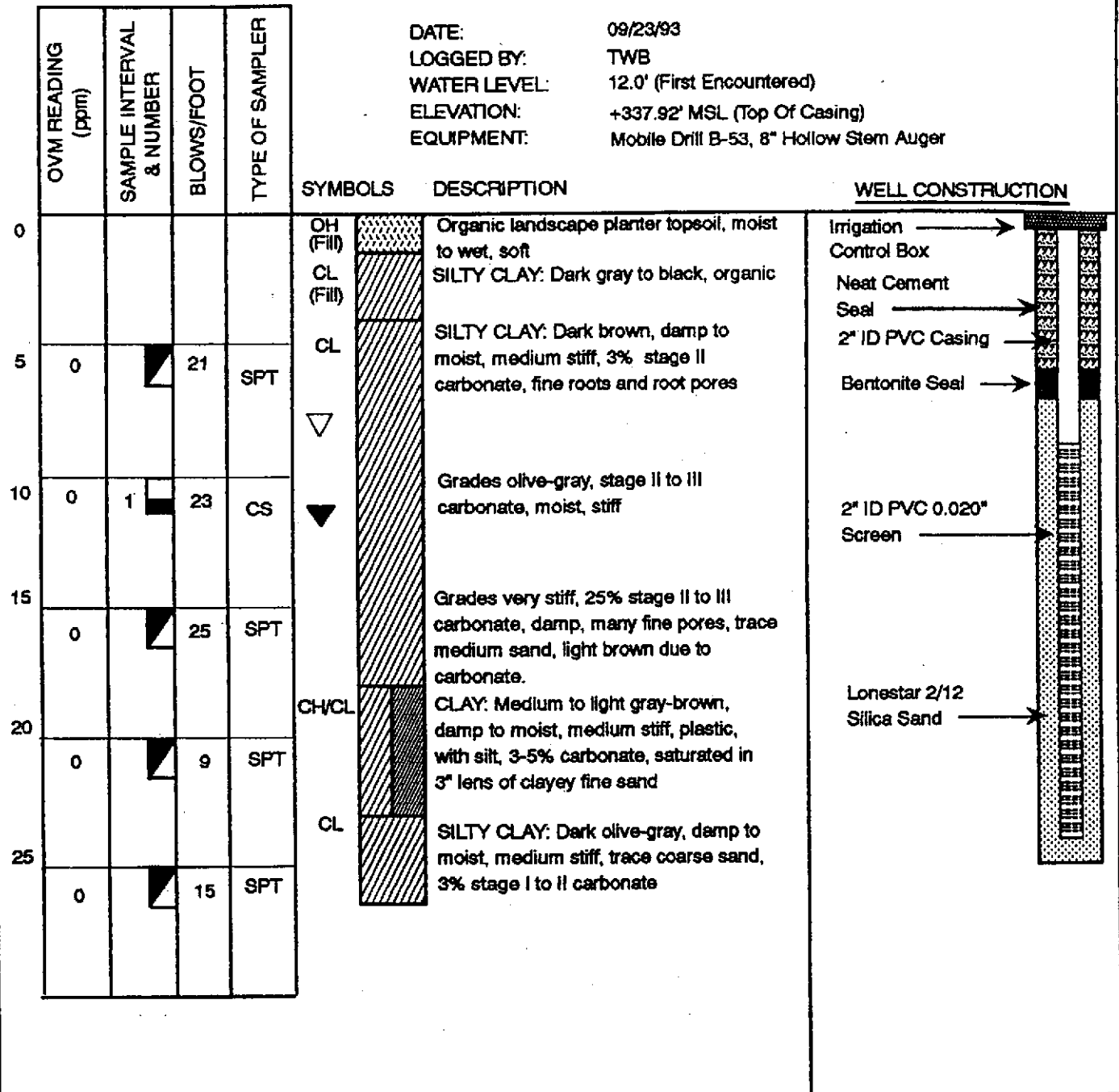
CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

BORING LOG MW-2

DATE: 09/23/93
 LOGGED BY: TWB
 WATER LEVEL: 12.0' (First Encountered)
 ELEVATION: +337.92' MSL (Top Of Casing)
 EQUIPMENT: Mobile Drill B-53, 8" Hollow Stem Auger



NOTES:

- Boring completed at a depth of 25 feet on 09/23/93.
- Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
- Boring log indicates the interpreted subsurface conditions only at the location and time the boring was drilled.
- For an explanation of terms used see the Soil Classification Chart, Figure 3.

▽ - Denotes stabilized water table.
 ▼ - Denotes water table as encountered during drilling.

Groundwater Monitoring
 Facilities Installation
 7494 Donohue Drive
 Dublin, California

BSK Job No. P931563
 October 1993
 FIGURE: 5

BSK
 & ASSOCIATES

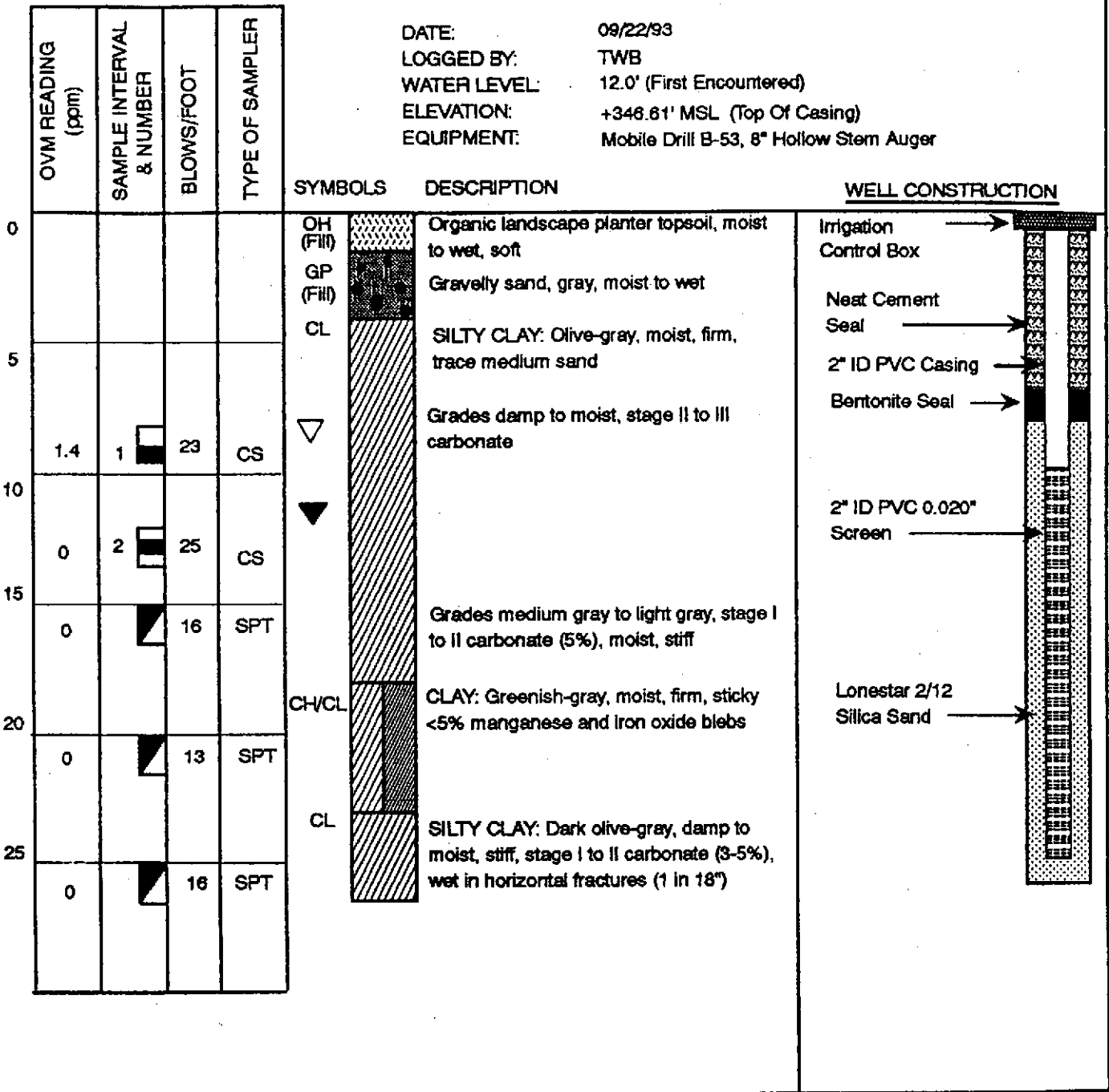
CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

BORING LOG MW-1

DATE: 09/22/93
 LOGGED BY: TWB
 WATER LEVEL: 12.0' (First Encountered)
 ELEVATION: +346.61' MSL (Top Of Casing)
 EQUIPMENT: Mobile Drill B-53, 8" Hollow Stem Auger



NOTES:

1. Boring completed at a depth of 26 feet on 09/22/93.
2. Sampling resistance is measured in blows per foot required to drive the sampler 12-inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
3. Boring log indicates the interpreted subsurface conditions only at the location and time the boring was drilled.
4. For an explanation of terms used see the Soil Classification Chart, Figure 3.

▽ - Denotes stabilized water table.
 ▼ - Denotes water table as encountered during drilling.

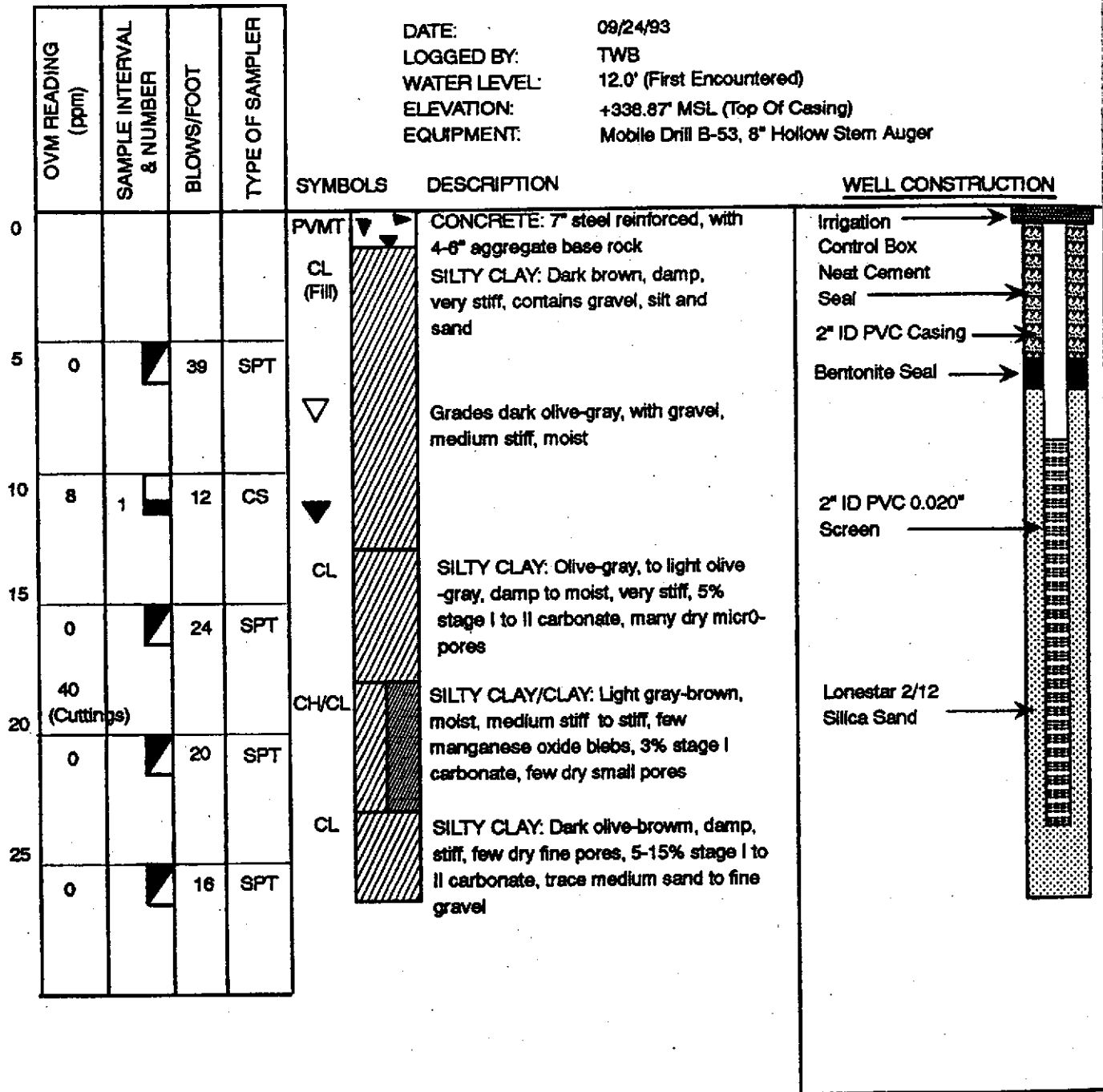
Groundwater Monitoring
 Facilities Installation
 7494 Donohue Drive
 Dublin, California

BSK Job No. P931563
 October 1993
 FIGURE: 4



BORING LOG MW-3

DATE: 09/24/93
 LOGGED BY: TWB
 WATER LEVEL: 12.0' (First Encountered)
 ELEVATION: +338.87' MSL (Top Of Casing)
 EQUIPMENT: Mobile Drill B-53, 8" Hollow Stem Auger



NOTES:

- Boring completed at a depth of 26 feet on 09/24/93.
- Sampling resistance is measured in blows per foot required to drive the sampler 12-inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
- Boring log indicates the interpreted subsurface conditions only at the location and time the boring was drilled.
- For an explanation of terms used see the Soil Classification Chart, Figure 3.

▽ - Denotes stabilized water table.
 ▼ - Denotes water table as encountered during drilling.

Groundwater Monitoring
 Facilities Installation
 7494 Donohue Drive
 Dublin, California

BSK Job No. P93156.3
 October 1993
 FIGURE: 6

BSK
 & ASSOCIATES

Concrete-lined Channel
N69°06' 49" E. 150.00'

Apartment Complex
Parking

N053° 11" W. 100.00'

Parking Area

MW-3

MW-2

NEW FIRE STATION

DONOHUE DRIVE


N6°54' 44" E. 90.44'

Property Line

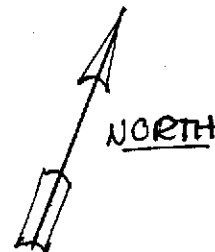
N69°06'49" E. 192.18'

MW-1

LEGEND:

 - Location and Designation of
Groundwater Monitoring Well

Scale: 1" = 40'



GROUNDWATER MONITORING FACILITY
INSTALLATION AND QUARTERLY MONITORING
FIRE STATION NO. 1
7494 DONOHUE DRIVE
DUBLIN, CALIFORNIA

SITE PLAN

Job No. P93156.3
October 1993
FIGURE: 2

BSK
& ASSOCIATES

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196

BORING NO. MW-1

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542

PAGE 1 OF 2

BY K. RAHMAN DATE 3/27/90

SURFACE ELEV. 364.25 ft.

PID <small>(ppm)</small>	RECOVERY <small>(in./in.)</small>	BLOW CT. <small>(blws/ft)</small>	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-GRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
164	8/18	19 31 refusal		5			<p>FILL.</p> <p>FILL: GRAVELLY SILT (ML), dark brown (10YR, 3/3); 50-60% low plasticity fines; 5-10% fine to medium sand; 15-25% fine to medium gravel; trace iron-oxide staining of clasts; hard; dry; no product odor.</p>	
73	10/18	14 20 33		10			<p>@ 10': hard; dry; no product odor.</p>	
				15			<p>@ 17': cobbles; drainage baserock; fill in former tank excavation.</p>	
				20				

REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater-monitor well was installed. PID readings were taken on 4/6/90.

LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196

BORING NO. MW-1

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542

PAGE 2 OF 2

BY K. RAHMAN DATE 3/27/90

SURFACE ELEV. 364.25 ft.

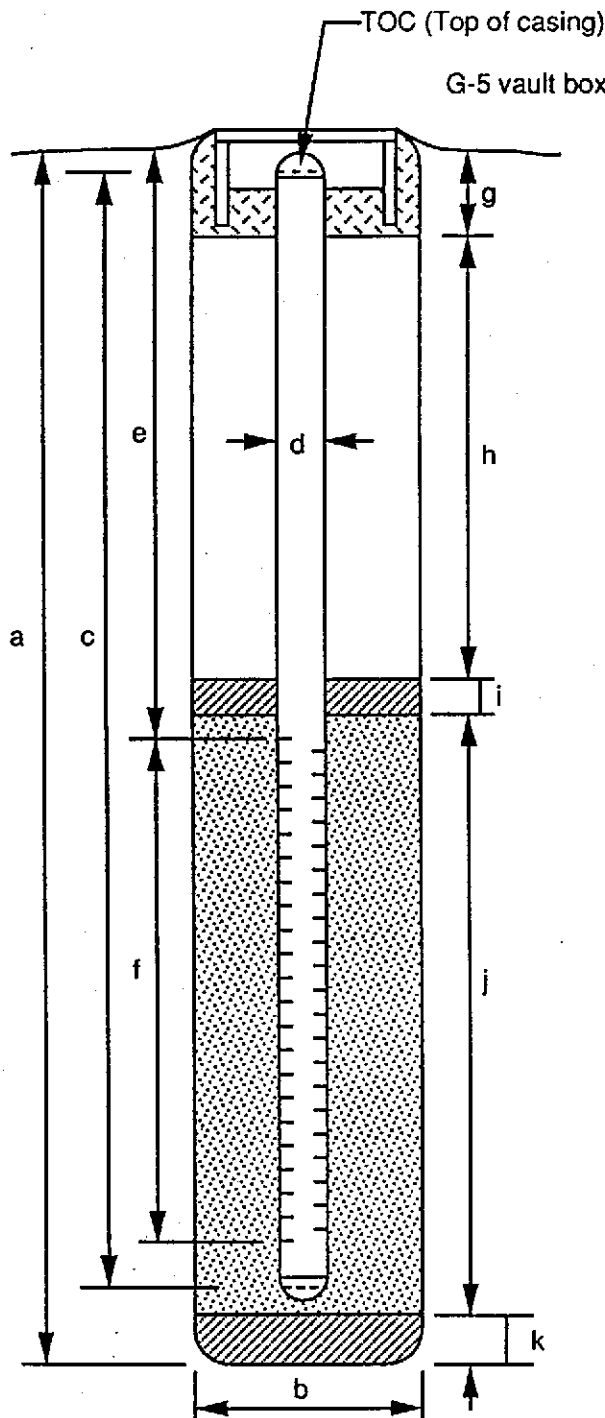
PID (ppm)	RECOVERY (in./in.)	BLOW CT. (blws/ft)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-GRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
				25		FILL, continued.		
1175	16/18	7 12 15	4/2/90 ▼	25		CLAY (CL), dark brown (10YR, 3/3); 90-95% moderate plasticity fines; 5-10% fine sand; damp; moderate product odor.		
				30		@25': abundant caliche; trace iron-oxide staining; trace manganese-oxide staining; damp; very stiff; moderate product odor.		
288	18/18	3 7 10		30		SANDY CLAY (CL), dark grayish brown (10YR, 4/2); 60-70% moderate plasticity fines; 25-35% fine to medium sand; trace fine gravel; abundant caliche; trace iron-oxide and manganese-oxide staining; very stiff; damp; moderate product odor.		
				35		@35': mottled dark grayish brown (10YR, 4/2) and dark brown (10YR,3/3); very stiff; wet; no product odor.		
89.1	18/24	6 10 15		35		BORING TERMINATED AT 35 FEET AND SAMPLED TO 37 FEET. WELLHEAD COMPLETED ROUGHLY 1 FOOT ABOVE GRADE PRIOR TO RESURFACING.		
				40				

REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. PID readings were taken on 4/8/90.

WELL DETAILS

PROJECT NUMBER 1196 BORING / WELL NO. MW-1
 PROJECT NAME Chevron SS No. 9-5542 TOP OF CASING ELEV. 364.25'
 LOCATION 7007 San Ramon Road, Dublin GROUND SURFACE ELEV. _____
 WELL PERMIT NO. 90182 DATUM MSL
 INSTALLATION DATE 3/27/90



EXPLORATORY BORING

a. Total depth 37 ft.
 b. Diameter 8 in.
 Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

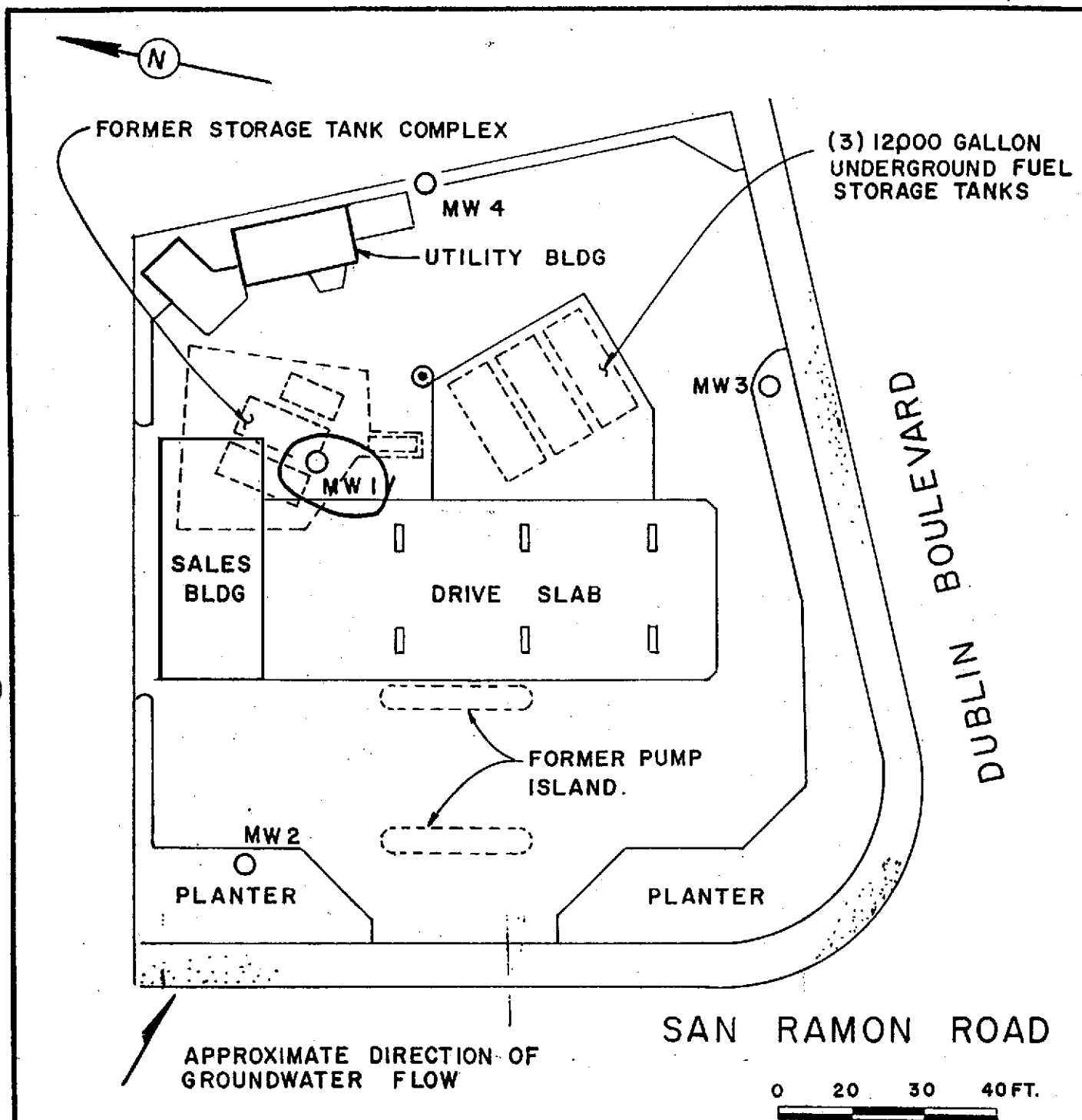
c. Total casing length 37 ft.
 Material Schedule 40 PVC
 d. Diameter 2 in.
 e. Depth to top perforations 20 ft.
 f. Perforated length 15 ft.
 Perforated interval from 20 to 35 ft.
 Perforation type Machine Slotted
 Perforation size 0.020 inch
 g. Surface seal 1 ft.
 Material Concrete (above grade)
 h. Backfill 16 ft.
 Material Bentonite-Cement Grout
 i. Seal 3 ft.
 Material Bentonite
 j. Gravel pack 16 ft.
 Gravel pack interval from 19 to 35 ft.
 Material #3 Sand
 k. Bottom seal/fill 2.0 ft.
 Material Bentonite

* Wellhead completed roughly 1-foot above grade prior to asphaltting. Depth measurements taken 1-foot below final grade.

CONFIDENTIAL

**STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)**

REMOVED



EXPLANATION

- PROPOSED GROUNDWATER MONITOR WELL
- EXISTING GROUNDWATER MONITOR WELL (TO BE DECOMMISSIONED)



CHEMICAL PROCESSORS, INC.
 950-B GILMAN STREET
 BERKELEY, CALIFORNIA
 BY P.P. APR. 6 / 1990

SITE PLAN
 CHEVRON S.S NO 9-5542
 7007 SAN RAMON ROAD
 DUBLIN, CA.

FIGURE
 2

340307

LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196

BORING NO. MW-2

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542

PAGE 1 OF 2

BY K. Rahman DATE 3/26/90

SURFACE ELEV. 364.58 ft.

PID <small>(ppm)</small>	RECOVERY <small>(in./in.)</small>	BLOW CT. <small>(blws/ft)</small>	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-GRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
				5	5	5	<p>FILL.</p> <p>SILT (ML), very dark brown (10YR, 2/2); 80-85% low plasticity fines; 10-15% fine sand; trace fine gravel; damp; no product odor.</p>	
6.0	15/18	8 15 22		10	10	10	<p>SILT (ML), very dark grayish brown (2.5Y, 3/2); 90-95% low plasticity fines; 5-10% fine to medium sand; trace rootholes; trace rootlets; hard; damp; no product odor.</p>	
7.9	13/18	8 10 29		15	15	15	<p>@10': trace coarse sand; trace iron-oxide staining; hard; damp; no product odor.</p> <p>SANDY GRAVEL (GP), very dark grayish brown (2.5Y, 4/2); 5-10% low plasticity fines; 30-40% fine to coarse sand; 50-60% fine to medium gravel, angular to subrounded; abundant iron-oxide staining; dense; dry; no product odor.</p>	
12.2	17/18	21 18 25		20	20	20	<p>@15': dark grayish brown (2.5Y, 4/2); dense; damp; no product odor.</p>	
				20	20	20	<p>SILTY CLAY (CL).</p>	

REMARKS

Boring was drilled using 8-inch diameter hollow stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed.

340307

LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196	BORING NO. MW-2
PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542	PAGE 2 OF 2
BY K. Rahman DATE 3/26/90	SURFACE ELEV. 364.58 ft.

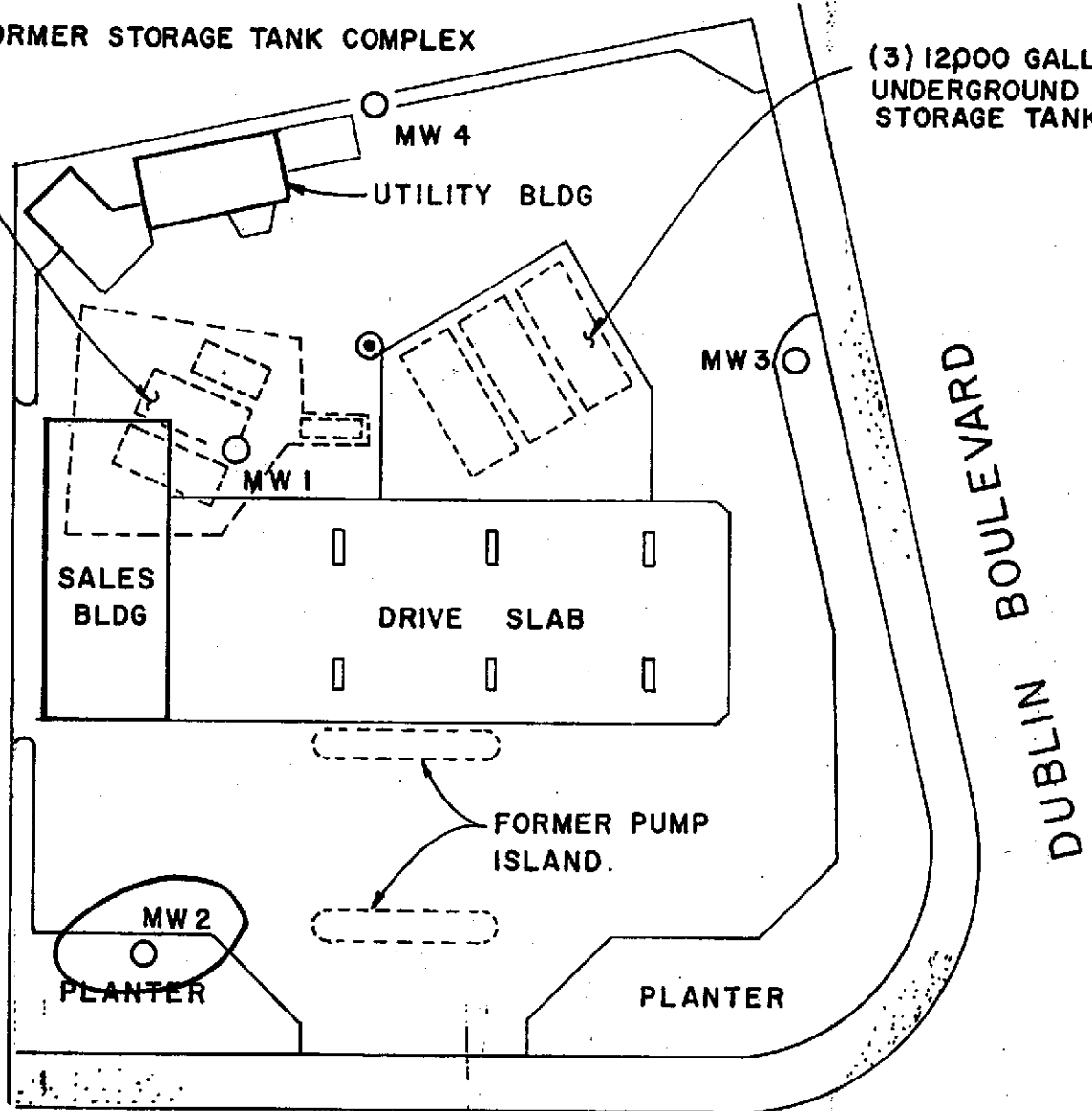
PID (ppm)	RECOVERY (in./in.)	BLOW CT. (blws/ft)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-GRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
12.7	13/18	7 6 8					SILTY CLAY (CL), dark grayish brown (2.5Y, 4/2); 90-95% moderate to high plasticity fines; trace fine sand; trace fine gravel; trace caliche; stiff; damp; faint organic odor.	
9.0	14/24		4/2/90 ▽	25			@25': dark olive gray (5Y, 3/2); stiff; damp; faint organic odor.	
			▽	3/26/90				
8.1	18/18	6 9 8		30			@30': olive (5Y, 4/3); 5-10% fine to coarse sand; trace wood fragments; trace iron-oxide and manganese-oxide staining; very stiff; wet; no product odor.	
-	13/18	7 6 12		35			@35': very stiff; wet; no product odor.	
5.6		3 6 7		37			@37': stiff; wet; no product odor.	
							BORING TERMINATED AT 37 FEET AND SAMPLED TO 38.5 FEET. WELLHEAD COMPLETED ROUGHLY 1 FOOT ABOVE GRADE PRIOR TO LANDSCAPING.	
40								

REMARKS
 Boring was drilled using 8-inch diameter hollow stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed.



FORMER STORAGE TANK COMPLEX

(3) 12000 GALLON UNDERGROUND FUEL STORAGE TANKS



APPROXIMATE DIRECTION OF GROUNDWATER FLOW

SAN RAMON ROAD

DUBLIN BOULEVARD



EXPLANATION

- PROPOSED GROUNDWATER MONITOR WELL
- EXISTING GROUNDWATER MONITOR WELL (TO BE DECOMMISSIONED)



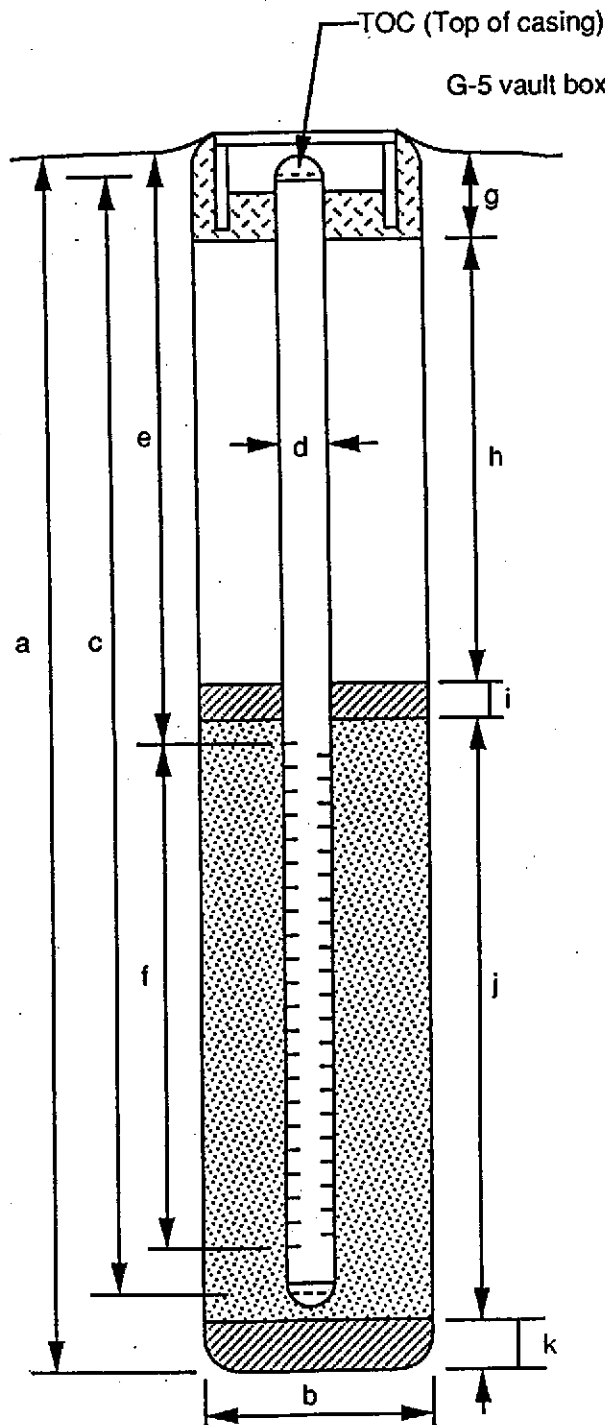
CHEMICAL PROCESSORS, INC.
 950-B GILMAN STREET
 BERKELEY, CALIFORNIA
 BY R.P. APR. 6/1990

SITE PLAN
 CHEVRON S.S NO 9-5542
 7007 SAN RAMON ROAD
 DUBLIN, CA.

FIGURE
 2

WELL DETAILS

PROJECT NUMBER 1196 BORING / WELL NO. MW-2
 PROJECT NAME Chevron SS No. 9-5542 TOP OF CASING ELEV. 364.58'
 LOCATION 7007 San Ramon Road, Dublin GROUND SURFACE ELEV. _____
 WELL PERMIT NO. 90182 DATUM MSL
 INSTALLATION DATE 3/26/90



EXPLORATORY BORING

a. Total depth 38.5 ft.
 b. Diameter 8 in.
 Drilling method Hollow-Stem Auger

WELL CONSTRUCTION *

c. Total casing length 38.8 ft.
 Material Schedule 40 PVC
 d. Diameter 2 in.
 e. Depth to top perforations 22 ft.
 f. Perforated length 15 ft.
 Perforated interval from 22 to 37 ft.
 Perforation type Machine Slotted
 Perforation size 0.020 inch
 g. Surface seal 1 ft.
 Material Concrete (above grade)
 h. Backfill 17 ft.
 Material Bentonite-Cement Grout
 i. Seal 3 ft.
 Material Bentonite
 j. Gravel pack 17 ft.
 Gravel pack interval from 20 to 37 ft.
 Material # 3 Sand
 k. Bottom seal/fill 1.5 ft.
 Material Bentonite

*Wellhead completed roughly 1-foot above grade prior to landscaping. Depth measurements taken 1-foot below final grade.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196

BORING NO. MW-3

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542

PAGE 1 OF 2

BY K. RAHMAN DATE 3/26/90

SURFACE ELEV. 362.18 ft.

PID	RECOVERY	BLOW CT.	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-GRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
(ppm)	(in./in.)	(blws/ft)						
				5			FILL, gravel; silt.	
	8/18	12 17 25		5			SILT (ML), olive (5Y, 4/3); 90-95% low plasticity fines; 5-10% fine sand; thinly laminated; hard; dry; no product odor.	
5.5	11/18	11 15 17		10			SANDY CLAY (CL), olive (5Y, 4/3); 70-80% moderate plasticity fines; 15-25% fine to coarse sand; trace fine gravel; trace rootholes; trace caliche; hard; dry; no product odor.	
11.5	13/18	8 16 16		15			CLAYEY SAND (SC), olive gray (5Y, 4/2); 25-35% moderate plasticity fines; 50-60% fine to coarse sand; 10-15% fine to medium gravel; dense; damp; faint organic odor.	
				20			CLAY (CL).	

REMARKS
 Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed.

LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196

BORING NO. MW-3

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542

PAGE 2 OF 2

BY K. RAHMAN DATE 3/26/90

SURFACE ELEV. 362.18 ft.

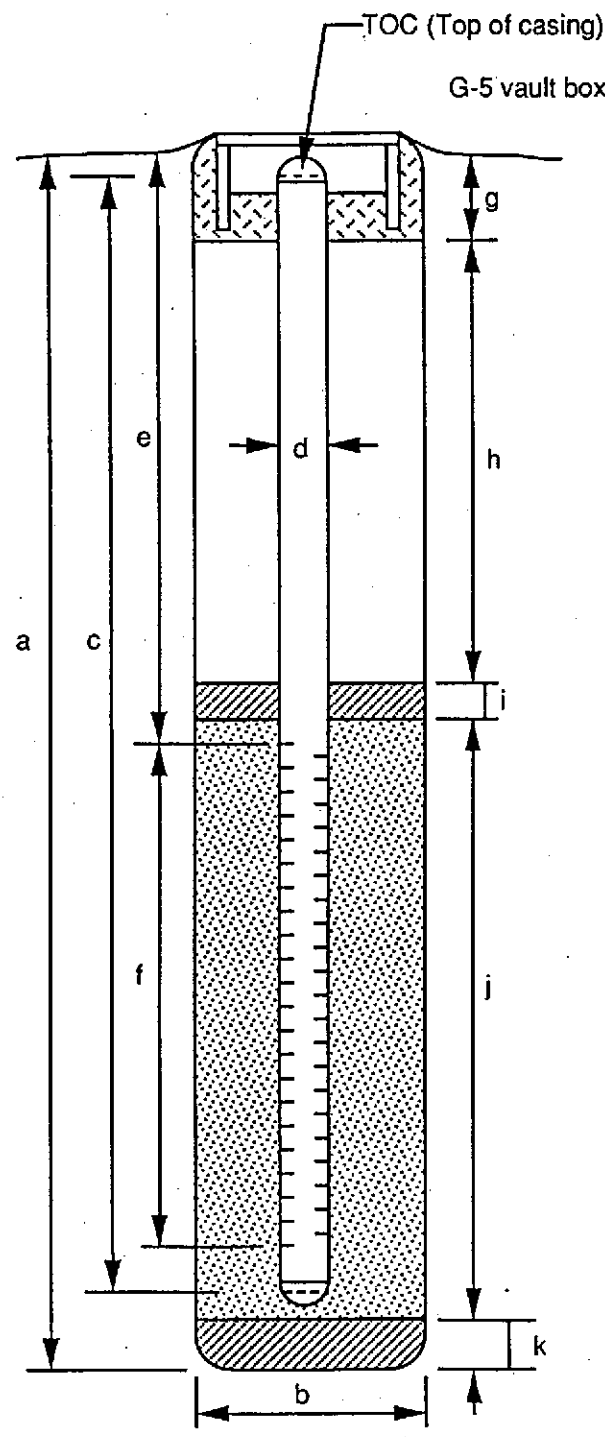
PID	RECOVERY	BLOW CT.	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-GRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
(ppm)	(in./in.)	(blws/ft)						
160	14/18	6 12 18				[Hatched pattern]	CLAY (CL), mottled olive gray (5Y, 4/2) and olive (5Y, 5/2); 90-95% moderate plasticity fines; 5-10% fine sand; some caliche; abundant rootholes; very stiff; damp; faint product odor.	[Dotted pattern]
			4/2/90	25		[Dotted pattern]		[Dotted pattern]
197	15/18	8 10 34	3/26/90			[Dotted pattern]	SILTY SAND (SM), dark gray (5Y, 4/1); 20-30% low plasticity fines; 70-80% fine to coarse sand; dense; wet; faint product odor. SANDY GRAVEL (GP), dark gray (5Y, 4/3); trace low plasticity fines; 15-25% fine to coarse sand; 70-80% fine to medium gravel; dense; faint product odor.	[Dotted pattern]
4.6	15/18	6 8 11				[Hatched pattern]	SANDY CLAY (CL), olive (5Y, 4/3); 80-90% moderate plasticity fines; 10-20% fine to coarse sand; trace caliche; very stiff; wet; no product odor.	[Dotted pattern]
5.9	14/18	14 14 29				[Hatched pattern]	@35': trace manganese-oxide and iron-oxide staining; hard; wet; no product odor. BORING TERMINATED AT 35 FEET AND SAMPLED TO 36.5 FEET. WELLHEAD COMPLETED ROUGHLY 1 FOOT ABOVE GRADE PROIOR TO LANDSCAPING.	[Dotted pattern]
				40				[Dotted pattern]

REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed:

WELL DETAILS

PROJECT NUMBER 1196 BORING / WELL NO. MW-3
 PROJECT NAME Chevron SS No. 9-5542 TOP OF CASING ELEV. 362.18'
 LOCATION 7007 San Ramon Road, Dublin GROUND SURFACE ELEV. _____
 WELL PERMIT NO. 90182 DATUM MSL
 INSTALLATION DATE 3/26/90



EXPLORATORY BORING

a. Total depth 36.5 ft.
 b. Diameter 8 in.
 Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

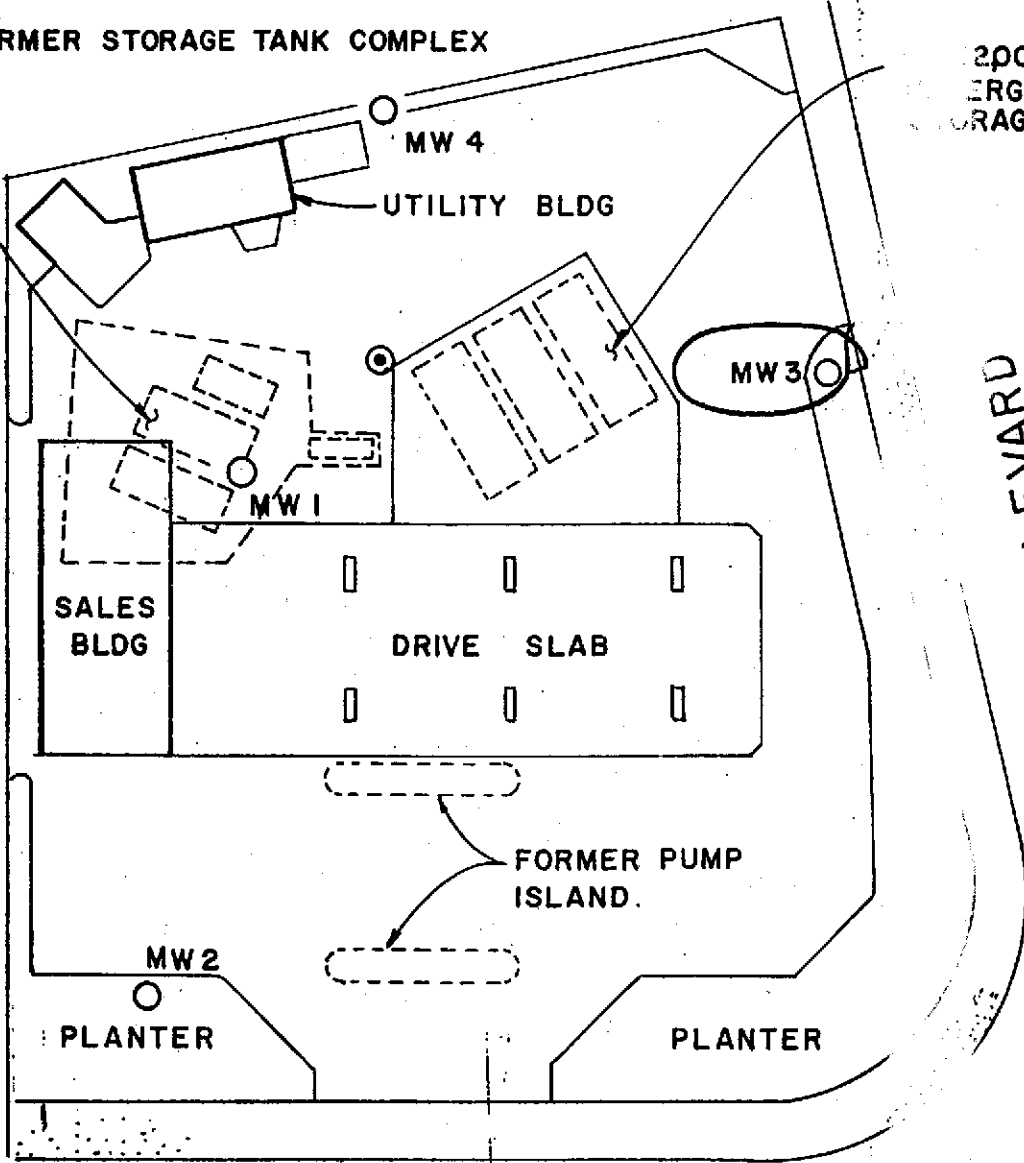
c. Total casing length 36 ft.
 Material Schedule 40 PVC
 d. Diameter 2 in.
 e. Depth to top perforations 20 ft.
 f. Perforated length 15 ft.
 Perforated interval from 20 to 35 ft.
 Perforation type Machine Slotted
 Perforation size 0.020 inch
 g. Surface seal 1 ft.
 Material Concrete (above grade)
 h. Backfill 16 ft.
 Material Bentonite-Cement Grout
 i. Seal 3 ft.
 Material Bentonite
 j. Gravel pack 16 ft.
 Gravel pack interval from 19 to 35 ft.
 Material # 3 Sand
 k. Bottom seal/fill 1.5 ft.
 Material Bentonite

*Wellhead completed roughly 1-foot above grade prior to landscaping. Depth measurements taken 1-foot below final grade.



FORMER STORAGE TANK COMPLEX

2000 GALLON
UNDERGROUND FUEL
STORAGE TANKS



DUBLIN BOULEVARD

SAN RAMON ROAD

APPROXIMATE DIRECTION OF
GROUNDWATER FLOW



EXPLANATION

- PROPOSED GROUNDWATER MONITOR WELL
- ⊙ EXISTING GROUNDWATER MONITOR WELL (TO BE DECOMMISSIONED)



CHEMICAL PROCESSORS, INC.
950-B GILMAN STREET
BERKELEY, CALIFORNIA
BY P.P. APR. 6 / 1990

SITE PLAN
CHEVRON S.S. NO. 9-5542
7007 SAN RAMON ROAD
DUBLIN, CA

FIGURE
2

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196	BORING NO. MW-4
PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542	PAGE 1 OF 2
BY K. RAHMAN DATE 3/28/90	SURFACE ELEV. 362.97 ft.

PID	RECOVERY	BLOW CT.	GROUND WATER LEVELS	DEPTH IN FT.	LITHO-GRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
(ppm)	(in./in.)	(blws/ft)					
				5		FILL, gravelly silt.	
59	10/24	6 11 17		5		SANDY CLAY (CL), very dark grayish brown (2.5Y, 3/2); 70-80% low to moderate plasticity fines; 15-25% fine to medium sand; trace fine gravel; trace iron-oxide staining; very stiff; dry; no product odor.	
40.6	15/18	12 14 23		10		SILTY SAND (SM), very dark grayish brown (2.5Y, 3/2); 10-20% low plasticity fines; 70-80% fine to coarse sand; 5-10% fine gravel; trace iron-oxide staining; some rootlets; hard; dry; no product odor.	
38	10/18	9 15 19		15		@15': olive (5Y, 5/3); 75-85% fine to coarse sand, predominantly medium; trace fine gravel; abundant caliche; trace iron-oxide staining; hard; dry; no product odor.	
	}			20			

REMARKS
 Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. PID readings were taken on 4/6/90.

LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196

BORING NO. MW-4

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542

PAGE 2 OF 2

BY K. RAHMAN DATE 3/28/90

SURFACE ELEV. 362.97 ft.

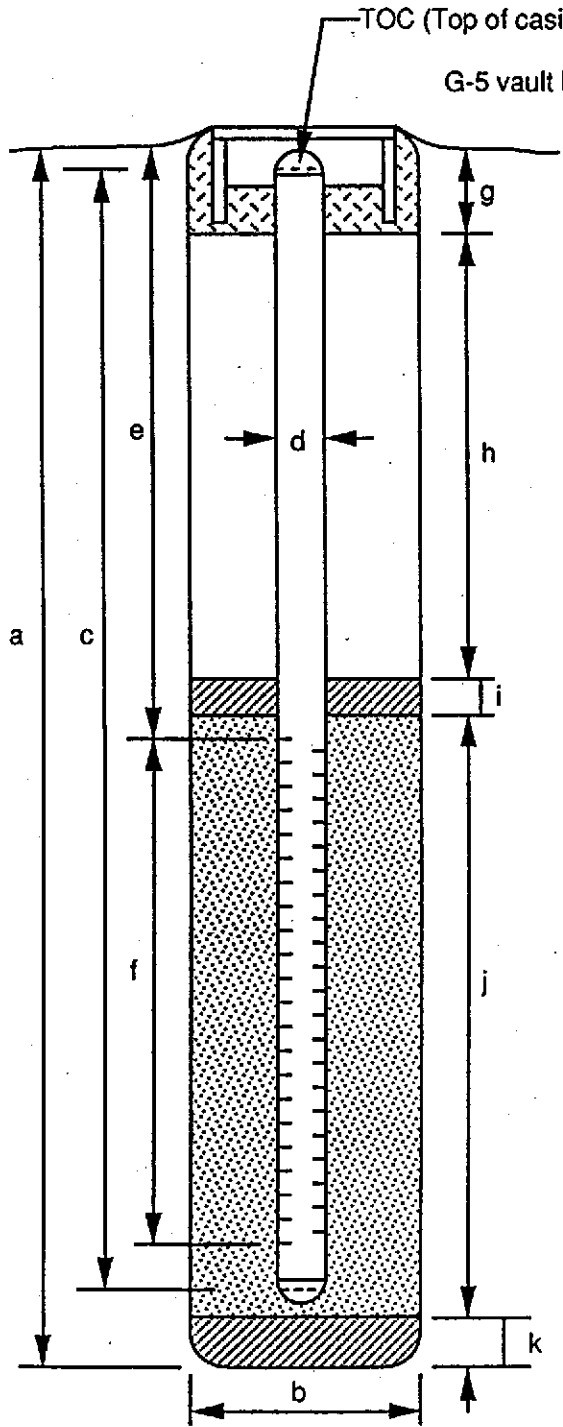
PID (ppm)	RECOVERY (in./in.)	BLOW CT. (blws/ft)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-GRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
383	15/18	7 10 15					<p>SILTY SAND (SM), continued @20': olive gray (5Y, 4/2); some caliche; trace manganese-oxide staining; very stiff; damp; faint product odor.</p>	
749	15/18	7 9 12	4/2/90 	25			<p>SANDY CLAY (CL), mottled dark olive gray (5Y, 3/2) and olive gray (5Y, 4/2); 90-95% moderate plasticity fines; 5-10% predominantly fine to medium sand; trace caliche; very stiff; damp; moderate product odor.</p>	
51.1	18/18	4 5 10		30			<p>CLAYEY SAND (SC), olive gray (5Y, 4/2); 20-30% moderate plasticity fines; 70-80% fine to coarse sand, predominantly medium; abundant rootholes, coated with caliche; stiff; wet; no product odor.</p>	
43.6	10/24	15 21 29		35			<p>@35': hard; wet; no product odor.</p> <p>BORING TERMINATED AT 35 FEET AND SAMPLED TO 37 FEET. WELLHEAD COMPLETED ROUGHLY 1 FOOT ABOVE GRADE PRIOR TO LANDSCAPING.</p>	
				40				

REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. PID readings were taken on 4/6/90.

WELL DETAILS

PROJECT NUMBER 1196 BORING / WELL NO. MW-4
 PROJECT NAME Chevron SS No. 9-5542 TOP OF CASING ELEV. 362.97'
 LOCATION 7007 San Ramon Road, Dublin GROUND SURFACE ELEV. _____
 WELL PERMIT NO. 90182 DATUM MSL
 INSTALLATION DATE 3/28/90



EXPLORATORY BORING

a. Total depth 37 ft.
 b. Diameter 8 in.
 Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

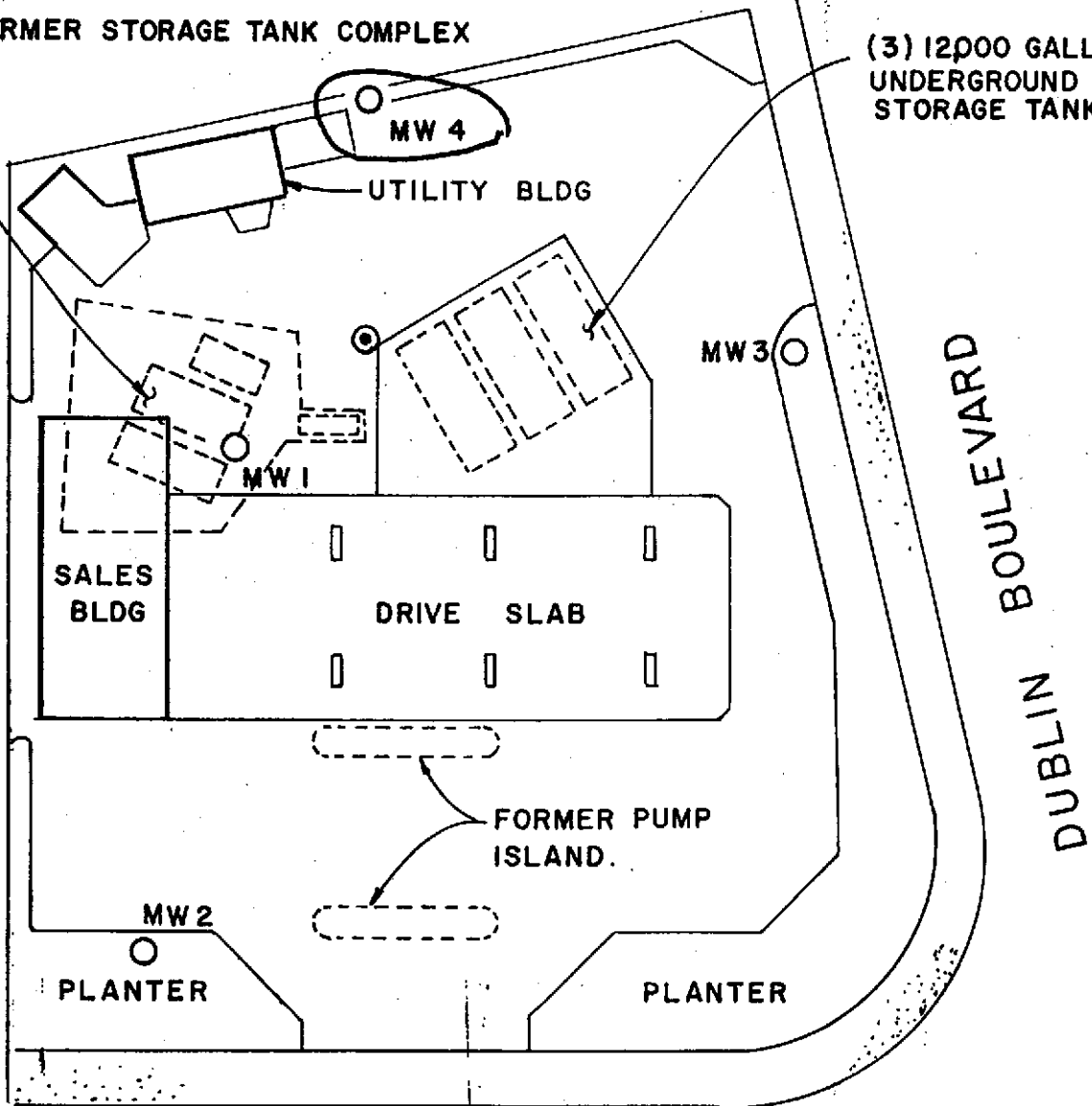
c. Total casing length 36 ft.
 Material Schedule 40 PVC
 d. Diameter 2 in.
 e. Depth to top perforations 20 ft.
 f. Perforated length 15 ft.
 Perforated interval from 20 to 35 ft.
 Perforation type Machine Slotted
 Perforation size 0.020 inch
 g. Surface seal 1 ft.
 Material Concrete (above grade)
 h. Backfill 16 ft.
 Material Bentonite-Cement Grout
 i. Seal 3 ft.
 Material Bentonite
 j. Gravel pack 16 ft.
 Gravel pack interval from 19 to 35 ft.
 Material # 3 Sand
 k. Bottom seal/fill 2 ft.
 Material Bentonite

* Wellhead completed roughly 1-foot above grade prior to landscaping. Depth measurements taken 1-foot below final grade.



FORMER STORAGE TANK COMPLEX

(3) 12000 GALLON UNDERGROUND FUEL STORAGE TANKS



APPROXIMATE DIRECTION OF GROUNDWATER FLOW

SAN RAMON ROAD

0 20 30 40 FT.

SCALE

EXPLANATION

- PROPOSED GROUNDWATER MONITOR WELL
- EXISTING GROUNDWATER MONITOR WELL (TO BE DECOMMISSIONED)



CHEMICAL PROCESSORS, INC.
 950-B GILMAN STREET
 BERKELEY, CALIFORNIA
 BY RP APR. 6/1990

SITE PLAN
 CHEVRON S.S NO 9-5542
 7007 SAN RAMON ROAD
 DUBLIN, CA.

FIGURE
 2

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

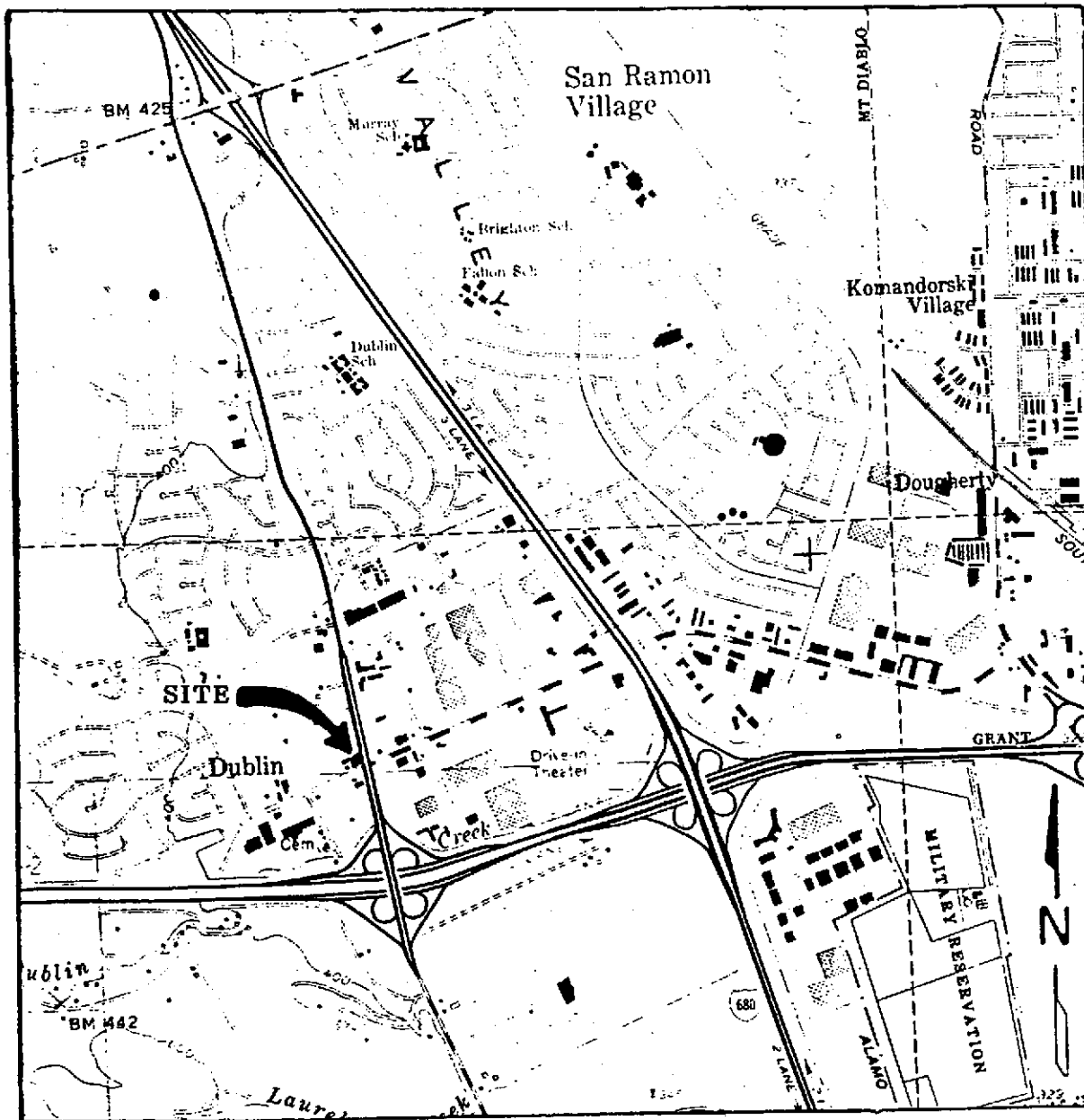
35/W 2H14 TO 2H17

364661A-D



KAPREALIAN ENGINEERING, INC.
Consulting Engineers


P.O. BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581



LOCATION MAP

Unocal S/S #5901
11976 Dublin Blvd.
Dublin, CA

35/W 2H14

BORING LOG					364661A
Project No. KEI-P90-0606		Boring & Casing Diameter 9" 2"		Logged By D.L. <i>ORB</i>	
Project Name Unocal Dublin, 11976 Dublin		Well Head Elevation N/A		Date Drilled 11/07/90	
Boring No. MW1		Drilling Method Hollow-stem Auger		Drilling Company EGI	
Penetration blows/6"	G. W. level	Depth (feet) Samples	Stratigraphy USCS	Description	
		0		Asphalt pavement over sand and gravel.	
				Clayey silt, very moist, stiff, dark grayish brown	
			ML	Silt, trace clay, very moist, soft to firm, brown.	
				Base of Fill Materials?	
3/3/6		5	CH	Silty clay, trace rootlets, common caliche, moist, stiff, very dark gray.	
			ML/ MH to CL/ CH	Clayey silt/silty clay, trace rootlets, common caliche nodules, trace gravel to 3/4" diameter, moist to saturated below 8.4 feet, stiff, gray with olive brown mottling.	
4/5/8					
		10			
			CL/ CH	Silty clay, with sand, trace gravel to 1/2" diameter, trace organic matter, trace caliche, very moist to saturated, firm, gray with slight olive brown mottling.	
3/3/3		15			
			CL/ CH to		
			ML/ MH	Silty clay/clayey silt, trace gravel to 3/8" diameter, trace fine sand, saturated, very stiff, gray.	
6/9/10		20		TOTAL DEPTH: 20'	

35/1W 2H14 to 2H17

364661A-1

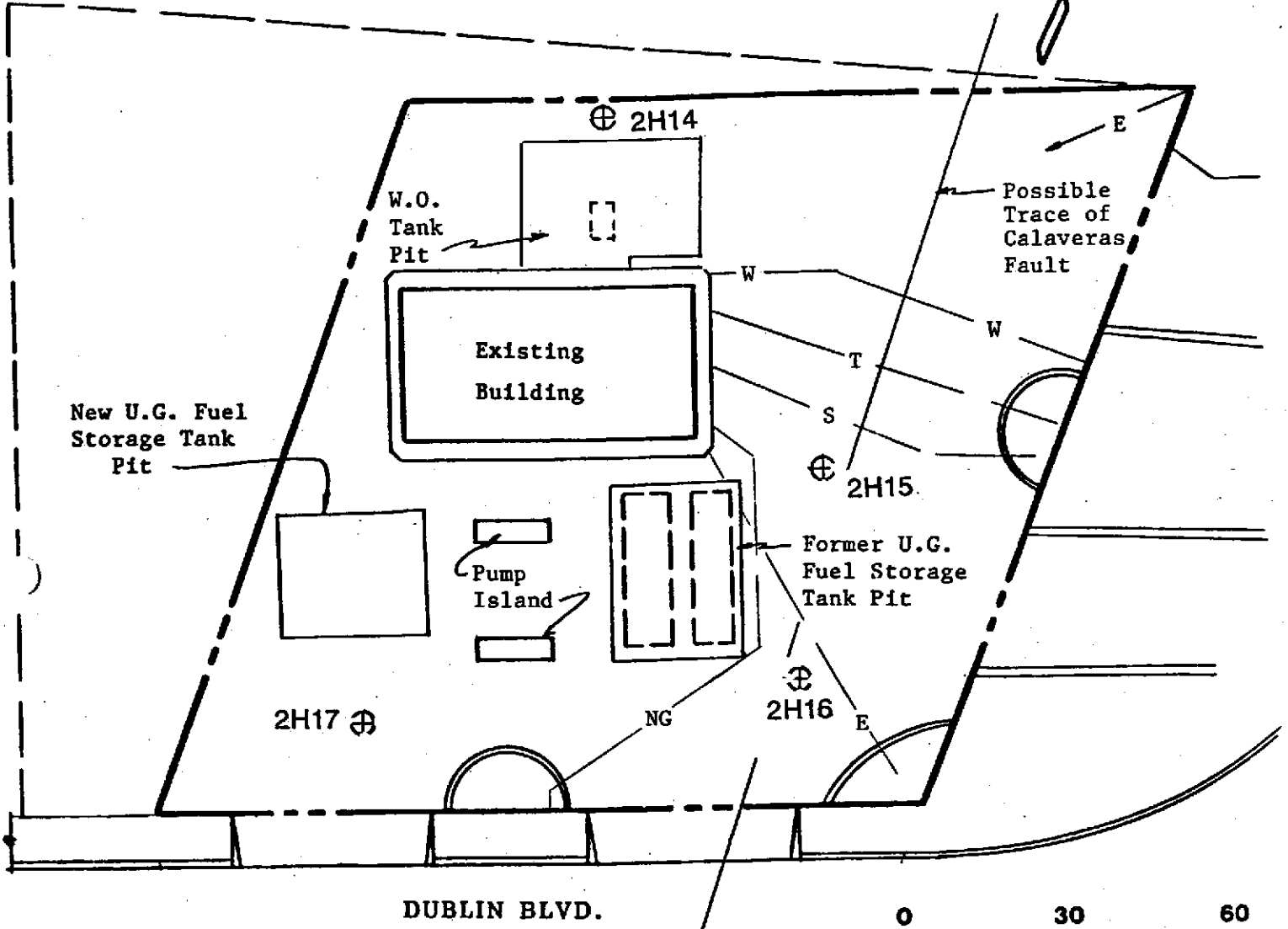


KAPREALIAN ENGINEERING, INC.

Consulting Engineers

P.O. BOX 996 • BENICIA, CA 94510

(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581



SITE PLAN
Figure 1

LEGEND

⊕ Monitoring Well

➔ Direction of Ground Water flow

() Ground Water Table Elevation in feet above Mean Sea Level on

Unocal S/S #5901
11976 Dublin Blvd.
Dublin, CA

35/IW 2H14

364661A

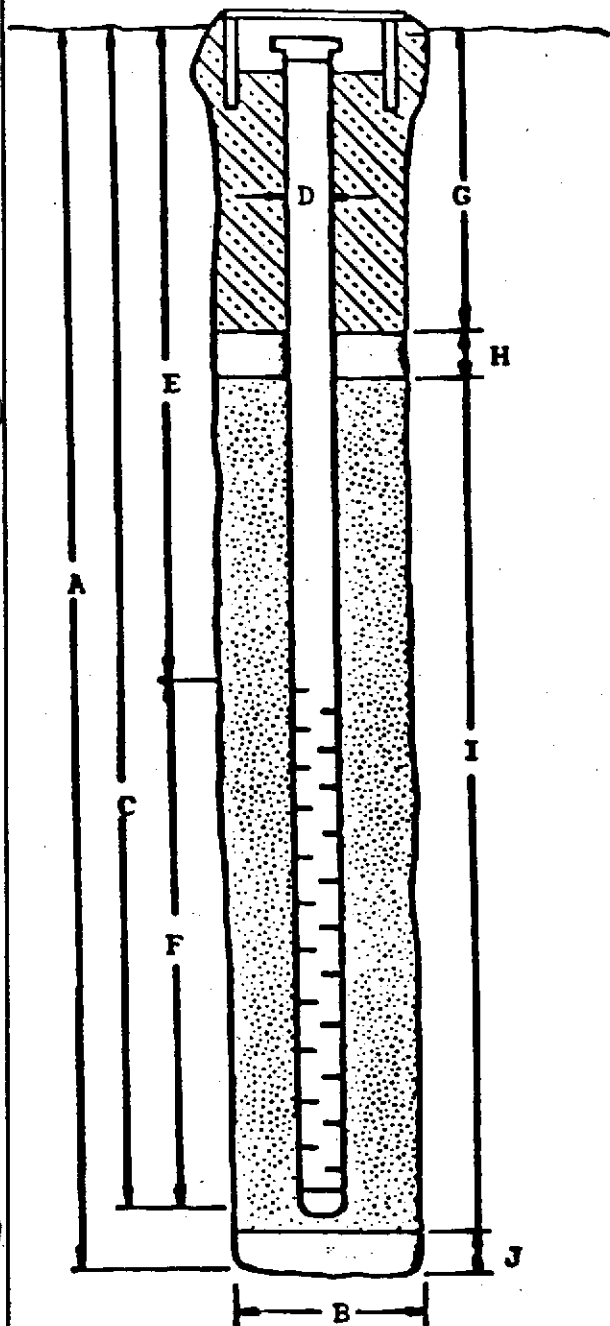
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal 11976 Dublin Blvd. Dublin BORING/WELL NO. MW1

PROJECT NUMBER: KEI-P90-0606

WELL PERMIT NO.: _____

Flush-mounted Well Cover



A. Total Depth: 20'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem

Auger

C. Casing Length: 20'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 4'

F. Perforated Length: 16'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 2'

Seal Material: Neat Cement

H. Seal: 1'

Seal Material: Bentonite

I. Gravel Pack: 17'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A


*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

35/W 2H15

BORING LOG

364661B

Project No. KEI-P90-0606	Boring & Casing Diameter 9" 2"	Logged By W.W. <i>DRB</i>
Project Name Unocal 11976 Dublin, Dublin	Well Head Elevation N/A	Date Drilled 11/06/90
Boring No. MW2	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Stratigraphy USCS	Description
		0		Asphalt pavement over sand and gravel.
			CL/CH	Clay, trace gravel to 1/4" diameter moist, stiff, very dark gray. Silty clay, trace organic matter with rootlets, moist, firm, dark grayish brown.
2/5/7		5	ML	Silt, trace clay, very moist, soft, gray. Base of fill materials?
2/7/8			CH	Clay, trace caliche, moist, stiff, very dark gray
4/8/11			CL/CH	Clay, with silt, trace caliche, trace rootlets, very moist, very stiff, gray.
6/7/10		10		
3/3/5			ML/MH	Clayey silt, trace rootlets, very moist, firm, gray with slight olive brown mottling.
3/7/8		15		Clayey silt, trace caliche, trace rootlets, moist, stiff, olive gray
6/7/9				Clayey silt, trace rootlets, trace caliche, moist, stiff to very stiff, light olive brown with gray mottling
6/9		20		

35/W 2H15

BORING LOG

364661B

Project No. KEI-P90-0606	Boring & Casing Diameter 9" 2"	Logged By W.W. <i>DRB</i>
Project Name Unocal 11976 Dublin, Dublin	Well Head Elevation N/A	Date Drilled 11/06/90
Boring No. MW2	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Stratigraphy USCS	Description
10			ML/MH	Clayey silt, trace rootlets, trace caliche, moist, very stiff, gray mottled with light olive brown.
6/9/14			ML/SM	Sandy silt/silty sand, trace fine gravel to 1/4" diameter, trace caliche, saturated, medium dense, gray.
		25		
		30		
		35		
		40		
				TOTAL DEPTH: 24'

35/1W 2H15

364661B

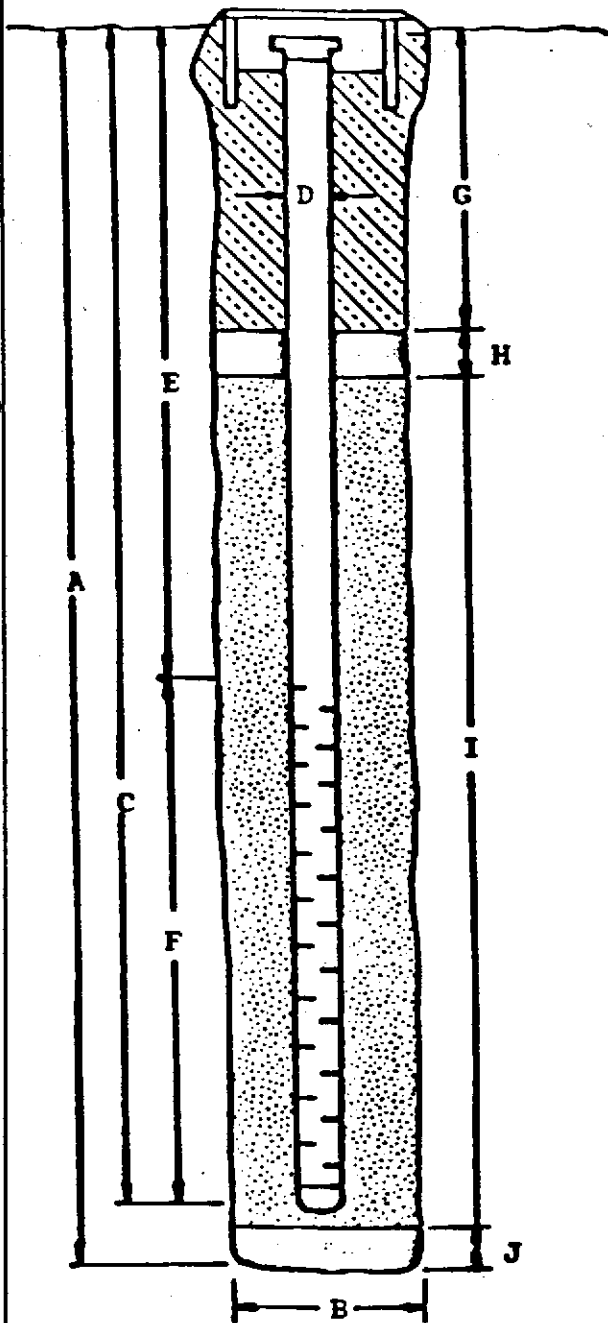
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal 11976 Dublin Blvd. Dublin BORING/WELL NO. MW2

PROJECT NUMBER: KEI-P90-0606

WELL PERMIT NO.: _____

Flush-mounted Well Cover



A. Total Depth: 24'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem

Auger

C. Casing Length: 23'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 4'

F. Perforated Length: 19'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 2'

Seal Material: Neat Cement

H. Seal: 1'

Seal Material: Bentonite

I. Gravel Pack: 20'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: 1'

Seal Material: Bentonite


*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

35/W 2H16

BORING LOG

364661C

Project No. KEI-P90-0606	Boring & Casing Diameter 9" 2"	Logged By W.W. <i>DRB</i>
Project Name Unocal 11976 Dublin, Dublin	Well Head Elevation N/A	Date Drilled 11/06/90
Boring No. MW3	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Stratigraphy USCS	Description
		0		Asphalt pavement over sand and gravel.
			ML/MH	Silt, trace clay, moist, stiff, gray.
6/9/9		5		Silt, with clay, trace rootlets, moist, very stiff, gray.
10/11/14				Clayey silt, moist, very stiff, dark grayish brown
5/7/11		10	ML/MH to CL/CH	Clayey silt/silty clay, trace root holes, moist, very stiff, gray with olive brown mottling
8/8/9			ML/MH	Clayey silt, trace very fine sand, trace gravel to 1/2" diameter, trace rootlets, moist, very stiff, dark grayish brown mottled with dark gray.
No data obtained 7/9/11				Clayey silt, trace caliche, moist, very stiff, trace gravel to 1/4" diameter, dark olive brown, mottled with yellowish brown and greenish gray.
10/14/12		15	GM	Silty gravel with sand, gravel to 1" diameter, saturated, medium dense, yellowish brown.
			ML	Silt, saturated, very stiff, yellowish brown
10/10/13		20		TOTAL DEPTH: 20'

35/W 2H16

364661C

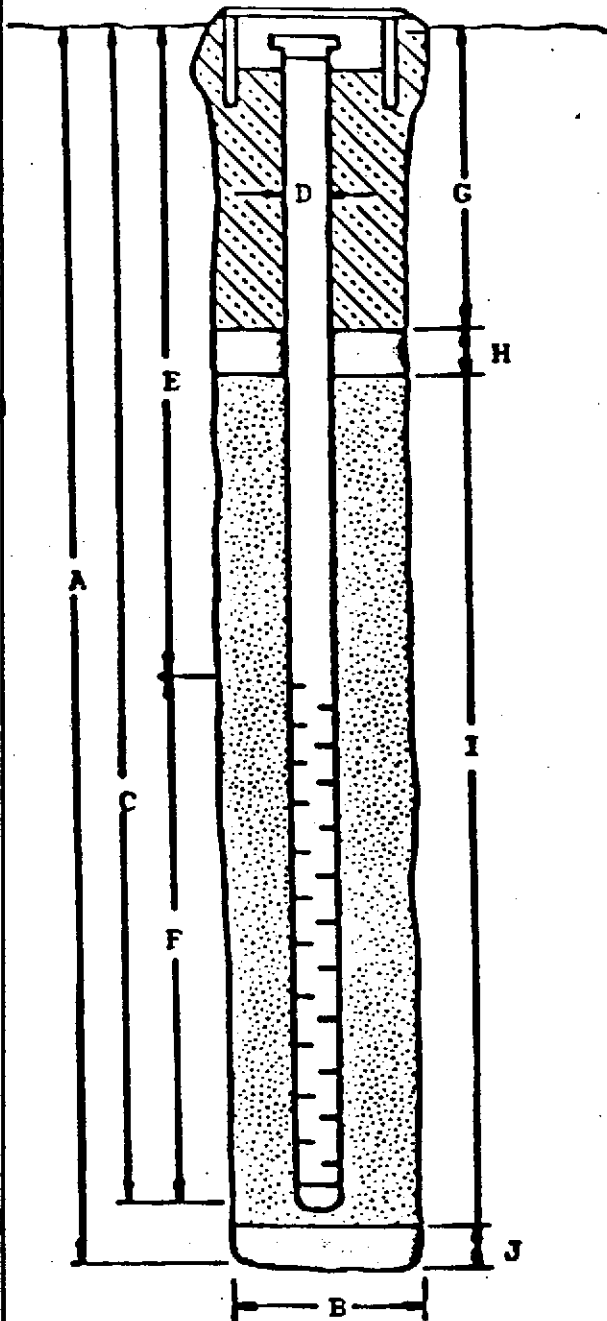
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal 11976 Dublin Blvd., Dublin BORING/WELL NO. MW3

PROJECT NUMBER: KEI-P90-0606

WELL PERMIT NO.: _____

Flush-mounted Well Cover



A. Total Depth: 20'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem

Auger

C. Casing Length: 20'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 4'

F. Perforated Length: 16'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 2'

Seal Material: Neat Cement

H. Seal: 1'

Seal Material: Bentonite

I. Gravel Pack: 17'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

35/W 2H17

BORING LOG

364661D

Project No. KEI-P90-0606	Boring & Casing Diameter 9" 2"	Logged By W.W. <i>DRB</i>
Project Name Unocal 11976 Dublin, Dublin	Well Head Elevation N/A	Date Drilled 11/06/90
Boring No. MW4	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Stratigraphy USCS	Description
		0		Asphalt pavement over sand and gravel.
			MH	Clayey silt, trace organic matter, trace gravel to 1/4" diameter, moist, firm, dark gray and dark olive gray.
3/2/3	▼	5		Silt, trace clay, trace gravel to 1/2" diameter, moist, firm, trace rootlets, olive gray.
			ML/MH	Silt, saturated, firm, dark yellowish brown
4/5/7		10		Clayey silt, common caliche nodules and rootlets, very moist to saturated, stiff, dark gray with brown mottling.
			MH/CH	
5/6/6		15		Clayey silt to silty clay, trace rootlets, saturated, stiff, gray.
			CL/CH	Silty clay, trace rootlets, common caliche nodules, moist, stiff, greenish gray.
			MH	
9/11/11		20		Clayey silt, trace sand, trace rootlets, trace gravel to 1/2" diameter, trace caliche, very moist to saturated, very stiff, gray.
				TOTAL DEPTH: 20'

3S/IW 2H17

3646610

WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal 11976 Dublin Blvd., Dublin BORING/WELL NO. MW4

PROJECT NUMBER: KEI-P90-0606

WELL PERMIT NO.: _____

Flush-mounted Well Cover

A. Total Depth: 20'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem

Auger

C. Casing Length: 20'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 4'

F. Perforated Length: 16'

Machined

Perforation Type: Slot

Perforation Size: 0.020"

G. Surface Seal: 2'

Seal Material: Neat Cement

H. Seal: 1'

Seal Material: Bentonite

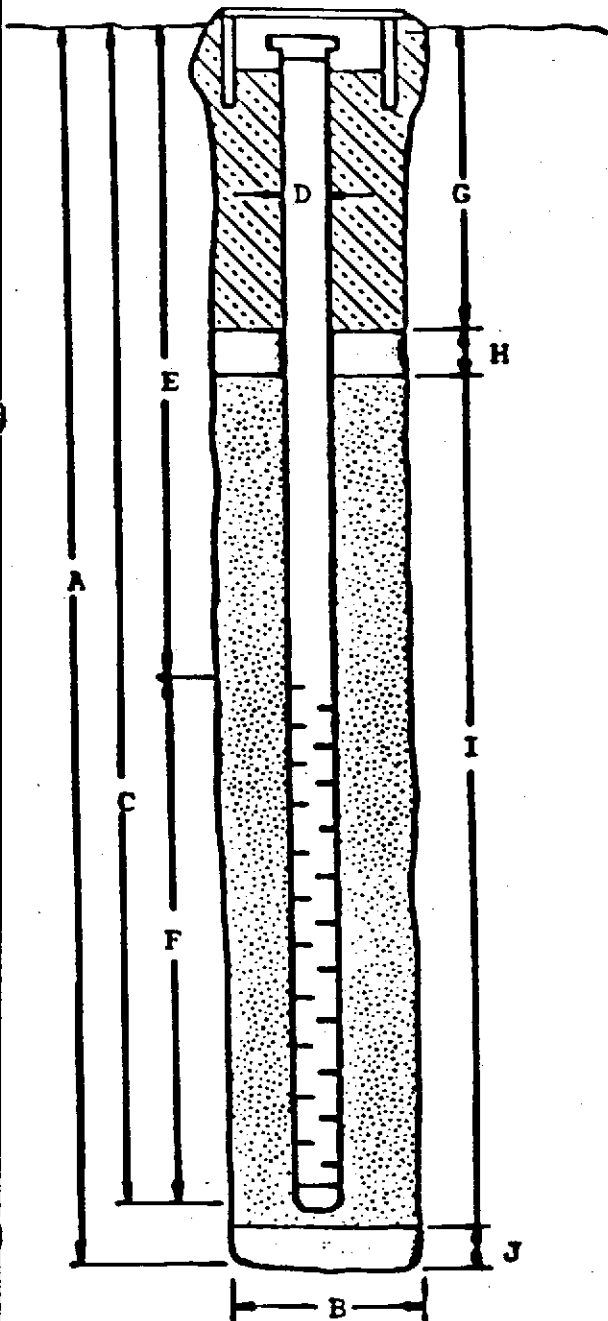
I. Gravel Pack: 17'

RMC Lonestar
Pack Material: Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A



*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

3 **CONFIDENTIAL**



STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

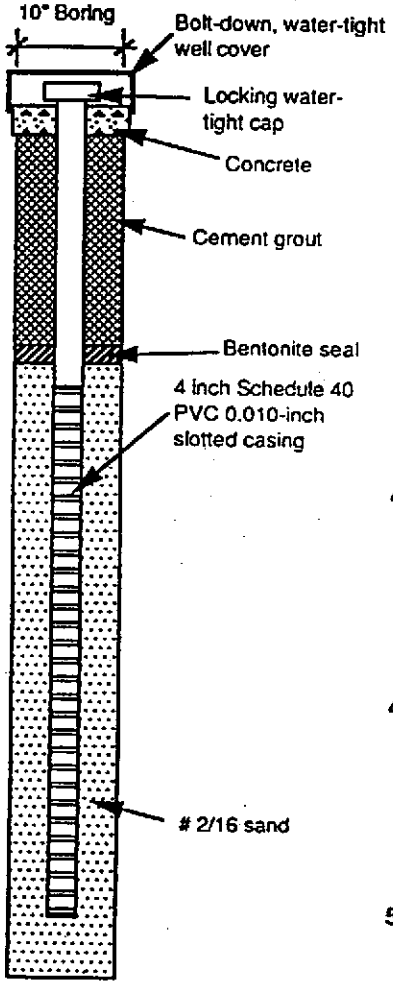

REMOVED

35/IW 2H22

P 2 of 2

482155A


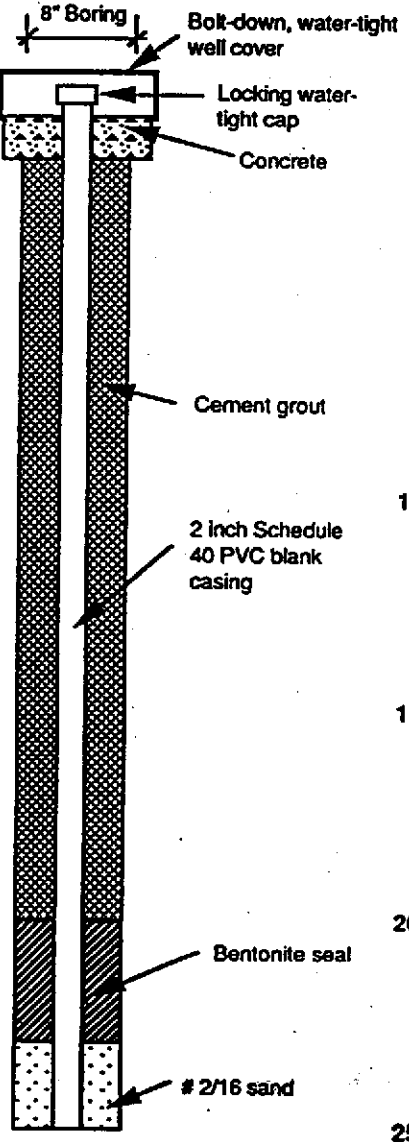

	San Ramon Road	 MW-1	LOG OF BORING MW-1 Chevron Service Station #9-5542 7007 San Ramon Road Dublin, California	
	Dublin Boulevard		Project No.: RC09303 Logged By: M. M. Bessette Drilling Co.: Great Sierra Driller: Scott Irwin	Date Drilled: November 25, 1992 Drilling Method: 10" hollow-stem auger Sampling Method: Continuous Inclination: Vertical

WELL CONSTRUCTION	Depth (ft.)	Blows/ft.	Samples	Graphic	DESCRIPTION
	0				Surface Elevation: 364.89 feet Casing Elevation: 364.53 feet
	0 - 40				0 - 40 FEET BELOW GROUND SURFACE: Geologic description of soil from ground surface to 40 feet below ground surface (BGS) previously logged by Chempro during the installation of the original Monitor Well MW-1 which was destroyed and rebored by Geraghty & Miller on this date to the depth of 50-feet below ground surface.
	40 - 47			 11/25/92	SILTY CLAY (CL); dark yellowish brown (10 YR 5/3); 25-35% silt; trace coarse-grained sand; medium firm; damp.
	47 - 50				@ 47 feet; SANDY CLAY (CL); brown (10YR, 5/3); 30-40% fine-grained sand; 5-10% medium-grained sand; very stiff; damp. @ 50 feet; SILTY SANDY CLAY (CL); brown (10YR, 5/3); 40-50% clay; 35-45% fine to medium-grained sand; 10-20% silt; medium firm; damp.
	50 - 55				Bottom of boring: 51.5 feet BGS

35/1W 2H23

P-293

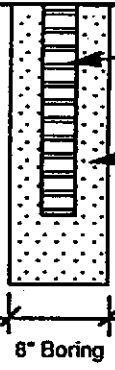


482155B

	San Ramon Road Station Building VW-1	LOG OF BORING VW-1 Chevron Service Station #9-5542 7007 San Ramon Road Dublin, California		
Dublin Boulevard		Project No.: RC09303 Logged By: M. M. Bessette Drilling Co.: Great Sierra Driller: Scott Irwin	Date Drilled: November 24, 1992 Drilling Method: 10" hollow-stem auger Sampling Method: Continuous Inclination: Vertical	
WELL CONSTRUCTION	Depth (ft.)	Blows/ft.	Samples Graphic	DESCRIPTION
	0 5 10 15 20 25			Surface Elevation: 363.80 feet Casing Elevation: 363.57 feet SILTY GRAVEL (GM); Backfill material; dark brown (10YR, 4/3); poorly sorted; 50-60% fine-gravel; 40-50% silt; dense; dry. CLAYEY SILT (ML); dark brown (10YR, 3/3); 5-15% fine-grained sand; 5-10% clay; 5-10% fine gravel; dense; dry; roots. @ 8 feet: dark yellowish brown (10YR, 4/4); 75-85% silt; 15-25% fine-grained sand; trace coarse-grained sand; dry; dense; extensive root galleries. @ 10 feet: very dark greyish brown (10YR, 5/4); 15-20% clay; trace fine-grained sand; hard; damp. SILTY SAND (SM); brown (10YR 5/3); moderate sorting; 70-80% fine-grained sand; 20-30% silt; loose; damp. @ 15 feet: trace coarse-grained sand. @ 17.5 feet: dark brown (10YR 4/3); poorly sorted; 60-70% fine-grained sand; 15-25% coarse gravel; 5-10% silt; 5-10% coarse-grained sand; damp. SILT (ML); yellowish brown (10YR, 5/4); soft; damp. @ 22 feet; dark brown (10YR, 4/3); 70-80% silt; 20-30% clay; trace fine-grained sand; stiff; damp. @ 24 feet: dark grey; 60-70% silt; 15-25% clay; 10-15% fine-grained sand; stiff; damp.

3S/1W-2H23

P-373



482155B

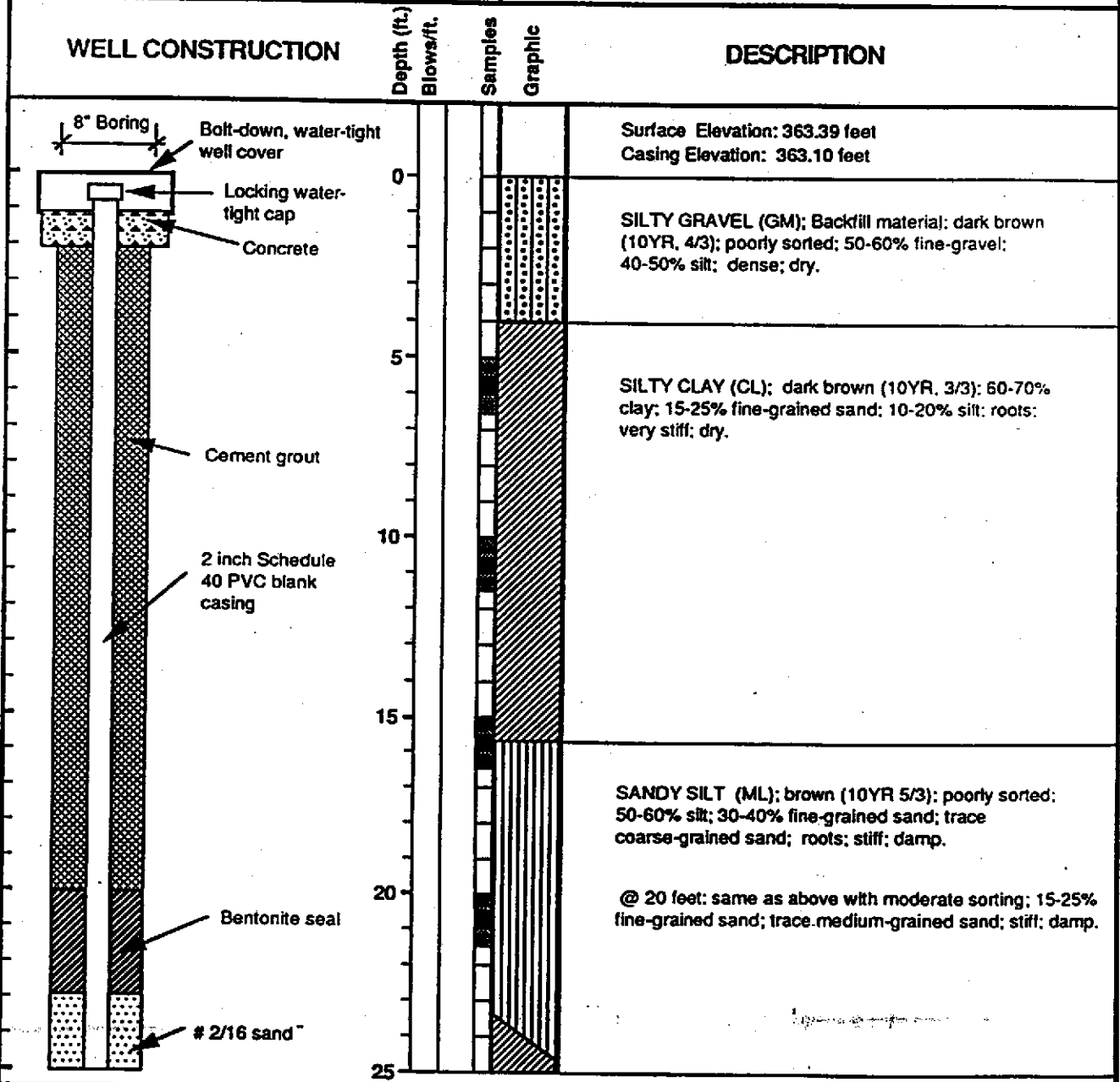
WELL CONSTRUCTION	Depth (ft.) Blows/ft.	Samples	Graphic	LOG OF BORING VW-1 (continued)
				DESCRIPTION
 <p>2 inch Schedule 40 PVC 0.010" slotted casing</p> <p>#2/16 sand</p> <p>8" Boring</p>	<p>30</p> <p>35</p> <p>40</p> <p>45</p> <p>50</p> <p>55</p> <p>60</p>			<p>@ 28 feet: dark greyish brown (5GY, 4/1); 60-70% silt; 20-25% very fine-grained sand; 5-15% clay; medium firm; damp.</p> <p> 11/24/92</p> <p>Bottom of boring: 31.5 feet.</p>

3S/1W 2H24

P-293

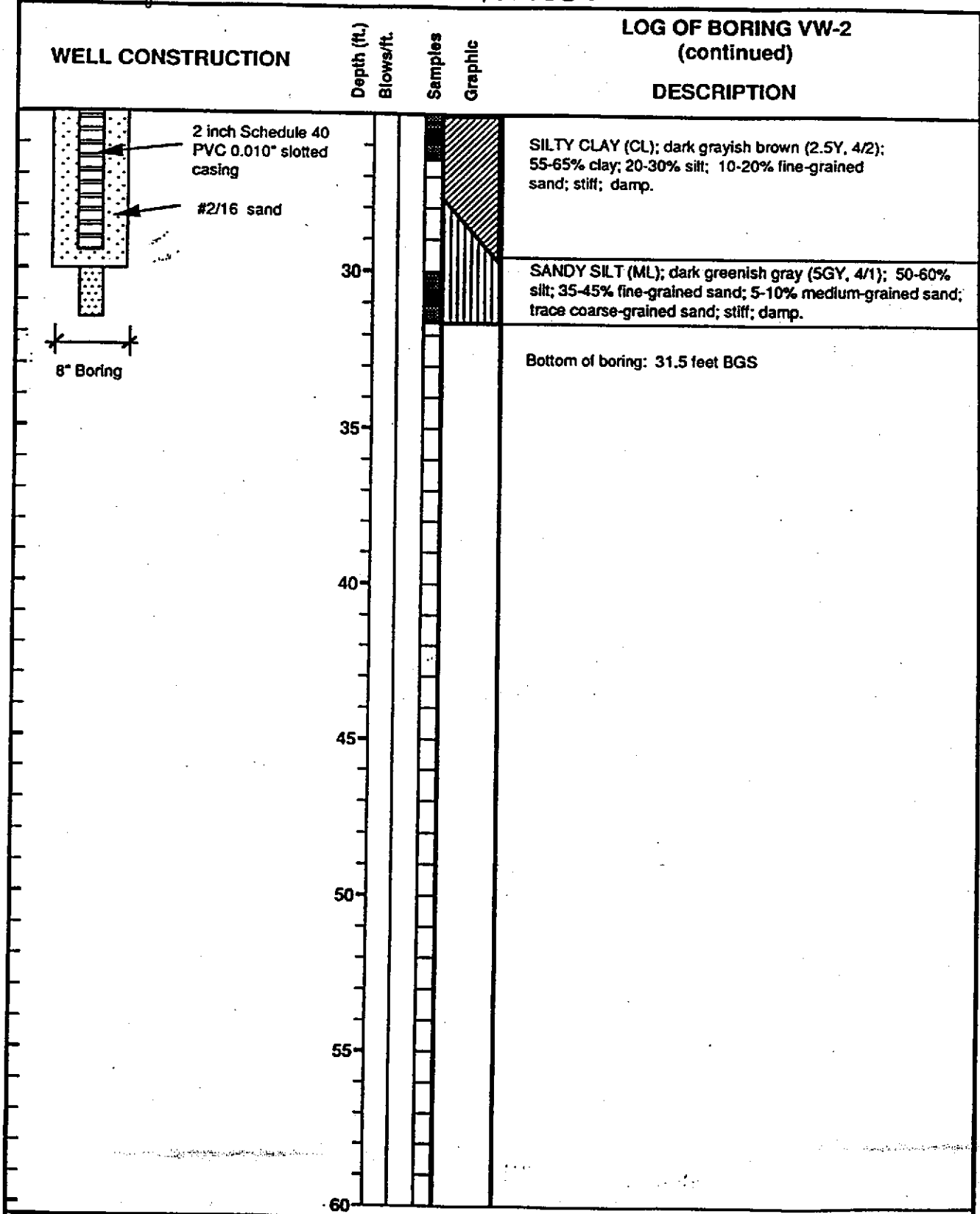
482155C

 San Ramon Road	 Station Building VW-2	LOG OF BORING VW-2 Chevron Service Station #9-5542 7007 San Ramon Road Dublin, California	
	Dublin Boulevard	Project No.: RC09303 Logged By: M. M. Bessette Drilling Co.: Great Sierra Driller: Scott Irwin	Date Drilled: November 25, 1992 Drilling Method: 8" hollow-stem auger Sampling Method: Split Spoon Inclination: Vertical



P 373

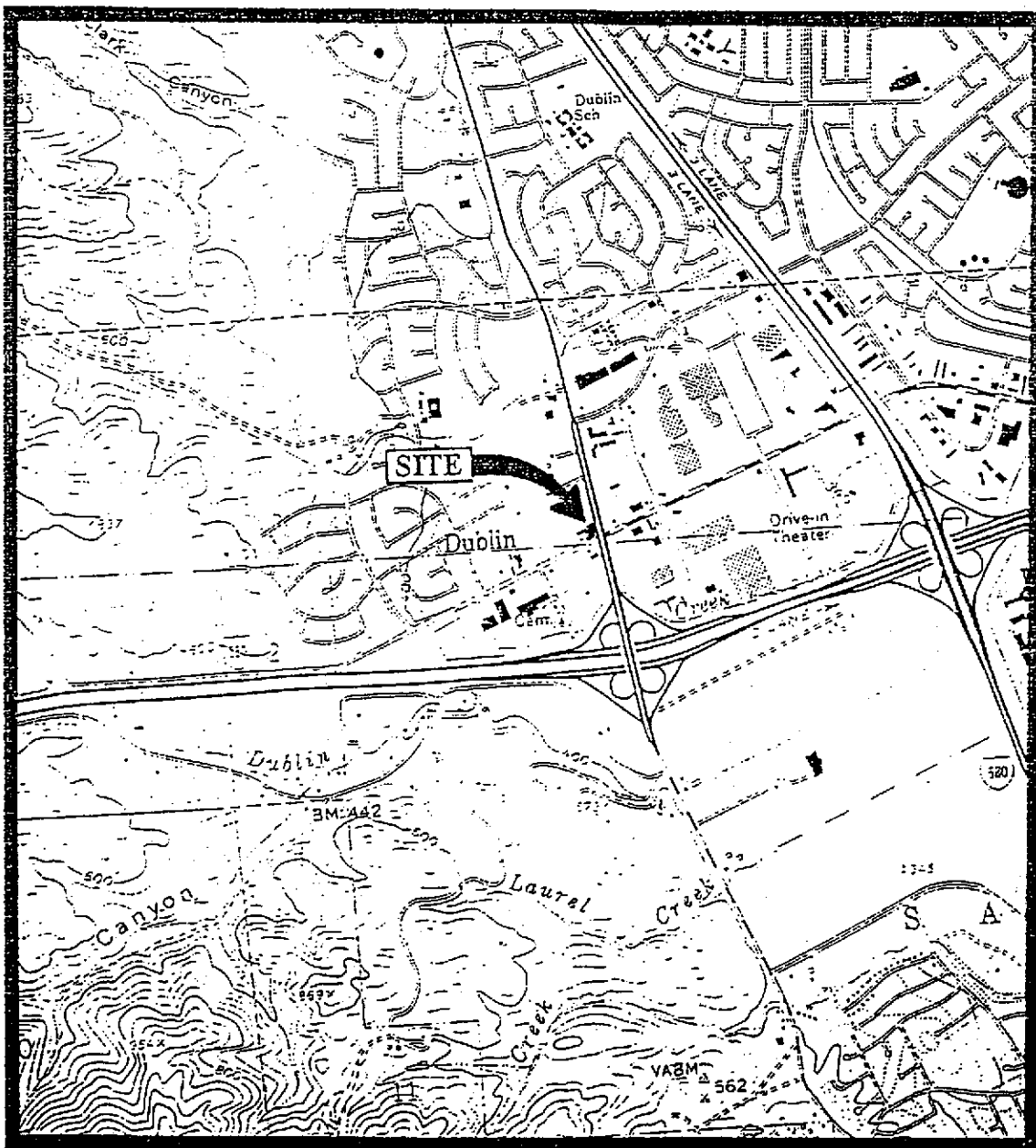
482155C



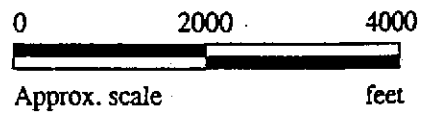
CONFIDENTIAL


STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED



Base modified from 7.5 minute U.S.G.S. Dublin Quadrangle (photorevised 1980)

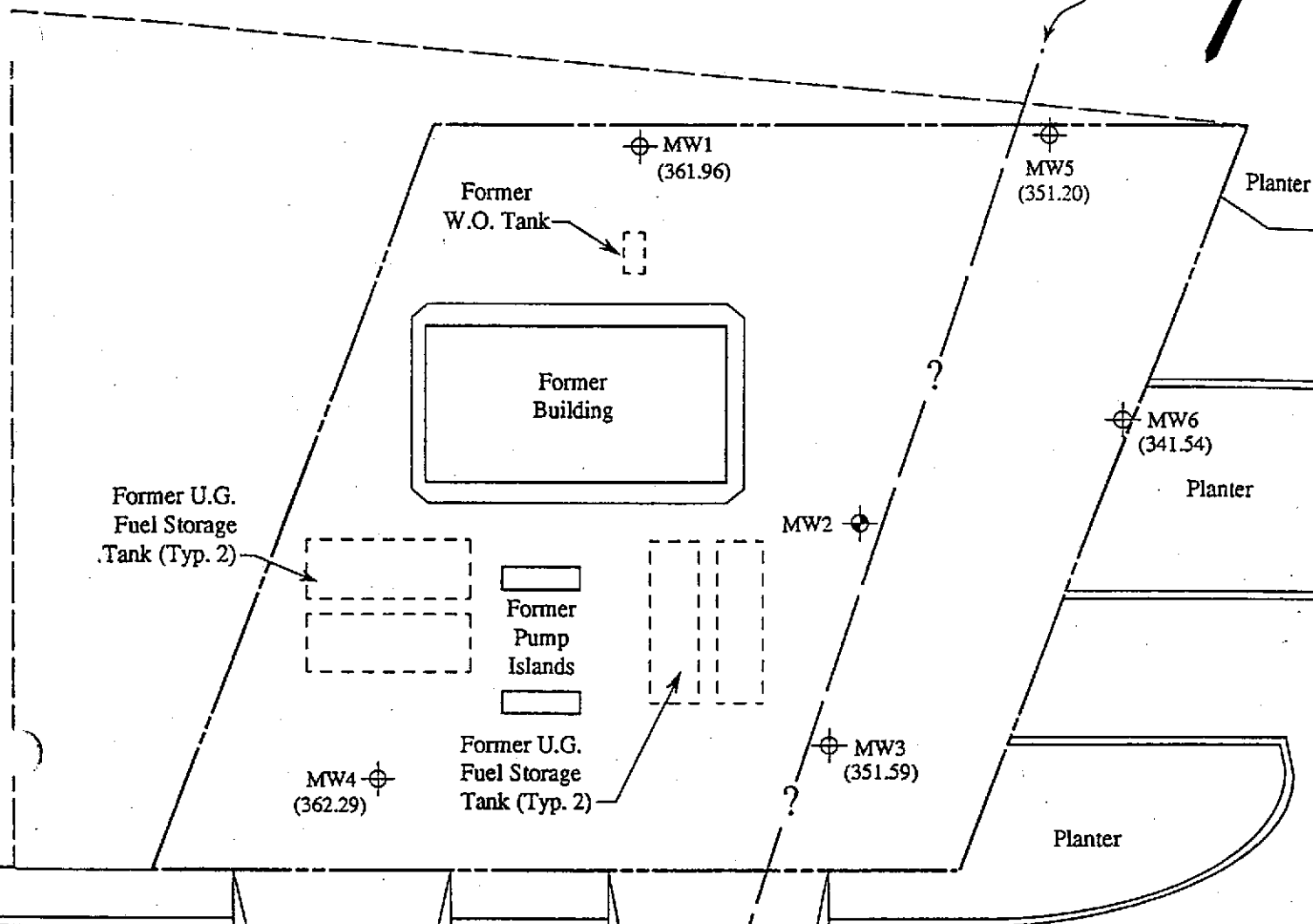


 <p>KAPREALIAN ENGINEERING INCORPORATED</p>	<p>UNOCAL SERVICE STATION #5901 11976 DUBLIN BOULEVARD DUBLIN, CALIFORNIA</p>	<p>LOCATION MAP</p>
---	--	--------------------------------

495424



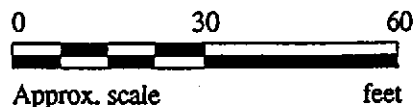
Unnamed Splay of Calaveras Fault



DUBLIN BOULEVARD

LEGEND

- ⊕ Monitoring well (existing)
- ⊙ Monitoring well (destroyed)
- () Ground water elevation in feet above Mean Sea Level



GROUND WATER ELEVATION MAP FOR THE OCTOBER 9, 1993 MONITORING EVENT



**FORMER UNOCAL S/S #5901
11976 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA**

**FIGURE
1**




MAJOR DIVISIONS	SYMBOLS	TYPICAL SOIL DESCRIPTIONS
<u>GRAVELS</u> (More than 1/2 of coarse fraction > No. 4 sieve size)	GW	Well graded gravels or gravel - sand mixtures, little or no fines
	GP	Poorly graded gravels or gravel - sand mixtures, little or no fines
	GM	Silty gravels, gravel - sand - silt mixtures
	GC	Clayey gravels, gravel - sand - clay mixtures
<u>SANDS</u> (More than 1/2 of coarse fraction < No. 4 sieve size)	SW	Well graded sands or gravelly sands, little or no fines
	SP	Poorly graded sands or gravelly sands, little or no fines
	SM	Silty sands, sand - silt mixtures
	SC	Clayey sands, sand - clay mixtures
<u>SILTS & CLAYS</u> <u>LL < 50</u>	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
<u>SILTS & CLAYS</u> <u>LL > 50</u>	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silty clays, organic silts
<u>HIGHLY ORGANIC SOILS</u>	Pt	Peat and other highly organic soils

CLASSIFICATION CHART (Unified Soil Classification System)

BORING LOG

Project No. KEI-P90-0606.P6	Boring Diameter	9"	Logged By JGG J.G. LEG 1633
	Casing Diameter	2"	
Project Name Unocal S/S #5901 11976 Dublin Blvd., Dublin	Well Cover Elevation	N/A	Date Drilled October 4, 1993
Boring No. MW5	Drilling Method	Hollow-stem Auger	Drilling Company Woodward Drilling

Pene- tration blows/6"	G.W level	O.V.M. (P.P.M.)	Depth (feet) Samples	Stratigraphy USCS	Description
			0		Sand and gravel base.
				ML	Silt, estimated at trace to 10% very fine-grained sand, trace clay, and local subrounded gravels to 1/2 inch in diameter, slightly moist, stiff, dark grayish brown, pores and rootlets common.
4/6/7		0.0	5	CL	Silty clay, estimated at up to 40% silt, locally 1 inch thick lenses of clayey fine-grained sand, clay is moist, stiff, dark brown, with rust colored iron oxide staining.
4/5/8		0.0	10	CL-ML	Silty clay/clayey silt, trace to 10% subrounded gravel to 1 inch in diameter, gravel is very weathered, clay/silt is moist, very stiff, brown, pores common.
3/3/5		0.0	15	CL	Silty clay with gravel and sand, estimated at 40% silt and 35% gravel, gravel is subrounded, to 1-1/2 inches in diameter, locally up to 35% fine-grained sand, stiff, saturated.
3/4/7		0.0	20	CL	Silty clay, estimated at 40% silt, very stiff, saturated, brown, mottled.

BORING LOG

Project No. KEI-P90-0606.P6	Boring Diameter	9"	Logged By JGG J.G. CEG 1633
	Casing Diameter	2"	
Project Name Unocal S/S #5901 11976 Dublin Blvd., Dublin	Well Cover Elevation	N/A	Date Drilled October 4, 1993
	Boring No. MW5	Drilling Method Hollow-stem Auger	Drilling Company Woodward Drilling

Pene- tration blows/6"	G.W. level	O.V.M. (P.P.M.)	Depth (feet) Samples	Stratigraphy USCS	Description	
3/5/8		0.0		ML		Clayey silt, estimated at up to 25% clay, 10% fine-grained sand, and 10% sub angular subrounded gravel to 1/2 inch in diameter, very stiff, saturated, brown, mottled.
TOTAL DEPTH: 25'						

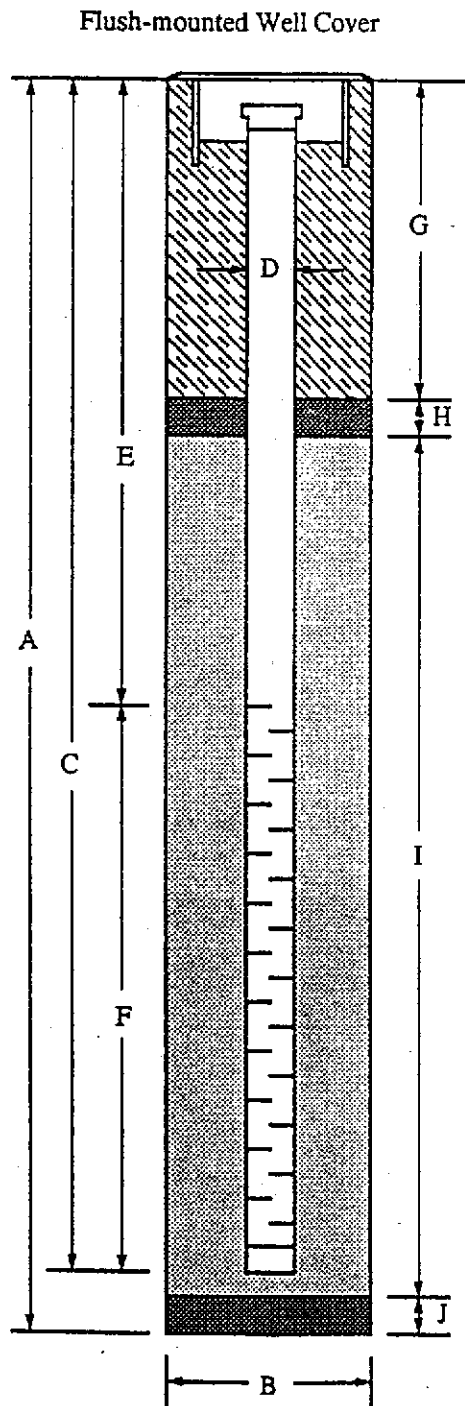
WELL CONSTRUCTION DIAGRAM

PROJECT NAME: Unocal S/S #5901, 11976 Dublin Blvd., Dublin

WELL NO.: MW5

PROJECT NUMBER: KEI-P90-0606.P6

WELL PERMIT NO.: 93458



- A. Total Depth : 25'
- B. Boring Diameter: 9"
Drilling Method: Hollow Stem Auger
- C. Casing Length: 25'
Material: Schedule 40 PVC
- D. Casing Diameter: OD = 2.375"
ID = 2.067"
- E. Depth to Perforations: 10'
- F. Perforated Length: 15'
Perforation Type: Machined Slot
Perforation Size: 0.020"
- G. Surface Seal: 5' 9"
Seal Material: Neat Cement
- H. Seal: 2' 4"
Seal Material: Bentonite
- I. Filter Pack: 17'
Pack Material: RMC Lonestar Sand
Size: #2/12
- J. Bottom Seal: None
Seal Material: N/A

BORING LOG

Project No. KEI-P90-0606.P6	Boring Diameter	9"	Logged By	JGG
	Casing Diameter	2"	J.G.	CEG/633
Project Name Unocal S/S #5901 11976 Dublin Blvd., Dublin	Well Cover Elevation	N/A	Date Drilled	October 4, 1993
Boring No. MW6	Drilling Method	Hollow-stem Auger	Drilling Company	Woodward Drilling

Pene- tration blows/6"	G.W. level	Depth (feet) Samples	Stratigraphy USCS	Description
		0		Sand and gravel base.
4/5/5		5	ML	Silt, trace fine-grained sand and trace clay, slightly moist, medium brown to dark brown, rootlets and pores common, trace black organic matter. Silt, estimated at trace to 10% clay and trace fine-grained sand, stiff, moist.
3/4/4		10	GM	Silty gravel, estimated at 30% gravel and 40% silt, gravel is subrounded to subangular, to 3/4 inch in diameter, loose, moist, brown.
3/4/8		15	ML	Silt, as above.
		15		Clayey silt, estimated at 15% variable clay content and 15% subrounded gravel to 1/2 inch in diameter, very stiff, very moist to wet, brown.
2/3/5		20	CL-ML	Clayey silt/silty clay, trace gravel to 1/4 inch in diameter and trace fine-grained sand, stiff, very moist to wet, grayish brown, pores common.

WELL CONSTRUCTION DIAGRAM

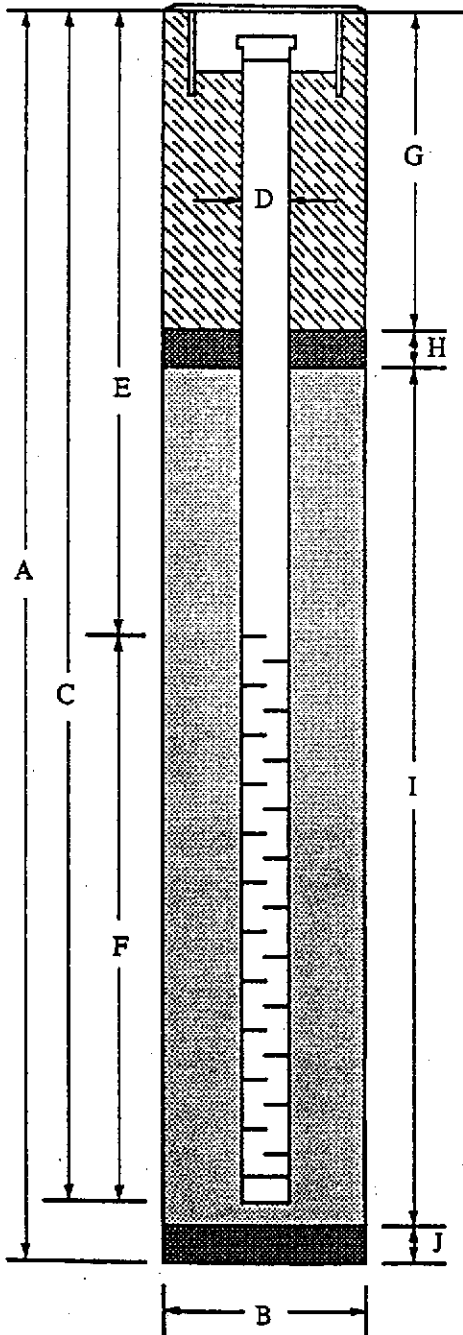
PROJECT NAME: Unocal S/S #5901, 11976 Dublin Blvd., Dublin

WELL NO.: MW6

PROJECT NUMBER: KEI-P90-0606.P6

WELL PERMIT NO.: 93458

Flush-mounted Well Cover



- A. Total Depth : 25'
- B. Boring Diameter: 9"
- Drilling Method: Hollow Stem Auger
- C. Casing Length: 25'
- Material: Schedule 40 PVC
- D. Casing Diameter: OD = 2.375"
- ID = 2.067"
- E. Depth to Perforations: 10'
- F. Perforated Length: 15'
- Perforation Type: Machined Slot
- Perforation Size: 0.020"
- G. Surface Seal: 5' 9"
- Seal Material: Neat Cement
- H. Seal: 2' 4"
- Seal Material: Bentonite
- I. Filter Pack: 17'
- Pack Material: RMC Lonestar Sand
- Size: #2/12
- J. Bottom Seal: None
- Seal Material: N/A

BORING LOG

Project No. KEI-P90-0606.P6	Boring Diameter 9"	Logged By <i>JGG</i> I.G. <i>LEG 1633</i>
	Casing Diameter 2"	
Project Name Unocal S/S #5901 11976 Dublin Blvd., Dublin	Well Cover Elevation N/A	Date Drilled October 4, 1993
Boring No. MW6	Drilling Method Hollow-stem Auger	Drilling Company Woodward Drilling

Pene- tration blows/6"	G.W. level	Depth (feet) Samples	Stratigraphy USCS	Description
4/6/10			CL-ML	Clayey silt/silty clay, locally with lenses of subrounded to subangular gravel to 1-3/4 inches in diameter, very stiff, saturated, grayish brown..
TOTAL DEPTH: 25'				

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

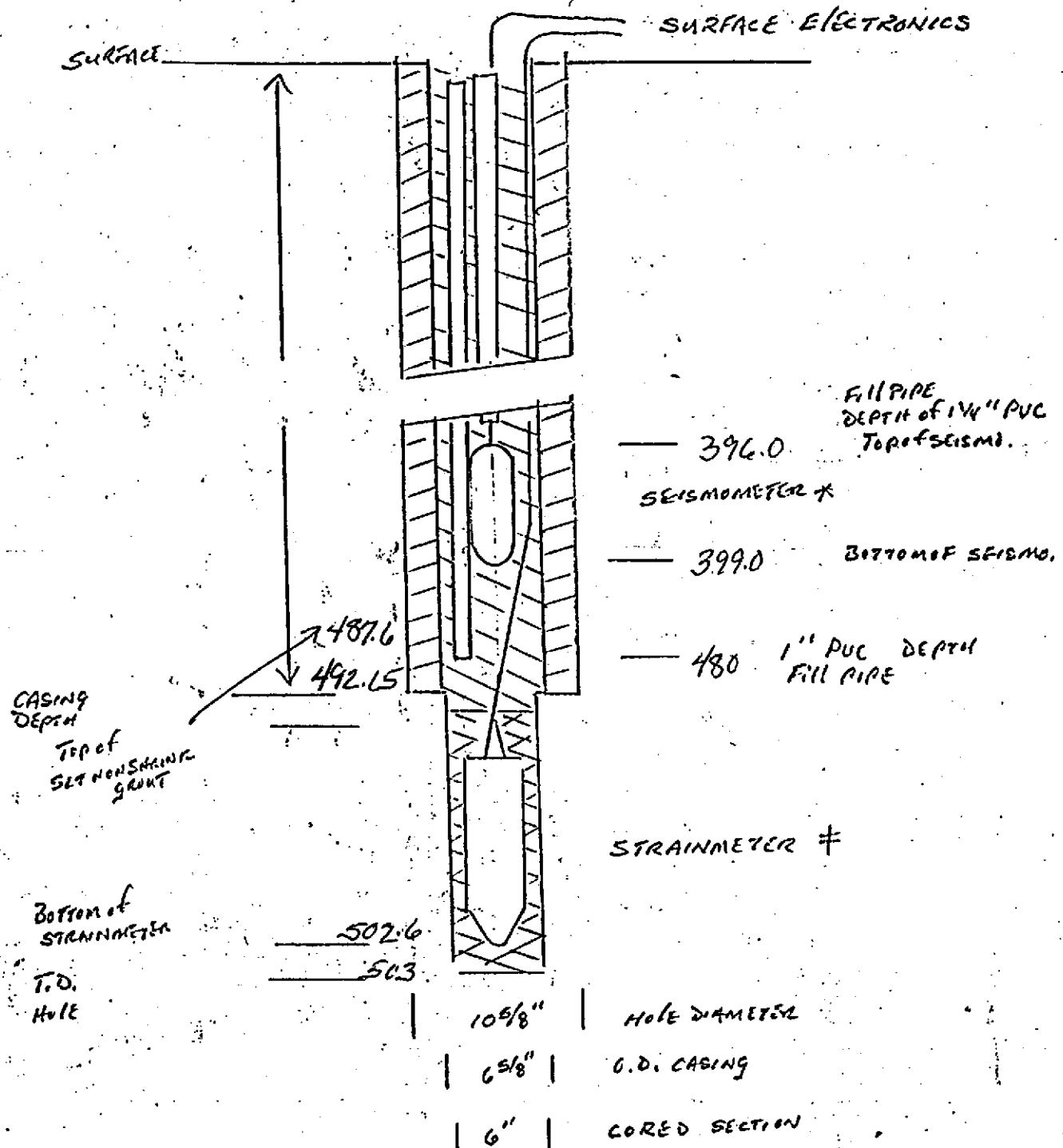
2 of 2

405163

35/W 26K2

SUNOT SITE

- LBL - SEISMOMETER 3 COMPONENT
- ACCELEROMETER 3 COMPONENT *
- USGS - VOLUMETRIC STRAINMETER †



CASING DEPTH
TOP OF SEAL NON STRAIN GROUT

BOTTOM OF STRAINMETER

T.D. HOLE

FILL PIPE DEPTH OF 1" PVC TOP OF SEISMO.

396.0

SEISMOMETER *

399.0

BOTTOM OF SEISMO.

480

1" PVC DEPTH FILL PIPE

STRAINMETER †

502.6

503

10 5/8"

HOLE DIAMETER

6 5/8"

O.D. CASING

6"

CORED SECTION

BORE HOLE CEMENTED BACK TO SURFACE

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

Ac. 05.5 Hwy 50

3S1W2K

D. L. Luce
11746
Dublin
Old 50

Nov. 19, 1948

Dublin Canyon Rd.
Dublin, Calif.

Bank

Feet

1-4

4-8

8-20

20-22

22-26

26-36

36-46

46-50

50-54

54-60

60-72

Point head

Description

top soil

adobe

clay

sandy clay

sandy clay & gravel

sandy clay

clay

gravel (perforations)

clay

gravel (perforations)

clay

C **CONFIDENTIAL**

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED