BP OIL

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

September 26, 1994

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

RE: BP OIL FACILITY #11116
7194 Village Parkway
Dublin CA

Dear Ms. Juliette Shin:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED AUGUST 29, 1994** for the above referenced facility.

If you should have any questions regarding this site, I may be reached at (206) 251-0689.

Respectfully,

Scott T. Hooton
Environmental Resources Management
Group Leader

STH:mu msword\ERM11116

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

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

Mr Larry Silva, TOSCO Northwest, 601 Union Street, Suite 2500, Seattle WA 98101

Site File

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-017-03-001

① Send letter that BP's explanation why add'l investigation not needed is not acceptable and wp due w/in 45 days.

② Also want add'l info on drawdown test. How much GW purged before it went dry, etc.

③ Pumping has been done on MW-6 - what is volume removed - when was this done.

Prepared for:

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

Prepared by:

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

August 29, 1994

William Howell
Project Manager

Dan Salaices
Registered Geologist

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-017-03-001

August 29, 1994

INTRODUCTION

This report presents the results and findings of the May 17 and June 20, 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 ; and Shell Oil Company service station, 7194 Amador Valley Boulevard. Groundwater monitoring was performed on May 27, 1994 for the Arco Products Company service station, 7249 Village Parkway. 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)	DO (ppm)	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	326.89	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-1	05/17/94	335.17	8.17	327.00	---	---	---	---	---	---	---	---	---	---
MW-1	06/20/94	335.17	8.37	326.80	---	---	---	---	---	---	---	---	---	---
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	326.48	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-2	05/17/94	334.58	7.71	326.87	---	---	---	---	---	---	---	---	---	---
MW-2	06/20/94	334.58	7.93	326.65	---	---	---	---	---	---	---	---	---	---

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)	DO (ppm)	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
MW-3	05/17/94	335.13	8.34	326.79	---	---	---	---	---	---	---	---	---	---
MW-3	06/20/94	335.13	7.45	327.68	---	---	---	---	---	---	---	---	---	---
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
AW-4	05/17/94	333.41	6.54	326.87	---	---	---	---	---	---	---	---	---	---
AW-4	06/20/94	333.41	5.70	327.71	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	2.0	PACE

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)	DO (ppm)	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-5	05/17/94	334.81	8.16	326.65	---	---	---	---	---	---	---	---	---	---
AW-5	06/20/94	334.81	8.26	326.55	1300	---	0.9	ND<0.5	0.5	2 2	---	---	2.5	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
AW 6	05/17/94	334.90	7.68	327.22	---	---	---	---	---	---	---	---	---	---
AW-6	06/20/94	334.90	7.82	327.08	42000	---	2700	1300	1900	9100	---	---	2.1	PACE
QC-1 (e)	06/20/94	---	---	---	41000	---	2800	1400	1900	8900	---	---	---	PACE

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)	DO (ppm)	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
QC-2 (f)	06/20/94	---	---	---	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
DO	Dissolved oxygen
ppb	Parts per billion
ppm	Parts per million
ND	Not detected above reported detection limit
---	Not applicable/analyzed/measured
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.

I:\0000\01\017\11WQ2

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-1	05/17/94	336.07	9.26	326.81
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-2	05/17/94	336.78	9.31	327.47
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-3	05/17/94	336.98	9.49	327.49
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
MW-4	05/17/94	336.43	9.63	326.80
MW-5	02/11/94	—	—	—
MW-5	05/17/94	335.96	9.24	326.72

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.

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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-1	05/17/94	334.83	7.96	326.87
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-2	05/17/94	336.96	10.29	326.67
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-3	05/17/94	336.93	9.92	327.01
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-4	05/17/94	337.14	10.30	326.84
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-5	05/17/94	334.96	8.12	326.84
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-6	05/17/94	335.42	8.58	326.84
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
MW-7	05/17/94	333.23	6.06	327.17

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

AUSTO 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-8		05/17/94	335.80	8.21	327.59
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-9		05/17/94	334.57	8.06	326.51
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-11		05/17/94	334.20	7.61	326.59
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-12		05/17/94	332.53	6.80	325.73
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
MW-13		05/17/94	335.64	8.62	327.02
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	—
RW-1	(d)	05/17/94	—	9.29	—

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 inaccessable 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-1	05/27/94	336.56	10.40	326.16
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-2	05/27/94	334.80	8.51	326.29
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-3	05/27/94	335.53	9.51	326.02
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-4	05/27/94	334.22	7.83	326.39
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-5	05/27/94	335.87	9.60	326.27
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
MW-6	05/27/94	335.84	9.69	326.15

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

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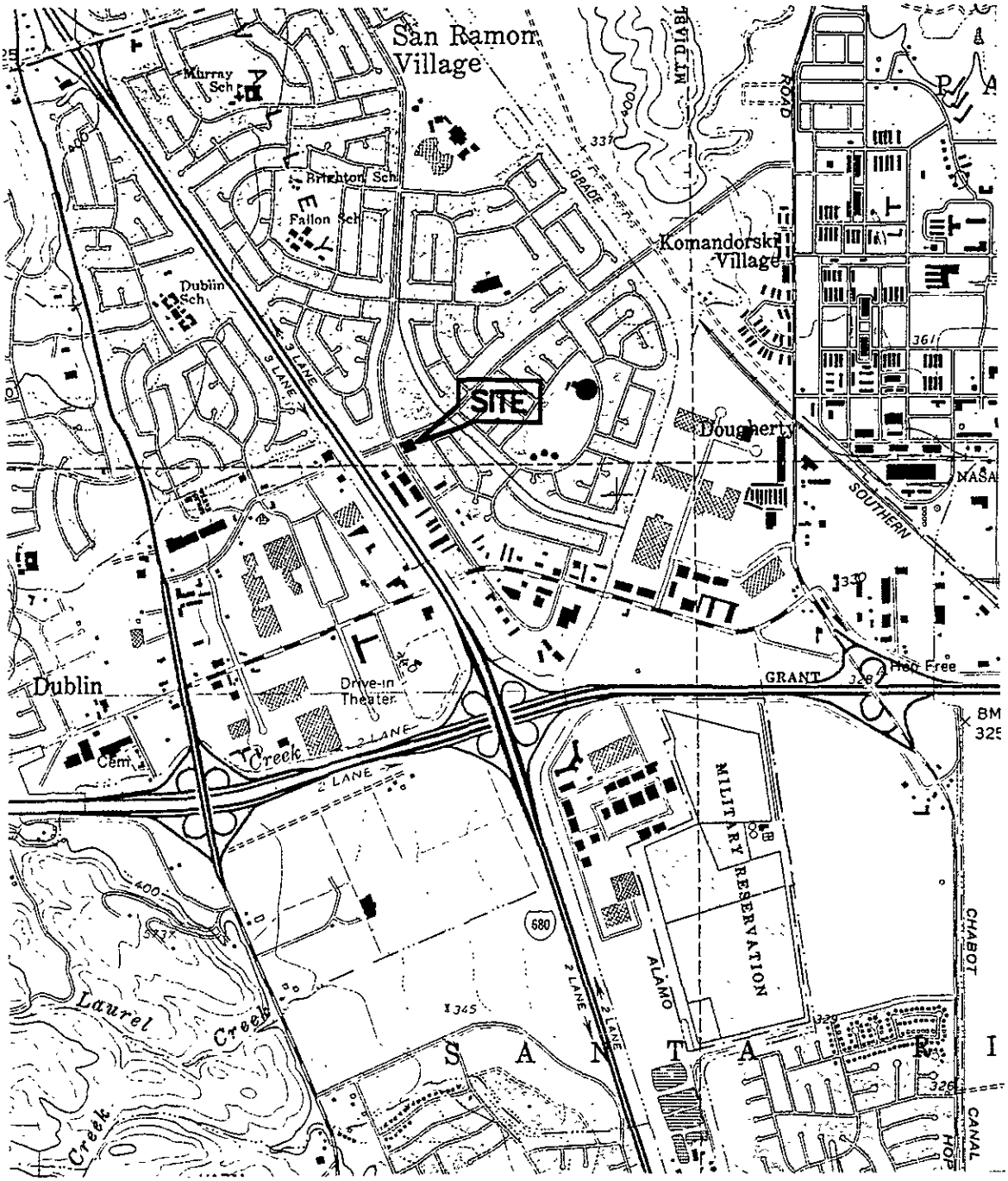

SOURCE:
USGS MAP, DUBLIN QUADRANGLE,
CALIFORNIA, 7.5 MINUTE SERIES. 1961.
PHOTOREVISED 1980

N

0 1000' 2000'

FIGURE 1

SITE VICINITY MAP

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

PROJECT NO. 10-017

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP
GROUNDWATER MONITORING

Client: BP
Alisto Project No: 10-017-03-001
Service Station No: 11116

Date: 5/17/94
Field Personnel: DC
Site Address: Dublin

FIELD ACTIVITY: Tagging Only

✓ Groundwater Monitoring
___Groundwater Sampling
___Well Development

QUALITY CONTROL SAMPLES:

___ QC-1 Sample Duplicate (Well ID)
___ QC-2 Trip Blank
___ QC-3 Rinsate Blank

Well ID	Well Diam	Order Measured/ Sampled	Total Depth	Depth to Water	Depth to Product	Product Thick-ness	Comments
MW1	2"	1	25.90	8.17			looks as if that was the way it needs new christy box
MW2	↓	2	25.70	7.71			
MW3	↓	3	25.44	8.34			
AW-4	4"	4	32.24	6.54			6.5 feet in front of rod fence in front of Driveway of [illegible]
AW-5	↓	5	33.14	8.16			replaced box
AW-6	↓	6	16.81	7.68			replaced lock

Notes:

looks as if whole christy box was pulled up in order to sample last quarter

AW-4 christy box lid is cracked by one of the bolt areas (needs new lid)

FORM: FS2/121592

MPDS-UN5366-02
Page 1 of 9

TABLE 1

SUMMARY OF MONITORING DATA
UNOCAL MONITORING WELLS

Well #	Ground Water Elevation (feet)	Depth to Water (feet)♦	Product Thickness (feet)	Sheen	Water Purged (gallons)	Total Well Depth (feet)♦
		(Monitored and Sampled on May 17, 1994)				
MW1	336.07	326.81	9.26	0	No	8	19.50
MW2*	336.78	327.47	9.31	0	--	0	19.26
MW3*	336.98	327.49	9.49	0	--	0	18.94
MW4*	336.43	326.80	9.63	0	--	0	19.44
MW5	335.96	326.72	9.24	0	No	8	20.00
		(Monitored and Sampled on February 11, 1994)				
MW1		326.35	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		326.33	10.10	0	No	6.5	19.40
MW5		325.88	10.08	0	No	7	19.96
		(Monitored and Sampled on November 11, 1993)				
MW1		325.90	10.17	0	No	7	
MW2*		326.27	10.51	0	--	0	
MW3*		326.34	10.64	0	--	0	
MW4*		325.95	10.48	0	--	0	
		(Monitored and Sampled on August 12, 1993)				
MW1		326.16	9.91	0	No	6.5	
MW2*		326.67	10.11	0	--	0	
MW3*		326.64	10.34	0	--	0	
MW4*		326.11	10.32	0	--	0	

* Monitored only.

WELL GAUGING DATA

Project # 940517-L1 Date 5/17/94 Client SHELL WIC# 204 2217 0105

Site 7194 AMADOR VALLEY BLVD, DUBLIN, CA

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
c MW-1	4					7.96	25.10	TOC
MW-2	4					10.29	24.50	↓
MW-3	4					9.92	24.22	↓
MW-4	4					10.30	24.70	↓
MW-5	4					8.12	44.68	↓
- MW-6	4	ODOR				8.58	22.88	↓
- MW-7	4					6.06	16.40	↓
c MW-8	4					8.21	16.13	↓
- MW-9	4					8.06	17.80	↓
c - MW-11	4					7.61	16.38	↓
- MW-12	4					6.80	17.12	↓
c - MW-13	4	ODOR				8.62	17.00	↓
RW-1	6					9.29	30.94	↓

statusdict begin letter end

FIELD REPORT

Depth To Water / Floating Product Survey

Site Arrival Time: _____

Site Departure Time: _____

Weather Conditions: _____

Monthly DTW's

DTW. Well Box or Well Casing (circle one)

Project No.: _____ **Location:** 7249 Village Parkway **Date:** 6/27/94

Client / Station#: A60041 **Field Technician:** Vince / Cisco **Day of Week:** MONDAY

DTW ORDER	WELL ID	SURFACE SEAL	LID SECURE	GASKET	LOCK	EXPANDING CAP	TOTAL DEPTH (Feet)	FIRST DEPTH TO WATER (Feet)	SECOND DEPTH TO WATER (Feet)	DEPTH TO FLOATING PRODUCT (Feet)	FLOATING PRODUCT THICKNESS (Feet)	SHEEN (Y = YES, N = NO)	COMMENTS	MATERIALS
5	MW-1	OK	yes	OK	OK	OK	N/A	10.40+	10.40+	N/A	N/A	N	4"	15/16
4	MW-2	OK	yes	OK	OK	OK	N/A	8.51	8.51	N/A	N/A	N	4"	15/16
6	MW-3	OK	yes	OK	OK	OK	N/A	9.51	9.51	N/A	N/A	N	4"	15/16
1	MW-4	OK	yes	OK	OK	OK	N/A	7.83	7.83	N/A	N/A	N	4"	15/16
2	MW-5	OK	yes	OK	OK	OK	N/A	9.60+	9.60+	N/A	N/A	N	4"	15/16
3	MW-6	OK	yes	OK	OK	OK	N/A	9.69-	9.69-	N/A	N/A	N	4" H2O in Well Box	15/16

use joint data
from 5/17/94
for contour map

ALISTO ENGINEERING GROUP
GROUNDWATER MONITORING

Client: BP
Alisto Project No: 10-017-03/001
Service Station No: 11116

Date: 6/20/94
Field Personnel: CB/CER
Site Address: Dublin, Ca

FIELD ACTIVITY:

X Groundwater Monitoring
X Groundwater Sampling
__ Well Development

QUALITY CONTROL SAMPLES:

AW-6 X QC-1 Sample Duplicate (Well ID) S-4 ✓
X QC-2 Trip Blank S-5
__ QC-3 Rinsate Blank

Well ID	Well Diam	Order Measured/ Sampled	Total Depth	Depth to Water	Depth to Product	Product Thick-ness	Comments Sample #
AW-6	4"	1	16.51	7.82	Ø	Ø	S-3
AW-5	4"	2	32.92	8.26	Ø	Ø	S-2
MW-2	2"	3	NM	7.93	Ø	Ø	
MW-1	2"	4	↓	8.37	Ø	Ø	~~S-4~~
AW-4	4"	5	32.24	5.70	Ø	Ø	S-1
MW-3	2"	6	NM	7.45	Ø	Ø	

Notes:

FORM: FS2/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-017-3-1
Service Station No: 11116

Date: 6/20/94
Field Personnel: CB
Address: Dublin, Ca

Well ID: AW-4 Field Activity: __Well Development X Well Sampling __Product Bailing

Casing Diameter:
__2 Inch (0.16 Gal/foot)
__3 Inch (0.37 Gal/foot)
X 4 Inch (0.65 Gal/Foot)
__4.5 Inch (0.83 Gal/foot)
__6 Inch (1.47 Gal/foot)

Purge Method:
X Pump (dispos. Poly Tubing)
__Disposable Bailers
__Other
__1.66 PVC Standard Bailer
__3.50 PVC Standard Bailer

Well Data:
Ø Depth to Product
Ø Product Thickness
5.70 Depth to Water

Sampling Method:
X Disposable Bailer
__Pump

Decontamination Method:
X Triple Rinse (Liquinox)
__Steam Cleaned

Calculated Purge Volume

32.24 (Total Depth of Well) - 5.70 (Depth to Water) = 26.54 ft (Water Column) X .65 Gal/Ft (Conversion Factor) = 17.25 Gal (Casing Vol) X 3 (Vols to Purge) = 51.75 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv.
1200	72.2	7.10	4470		Clear	X TPH-G/BTEX	VOA	HCL
	71.3	6.91	4520			TPH-Diesel	Amber Liter	Solvent Rinsed
	70.4	6.87	4500			EPA 601	VOA	
	70.0	6.79	4460			TOG 5520BF	Amber Liter	H_2SO_4
1220	69.9	6.72	4460					

D.O 2.3 Begin
(PPM) 2.0 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-017-3-1
Service Station No: 11116

Date: 6/20/94
Field Personnel: KCB
Address: Dublin, Ca

Well ID: MW-5 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:
___2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
X 4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:
X Pump (dispos. Poly Tubing)
___Disposable Bailers
___Other
___1.66 PVC Standard Bailer
___3.50 PVC Standard Bailer

Well Data:
0 Depth to Product
0 Product Thickness
8.26 Depth to Water

Sampling Method:
X Disposable Bailer
___Pump

Decontamination Method:
X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

32.92 (Total Depth of Well) - 8.26 (Depth to Water) = 24.66 ft (Water Column) X .65 Gal/Ft (Conversion Factor) = 16.03 Gal (Casing Vol) X 3 (Vols to Purge) = 48.09 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required		Container Type	Preserv.
1235	72.0	6.79	2170	10	Clear	X	TPH-G/BTEX	VOA	HCL
	70.6	6.76	2170	20			TPH-Diesel	Amber Liter	Solvent Rinsed
	69.9	6.79	2150	30			EPA 601	VOA	
	70.1	6.63	2120	40			TOG 5520BF	Amber Liter	H_2SO_4
1310	69.9	6.60	2110	48.25	↓				

D O_2 Begin 2.5
PPM End 2.5

FORM-FS3/021592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-017-3-1
Service Station No: _____

Date: 6/20/94
Field Personnel: TCB
Address: Dublin, Ca

Well ID: AW-6 Field Activity: ___Well Development Y Well Sampling ___Product Bailing

Casing Diameter:

___2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
X 4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

X Pump (dispos. Poly Tubing)
___Disposable Bailers
___Other
___1.66 PVC Standard Bailer
___3.50 PVC Standard Bailer

Well Data:

0 Depth to Product
0 Product Thickness
7.82 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

16.51 (Total Depth of Well) - 7.82 (Depth to Water) = 8.69 ft (Water Column) X .65 Gal/Ft (Conversion Factor) = 5.65 Gal (Casing Vol) X 3 (Vols to Purge) = 16.95 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv.
1330	69.6	6.38	790	3	Clear	X TPH-G/BTEX	VOA	HCL
	68.9	6.46	850	7		TPH-Diesel	Amber Liter	Solvent Rinsed
	68.6	6.53	860	10		EPA 601	VOA	
	69.4	6.41	830	13		TOG 5520BF	Amber Liter	H_2SO_4
1400	69	6.44	810	17	↓			

QC-1 Dup taken From this well

D O2 (PPM) 1 8 Sign
2 1 E.J

FORM: FS3/121592

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

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

June 29, 1994
PACE Project Number: 440622520

Attn: Mr. Bill Howell

Client Reference: BP Site #11116/10-017

PACE Sample Number:			70 0345456	
Date Collected:			06/20/94	
Date Received:			06/22/94	
Client Sample ID:			S-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/24/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/24/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/24/94
Benzene	ug/L	0.5	ND	06/24/94
Toluene	ug/L	0.5	ND	06/24/94
Ethylbenzene	ug/L	0.5	ND	06/24/94
Xylenes, Total	ug/L	0.5	ND	06/24/94

11 Digital Drive
Novato CA 94949
TEL 415 883 6100
FAX 415 883 2673

Mr. Bill Howell
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June 29, 1994
PACE Project Number: 440622520

Client Reference: BP Site #11116/10-017

PACE Sample Number:			70 0345464	
Date Collected:			06/20/94	
Date Received:			06/22/94	
Client Sample ID:			S-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/27/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	500	1300	06/27/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/27/94
Benzene	ug/L	0.5	0.9	06/27/94
Toluene	ug/L	0.5	ND	06/27/94
Ethylbenzene	ug/L	0.5	0.5	06/27/94
Xylenes, Total	ug/L	0.5	2.2	06/27/94

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Mr. Bill Howell
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June 29, 1994
PACE Project Number: 440622520

Client Reference: BP Site #11116/10-017

PACE Sample Number:			70 0345472	
Date Collected:			06/20/94	
Date Received:			06/22/94	
Client Sample ID:			S-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/24/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	1200	42000	06/24/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/24/94
Benzene	ug/L	12	2700	06/24/94
Toluene	ug/L	12	1300	06/24/94
Ethylbenzene	ug/L	12	1900	06/24/94
Xylenes, Total	ug/L	12	9100	06/24/94

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REPORT OF LABORATORY ANALYSIS

June 29, 1994
PACE Project Number: 440622520

Client Reference: BP Site #11116/10-017

PACE Sample Number:			70 0345480	
Date Collected:			06/20/94	
Date Received:			06/22/94	
Client Sample ID:			S-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/24/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	1200	41000	06/24/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/24/94
Benzene	ug/L	12	2800	06/24/94
Toluene	ug/L	12	1400	06/24/94
Ethylbenzene	ug/L	12	1900	06/24/94
Xylenes, Total	ug/L	12	8900	06/24/94

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REPORT OF LABORATORY ANALYSIS

June 29, 1994
PACE Project Number: 440622520

Client Reference: BP Site #11116/10-017

PACE Sample Number:			70 0345499	
Date Collected:			06/20/94	
Date Received:			06/22/94	
Client Sample ID:			S-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/24/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/24/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/24/94
Benzene	ug/L	0.5	ND	06/24/94
Toluene	ug/L	0.5	ND	06/24/94
Ethylbenzene	ug/L	0.5	ND	06/24/94
Xylenes, Total	ug/L	0.5	ND	06/24/94

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

11 Digital Drive
Novato CA 94949
TEL. 415 883 6100
FAX 415 883 2573

Mr. Bill Howell | FOOTNOTES | June 29, 1994
Page 6 | for pages 1 through 5 | PACE Project Number: 440622520

Client Reference: BP Site #11116/10-017

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

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Mr. Bill Howell
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QUALITY CONTROL DATA

June 29, 1994
PACE Project Number: 440622520

Client Reference: BP Site #11116/10-017

PURGEABLE FUELS AND AROMATICS
Batch: 70 31564
Samples: 70 0345456, 70 0345472, 70 0345480, 70 0345499

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	700344557	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	96%	98%	2%
Toluene	ug/L	0.5	ND	100	96%	97%	1%
Ethylbenzene	ug/L	0.5	ND	100	96%	97%	1%
Xylenes, Total	ug/L	0.5	ND	300	96%	97%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	104%	110%	6%
Toluene	ug/L	0.5	100	100%	107%	7%
Ethylbenzene	ug/L	0.5	100	100%	93%	7%
Xylenes, Total	ug/L	0.5	300	101%	92%	9%

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Mr. Bill Howell
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QUALITY CONTROL DATA

June 29, 1994
PACE Project Number: 440622520

Client Reference: BP Site #11116/10-017

PURGEABLE FUELS AND AROMATICS
Batch: 70 31604
Samples: 70 0345464

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	700344557	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	96%	98%	2%
Toluene	ug/L	0.5	ND	100	96%	97%	1%
Ethylbenzene	ug/L	0.5	ND	100	96%	97%	1%
Xylenes, Total	ug/L	0.5	ND	300	96%	97%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	104%	110%	6%
Toluene	ug/L	0.5	100	100%	107%	7%
Ethylbenzene	ug/L	0.5	100	100%	93%	7%
Xylenes, Total	ug/L	0.5	300	101%	92%	9%

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Mr. Bill Howell
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FOOTNOTES
for pages 7 through 8

June 29, 1994
PACE Project Number: 440622520

Client Reference: BP Site #11116/10-017

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

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440622.520

BP

CHAIN OF CUSTODY

No. 053038 Page 1 of 1

CONSULTANT'S NAME: Alisto Engineering	ADDRESS: 1777 Oakland Blvd #200		CITY: Walnut Creek		STATE: Ca	ZIP CODE: 94596
BP SITE NUMBER: 11116	BP CORNER ADDRESS/CITY: Dublin, Ca				CONSULTANT PROJECT NUMBER: ~~F973490~~ 10-017-3	
CONSULTANT PROJECT MANAGER: Bill Howell	PHONE NUMBER: (510) 295-1650		FAX NUMBER: 295-1823		CONSULTANT CONTRACT NUMBER: F973490	
BP CONTACT: Scott Hooton	BP ADDRESS: Renton, WA		PHONE NUMBER:		FAX NO.:	
LAB CONTACT: Pace	LABORATORY ADDRESS: Novato, Ca		PHONE NUMBER: (415) 883-6100		FAX NO: 883-2673	
SAMPLED BY (Please Print Name): Larry Buenavida	SAMPLED BY (Signature): [signature]	SHIPMENT DATE:			SHIPMENT METHOD: Courier	
					AIRBILL NUMBER:	

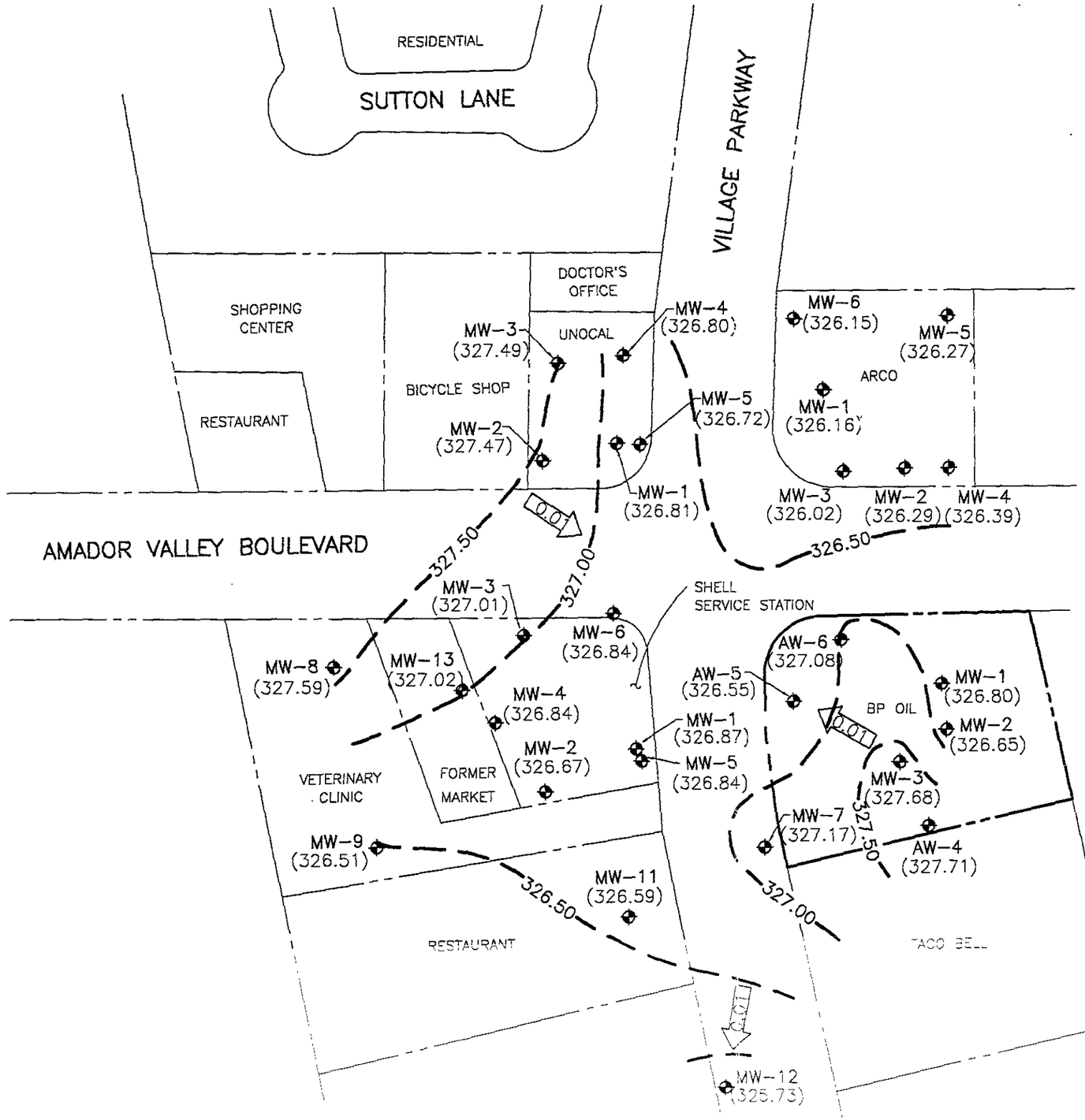
TAT: [ ] 24 Hours [ ] 48 Hours [ ] 1 Week [X] Standard 2 Weeks

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	TPH-G/BTEX 8020										COMMENTS
S-1	6/20/94	W	3	HCL VOAS	34545.6	X										
S-2	↓	↓	↓	↓	34546.4	↓										
S-3	↓	↓	↓	↓	34547.2	↓										
S-4	↓	↓	↓	↓	34548.0	↓										
S-5	↓	↓	2	↓	34549.9	↓										

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
[signature]	6/22/94	1635	[signature] - Pace	6/22/4	1635	10/2
[signature], Pace	6/22/4	1810	[signature] / PACE	6/22	1810	

Distribution: White - Original (with Data) Pink - Lab
Yellow - BP Blue - Consultant Field Staff



LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (326.16) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 326.50 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.50 FOOT)
- 0.01 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

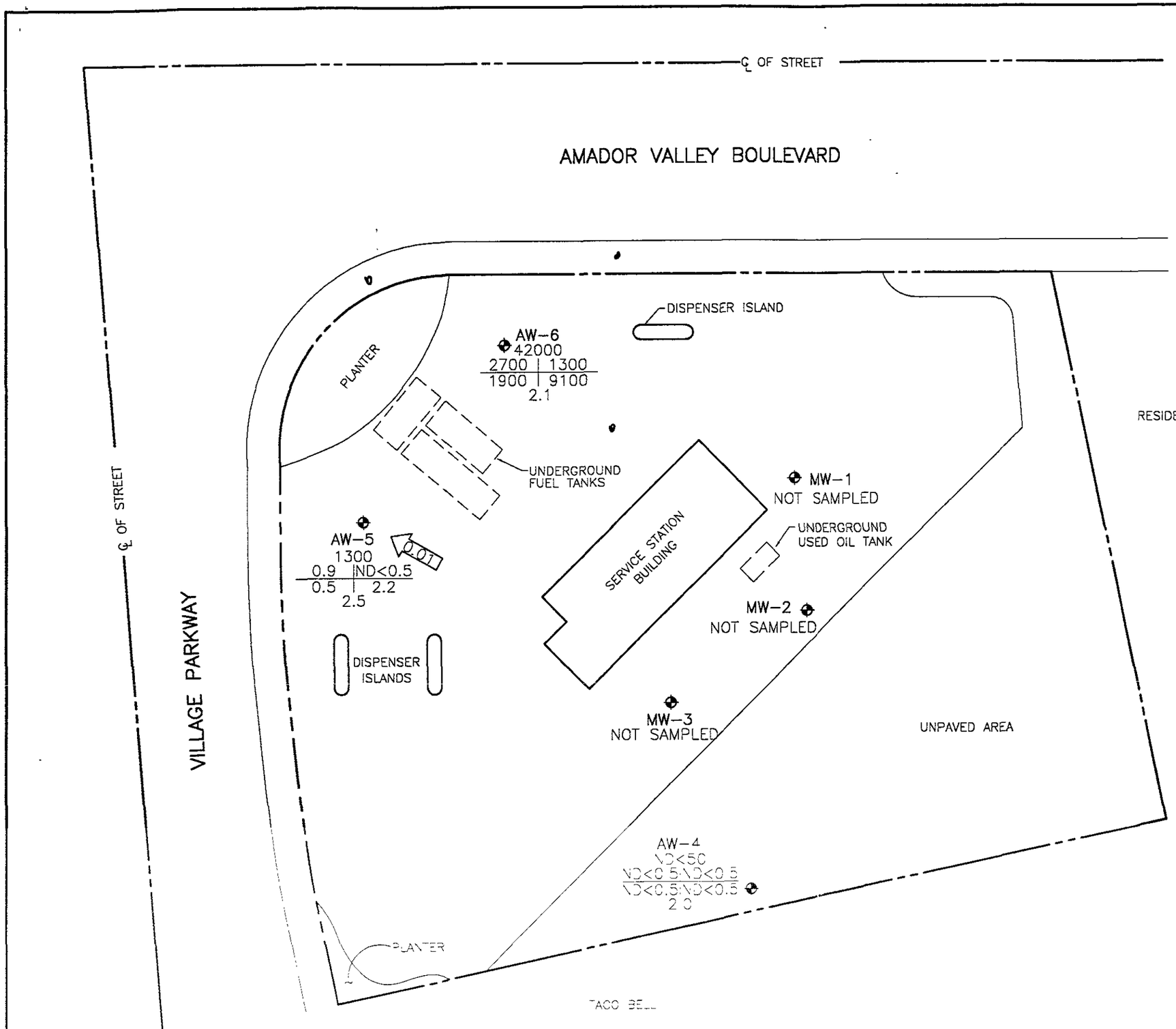
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

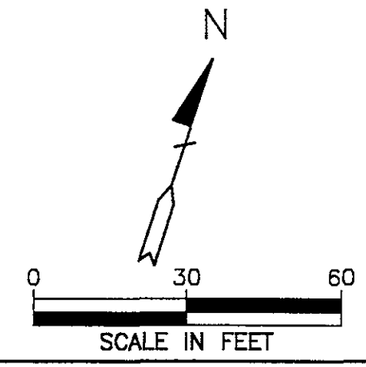
MAY 17 & 27 AND JUNE 20, 1994

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

PROJECT NO. 10–017

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA





LEGEND

◆	GROUNDWATER MONITORING WELL
TPH-G / B | T / E | X / DO	CONCENTRATION OF CONSTITUENTS IN PARTS PER BILLION, EXCEPT DISSOLVED OXYGEN, WHICH IS IN PARTS PER MILLION
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
DO	DISSOLVED OXYGEN
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
⟵ 0.01	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

JUNE 20, 1994

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

PROJECT NO. 10-017

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA