



BP OIL

BP Oil Company
Environmental Resources Management
Building 13, Suite N
295 SW 41st Street
Renton, Washington 98055-4931
(206) 251-0667

April 21, 1994

Ms. Juliet Shin
Alameda Country Health
Care Services Agency,
80 Swan Way, Room 200
Oakland, CA. 94621

RE: BP OIL FACILITY #11116
7197 Village Parkway
Dublin, CA

ALCOA
HAZMAT
911 APR 25 PM 12:01

Dear Ms. Shin:

Attached please find our GROUNDWATER MONITORING AND SAMPLING REPORT DATED FOR APRIL 7, 1994 for the above referenced facility.

Please call me at (206) 251-0689 with questions regarding this submission.

Respectfully,

Scott T. Hooton
Environmental Resources Management
Group Leader

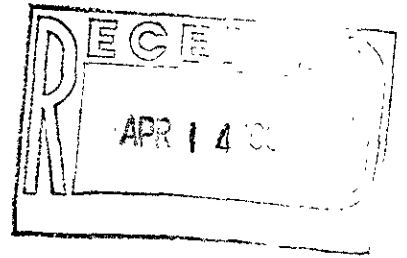
STH:mu ERM11116

cc: Mr. Eddy So, California Regional Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, Ca 94612

Mr. Brady Nagle, Alisto Engineering, 1777 Oakland Blvd., Suite 200, Walnut Creek, CA 94596

Mr. Robert Merriken, Mobil Oil Corp, 3225 Gallows Road, Fairfax, VA 22037

Site file



GROUNDWATER MONITORING AND SAMPLING REPORT

**BP Oil Company Service Station No. 11116
7197 Village Parkway
Dublin, California**

Project No. 10-017-02-004

4/27/94

Prepared for:

**BP Oil Company
Environmental Resources Management
295 S.W. 41st Street
Building 13, Suite N
Renton, Washington**

AW-5, down gradient from
AW-6, shows increasing
levels of TPH-G + Benzene.
Could it be coming from AW-6
what measures will BP take to
prevent migration offsite.
Should MW-7 (belonging to
Shell) be monitored/sampled
by BP in future?

Prepared by:

**Alisto Engineering Group
1777 Oakland Boulevard, Suite 200
Walnut Creek, California**

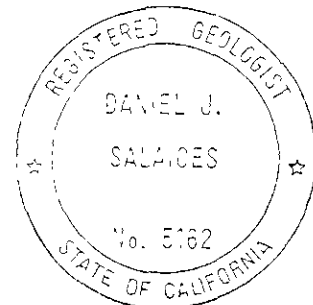
What does BP plan to do to
address high, high levels
in AW-6?

Note AW-6 screened from 7-17'
while AW-5 is screened 15-34'

April 7, 1994

William Howell
William Howell
Project Manager

Dan Salices
Dan Salices
Registered Geologist



GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11116
7197 Village Parkway
Dublin, California

Project No. 10-017-02-004

April 7, 1994

INTRODUCTION

This report presents the results and findings of the February 11, 1994 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11116, 7197 Village Parkway, Dublin, California. A site vicinity map is shown in Figure 1.

FIELD PROCEDURES

Field activities were performed in accordance with the procedures and guidelines of the Alameda County Health Care Services Agency and the California Regional Water Quality Control Board, San Francisco Bay Region.

Before purging and sampling, the groundwater level in each well was measured from a permanent mark on top of the casing to the nearest 0.01 foot using an electronic sounder. The depth to groundwater and top of casing elevation data were used to calculate the groundwater elevation in each well. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Groundwater monitoring was performed concurrently at monitoring wells installed for the Unocal Corporation service station, 7375 Amador Valley Boulevard; Arco Products Company service station, 7249 Village Parkway; and Shell Oil Company service station, 7194 Amador Valley Boulevard. The results of groundwater monitoring at these sites are presented in Tables 2, 3, and 4.

Before sample collection, each well was purged of 3 casing volumes, while recording field readings of pH, temperature, and electrical conductivity. Groundwater samples were collected for laboratory analysis by lowering a bottom-fill, disposable bailer to just below the water level in the well. The samples were transferred from the bailer into laboratory-supplied containers. The water sampling field survey forms are presented in Appendix A.

SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples collected for this and previous quarters are summarized in Table 1. The potentiometric groundwater elevation contour map is shown in Figure 2. The results of groundwater analysis are shown in Figure 3. The laboratory report and chain of custody record are presented in Appendix B.

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11116
 7197 VILLAGE PARKWAY, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	LAB
MW-1	10/12/90	335.17	9.92	325.25	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-1	11/15/90	335.17	10.16	325.01	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-1	12/11/90	335.17	9.97	325.20	---	---	---	---	---	---	---	---	---
MW-1	02/15/91	335.17	9.89	325.28	ND<50	50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	41 (c)	SUP
MW-1	05/14/91	335.17	8.43	326.74	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	7500	ND	SUP
MW-1	08/23/91	335.17	9.98	325.19	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	ANA
MW-1	11/13/91	335.17	10.09	325.08	ND<30	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	SEQ
MW-1	02/25/92	335.17	8.28	326.69	ND<30	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	SEQ
MW-1	04/15/92	335.17	8.50	326.67	---	---	---	---	---	---	---	---	---
MW-1	06/03/92	335.17	9.06	326.11	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-1	08/12/92	335.17	10.01	325.16	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-1	11/10/92	335.17	10.67	324.50	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-1	02/10/93	335.17	5.25	329.92	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	PACE
MW-1	05/21/93	335.17	5.73	329.44	---	---	---	---	---	---	---	---	---
MW-1	08/12/93	335.17	8.99	326.18	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-1	11/11/93	335.17	9.65	325.52	---	---	---	---	---	---	---	---	---
MW-1	02/11/94	335.17	8.72	326.45	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	PACE
MW-2	10/12/90	334.58	9.60	324.98	93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-2	11/15/90	334.58	9.68	324.90	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-2	12/11/90	334.58	9.47	325.11	---	---	---	---	---	---	---	---	---
MW-2	02/15/91	334.58	9.28	325.30	ND<50	60	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	45 (c)	SUP
MW-2	05/14/91	334.58	7.74	326.84	130	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	6000	ND	SUP
MW-2	08/23/91	334.58	9.81	324.77	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	ANA
MW-2	11/13/91	334.58	9.73	324.85	ND<30	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	SEQ
MW-2	02/25/92	334.58	7.55	327.03	ND<30	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	SEQ
MW-2	04/15/92	334.58	8.00	326.58	---	---	---	---	---	---	---	---	---
MW-2	06/03/92	334.58	8.56	326.02	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-2	08/12/92	334.58	9.62	324.96	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-2	11/10/92	334.58	10.27	324.31	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-2	02/10/93	334.58	6.46	328.12	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	05/21/93	334.58	6.96	327.62	---	---	---	---	---	---	---	---	---
MW-2	08/12/93	334.58	8.58	326.00	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	11/11/93	334.58	9.28	325.30	---	---	---	---	---	---	---	---	---
MW-2	02/11/94	334.58	8.10	326.46	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE

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 7197 VILLAGE PARKWAY, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	LAB
MW-3	10/12/90	335.13	10.08	325.05	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-3	11/15/90	335.13	10.12	325.01	76	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-3	12/11/90	335.13	9.92	325.21	---	---	---	---	---	---	---	---	---
MW-3	02/15/90	335.13	9.84	325.29	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	SUP
MW-3	05/14/91	335.13	8.40	326.73	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	SUP
MW-3	08/23/91	335.13	10.27	324.86	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	ANA
MW-3	11/13/91	335.13	10.27	324.86	ND<30	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	SEQ
MW-3	02/25/92	335.13	8.15	326.98	ND<30	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	SEQ
MW-3	04/15/92	335.13	8.63	326.50	---	---	---	---	---	---	---	---	---
MW-3	06/03/92	335.13	9.18	325.95	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-3	08/12/92	335.13	10.18	324.95	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-3	11/10/92	335.13	10.78	324.35	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	ANA
MW-3	02/10/93	335.13	7.16	327.97	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	PACE
MW-3	05/21/93	335.13	7.69	327.44	---	---	---	---	---	---	---	---	---
MW-3	08/12/93	335.13	9.11	326.02	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-3	11/11/93	335.13	9.78	325.35	---	---	---	---	---	---	---	---	---
MW-3	02/11/94	335.13	8.60	326.53	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-4	11/15/90	333.41	8.51	324.90	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-4	12/11/90	333.41	9.19	324.22	---	---	---	---	---	---	---	---	---
AW-4	02/15/91	333.41	8.32	325.09	ND<50	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SUP
AW-4	05/14/91	333.41	6.97	326.44	ND<50	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SUP
AW-4	08/23/91	333.41	8.59	324.82	ND<50	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	ANA
AW-4	11/13/91	333.41	8.57	324.84	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SEQ
AW-4	02/25/92	333.41	6.26	327.15	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SEQ
AW-4	04/15/92	333.41	7.05	326.36	---	---	---	---	---	---	---	---	---
AW-4	06/03/92	333.41	7.41	326.00	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-4	08/12/92	333.41	8.45	324.96	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-4	11/10/92	333.41	9.10	324.31	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-4 (d)	02/10/93	333.41	---	---	---	---	---	---	---	---	---	---	---
AW-4 (d)	05/21/93	333.41	---	---	---	---	---	---	---	---	---	---	---
AW-4 (d)	08/12/93	333.41	---	---	---	---	---	---	---	---	---	---	---
AW-4	11/11/93	333.41	8.00	325.41	---	---	---	---	---	---	---	---	---
AW-4	11/15/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-4	02/11/94	333.41	6.84	326.57	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE

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 BP OIL COMPANY SERVICE STATION NO. 11116
 7197 VILLAGE PARKWAY, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	LAB
AW-5	11/15/90	334.81	9.67	325.14	ND<50	---	1.3	ND<0.5	ND<0.5	1.0	---	---	ANA
AW-5	12/11/90	334.81	9.44	325.37	---	---	---	---	---	---	---	---	---
AW-5	02/15/91	334.81	10.00	324.81	ND<50	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SUP
AW-5	05/14/91	334.81	8.64	326.17	ND<50	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SUP
AW-5	08/23/91	334.81	9.58	325.23	ND<50	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	ANA
AW-5	11/13/91	334.81	9.80	325.01	100	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SEQ
AW-5	02/25/92	334.81	7.89	326.92	ND<30	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SEQ
AW-5	04/15/92	334.81	8.54	326.27	---	---	---	---	---	---	---	---	---
AW-5	06/03/92	334.81	8.97	325.84	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-5	08/12/92	334.81	9.73	325.08	61	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-5	11/10/92	334.81	10.27	324.54	99	---	ND<0.5	ND<0.5	ND<0.5	0.8	---	---	ANA
QC-1 (e)	11/10/92	---	---	---	86	---	ND<0.5	ND<0.5	ND<0.5	0.7	---	---	ANA
AW-5	02/10/93	334.81	7.29	327.52	82	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-5	05/21/93	334.81	7.77	327.04	---	---	---	---	---	---	---	---	---
AW-5	08/12/93	334.81	8.87	325.94	130	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-5	11/11/93	334.81	9.13	325.68	---	---	---	---	---	---	---	---	---
AW-5	11/12/93	---	---	---	180	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-5	02/11/94	334.81	8.20	326.61	210	---	16	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-6	11/15/90	334.90	9.58	325.32	230	---	25	ND<0.5	ND<0.5	0.8	---	---	ANA
AW-6	12/11/90	334.90	9.58	325.32	---	---	---	---	---	---	---	---	---
AW-6	02/15/91	334.90	9.66	325.24	ND<50	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SUP
AW-6	05/14/91	334.90	8.38	326.52	90	---	2	ND<0.3	ND<0.3	ND<0.3	---	---	SUP
AW-6	08/23/91	334.90	9.61	325.29	57	---	ND<0.5	0.7	1.3	4.6	---	---	ANA
AW-6	11/13/91	334.90	9.58	325.32	200	---	ND<0.3	ND<0.3	ND<0.3	0.94	---	---	SEQ
AW-6	02/25/92	334.90	8.00	326.90	19000	---	8000	4700	600	2400	---	---	SEQ
AW-6	03/05/92	334.90	7.98	326.92	14000	---	5200	2500	550	2200	---	---	SEQ
AW-6	04/15/92	334.90	8.33	326.57	1100	---	400	ND<3.0	30	ND<3.0	---	---	SEQ
AW-6	06/03/92	334.90	8.91	325.99	77	---	4.4	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-6	08/12/92	334.90	9.61	325.29	80	---	4.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-6	11/10/92	334.90	10.10	324.80	450	---	120	2.1	4.5	9.7	---	---	ANA
AW-6	02/10/93	334.90	7.13	327.77	14000	---	610	17	15	720	---	---	PACE
QC-1 (e)	02/10/93	---	---	---	12000	---	520	15	13	610	---	---	PACE
AW-6	05/21/93	334.90	7.64	327.26	7900	---	900	ND<12	20	ND<12	---	---	PACE
QC-1 (e)	05/21/93	---	---	---	7500	---	620	ND<10	13	ND<10	---	---	PACE
AW-6	08/12/93	334.90	8.64	326.26	26000	---	450	14	250	48	---	---	PACE
QC-1 (e)	08/12/93	---	---	---	27000	---	510	43	270	42	---	---	PACE
AW-6	11/11/93	334.90	8.67	326.23	---	---	---	---	---	---	---	---	---
AW-6	11/12/93	---	---	---	62000	---	4600	420	310	1100	---	---	PACE
QC-1 (e)	11/12/93	---	---	---	63000	---	4100	360	290	1000	---	---	PACE
AW-6	02/11/94	334.90	8.04	326.86	140000	---	21000	25000	1100	13000	---	---	PACE
QC-1 (e)	02/11/94	---	---	---	110000	---	17000	21000	770	10000	---	---	PACE

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 BP OIL COMPANY SERVICE STATION NO. 11116
 7197 VILLAGE PARKWAY, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	LAB
QC-2	(f) 11/10/92	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
QC-2	(f) 02/10/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(f) 05/21/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(f) 08/12/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(f) 11/12/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(f) 02/11/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE

ABBREVIATIONS

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
TOG	Total oil and grease
HVOC	Halogenated volatile organic compounds
ppb	Parts per billion
ND	Not detected above reported detection limit
---	Not analyzed/available/applicable
ANA	Anametrix, Inc
SUP	Superior Analytical Laboratory
SEQ	Sequoia Analytical Laboratory
PACE	Pace, Inc

NOTES:

- (a) Top of casing elevations surveyed in reference to the City of Dublin monument at the intersection of Village Parkway and Amador Valley Boulevard, with an elevation of 335.92 feet above mean sea level.
- (b) Groundwater elevations in feet above mean sea level.
- (c) Methylene chloride.
- (d) Well buried.
- (e) Blind duplicate.
- (f) Travel blank.

TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING
 UNOCAL CORPORATION SERVICE STATION
 7375 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)
MW-1	08/12/92	336.72	11.32	325.40
MW-1	11/10/92	336.72	11.97	324.75
MW-1	02/10/93	336.72	8.63	328.09
MW-1	05/10/93	336.72	9.57	327.15
MW-1	08/12/93	336.72	10.55	326.17
MW-1	11/11/93	336.72	10.17	326.55
MW-1	02/11/94	336.72	9.72	327.00
MW-2	08/12/92	337.36	11.48	325.88
MW-2	11/10/92	337.36	12.15	325.21
MW-2	02/10/93	337.36	8.81	328.55
MW-2	05/10/93	337.36	9.75	327.61
MW-2	08/12/93	337.36	10.69	326.67
MW-2	11/11/93	337.36	10.51	326.85
MW-2	02/11/94	337.36	9.85	327.51
MW-3	08/12/92	337.53	11.64	325.89
MW-3	11/10/92	337.53	12.33	325.20
MW-3	02/10/93	337.53	8.95	328.58
MW-3	05/10/93	337.53	9.91	327.62
MW-3	08/12/93	337.53	10.89	326.64
MW-3	11/11/93	337.53	10.64	326.89
MW-3	02/11/94	337.53	10.01	327.52
MW-4	08/12/92	337.00	11.62	325.38
MW-4	11/10/92	337.00	12.32	324.68
MW-4	02/10/93	337.00	8.94	328.06
MW-4	05/10/93	337.00	9.90	327.10
MW-4	08/12/93	337.00	10.90	326.10
MW-4	11/11/93	337.00	10.48	326.52
MW-4	02/11/94	337.00	10.10	326.90

NOTES.

(a) Top of casing elevations surveyed to the nearest 0.01 foot relative to a County of Alameda benchmark with an elevation of 337.40 feet above mean sea level.

(b) Groundwater elevations in feet above mean sea level.

TABLE 3 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING
 SHELL OIL COMPANY SERVICE STATION
 7194 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)
MW-1	08/12/92	334.83	9.15	325.68
MW-1	11/10/92	334.83	10.04	324.79
MW-1	02/10/93	334.83	7.24	327.59
MW-1	05/10/93	334.83	7.78	327.05
MW-1	08/12/93	334.83	8.54	326.29
MW-1	11/11/93	334.83	8.56	326.27
MW-1	02/11/94	334.83	8.62	326.21
MW-2	08/12/92	336.96	11.58	325.38
MW-2	11/10/92	336.96	12.05	324.91
MW-2	02/10/93	336.96	9.28	327.68
MW-2	05/10/93	336.96	9.65	327.31
MW-2	08/12/93	336.96	10.70	326.26
MW-2	11/11/93	336.96	11.36	325.60
MW-2	02/11/94	336.96	11.04	325.92
MW-3	08/12/92	336.93	10.94	325.99
MW-3	11/10/92	336.93	11.84	325.09
MW-3	02/10/93	336.93	8.82	328.11
MW-3	05/10/93	336.93	8.88	328.05
MW-3	08/12/93	336.93	10.36	326.57
MW-3	11/11/93	336.93	10.64	326.29
MW-3	02/11/94	336.93	10.68	326.25
MW-4	08/12/92	337.14	11.36	325.78
MW-4	11/10/92	337.14	12.12	325.02
MW-4	02/10/93	337.14	9.40	327.74
MW-4	05/10/93	337.14	9.54	327.60
MW-4	08/12/93	337.14	10.68	326.46
MW-4	11/11/93	337.14	11.97	325.17
MW-4	02/11/94	337.14	10.71	326.43
MW-5	08/12/92	334.96	9.40	325.56
MW-5	11/10/92	334.96	9.65	325.31
MW-5	02/10/93	334.96	7.97	326.99
MW-5	05/10/93	334.96	7.76	327.20
MW-5	08/12/93	334.96	8.75	326.21
MW-5	11/11/93	334.96	9.32	325.64
MW-5	02/11/94	334.96	8.97	325.99
MW-6	08/12/92	335.42	9.72	325.70
MW-6	11/10/92	335.42	10.56	324.86
MW-6	02/10/93	335.42	7.65	327.77
MW-6	05/10/93	335.42	8.10	327.32
MW-6	08/12/93	335.42	9.18	326.24
MW-6	11/11/93	335.42	9.38	326.04
MW-6	02/11/94	335.42	9.02	326.40
MW-7	08/12/92	333.23	8.65	324.58
MW-7	11/10/92	333.23	8.82	324.41
MW-7	02/10/93	333.23	6.06	327.17
MW-7	05/10/93	333.23	6.65	326.58
MW-7	08/12/93	333.23	6.83	326.40
MW-7	11/11/93	333.23	6.90	326.33
MW-7	02/11/94	333.23	6.12	327.11

TABLE 3 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING
SHELL OIL COMPANY SERVICE STATION
7194 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)
MW-8	08/12/92	335.80	9.82	325.98
MW-8	11/10/92	335.80	10.41	325.39
MW-8	02/10/93	335.80	7.35	328.45
MW-8	05/10/93	335.80	8.00	327.80
MW-8	08/12/93	335.80	9.00	326.80
MW-8	11/11/93	335.80	9.47	326.33
MW-8	02/11/94	335.80	8.80	327.00
MW-9	08/12/92	334.57	8.97	325.60
MW-9	11/10/92	334.57	8.97	325.60
MW-9	02/10/93	334.57	7.20	327.37
MW-9	05/10/93	334.57	7.56	327.01
MW-9	08/12/93	334.57	8.25	326.32
MW-9	11/11/93	334.57	10.30	324.27
MW-9	02/11/94	334.57	8.88	325.69
MW-11	08/12/92	334.20	8.75	325.45
MW-11	11/10/92	334.20	9.47	324.73
MW-11	02/10/93	334.20	6.79	327.41
MW-11	05/10/93	334.20	7.18	327.02
MW-11	08/12/93	334.20	8.10	326.10
MW-11	11/11/93	334.20	8.56	325.64
MW-11	02/11/94	334.20	8.21	325.99
MW-12	08/12/92	332.53	9.83	322.70
MW-12	11/10/92	332.53	8.32	324.21
MW-12	02/10/93	332.53	6.75	325.78
MW-12 (c)	05/10/93	332.53	—	—
MW-12	08/12/93	332.53	6.23	326.30
MW-12	11/11/93	332.53	7.43	325.10
MW-12	02/04/94	332.53	7.18	325.35
MW-13	08/12/92	335.64	10.91	324.73
MW-13	11/10/92	335.64	10.69	324.95
MW-13	02/10/93	335.64	7.49	328.15
MW-13	05/10/93	335.64	8.06	327.58
MW-13	08/12/93	335.64	8.73	326.91
MW-13	11/11/93	335.64	9.15	326.49
MW-13	02/11/94	335.64	9.12	326.52
RW-1 (d)	08/12/92	—	—	—
RW-1 (d)	11/10/92	—	—	—
RW-1 (d)	08/12/93	—	—	—
RW-1 (d)	11/11/93	—	—	—
RW-1 (d)	02/11/94	—	9.98	—

NOTES:

- (a) Top of casing elevations surveyed to the nearest 0.01 foot above mean sea level.
- (b) Groundwater elevations in feet above mean sea level.
- (c) Well inaccessible due to parked car.
- (d) Data not available.

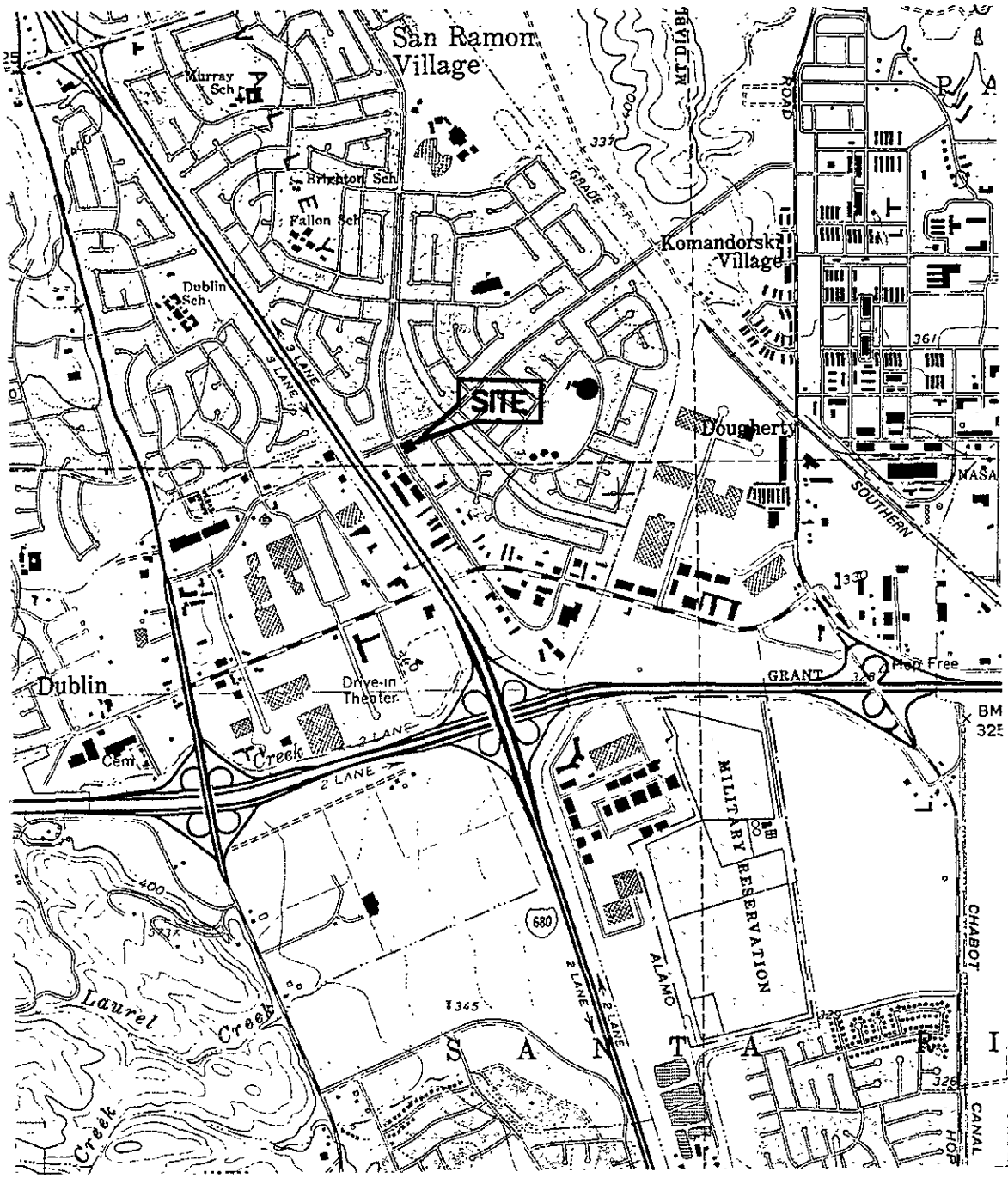
TABLE 4 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING
 ARCO PRODUCTS SERVICE STATION 6041
 7249 VILLAGE PARKWAY, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)
MW-1	11/10/92	336.56	11.74	324.82
MW-1	02/10/93	336.56	9.66	326.90
MW-1	05/10/93	336.56	9.50	327.06
MW-1 (c)	08/12/93	—	—	—
MW-1	11/11/93	336.56	10.70	325.86
MW-1	02/11/94	336.56	10.35	326.21
MW-2	11/10/92	334.80	10.12	324.68
MW-2	02/10/93	334.80	7.30	327.50
MW-2	05/10/93	334.80	7.40	327.40
MW-2 (c)	08/12/93	—	—	—
MW-2	11/11/93	334.80	9.02	325.78
MW-2	02/11/94	334.80	8.59	326.21
MW-3	11/10/92	335.53	10.72	324.81
MW-3	02/10/93	335.53	7.87	327.66
MW-3	05/10/93	335.53	9.91	325.62
MW-3 (c)	08/12/93	—	—	—
MW-3	11/11/93	335.53	9.81	325.72
MW-3	02/11/94	335.53	9.60	325.93
MW-4	11/10/92	334.22	9.58	324.64
MW-4	02/10/93	334.22	6.80	327.42
MW-4	05/10/93	334.22	9.90	324.32
MW-4 (c)	08/12/93	—	—	—
MW-4	11/11/93	334.22	8.48	325.74
MW-4	02/11/94	334.22	8.15	326.07
MW-5	11/10/92	335.87	11.02	324.85
MW-5	02/10/93	335.87	8.00	327.87
MW-5	05/10/93	335.87	8.64	327.23
MW-5 (c)	08/12/93	—	—	—
MW-5	11/11/93	335.87	10.09	325.78
MW-5	02/11/94	335.87	9.63	326.24
MW-6	11/10/92	335.84	11.03	324.81
MW-6	02/10/93	335.84	8.22	327.62
MW-6	05/10/93	335.84	8.85	326.99
MW-6 (c)	08/12/93	—	—	—
MW-6	11/11/93	335.84	10.02	325.82
MW-6	02/11/94	335.84	9.66	326.18

NOTES:

- (a) Top of casing elevations surveyed to the nearest 0.01 foot above mean sea level.
- (b) Groundwater elevations in feet above mean sea level.
- (c) Data not available.



SOURCE:
 USGS MAP, DUBLIN QUADRANGLE,
 CALIFORNIA, 7.5 MINUTE SERIES, 1961.
 PHOTOREVISED 1980.

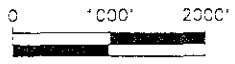


FIGURE 1
SITE VICINITY MAP
 BP OIL SERVICE STATION NO. 11116
 7197 VILLAGE PARKWAY
 DUBLIN, CALIFORNIA
 PROJECT NO. 10-017



APPENDIX A
WATER SAMPLING FIELD SURVEY FORMS

116 Liberty Street
 Santa Cruz, Ca 95060
 (408) 459-0718

Well Number: MW-2

Project Number: 10-017
 Station Number: BP11116
 Date: 2/11/94

Sample Type: Groundwater Trip Blank Duplicate of _____
 Sampled by: DAN BIRCH

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) 2" 03" 04" 04.5" 06" 0 _____
 Volume Factors: 0.1632 0.3672 0.6528 0.826 1.469 _____

Total Depth of Well 25.70 Initial Water Level: _____

Total Volume Purged: _____ Time Elapsed: _____

Calculated Purge Volume:

PURGE METHOD:

Honda Pump
 Disposable Poly Tubing (29 ft)
 Speed Winch
 Disposable PVC Bailer(s) (____)
 Other _____

$$\frac{25.70 - 8.10}{\text{Total Depth} \quad \text{Water Level}} = \frac{17.6}{\text{Well Vol. Fac.}} \times \frac{.16}{\text{#of vol. to Purge}} = \frac{2.8}{\text{Calculated Purge Volume}} \times 3 = 8.4 \text{ (gallons)}$$

COMMENTS:

Subjective Analysis Prior to Purging

SHEEN Depth to Product Product Thickness
 O Yes No _____ (ft) _____ (ft)

SAMPLING METHOD

PVC Disposable Bailer Time Sampled
 Teflon Bailer (24 hour clock)
 Other: _____

WELL SAMPLING PARAMETERS

Gallons Removed	Time	pH	Temp °F	Cond. (umhos/cm)
3	1556	6.77	68.6	7.20
5	1558	6.62	66.9	6.67
9	1600	6.61	66.7	6.67

Analysis Required	No. of	Container Type	Preservatives
EPA 601		VOA's	
<input checked="" type="checkbox"/> TPH-G/BTEX	3	VOA's	
TPH- Diesel		Amber Liter	
TOG 5520 BF		Amber Liter	H ₂ SO ₄

.116 Liberty Street
 Santa Cruz, Ca 95060
 (408) 459-0718

Well Number: MW-3

Project Number: 10-017

Sample Type: Groundwater Trip Blank Duplicate of _____

Station Number: BP1116

Sampled by: DJ BIRCH

Date: 2/11/94

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) 2" 3" 4" 4.5" 6" _____
 Volume Factors: 0.1632 0.3672 0.6528 0.826 1.469 _____

Total Depth of Well _____

Initial Water Level: _____

PURGE METHOD:

- Honda Pump
- Disposable PolyTubing (30 ft)
- Speed Winch
- Disposable PVC Bailer(s) (____)
- Other _____

Total Volume Purged: _____

Time Elapsed: _____

Calculated Purge Volume:

$$\frac{25.44}{\text{Total Depth}} - \frac{8.60}{\text{Water Level}} = \frac{16.84}{\text{Well Vol. Fac.}} \times \frac{.16}{\text{Well Vol. Fac.}} = \frac{2.7}{\text{Well Vol. Fac.}} \times \frac{3}{\text{\#of vol. to Purge}} = \frac{8.0}{\text{Calculated Purge Volume}} \text{ (gallons)}$$

COMMENTS:

G.W reacts with Hcl.

Subjective Analysis Prior to Purging

SHEEN Yes No Depth to Product _____ (ft) Product Thickness _____ (ft)

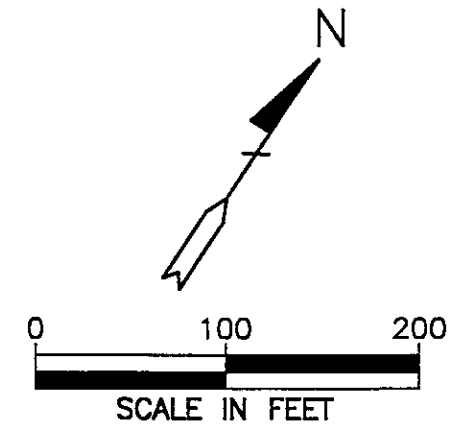
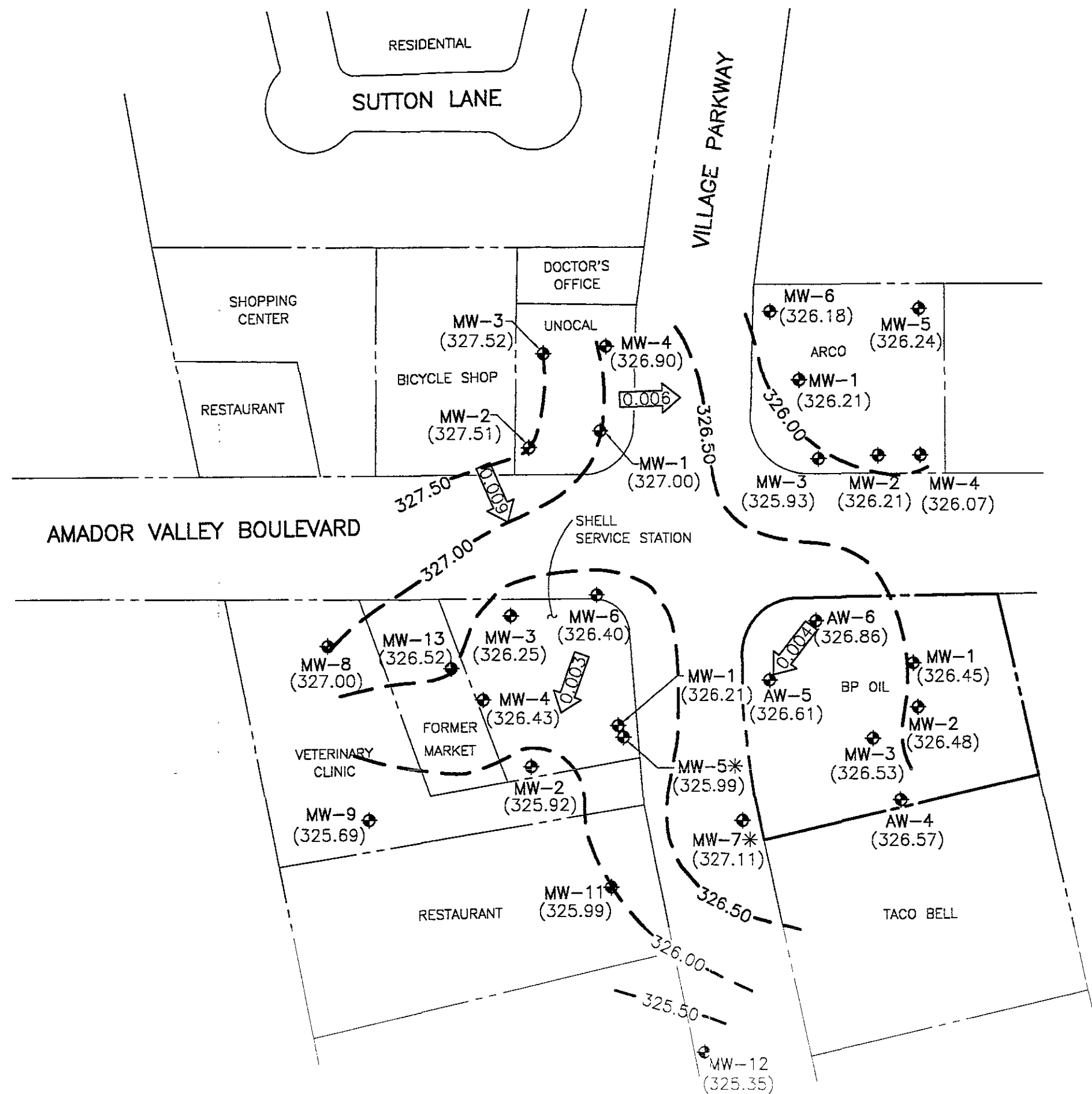
SAMPLING METHOD

PVC Disposable Bailer Time Sampled _____
 Teflon Bailer (24 hour clock)
 Other: _____

WELL SAMPLING PARAMETERS

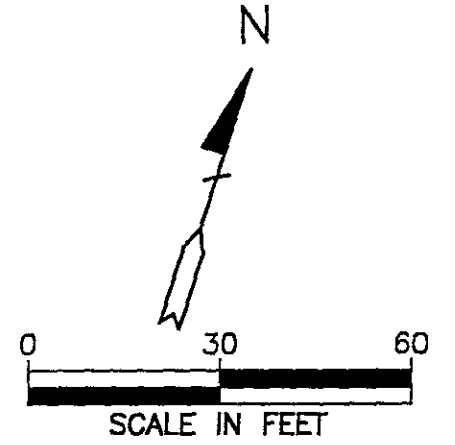
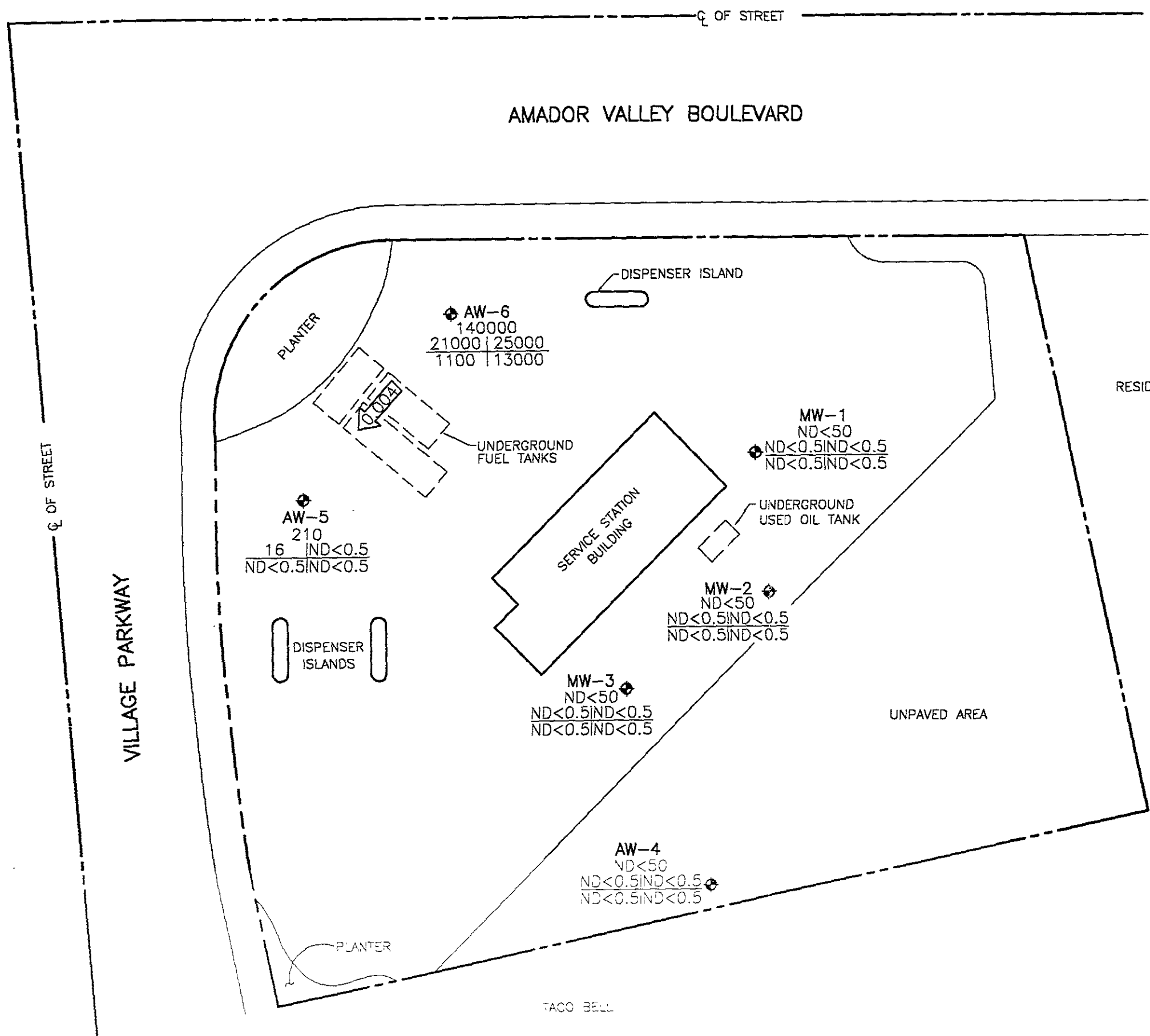
Gallons Removed	Time	pH	Temp °F	Cond. (umhos/cm)
3	1515	6.84	68.6	5.36
7	1516	6.68	69.4	5.30
10	1517	6.59	69.5	5.30

Analysis Required	No. of	Container Type	Preservatives
EPA 601		VOA's	
X TPH-G/BTEX	3	VOA's	HCl NONE
TPH- Diesel		Amber Liter	
TOG 5520 BF		Amber Liter	H ₂ SO ₄



- LEGEND**
- ◆ GROUNDWATER MONITORING WELL
 - (326.45) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
 - 326.50 - GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL-0.50 FOOT)
 - ← 0.004 → CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT
 - * GROUNDWATER ELEVATION NOT USED IN PREPARING CONTOURS

FIGURE 2
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP
 FEBRUARY 11, 1994
 BP OIL SERVICE STATION NO. 11116
 7197 VILLAGE PARKWAY
 DUBLIN, CALIFORNIA
 PROJECT NO. 10-017



LEGEND

- ◆ GROUNDWATER MONITORING WELL
- TPH-G | B | T CONCENTRATION OF CONSTITUENTS IN PARTS PER BILLION
- E | X
- TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- B BENZENE
- T TOLUENE
- E ETHYLBENZENE
- X TOTAL XYLENES
- ND NOT DETECTED ABOVE REPORTED DETECTION LIMIT
- ←0.004 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3
CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER
 FEBRUARY 11, 1994
 BP OIL SERVICE STATION NO. 11116
 7197 VILLAGE PARKWAY
 DUBLIN, CALIFORNIA
 PROJECT NO. 10-017

10017C-EDWG 4-7-94 100M 11-90

*new survey TOC data
NOT consistent with
historical survey
Elevations + water
thickness NOT used
in preparing the
contour map. BH 9/1/94*

TABLE 1

SUMMARY OF MONITORING DATA (UNOCAL)

Well #	Ground Water Elevation (Feet)	Depth to Water (feet)♦	Product Thickness (Feet)	Sheen	Water Purged (gallons)	Total Well Depth (Feet)♦
--------	-------------------------------------	------------------------------	--------------------------------	-------	------------------------------	--------------------------------

(Monitored and Sampled on February 11, 1994)

MW1	326.36	9.72	0	No	7	19.46
MW2	326.93	9.85	0	No	6.5	19.23
MW3	326.97	10.01	0	No	6.5	18.90
MW4	326.32	10.10	0	No	6.5	19.40
MW5	N/A	10.08	0	No	7	19.96

(Monitored and Sampled on November 11, 1993)

MW1	325.91	10.17	0	No	7	
MW2*	326.27	10.51	0	--	0	
MW3*	326.34	10.64	0	--	0	
MW4*	325.94	10.48	0	--	0	

(Monitored and Sampled on August 12, 1993)

MW1	326.17	9.91	0	No	6.5	
MW2*	326.67	10.11	0	--	0	
MW3*	326.64	10.34	0	--	0	
MW4*	326.10	10.32	0	--	0	

(Monitored and Sampled on May 10, 1993)

MW1	327.15	9.57	0	No	10	
MW2*	327.61	9.75	0	--	0	
MW3*	327.62	9.91	0	--	0	
MW4*	327.10	9.90	0	--	0	

WELL GAUGING DATA

Project # 940211-L1 Date 2/11/94 Client WIC# 204 22170105

Site 7199 AMADOR VALLEY BLVD., DUBLIN, CA (SHELL)

Well I.D.	Well Size (in.)	Sheen/Odor	Depth to Immiscible Liquid (feet)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to Water (feet)	Depth to Well Bottom (feet)	Survey Point: TOB or TOC
MW-1	4					8.62	25.12	TOC
MW-2	4					11.04	29.43	
MW-3	4					10.68	24.24	
MW-4	4					10.71	24.73	
MW-5	4					8.97	44.68	
MW-6	4					9.02	22.88	
MW-7	4					6.12	16.46	
MW-8	4					8.80	16.08	
* MW-9	4					8.88	17.83	
MW-11	4					8.21	16.34	
MW-12	4					7.18	17.07	
MW-13	4	ODOR				9.12	17.02	
RW-1	6					9.98	30.96	↓

(MW-9)
* ALLOW 5 MIN. FOR WATER LEVEL TO STABILIZE

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD



REPORT OF LABORATORY ANALYSIS

Alisto Engineering Group
 1777 Oakland Blvd., Ste. 200
 Walnut Creek, CA 94596

February 22, 1994
 PACE Project Number: 440214511

Attn: Mr. Bill Howell

Client Reference: BP Station # 11116/CP#10-017-02-004

PACE Sample Number: 70 0246423
 Date Collected: 02/11/94
 Date Received: 02/14/94
 Client Sample ID: MW-1

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>
------------------	--------------	------------	--	----------------------

ORGANIC ANALYSIS

OIL AND GREASE, SILICA GEL (LUFT) Oil and Grease, Gravimetric (SM5520) Date Extracted	mg/L	5.0	ND 02/16/94	02/17/94
---	------	-----	----------------	----------

EXTRACTABLE FUELS EPA 3510/8015 Extractable Fuels, as Diesel Date Extracted	mg/L	0.05	ND 02/15/94	02/17/94
---	------	------	----------------	----------

PURGEABLE FUELS AND AROMATICS TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	- ND	02/16/94 02/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M): Benzene	ug/L	0.5	- ND	02/16/94 02/16/94
Toluene	ug/L	0.5	ND	02/16/94
Ethylbenzene	ug/L	0.5	ND	02/16/94
Xylenes, Total	ug/L	0.5	ND	02/16/94

HALOGENATED VOLATILE COMPOUNDS EPA 8010 Dichlorodifluoromethane	ug/L	2.0	ND	02/16/94
Chloromethane	ug/L	2.0	ND	02/16/94
Vinyl Chloride	ug/L	2.0	ND	02/16/94
Bromomethane	ug/L	2.0	ND	02/16/94
Chloroethane	ug/L	2.0	ND	02/16/94
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	02/16/94

1,1-Dichloroethene	ug/L	0.5	ND	02/16/94
Methylene Chloride	ug/L	2.0	ND	02/16/94
trans-1,2-Dichloroethene	ug/L	0.5	ND	02/16/94
cis-1,2-Dichloroethene	ug/L	0.5	ND	02/16/94
1,1-Dichloroethane	ug/L	0.5	ND	02/16/94
Chloroform	ug/L	0.5	ND	02/16/94
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	02/16/94

Mr. Bill Howell
 Page 2

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

PACE Sample Number: 70 0246423
 Date Collected: 02/11/94
 Date Received: 02/14/94
 Client Sample ID: MW-1

Parameter	Units	MDL		DATE ANALYZED
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ORGANIC ANALYSIS

HALOGENATED VOLATILE COMPOUNDS EPA 8010

Carbon Tetrachloride	ug/L	0.5	ND	02/16/94
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	02/16/94
Trichloroethene (TCE)	ug/L	0.5	ND	02/16/94
1,2-Dichloropropane	ug/L	0.5	ND	02/16/94
Bromodichloromethane	ug/L	0.5	ND	02/16/94
2-Chloroethylvinyl ether	ug/L	0.5	ND	02/16/94
cis-1,3-Dichloropropene	ug/L	0.5	ND	02/16/94
trans-1,3-Dichloropropene	ug/L	0.5	ND	02/16/94
1,1,2-Trichloroethane	ug/L	0.5	ND	02/16/94
Tetrachloroethene	ug/L	0.5	ND	02/16/94
Dibromochloromethane	ug/L	0.5	ND	02/16/94
Chlorobenzene	ug/L	0.5	ND	02/16/94
Bromoform	ug/L	0.5	ND	02/16/94
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	02/16/94
1,3-Dichlorobenzene	ug/L	0.5	ND	02/16/94
1,4-Dichlorobenzene	ug/L	0.5	ND	02/16/94
1,2-Dichlorobenzene	ug/L	0.5	ND	02/16/94
Bromochloromethane (Surrogate Recovery)	%		84	02/16/94
1,4-Dichlorobutane (Surrogate Recovery)	%		81	02/16/94

Mr. Bill Howell
 Page 3

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

PACE Sample Number: 70 0246431
 Date Collected: 02/11/94
 Date Received: 02/14/94
 Client Sample ID: MW-2

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):				
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	-	02/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				
Benzene	ug/L	0.5	ND	02/16/94
Toluene	ug/L	0.5	ND	02/16/94
Ethylbenzene	ug/L	0.5	ND	02/16/94
Xylenes, Total	ug/L	0.5	ND	02/16/94

Mr. Bill Howell
 Page 4

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

PACE Sample Number: 70 0246440
 Date Collected: 02/11/94
 Date Received: 02/14/94
 Client Sample ID: MW-3

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

<u>PURGEABLE FUELS AND AROMATICS</u>			
TOTAL FUEL HYDROCARBONS, (LIGHT):			
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

Mr. Bill Howell
 Page 5

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

PACE Sample Number: 70 0246458
 Date Collected: 02/11/94
 Date Received: 02/14/94
 Client Sample ID: AW-4

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	02/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/16/94
Benzene	ug/L	0.5	ND	02/16/94
Toluene	ug/L	0.5	ND	02/16/94
Ethylbenzene	ug/L	0.5	ND	02/16/94
Xylenes, Total	ug/L	0.5	ND	02/16/94

Mr. Bill Howell
 Page 6

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

PACE Sample Number:
 Date Collected:
 Date Received:
 Client Sample ID:
 Parameter

70 0246466
 02/11/94
 02/14/94
 AW-5

Units MDL DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	210	02/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/16/94
Benzene	ug/L	0.5	16	02/16/94
Toluene	ug/L	0.5	ND	02/16/94
Ethylbenzene	ug/L	0.5	ND	02/16/94
Xylenes, Total	ug/L	0.5	ND	02/16/94

Mr. Bill Howell
 Page 7

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

PACE Sample Number: 70 0246474
 Date Collected: 02/11/94
 Date Received: 02/14/94
 Client Sample ID: AW-6

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	5000	140000	02/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/16/94
Benzene	ug/L	50	21000	02/16/94
Toluene	ug/L	50	25000	02/16/94
Ethylbenzene	ug/L	50	1100	02/16/94
Xylenes, Total	ug/L	50	13000	02/16/94

Mr. Bill Howell
 Page 8

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

PACE Sample Number:			70 0246482	
Date Collected:			02/11/94	
Date Received:			02/14/94	
Client Sample ID:			QC-1	
<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	5000	110000	02/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/16/94
Benzene	ug/L	50	17000	02/16/94
Toluene	ug/L	50	21000	02/16/94
Ethylbenzene	ug/L	50	770	02/16/94
Xylenes, Total	ug/L	50	10000	02/16/94

Mr. Bill Howell
 Page 9

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

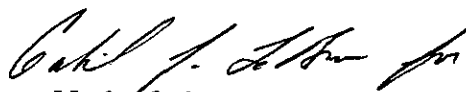
PACE Sample Number:			70 0246490	
Date Collected:			02/11/94	
Date Received:			02/14/94	
Client Sample ID:			QC-2	
<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/16/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	02/16/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/16/94
Benzene	ug/L	0.5	ND	02/16/94
Toluene	ug/L	0.5	ND	02/16/94
Ethylbenzene	ug/L	0.5	ND	02/16/94
Xylenes, Total	ug/L	0.5	ND	02/16/94

These data have been reviewed and are approved for release.



Darrell C. Cain
 Regional Director

Mr. Bill Howell
Page 10

FOOTNOTES
for pages 1 through 9

February 22, 1994
PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

MDL Method Detection Limit
ND Not detected at or above the MDL.

Mr. Bill Howell
 Page 11

QUALITY CONTROL DATA

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

EXTRACTABLE FUELS EPA 3510/8015
 Batch: 70 28331
 Samples: 70 0246423

METHOD BLANK:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Method Blank</u>
Extractable Fuels, as Diesel	mg/L	0.05	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Reference Value</u>	<u>Recv</u>	<u>Dupl Recv</u>	<u>RPD</u>
Extractable Fuels, as Diesel	mg/L	0.05	1.00	76%	76%	0%

Mr. Bill Howell
 Page 12

QUALITY CONTROL DATA

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

HALOGENATED VOLATILE ORGANICS 8010/8020

Batch: 70 28422
 Samples: 70 0246423

METHOD BLANK:

Parameter	Units	MDL	Method Blank
VOLATILE HALOCARBONS BY EPA 8010			
Dichlorodifluoromethane	ug/L	2.0	ND
Chloromethane	ug/L	2.0	ND
Vinyl Chloride	ug/L	2.0	ND
Bromomethane	ug/L	2.0	ND
Chloroethane	ug/L	2.0	ND
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND
1,1-Dichloroethene	ug/L	0.5	ND
Methylene Chloride	ug/L	2.0	ND
trans-1,2-Dichloroethene	ug/L	0.5	ND
1,1-Dichloroethane	ug/L	0.5	ND
cis-1,2-Dichloroethene	ug/L	0.5	ND
Chloroform	ug/L	0.5	ND
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND
Carbon Tetrachloride	ug/L	0.5	ND
1,2-Dichloroethane (EDC)	ug/L	0.5	ND
Trichloroethene (TCE)	ug/L	0.5	ND
1,2-Dichloropropane	ug/L	0.5	ND
Bromodichloromethane	ug/L	0.5	ND
2-Chloroethylvinyl ether	ug/L	0.5	ND
cis-1,3-Dichloropropene	ug/L	0.5	ND
trans-1,3-Dichloropropene	ug/L	0.5	ND
1,1,2-Trichloroethane	ug/L	1.0	ND
Tetrachloroethene	ug/L	0.5	ND
Dibromochloromethane	ug/L	0.5	ND
Chlorobenzene	ug/L	0.5	ND
Bromoform	ug/L	0.5	ND
1,1,2,2-Tetrachloroethane	ug/L	1.5	ND
1,3-Dichlorobenzene	ug/L	1.0	ND
1,4-Dichlorobenzene	ug/L	1.0	ND
1,2-Dichlorobenzene	ug/L	1.0	ND
Bromochloromethane (Surrogate Recovery) %			91

Mr. Bill Howell
 Page 13

QUALITY CONTROL DATA

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

HALOGENATED VOLATILE ORGANICS 8010/8020

Batch: 70 28422
 Samples: 70 0246423

METHOD BLANK:

Parameter	Units	MDL	Method Blank
1,4-Dichlorobutane (Surrogate Recovery)	%		84
VOLATILE AROMATICS BY EPA 8020			-
Benzene	ug/L	0.3	ND
Toluene	ug/L	0.3	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND
a,a,a-Trifluorotoluene (Surro. Recovery %)			103

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
1,1-Dichloroethane	ug/L	0.5	20	102%	105%	2%
Trichloroethene (TCE)	ug/L	0.5	20	109%	108%	0%
1,1,2-Trichloroethane	ug/L	0.5	20	100%	101%	0%
Tetrachloroethene	ug/L	0.5	20	119%	111%	6%
Benzene	ug/L	0.3	20	110%	112%	1%
Toluene	ug/L	0.3	20	107%	112%	4%
Xylenes, Total	ug/L	0.5	60	108%	113%	4%

Mr. Bill Howell
 Page 14

QUALITY CONTROL DATA

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

PURGEABLE FUELS AND AROMATICS

Batch: 70 28287

Samples: 70 0246423, 70 0246431, 70 0246440, 70 0246458, 70 0246466
 70 0246474

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700242142	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1900	1000	58%	67%	14%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1000	103%	107%	3%

Mr. Bill Howell
 Page 15

QUALITY CONTROL DATA

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

PURGEABLE FUELS AND AROMATICS

Batch: 70 28353
 Samples: 70 0246482, 70 0246490

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700245702	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	1.7	40	98%	101%	3%
Toluene	ug/L	0.5	3.3	40	95%	102%	7%
Ethylbenzene	ug/L	0.5	1.1	40	100%	102%	1%
Xylenes, Total	ug/L	0.5	21	120	99%	101%	2%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	40	105%	108%	2%
Toluene	ug/L	0.5	40	101%	104%	2%
Ethylbenzene	ug/L	0.5	40	102%	105%	2%
Xylenes, Total	ug/L	0.5	120	104%	107%	2%

Mr. Bill Howell
 Page 16

QUALITY CONTROL DATA

February 22, 1994
 PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

TOTAL OIL AND GREASE (EPA 9070/413.1)
 Batch: 70 28358
 Samples: 70 0246423

METHOD BLANK:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Method Blank</u>
Total Oil and Grease (Freon Extractable	mg/L	5.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Reference Value</u>	<u>Recv</u>	<u>Dupl Recv</u>	<u>RPD</u>
Total Oil and Grease (Freon Extractable	mg/L	5.0	20	100%	95%	5%

Mr. Bill Howell
Page 17

FOOTNOTES
for pages 11 through 16

February 22, 1994
PACE Project Number: 440214511

Client Reference: BP Station # 11116/CP#10-017-02-004

MDL Method Detection Limit
ND Not detected at or above the MDL.
RPD Relative Percent Difference



440214.511

CHAIN OF CUSTODY

No. 051385

Page 1 of 1

CONSULTANT'S NAME ALISTO ENGINEERING		ADDRESS 1777 DAKLAND BLVD., STE 200		CITY WALNUT CREEK	STATE	ZIP CODE
BP SITE NUMBER BP 1116	BP CORNER ADDRESS/CITY 7197 Village Pkwy Dublin			CONSULTANT PROJECT NUMBER 10-017-02-004		
CONSULTANT PROJECT MANAGER BILL HOWELL		PHONE NUMBER 510 295 1650	FAX NUMBER		CONSULTANT CONTRACT NUMBER	
BP CONTACT SCOTT HOOTEN		BP ADDRESS		PHONE NUMBER	FAX NO.	
LAB CONTACT JIM DYES		LABORATORY ADDRESS 11 DIGITAL DR. NOVATO		PHONE NUMBER	CONTRACT # F973482	
SAMPLED BY (Please Print Name) DAN BIRCH		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE 2-14-94	SHIPMENT METHOD Peace Courier	

TAT 24 Hours 48 Hours 1 Week Standard 2 Weeks

ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	NONE	NONE	NONE	NONE	COMMENTS
			NO.	TYPE (VOL.)	LAB SAMPLE #	TPH GAS TEST	EPA 601	pH Dual	TGC SSTD BP	
MW-1	2/11/94	W	8	VoA	24642.3	X	X	X	X	
MW-2	↓	W	3	VoA	24643.1	X				
MW-3					24644.0	X				
AW-4					24645.8	X				
AW-5					24646.6	X				
AW-6					24647.4	X				
QC-1					24648.2	X				
QC-2 ⊗			2		24649.0	X				

REI INQUIRED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
<i>[Signature]</i> Bts ALISTO	2/14/94	1507	Donald Jharshi Pace	2/14/94	1507	⊗ QC-2 Voas are preserve. Per label SB 2/15
Donald Jharshi Pace	2/14/94	1615	Sonda Romones-Pace	2/14/94	1615	



Pink - Lab
Blue - Consultant Field Staff

10/3, B/S