

**QUARTERLY GROUND WATER
MONITORING AND SAMPLING REPORT**

for

**Mobil Oil Corporation
Former Mobil Station 04-KNK
7197 Village Parkway
Dublin, California**

Project No. 30-0095

Prepared for:

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April 28, 1992

(S16) 734-8134

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**Former Mobil Station 04-KNK
7197 Village Parkway
Dublin, California**

April 28, 1992

INTRODUCTION

This report presents the results of the February 1992 quarterly ground water monitoring and sampling event performed by Alton Geoscience at former Mobil Station 04-KNK, 7197 Village Parkway, Dublin, California. The site vicinity map is shown in Figure 1.

SITE DESCRIPTION AND BACKGROUND

The property is currently an operating BP Oil Company service station on the southeast corner of the intersection of Amador Valley Boulevard and Village Parkway, Dublin, California. BP Oil, Arco Products, and Unocal Oil Company service stations occupy three of the four corners of the intersection; the southwest corner, presently an Oil Changers facility, was formerly occupied by a Shell Oil Company station (Figure 2). Monitoring Wells MW-1, MW-2, and MW-3 were installed by Kaprealian Engineering, Inc. in August 1989; Monitoring Wells AW-4, AW-5, and AW-6 were installed by Alton Geoscience in January 1991. In November 1989 Alton Geoscience was retained by Mobil Oil Corporation to conduct regular quarterly monitoring and sampling.

To gain a better understanding of the hydrogeologic conditions in the area, ground water monitoring at the former Mobil Oil site has been conducted, concurrently with monitoring of wells installed to investigate ground water quality at the former Shell and existing Unocal service stations, since November 1991.

Both hydrocarbon-affected soil and ground water were reported at the former Shell site according to a report submitted by Ensco Environmental Services, Inc. dated June 12, 1988. The project background is presented in Appendix A.

FIELD PROCEDURES

On February 25, 1992, ground water Monitoring Wells MW-1, MW-2, MW-3, AW-4, AW-5, and AW-6 were monitored and sampled. Ground water samples were collected

for laboratory analysis of total petroleum hydrocarbons as gasoline (TPH-G), TPH as diesel (TPH-D), total oil and grease (TOG), and halogenated volatile organic compounds (HVOC).

Ground water level monitoring was conducted to determine the ground water gradient direction and magnitude (Figure 3). A summary of the ground water level monitoring data for the former Mobil Station, the former Shell station, and the existing Unocal Oil Company site is summarized in Table 1.

Monitoring and sampling was performed in accordance with the guidelines of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) and the Alameda County Health Agency (ACHA). A summary of Alton Geoscience's general field procedures for ground water monitoring and sampling is presented in Appendix B.

DISCUSSION OF RESULTS

Results of the February 1992 ground water monitoring and sampling event, as well as previous monitoring and sampling events performed by Alton Geoscience, are summarized below. Official laboratory reports and chain of custody records are presented in Appendix C. Analytical data from this and previous studies is summarized in Table 2.

- No free product or sheen has ever been observed in any of the monitoring wells.
- Average depth to ground water as measured on February 25, 1992, was approximately 7.9 feet below ground surface (bgs). This elevation is approximately 1.8 feet higher than the elevation estimated from the November, 1991, monitoring and sampling event (Table 2).
- Ground water gradient direction was estimated using February 1992 monitoring data at the Mobil Oil, Shell, and Unocal sites (Table 1). The direction of the ground water gradient is predominantly to the east at approximately 0.005 foot per foot (Figure 3). Mounding of ground water and gradient reversal at the former Mobil site probably reflects infiltration of rain water through the large unpaved area on the southeastern portion of the property and the adjacent residential area (Figure 2).
- Analysis of ground water samples collected during the February 1992 sampling event detected TPH-G and benzene only in AW-6 at concentrations of 19,000 and 8,000 ppb. These results were substantially higher than during any previous sampling event (Table 2). A confirmation sample was collected from AW-6 on March 5, 1992; TPH-G and benzene concentrations were detected at 14,000 and 5,200 ppb. Due to the concern that these results may represent a significant

change in ground water quality since the November 1991 sampling event, a second confirmation sample was collected on April 15, 1992. TPH-G and benzene concentrations were detected at 1,100 and 400 ppb.

- As in the preceding two sampling events, TOG, TPH-D, and HVOCs were not detected in the ground water samples collected from Monitoring Wells MW-1, MW-2, or MW-3 in the vicinity of the former waste oil tank.

CONCLUSIONS

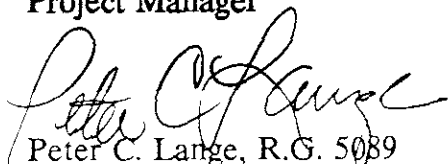
Monitoring Well AW-6 is constructed in a shallower water bearing zone not encountered in the other monitoring wells onsite. Historically, AW-6 contained concentrations of TPH-G less than 200 ppb. Although the source of the recent, relatively elevated concentrations of TPH-G in ground water has not been determined, there are three possibilities:

- The results may indicate a recent tank or product line release from an onsite source.
- Dissolved-phase hydrocarbons may have migrated from an offsite upgradient source. In shallow ground water conditions, such as those present in the site vicinity, the location of underground utility trenches may expedite migration of dissolved-phase hydrocarbons.
- The results could reflect a contribution from soil associated with a seasonal rise in ground water (Figure 4). However, as shown in Figure 4, a similar rise in ground water elevation during May 1991 did not correspond to a rise in TPH-G or benzene concentrations. Furthermore, neither TPH-G nor benzene were detected in the soil sample collected during installation of AW-6 at 6.5 feet bgs.

ALTON GEOSCIENCE

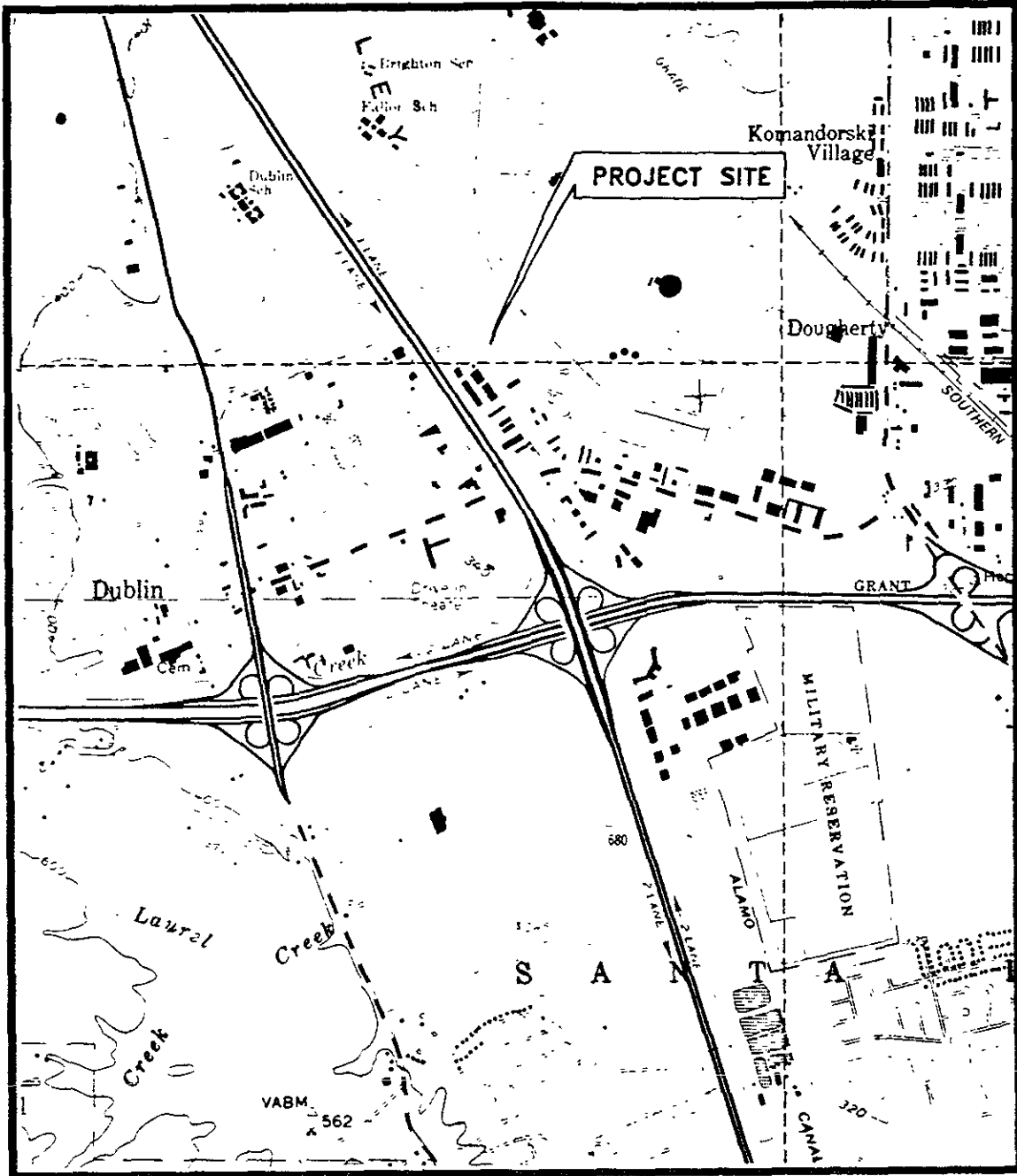


Gerald H. Nieder-Westermann
Project Manager



Peter C. Lange, R.G. 5089
Associate, Northern California Operations

FIGURES



0 1,000 2,000



SCALE IN FEET

Source: U.S.G.S. Map,
Dublin Quadrangle
California
7.5 Minute Series (Topographic)

SITE VICINITY MAP

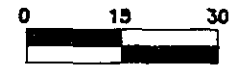
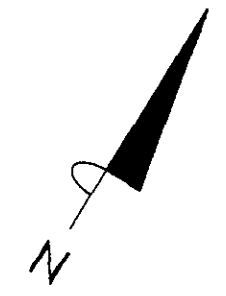
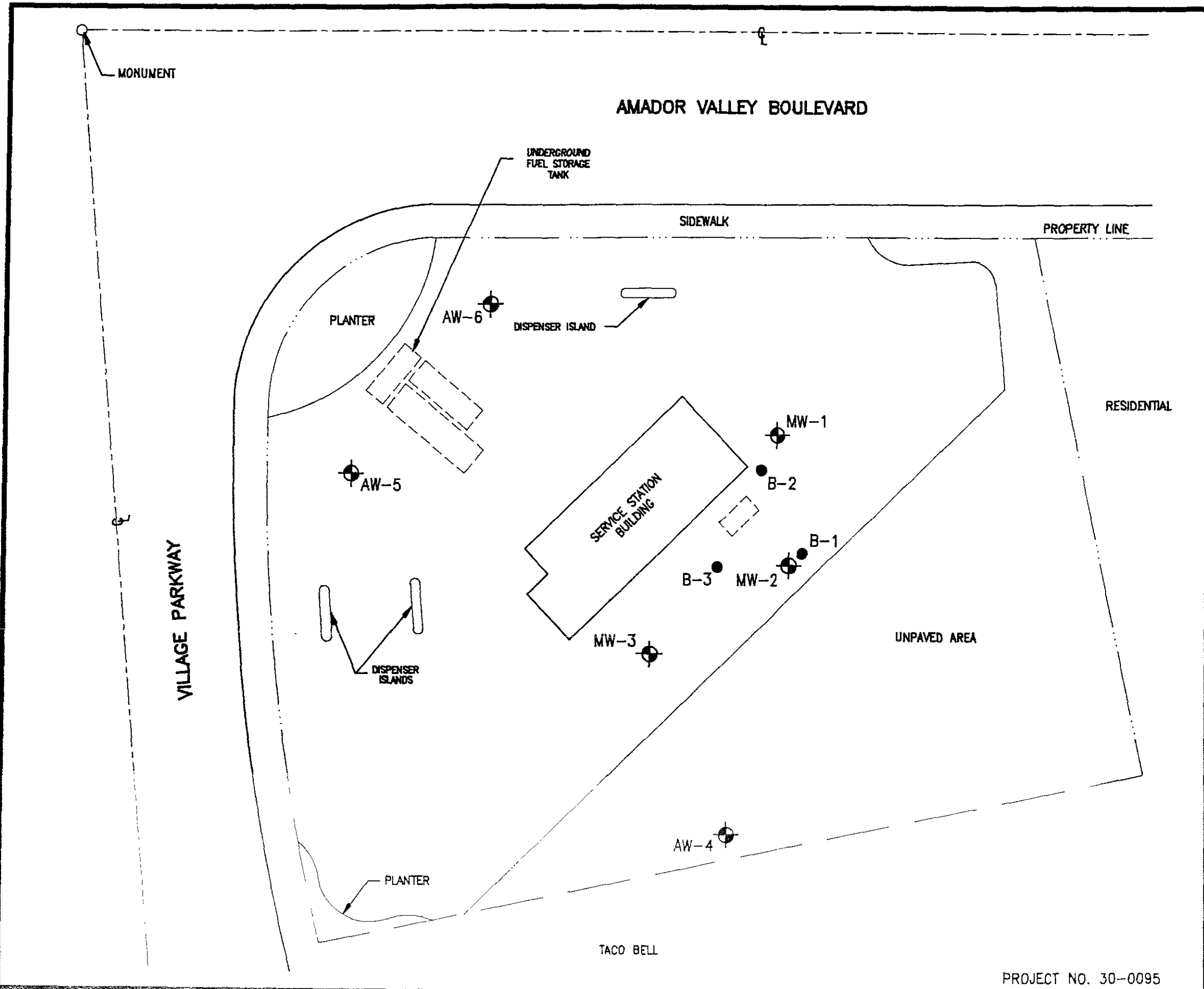
Former Mobil Station 04-KNK
7197 Village Parkway
Dublin, California



ALTON GEOSCIENCE
Pleasanton, California

PROJECT NO. 30-0095

FIGURE 1



APPROXIMATE SCALE IN FEET

LEGEND:



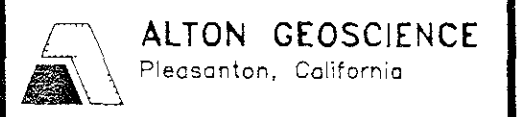
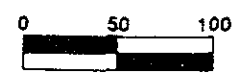
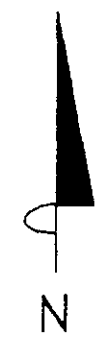
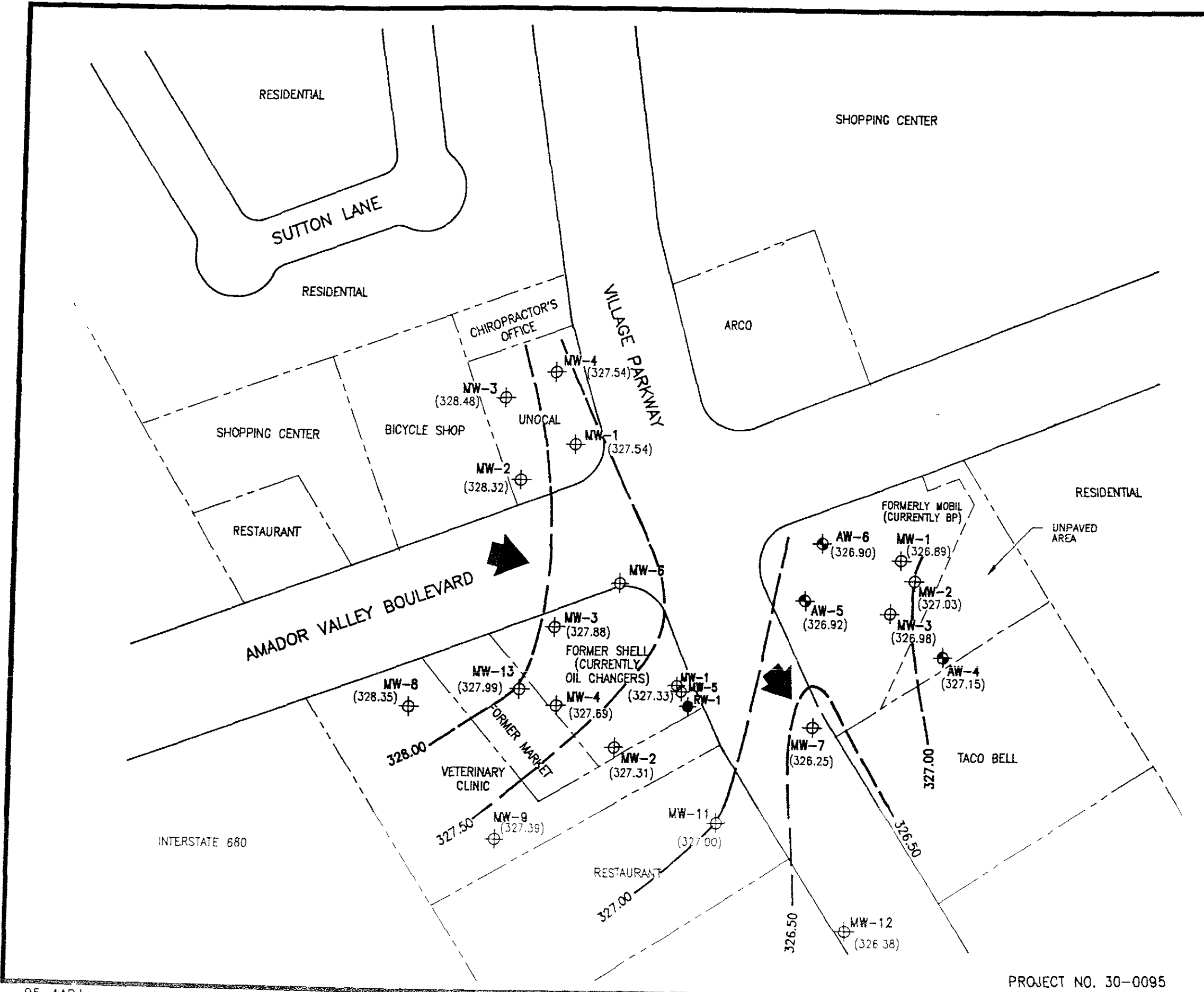
-  MONITORING WELL
-  SOIL BORING

FIGURE 2: SITE PLAN

FORMER MOBIL STATION 04-KNK
 7197 VILLAGE PARKWAY
 DUBLIN, CALIFORNIA



PROJECT NO. 30-0095



APPROXIMATE SCALE IN FEET

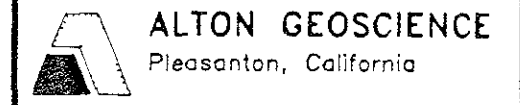
LEGEND:

- GROUND WATER MONITORING WELL INSTALLED BY ALTON GEOSCIENCE
- GROUND WATER MONITORING WELL INSTALLED BY OTHERS
- RECOVERY WELL
- (328.35) GROUND WATER ELEVATION
- 327.50 GROUND WATER ELEVATION CONTOUR LINE
- GENERAL DIRECTION OF GROUND WATER GRADIENT

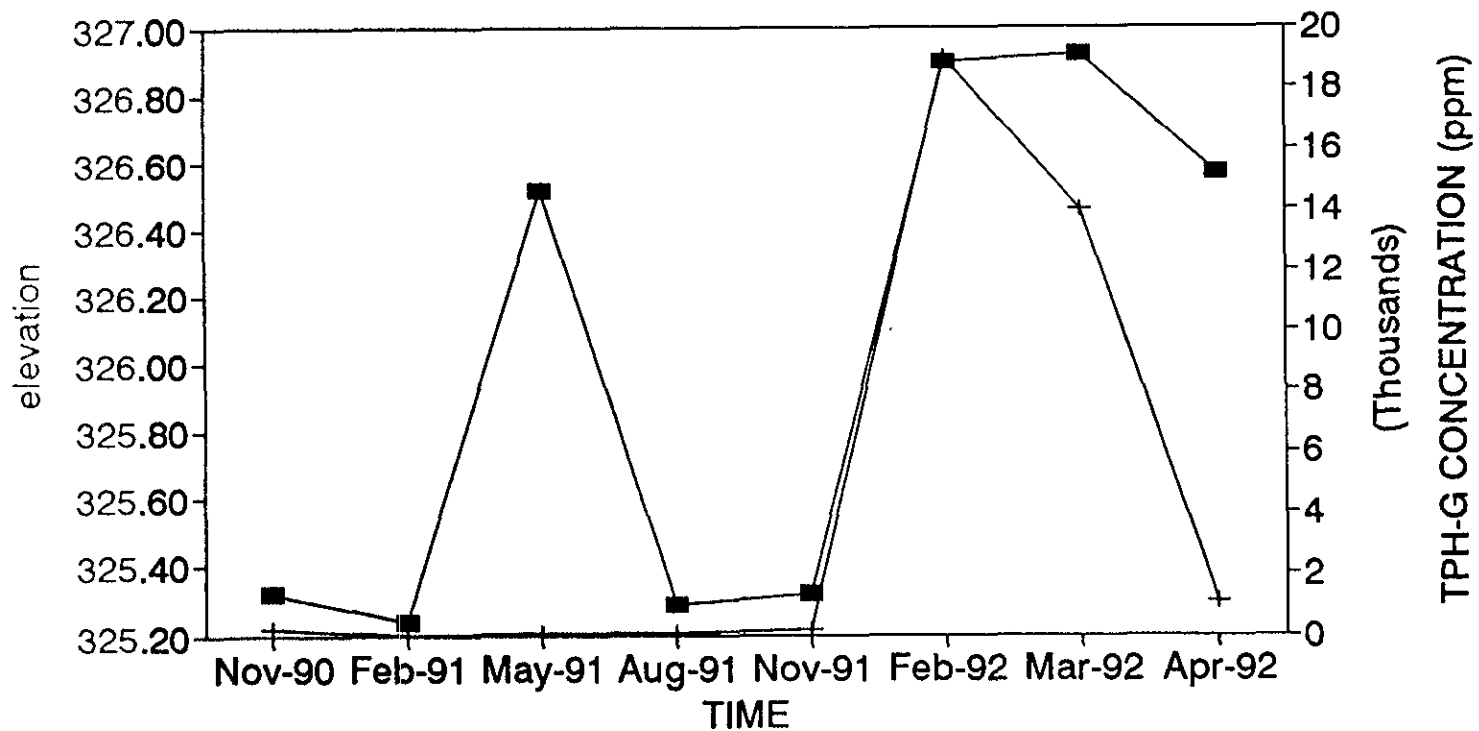
- NOTE:
1. ALL STRUCTURE & WELL LOCATIONS ARE APPROXIMATE.
 2. GROUND WATER ELEVATIONS FOR MW-5 & MW-6 WERE NOT USED DUE TO ANOMALOUS WATER LEVEL READINGS.
 3. RW-1 WAS NOT MEASURED.

FIGURE 3: GROUND WATER ELEVATION MAP

FORMER MOBIL STATION 04-KNK
7197 VILLAGE PARKWAY
DUBLIN, CALIFORNIA



PROJECT NO. 30-0095



—■— Elevation —+— TPH-G

**GROUND WATER ELEVATIONS AND
TPH-G CONCENTRATIONS OVER TIME
FOR MONITORING WELL AW-6**

Former Mobil Station 04-KNK
7197 Village Parkway, California



ALTON GEOSCIENCE
Pleasanton, California

PROJECT NO. 30-0095

FIGURE 4

TABLES

TABLE 1

**SUMMARY OF SURVEY AND WATER LEVEL MONITORING
FEBRUARY 25, 1992**

Former Mobil Station 04-KNK

WELL ID	TOP OF CASING ELEVATION	DEPTH TO GROUND WATER	GROUND WATER ELEVATION
MW-1	335.17	8.28	326.89
MW-2	334.58	7.55	327.03
MW-3	335.13	8.15	326.98
AW-4	333.41	6.26	327.15
AW-5	334.81	7.89	326.92
AW-6	334.90	8.00	326.90

Unocal Oil Company

WELL ID	CENTERLINE OF WELL COVER ELEVATION	DEPTH TO GROUND WATER	GROUND WATER ELEVATION
MW-1	336.72	9.18	327.54
MW-2	337.36	9.04	328.32
MW-3	337.53	9.05	328.48
MW-4	337.00	9.46	327.54

TABLE 1 (continued)

**SUMMARY OF SURVEY AND WATER LEVEL MONITORING
FEBRUARY 25, 1992**

Former Shell Oil Company

WELL ID	TOP OF CASING ELEVATION	DEPTH TO GROUND WATER	GROUND WATER ELEVATION
MW-1	334.83	7.50	327.33
MW-2	336.96	9.65	327.31
MW-3	336.93	9.05	327.88
MW-4	337.14	9.45	327.69
MW-5	334.96	9.02	325.94
MW-6	335.42	8.44	326.98
MW-7	333.23	6.98	326.25
MW-8	335.80	7.45	328.35
MW-9	334.57	7.18	327.39
MW-10 (DESTROYED)	---	---	---
MW-11	334.20	7.20	327.00
MW-12	332.53	6.15	326.38
MW-13	335.64	7.65	327.99
RW-1 (RECOVERY WELL)	336.19	---	---

--- :Not applicable / not measured

TABLE 2

Summary of Results of Ground Water Monitoring and Sampling
Former Mobil Station 04-KNK
7197 Village Parkway
Dublin, California

Concentration in parts per billion (ppb)

WELL ID	DATE OF SAMPLING	TOP OF CASING ELEVATION	DEPTH TO WATER (FEET)	GROUND WATER ELEVATION	TPH-G	TPH-D	TOG	B	T	E	X	HVOC	LAB
MW-1	10/12/90	335.17	9.92	325.25	ND<50	ND<50	ND<5000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND#	AI
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	--	AI
MW-1	12/11/90	335.17	9.97	325.20	--	--	--	--	--	--	--	--	NA
MW-1	02/15/91	335.17	9.89	325.28	ND<50	50*	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	41*	SAL
MW-1	05/14/91	335.17	8.43	326.74	ND<50	ND<50	7500	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SAL
MW-1	08/23/91	335.17	9.98	325.19	ND<50	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	AI
MW-1	11/13/91	335.17	10.09	325.08	ND<30	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SEQ
MW-1	02/25/92	335.17	8.28	326.89	ND<30	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SEQ
MW-1	04/15/92	335.17	8.50	326.67	--	--	--	--	--	--	--	--	NA
MW-2	09/06/89	334.58	9.04	325.54	ND<50	ND<50	8100	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SEQ
MW-2	10/12/90	334.58	9.60	324.98	93	ND<50	ND<5000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND#	AI
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	--	AI
MW-2	12/11/90	334.58	9.47	325.11	--	--	--	--	--	--	--	--	NA
MW-2	02/15/91	334.58	9.28	325.30	ND<50	60**	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	45*	SAL
MW-2	05/14/91	334.58	7.74	326.84	130**	ND<50	6000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SAL
MW-2	08/23/91	334.58	9.81	324.77	ND<50	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	AI
MW-2	11/13/91	334.58	9.73	324.85	ND<30	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SEQ
MW-2	02/25/92	334.58	7.55	327.03	ND<30	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SEQ
MW-2	04/15/92	334.58	8.00	326.58	--	--	--	--	--	--	--	--	NA
MW-3	09/06/89	335.13	8.90	326.23	110	ND<50	7000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SEQ
MW-3	10/12/90	335.13	10.08	325.05	ND<50	ND<50	ND<5000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND#	AI
MW-3	11/15/90	335.13	10.12	325.01	76	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	AI
MW-3	12/11/90	335.13	9.92	325.21	--	--	--	--	--	--	--	--	NA
MW-3	02/15/90	335.13	9.84	325.29	ND<50	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SAL
MW-3	05/14/91	335.13	8.40	326.73	ND<50	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SAL
MW-3	08/23/91	335.13	10.27	324.86	ND<50	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	AI
MW-3	11/13/91	335.13	10.27	324.86	ND<30	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SEQ
MW-3	02/25/92	335.13	8.15	326.98	ND<30	ND<50	ND<5000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND#	SEQ
MW-3	04/15/92	335.13	8.63	326.50	--	--	--	--	--	--	--	--	NA

TABLE 2

Summary of Results of Ground Water Monitoring and Sampling
Former Mobil Station 04-KNK
7197 Village Parkway
Dublin, California

Concentration in parts per billion (ppb)

WELL ID	DATE OF SAMPLING	TOP OF CASING ELEVATION	DEPTH TO WATER (FEET)	GROUND WATER ELEVATION	TPH-G	TPH-D	TOG	B	T	E	X	HVOC	LAB
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	--	AI
AW-4	12/11/90	333.41	9.19	324.22	--	--	--	--	--	--	--	--	NA
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	--	SAL
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	--	SAL
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	--	AI
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	--	--	--	--	--	--	--	--	NA
AW-5	11/15/90	334.81	9.67	325.14	ND<50	--	--	1.3	ND<0.5	ND<0.5	1.0	--	AI
AW-5	12/11/90	334.81	9.44	325.37	--	--	--	--	--	--	--	--	NA
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	--	SAL
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	--	SAL
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	--	AI
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	--	--	--	--	--	--	--	--	NA
AW-6	11/15/90	334.90	9.58	325.32	230	--	--	25	ND<0.5	ND<0.5	0.8	--	AI
AW-6	12/11/90	334.90	9.58	325.32	--	--	--	--	--	--	--	--	NA
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	--	SAL
AW-6	05/14/91	334.90	8.38	326.52	90	--	--	2	ND<0.3	ND<0.3	ND<0.3	--	SAL
AW-6	08/23/91	334.90	9.61	325.29	57	--	--	ND<0.5	0.7	1.3	4.6	--	AI
AW-6	11/13/91	334.90	9.58	325.32	200	--	--	ND<0.5	0.7	1.3	4.6	--	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

TABLE 2

Summary of Results of Ground Water Monitoring and Sampling
 Former Mobil Station 04-KNK
 7197 Village Parkway
 Dublin, California

Concentration in parts per billion (ppb)

WELL ID	DATE OF SAMPLING	TOP OF CASING ELEVATION	DEPTH TO WATER (FEET)	GROUND WATER ELEVATION	TPH-G	TPH-D	TOG	B	T	E	X	HVOC	LAB
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Explanation of Abbreviations:

TPH-G	:Total Petroleum Hydrocarbons as Gasoline	*	:Methylene Chloride	AI	:Anametrix, Inc.
		**	:Typical chromatogram patterns not present	SAL	:Superior Analytical Lab.
TPH-D	:Total Petroleum Hydrocarbons as Diesel	ND	:Not detected at or above method detection limit	SEQ	:Sequoia Analytical
TOG	:Total Recoverable Petroleum Hydrocarbons as Oil and Grease	ND#	:Not detectable at various detection limits		
HVOC	:Halogenated Volatile Organic Compounds	NA	:Not available/not applicable		
B	:Benzene	---	:Not measured/not analyzed		
T	:Toluene				
E	:Ethylbenzene				
X	:Total Xylenes				

NOTE: Top of casing elevations for all wells was surveyed relative to City of Dublin monument in the intersection of Village Parkway and Amador Valley Boulevard, with an elevation of 335.92 feet above mean sea level (NGVD-1929).

APPENDIX A
PROJECT BACKGROUND

APPENDIX A

PROJECT BACKGROUND

December 1988: On December 7, 1988, a 280-gallon, single-walled, steel waste oil tank was removed from the site. Several holes up to 3/8-inch-diameter were observed in the tank. Analysis of Soil Samples WO-1 and WO-2 collected from the cavity of the former waste oil tank at 10 and 18 feet below ground surface (bgs) detected up to 550 parts per million (ppm) total oil and grease (TOG). Between December 15 and 20, 1988, additional soil was excavated laterally from 1 to 6 feet into the tank pit sidewalls to a depth of approximately 11 feet bgs. Analysis of soil samples collected from the limits of excavation detected up to 79 ppm TOG.

August 1989: Three monitoring wells (MW-1, MW-2, and MW-3) were installed at the site to assess the extent of hydrocarbons in the soil and ground water onsite. The highest concentrations of hydrocarbons were detected in MW-2 at 10 feet bgs: 4,000 ppm TOG, 36 ppm total petroleum hydrocarbons as diesel (TPH-D), and 17 ppm total petroleum hydrocarbons as gasoline (TPH-G).

September 1989: Initial analysis of ground water samples collected the monitoring wells MW-1, MW-2, and MW-3 detected up to 110 parts per billion (ppb) TPH-G (MW-3), 140 ppb TPH-D (MW-1), and 8,100 ppb TOG (MW-2).

January 1990: Alton Geoscience completed a site investigation to assess the extent of hydrocarbons in ground water at the site. Three additional ground water monitoring wells were installed onsite (AW-4, AW-5, and AW-6). TPH-G was detected only in AW-5 at 6 feet bgs (6.0 ppm). Additionally, three soil borings (B-1, B-2, and B-3) were drilled in the vicinity of the replaced waste oil tank to assess the extent of adsorbed-phase hydrocarbons. Analytical analysis showed no detectable concentrations of hydrocarbons from these borings. Subsequent analysis of ground water samples collected from the monitoring wells detected concentrations of TPH-G in MW-2 (October 12, 1990) at 93 ppb, MW-3 (November 15, 1990) at 76 ppb, and AW-6 (November 15, 1990) at 230 ppb.

November 13, 1991: A joint ground water monitoring program with the consultants for two adjacent sites was initiated; former Shell Oil Company and existing Unocal Oil Company. The former Shell service station is located across Village Parkway and southwest of the former Mobil Oil service station (see Figure 3). The existing Unocal service station is located across the intersection of Village Parkway and Amador Valley Boulevard and west of the former Mobil Oil service station. The top of the monitoring well casings at the sites were surveyed in reference to the Alameda County bench mark stamped "VL PK AM VY, 1977", located in the intersection of Village Parkway and Amador Valley Boulevard, with an elevation of 337.402 feet above mean sea level.

APPENDIX B
MONITORING WELL SAMPLING PROCEDURES
AND FIELD SURVEY FORMS

APPENDIX B

MONITORING WELL SAMPLING PROCEDURES AND FIELD SURVEY FORMS

Prior to sampling, monitoring wells were purged of 3 to 4 casing volumes of ground water and pH, temperature, and electroconductivity parameters stabilized. Ground water samples were collected by lowering a 2-inch-diameter, bottom-fill, disposable polyethylene bailer below the air/water interface in the well. The samples were carefully transferred from the bailer to zero-headspace, 40-milliliter, and 1-liter glass containers fitted with Teflon-sealed caps. All 40-milliliter samples were inverted to ensure that entrapped air was not present. Each sample was labeled with sample number, well number, sample date, and geologist's initials. The samples remained on ice prior to and during transport to a California-certified laboratory for analysis. The samples were handled in accordance with proper chain of custody documentation.

BIRCH TECHNICAL SERVICES
 116 LIBERTY STREET
 SANTA CRUZ, CALIFORNIA
 (408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: MW-1
 Well Type: Monitor Extraction Other: _____
 Well Material: PVC Steel Other: _____
 Sampled By: Don Birch

Job Number: 30-95-01
 Location: FORMER MOBILE 10-KNK
 Date: 2-25-97

WELL PURGING

PURGE VOLUME

Casing Diameter (ID in inches): _____
 2" 4" 6" Other _____
 Total Depth of Well (BOW) 25.90
 Water level: 8.28 Time: 9:53
 Well Volumes To Be Purged: 3

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	0.6528
4.5	0.826
6.0	1.469

Purge Volume:

$$\frac{25.90}{\text{total depth}} - \frac{8.28}{\text{water level}} = 17.62 \times 0.163 = 2.9 \times 3 = 9 \text{ gallons}$$
 Well Vol. Fac. # of vol. to purge calculated purge volume

PURGE TIME

ACTUAL VOLUME PURGED

12:40 Start 12:54 Stop 14 Elapsed 9 gallons

PURGE METHOD

Honda Pump Disp. Bailer Dedicated Pump Other _____

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)	MV	Turbidity (NTU)
0	12:40	68.9	6.83	9.10		
2	12:44	67.6	6.74	8.80		
4	12:47	67.4	6.77	8.93		
6	12:51	67.4	6.77	8.90		
9	12:54	67.5	6.77	8.91		
Meter Serial	Numbers =	#	#	#	#	#

SAMPLES COLLECTED INCLUDING QC SAMPLES

SAMPLING METHOD:

Time Sampled: 1:00

Disp. Bailer Bladder Pump Other _____

COMMENTS:

Replaced lock, cleaned rim

ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 8010			
TPH (Gas, + BTEX METALS)	3	VOAS	Hcl
TPH-D 3510/8015	2	Amber	
TOG 5520 DF	2	Amber	H2SO4
EPA 601	3	VOAS	Hcl

BIRCH TECHNICAL SERVICES
 116 LIBERTY STREET
 SANTA CRUZ, CALIFORNIA
 (408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: MW-2

Well Type: Monitor Extraction Other: _____

Well Material: PVC Steel Other: _____

Sampled By: Dan Birch

Job Number: 30-95-01

Location: FORMER MOBILE 10-KNK

Date: 2-25-97

WELL PURGING

PURGE VOLUME

Casing Diameter (ID in inches):
 2" 4" 6" Other _____

Total Depth of Well (BOW) 25.70'

Water level: 7.55 Time: 9:50

Well Volumes To Be Purged: 3

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3872
4.0	0.6528
4.5	0.826
6.0	1.469

Purge Volume:

$$\frac{25.70'}{\text{total depth}} - \frac{7.55'}{\text{water level}} = 18.15' \times 0.163 = 2.9 \times 3 = 9 \text{ gallons}$$
Well Vol. Fac. # of vol to purge calculated purge volume

PURGE TIME

1:37 Start 1:55 Stop 18 Elapsed

ACTUAL VOLUME PURGED

9 gallons

PURGE METHOD

Honda Pump Disp. Bailor Dedicated Pump Other _____

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond (umhos/cm)	MV	Turbidity (NTU)
0	1:37	68.9	6.92	10.44		
2	1:41	68.4	6.87	10.31		
4	1:44	68.7	6.83	10.28		
6	1:49	68.4	6.83	10.28		
9	1:55	68.4	6.83	10.28		
Meter Serial	Numbers =	#	#	#	#	#

SAMPLES COLLECTED INCLUDING QC SAMPLES

SAMPLING METHOD:

Time Sampled: 2:00

Disp. Bailor Bladder Pump Other _____

COMMENTS:

Replaced the lock, cleaned the seal.

ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 8010			
TPH (Gas) + BTEX	3		Hcl
METALS			
TPH-D 3510/8015	2		
TOG 5520 DF	2		H2SO4
EPA 601	3		Hcl

BIRCH TECHNICAL SERVICES
 116 LIBERTY STREET
 SANTA CRUZ, CALIFORNIA
 (408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: MW-3

Well Type: Monitor Extraction Other: _____

Well Material: PVC Steel Other: _____

Sampled By: Dan Birch

Job Number: 30-95-01

Location: FORMER MOBILE 10-KNK

Date: 2-25-92

WELL PURGING

PURGE VOLUME

Casing Diameter (ID in inches):
 2" 4" 6" Other _____

Total Depth of Well (BOW) 25.44'

Water level: 8.15' Time: 9:40

Well Volumes To Be Purged: 3

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	0.6528
4.5	0.826
6.0	1.469

Purge Volume:

$$\frac{25.44'}{\text{total depth}} - \frac{8.15'}{\text{water level}} = 17.29 \times 0.16 = 2.8 \times 3 = 8.3 \text{ gallons}$$

Well Vol. Fac # of vol. to purge calculated purge volume

PURGE TIME

11:30 Start 11:50 Stop 20 Elapsed

ACTUAL VOLUME PURGED

9 gallons

PURGE METHOD

Honda Pump ^{Disp.} Bailor Dedicated Pump Other _____

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)	MV	Turbidity (NTU)
0	11:30	70.4	6.71	10.85		
2	11:37	69.6	6.71	10.00		
4	11:40	69.9	6.71	9.97		
6	11:45	69.4	6.72	9.87		
9	11:50	69.4	6.72	9.88		
Meter Serial	Numbers =	#	#	#	#	#

SAMPLES COLLECTED INCLUDING QC SAMPLES

SAMPLING METHOD:

Time Sampled: 12:00

^{Disp.} Bailor Bladder Pump Other _____

COMMENTS:

Replaced lock, cleaned seal.

ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 8010			
TPH (Gas) + BTEX	3	VOA's	Hcl
METALS			
TOG EPA 5520 DF	2	Amber	H ₂ SO ₄
TPH-D 3510/8015	2	Amber	
EPA 601	3	VOA's	Hcl

BIRCH TECHNICAL SERVICES
 116 LIBERTY STREET
 SANTA CRUZ, CALIFORNIA
 (408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: AW-4

Job Number: 30-95-01
 Location: FORMER MOBILE 10-KNK
 Date: 2-25-97

Well Type: Monitor Extraction Other: _____
 Well Material: PVC Steel Other: _____
 Sampled By: Dan Birch

WELL PURGING

PURGE VOLUME

Casing Diameter (ID in inches): _____
 2" 4" 6" Other: _____

Total Depth of Well (BOW) 34.24'

Water level: 6.26' Time: 9:45

Well Volumes To Be Purged: _____

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	<u>0.6528</u>
4.5	0.826
6.0	1.469

Purge Volume:

$$\frac{34.24'}{\text{total depth}} - \frac{6.26}{\text{water level}} = \frac{27.98}{\text{Well Vol. Fac.}} \times \frac{.65}{\text{# of vol. to purge}} = \frac{18.2}{\text{calculated purge volume}} \times \frac{3}{\text{gallons}} = \frac{55}{\text{gallons}}$$

PURGE TIME

2:33 Start 3:15 Stop 42 Elapsed

ACTUAL VOLUME PURGED

55 gallons

PURGE METHOD

Honda Pump ~~TEFLON~~ Bailor Dedicated Pump Other: _____

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)	MV	Turbidity (NTU)
0	2:33	67.5	7.54	5.56		
20	2:45	67.9	7.31	7.03		
30	2:50	68.3	7.27	7.72		
40	3:00	68.0	7.25	7.92		
55	3:15	68.1	7.23	7.87		
Meter Serial	Numbers =	#	#	#	#	#

SAMPLES COLLECTED INCLUDING QC SAMPLES

SAMPLING METHOD:

Time Sampled: 3:20

DISP. Bailor Bladder Pump Other: _____

COMMENTS:

Replaced 4" plug and lock cleaned seal.

ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 8010			
TPH (Gas + BTEX METALS)	3	VOA's	H ₂ O

BIRCH TECHNICAL SERVICES
 116 LIBERTY STREET
 SANTA CRUZ, CALIFORNIA
 (408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: AW-5

Well Type: Monitor Extraction Other: _____

Well Material: PVC Steel Other: _____

Sampled By: Dan Birch

Job Number: 30-95-01

Location: FORMER MOBILE 10-KNK

Date: 2-25-97

WELL PURGING

PURGE VOLUME

Casing Diameter(ID in inches):
 2" 4" 6" Other _____

Total Depth of Well (BOW) 33.14

Water level: 7.89 Time: 10:01

Well Volumes To Be Purged: 3

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	<u>0.6528</u>
4.5	0.826
6.0	1.469

Purge Volume:

$$\frac{33.14}{\text{total depth}} - \frac{7.89}{\text{water level}} = 25.25 \times \frac{.65}{\text{Well Vol. Fac.}} = 16.4 \times \frac{3}{\text{\# of vol. to purge}} = \frac{49.23}{\text{calculated purge volume}} \text{ gallons}$$

PURGE TIME

4:10 Start 5:00 Stop 50 Elapsed

ACTUAL VOLUME PURGED

50 gallons

PURGE METHOD

Honda Pump TEFLON Bailor Dedicated Pump Other _____

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)	M V	Turbidity (NTU)
0	4:10	68.2	7.12	2.15		
20	4:25	69.3	7.16	2.92		
30	4:35	69.1	7.16	4.34		
40	4:45	69.3	7.18	4.29		
50	5:00	69.1	7.16	4.61		
Meter Serial	Numbers =	#	#	#	#	#

SAMPLES COLLECTED INCLUDING QC SAMPLES

SAMPLING METHOD:

Time Sampled: 5:05

Disp. Bailor Bladder Pump Other _____

COMMENTS:

ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 801C			
TP- (Gas) + BTEX METALS	3	VOA	HCl

BIRCH TECHNICAL SERVICES
 116 LIBERTY STREET
 SANTA CRUZ, CALIFORNIA
 (408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: AW-6

Well Type: Monitor Extraction Other: _____

Well Material: PVC Steel Other: _____

Sampled By: DAN BIRCH

Job Number: 30-0095-01
TASK 3
 Location: FORMER MOBIL 10-KNK
 Date: 3-5-92

WELL PURGING

PURGE VOLUME

Casing Diameter(ID in inches): _____
 2" 4" 6" Other _____

Total Depth of Well (BOW) _____

Water level: 7.98' Time: 4:45

Well Volumes To Be Purged: 3

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	<u>0.6528</u>
4.5	0.826
6.0	1.469

Purge Volume:

$$\frac{16.81'}{\text{Total depth}} - \frac{7.98'}{\text{water level}} = 8.83 \times \frac{.652}{\text{Well Vol. Fac.}} = 5.76 \times \frac{3}{\text{\# of vol. to purge}} = \frac{17.3}{\text{calculated purge volume}} \text{ gallons}$$

PURGE TIME

4:50 Start 5:08 Stop 18 Elapsed

ACTUAL VOLUME PURGED

18 gallons

PURGE METHOD

Honda Pump Bailer Dedicated Pump Other _____

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp C	pH	Cond. (umhos/cm)	MV	Turbidity (NTU)
0	4:54	65.4	6.73	2.78		
5	4:56	65.3	6.76	2.50		
10	4:59	65.5	6.82	2.47		
15	5:03	65.5	6.80	2.33		
18	5:08	65.5	6.80	2.30		
Meter Serial	Numbers = #	#	#	#	#	#

SAMPLES COLLECTED INCLUDING QC SAMPLES

SAMPLING METHOD:

Time Sampled: 5:15

Bailer Bladder Pump Other _____

COMMENTS: No product or sheen observed in first bailer of water. Strong odor coming from well - casing and purge water.

ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 8010			
TP- (Gas) + BTEX METALS	3	VDA's	Itel

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

WELL # AW-6 PROJECT # 30-095-01 LOCATION Dublin DATE 4-15-92
 SAMPLING TEAM Jon VAIL SAMPLING METHOD: BAILER PUMP
 DECONTAMINATION METHOD: TRIPLE RINSE W/ ^{Liquinex} AND DEIONIZED WATER
 STEAM CLEAN

WELL DATA:

DEPTH TO WATER 8.33 ft
 TOTAL DEPTH 16.75 ft
 HT. WATER COL 8.42 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
<u>4 in</u>	<u>X0.65</u>
6 in	X1.44

Volume of Water Column 5.47 gal
 Volumes to Purge X 3 Vol
 Total Volume to Purge 16.5 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Turbidity ↓	Comments	Volume (gal)
73.0	6.13	6.77	1258			0-2
71.4	3.05	6.86	1301			2-5
70.3	3.34	6.83	1306			5-9.5
69.3	2.66	6.93	1309			9.5-13.5
68.6	2.60	6.89	1312			13.5-16.5
68.1	2.87	6.87	1314			At 16.5

PURGE: 1258

SAMPLE: 1318

ACTUAL VOLUME PURGED 16.5 gal

COMMENTS:

Purge Method: Bailer Pump

0-1.5 gallons clear
 1.5-16.5 gallons light gray-brown

APPENDIX C

**ANALYTICAL METHODS, OFFICIAL LABORATORY REPORTS, AND
CHAIN OF CUSTODY RECORDS**

APPENDIX C

ANALYTICAL METHODS, OFFICIAL LABORATORY REPORTS, AND CHAIN OF CUSTODY RECORDS

This appendix includes copies of the official laboratory reports and chain of custody records for soil and ground water samples selected for laboratory analysis.

All laboratory analyses were performed by Sequoia Analytical, a California-certified laboratory (California Certification Number 1271).

All chemical analyses of soil and ground water samples were performed using standard methods of the United States Environmental Protection Agency (EPA) and the California Department of Health Services (Cal-DHS).

Chain of custody protocol was followed for all samples. The chain of custody form(s) accompanies the samples from the sampling locality to the laboratory, providing a continuous record of possession prior to actual analysis.



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL
Matrix Descript: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 202-4195

Sampled: Feb 25, 1992
Received: Feb 26, 1992
Analyzed: 2/28, 3/2/92
Reported: Mar 4, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P.	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl	Xylenes µg/L (ppb)
		Hydrocarbons µg/L (ppb)			Benzene µg/L (ppb)	
202-4195	MW-1	N.D.	N.D.	N.D.	N.D.	N.D.
202-4196	MW-2	N.D.	N.D.	N.D.	N.D.	N.D.
202-4197	MW-3	N.D.	N.D.	N.D.	N.D.	N.D.
202-4198	AW-4	N.D.	N.D.	N.D.	N.D.	N.D.
202-4199	AW-5	N.D.	N.D.	N.D.	N.D.	N.D.

Detection Limits:

30

0.30

0.30

0.30

0.30

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard
Analytes reported as N.D. were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Marta Lee
Marta Lee
Project Manager



SEQUOIA ANALYTICAL

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Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL
Matrix Descript: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 202-4200

Sampled: Feb 25, 1992
Received: Feb 26, 1992
Analyzed: Mar 1, 1992
Reported: Mar 4, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P.	Benzene	Toluene	Ethyl	Xylenes
		Hydrocarbons			Benzene	
		$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)
202-4200	AW-6	19,000	8,000	4,700	600	2,400

Detection Limits:	6,000	60	60	60	60
-------------------	-------	----	----	----	----

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard. Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL
Matrix Descript: Water
Analysis Method: EPA 3510/8015
First Sample #: 202-4195

Sampled: Feb 25, 1992
Received: Feb 26, 1992
Extracted: Feb 27, 1992
Analyzed: Mar 2, 1992
Reported: Mar 4, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons $\mu\text{g/L}$ (ppb)
202-4195	MW-1	N.D.
202-4196	MW-2	N.D.
202-4197	MW-3	N.D.

Detection Limits:

50

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard
Analytes reported as N.D. were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



SEQUOIA ANALYTICAL

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Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL
Matrix Descript: Water
Analysis Method: SM 5520 B&F (Gravimetric)
First Sample #: 202-4195

Sampled: Feb 25, 1992
Received: Feb 26, 1992
Extracted: Feb 28, 1992
Analyzed: Feb 28, 1992
Reported: Mar 4, 1992

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)
202-4195	MW-1	N.D.
202-4196	MW-2	N.D.
202-4197	MW-3	N.D.

Detection Limits:

5.0

Analytes reported as N D were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Marla Lee
Marla Lee
Project Manager

2024195 ALG <4>



SEQUOIA ANALYTICAL

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Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL
Sample Descript: Water, MW-1
Analysis Method: EPA 601
Lab Number: 202-4195

Sampled: Feb 25, 1992
Received: Feb 26, 1992
Analyzed: Mar 2, 1992
Reported: Mar 4, 1992

PURGEABLE HALOCARBONS (EPA 601)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane.....	0.50	N.D.
Bromoform.....	0.50	N.D.
Bromomethane.....	0.50	N.D.
Carbon tetrachloride.....	0.50	N.D.
Chlorobenzene.....	0.50	N.D.
Chloroethane.....	0.50	N.D.
2-Chloroethylvinyl ether.....	0.50	N.D.
Chloroform.....	0.50	N.D.
Chloromethane.....	0.50	N.D.
Dibromochloromethane.....	0.50	N.D.
1,3-Dichlorobenzene.....	0.50	N.D.
1,4-Dichlorobenzene.....	0.50	N.D.
1,2-Dichlorobenzene.....	0.50	N.D.
1,1-Dichloroethane.....	0.50	N.D.
1,2-Dichloroethane.....	0.50	N.D.
1,1-Dichloroethene.....	0.50	N.D.
cis-1,2-Dichloroethene.....	0.50	N.D.
trans-1,2-Dichloroethene.....	0.50	N.D.
1,2-Dichloropropane.....	0.50	N.D.
cis-1,3-Dichloropropene.....	0.50	N.D.
trans-1,3-Dichloropropene.....	0.50	N.D.
Methylene chloride.....	5.0	N.D.
1,1,2,2-Tetrachloroethane.....	0.50	N.D.
Tetrachloroethene.....	0.50	N.D.
1,1,1-Trichloroethane.....	0.50	N.D.
1,1,2-Trichloroethane.....	0.50	N.D.
Trichloroethene.....	0.50	N.D.
Trichlorofluoromethane.....	0.50	N.D.
Vinyl chloride.....	0.50	N.D.

Analytes reported as N D were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
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Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL
Sample Descript: Water, MW-2
Analysis Method: EPA 601
Lab Number: 202-4196

Sampled: Feb 25, 1992
Received: Feb 26, 1992
Analyzed: Mar 2, 1992
Reported: Mar 4, 1992

PURGEABLE HALOCARBONS (EPA 601)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane.....	0.50	N.D.
Bromoform.....	0.50	N.D.
Bromomethane.....	0.50	N.D.
Carbon tetrachloride.....	0.50	N.D.
Chlorobenzene.....	0.50	N.D.
Chloroethane.....	0.50	N.D.
2-Chloroethylvinyl ether.....	0.50	N.D.
Chloroform.....	0.50	N.D.
Chloromethane.....	0.50	N.D.
Dibromochloromethane.....	0.50	N.D.
1,3-Dichlorobenzene.....	0.50	N.D.
1,4-Dichlorobenzene.....	0.50	N.D.
1,2-Dichlorobenzene.....	0.50	N.D.
1,1-Dichloroethane.....	0.50	N.D.
1,2-Dichloroethane.....	0.50	N.D.
1,1-Dichloroethene.....	0.50	N.D.
cis-1,2-Dichloroethene.....	0.50	N.D.
trans-1,2-Dichloroethene.....	0.50	N.D.
1,2-Dichloropropane.....	0.50	N.D.
cis-1,3-Dichloropropene.....	0.50	N.D.
trans-1,3-Dichloropropene.....	0.50	N.D.
Methylene chloride.....	5.0	N.D.
1,1,2,2-Tetrachloroethane.....	0.50	N.D.
Tetrachloroethene.....	0.50	N.D.
1,1,1-Trichloroethane.....	0.50	N.D.
1,1,2-Trichloroethane.....	0.50	N.D.
Trichloroethene.....	0.50	N.D.
Trichlorofluoromethane.....	0.50	N.D.
Vinyl chloride.....	0.50	N.D.

Analytes reported as N D were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL
Sample Descript: Water, MW-3
Analysis Method: EPA 601
Lab Number: 202-4197

Sampled: Feb 25, 1992
Received: Feb 26, 1992
Analyzed: Mar 2, 1992
Reported: Mar 4, 1992

PURGEABLE HALOCARBONS (EPA 601)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane.....	0.50	N.D.
Bromoform.....	0.50	N.D.
Bromomethane.....	0.50	N.D.
Carbon tetrachloride.....	0.50	N.D.
Chlorobenzene.....	0.50	N.D.
Chloroethane.....	0.50	N.D.
2-Chloroethylvinyl ether.....	0.50	N.D.
Chloroform.....	0.50	N.D.
Chloromethane.....	0.50	N.D.
Dibromochloromethane.....	0.50	N.D.
1,3-Dichlorobenzene.....	0.50	N.D.
1,4-Dichlorobenzene.....	0.50	N.D.
1,2-Dichlorobenzene.....	0.50	N.D.
1,1-Dichloroethane.....	0.50	N.D.
1,2-Dichloroethane.....	0.50	N.D.
1,1-Dichloroethene.....	0.50	N.D.
cis-1,2-Dichloroethene.....	0.50	N.D.
trans-1,2-Dichloroethene.....	0.50	N.D.
1,2-Dichloropropane.....	0.50	N.D.
cis-1,3-Dichloropropene.....	0.50	N.D.
trans-1,3-Dichloropropene.....	0.50	N.D.
Methylene chloride.....	5.0	N.D.
1,1,2,2-Tetrachloroethane.....	0.50	N.D.
Tetrachloroethene.....	0.50	N.D.
1,1,1-Trichloroethane.....	0.50	N.D.
1,1,2-Trichloroethane.....	0.50	N.D.
Trichloroethene.....	0.50	N.D.
Trichlorofluoromethane.....	0.50	N.D.
Vinyl chloride.....	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Maria Lee
Maria Lee
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL

QC Sample Group: 2024195-4200

Reported: Mar 4, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	L. Laikhtman	L. Laikhtman	L. Laikhtman	L. Laikhtman
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Feb 28, 1992	Feb 28, 1992	Feb 28, 1992	Feb 28, 1992
QC Sample #:	GBLK022892	GBLK022892	GBLK022892	GBLK022892
	MS/MSD	MS/MSD	MS/MSD	MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	10	10	10	30
Matrix Spike % Recovery:	100	100	100	100
Conc. Matrix Spike Dup.:	10	10	10	32
Matrix Spike Duplicate % Recovery:	100	100	100	107
Relative % Difference:	0.0	0.0	0.0	6.5

SEQUOIA ANALYTICAL

Maria Lee
Project Manager

% Recovery	$\frac{\text{Conc of MS} - \text{Conc of Sample}}{\text{Spike Conc Added}} \times 100$
Relative % Difference	$\frac{\text{Conc of MS} - \text{Conc of MSD}}{(\text{Conc of MS} + \text{Conc of MSD}) / 2} \times 100$



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
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Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL

QC Sample Group: 2024195-97

Reported: Mar 4, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel	Total Recoverable Petroleum Oil	1,1-Dichloro- ethene	Trichloro- ethene	Chloro- benzene
	Method:	EPA 8015	SM 5520 B & F	EPA 601	EPA 601
Analyst:	M. Tran	A. Do	L. Duong	L. Duong	L. Duong
Reporting Units:	µg/L	mg/L	µg/L	µg/L	µg/L
Date Analyzed:	Mar 2, 1992	Feb 25, 1992	Mar 2, 1992	Mar 2, 1992	Mar 2, 1992
QC Sample #:	DBLK022792	BLK022592	BLK030292	BLK030292	BLK030292
			MS/MSD	MS/MSD	MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	300	60	25	25	25
Conc. Matrix Spike:	230	55	19	23	18
Matrix Spike % Recovery:	77	92	76	92	72
Conc. Matrix Spike Dup.:	240	58	20	24	20
Matrix Spike Duplicate % Recovery:	80	97	80	96	80
Relative % Difference:	4.0	5.3	5.1	4.2	11

SEQUOIA ANALYTICAL

Marla Lee
Project Manager

% Recovery	$\frac{\text{Conc of M S} - \text{Conc of Sample}}{\text{Spike Conc Added}} \times 100$
Relative % Difference	$\frac{\text{Conc of M S} - \text{Conc of M S D}}{(\text{Conc of M S} + \text{Conc of M S D}) / 2} \times 100$



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Formal MOBIL

QC Sample Group: 2024195-4200

Reported: Mar 4, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-b benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	L. Laikhtman	L. Laikhtman	L. Laikhtman	L. Laikhtman
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Mar 2, 1992	Mar 2, 1992	Mar 2, 1992	Mar 2, 1992
QC Sample #:	BLK030292	BLK030292	BLK030292	BLK030292
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	10	10	10	31
Matrix Spike % Recovery:	100	100	100	103
Conc. Matrix Spike Dup.:	10	10	11	31
Matrix Spike Duplicate % Recovery:	100	100	110	103
Relative % Difference:	0.0	0.0	9.5	0.0

SEQUOIA ANALYTICAL

Marina Lee
Marina Lee
Project Manager

% Recovery	$\frac{\text{Conc of M S} - \text{Conc of Sample}}{\text{Spike Conc Added}} \times 100$
Relative % Difference	$\frac{\text{Conc of M S} - \text{Conc of M S D}}{(\text{Conc of M S} + \text{Conc of M S D}) / 2} \times 100$



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Alton Geoscience
5870 Stoneridge Dr., Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: 30-0095-01, Dublin/Former MOBIL

QC Sample Group: 2024195-4200

Reported: Mar 4, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. MirafTAB	A. MirafTAB	A. MirafTAB	A. MirafTAB
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Mar 1, 1992	Mar 1, 1992	Mar 1, 1992	Mar 1, 1992
QC Sample #:	GBLK030192	GBLK030192	GBLK030192	GBLK030192
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	12	12	12	34
Matrix Spike % Recovery:	120	120	120	113
Conc. Matrix Spike Dup.:	12	12	12	35
Matrix Spike Duplicate % Recovery:	120	120	120	117
Relative % Difference:	0.0	0.0	0.0	2.9

SEQUOIA ANALYTICAL

Mania Lee
Project Manager

% Recovery	$\frac{\text{Conc of M.S.} - \text{Conc of Sample}}{\text{Spike Conc Added}} \times 100$
Relative % Difference	$\frac{\text{Conc of M.S.} - \text{Conc of M.S.D.}}{(\text{Conc of M.S.} + \text{Conc of M.S.D.}) / 2} \times 100$

**ALTON GEOSCIENCE**1000 BURNETT ST. #140
CONCORD, CA 94520 (415) 682-1582**CHAIN of CUSTODY RECORD**

PAGE | of |

DATE: 2-26-92

RESULTS DUE BY:

PROJECT NUMBER: 30-0095-01

PROJECT NAME AND ADDRESS: FORMER MOBIL
7197 Village Parkway
Dublin.

PROJECT MANAGER: BRADY NAGLE

SAMPLER'S SIGNATURE:

LABORATORY: SEQUOIA

REMARKS OR SPECIAL INSTRUCTIONS: INCLUDE QA/QC.
NORMAL T/A, CALL BRADY (510) 734-8134
IF YOU HAVE ANY QUESTIONS.

NOTE: PLEASE INDICATE VERBAL REQUESTS FOR ADDITIONAL ANALYSES IN THIS BOX.

SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATERIAL	SAMPLE TYPE:		NUMBER OF CONTAINERS	SAMPLE PREP.			SOIL ANALYSIS				WATER ANALYSIS					
				GRAB	COMP.		3510: SOLV. EXTR.	3810: HEAD SPACE	5030: PURGE & TRAP	418.1: TPHC (IR)	8010: HALOCARBONS	8020: BTXE	DHS METHOD: TPHC (GC)	7420: TOTAL Pb	TPH-G/BTEX	601: HALOCARBONS	TPH-D 3510/8015	TEG 5520 DF	
MW-1	2-25-92/1:00	FORMER MOBIL	G. WATER		X	10			20	241	95					X	X	X	X
MW-2	2-25/2:00	" "	"		X	10					96					X	X	X	X
MW-3	2-25/12:00	" "	"		X	10					97					X	X	X	X
AW-4	2-25/3:20	" "	"		X	3					98					X			
AW-5	2-25/5:05	" "	"		X	3					99					X			
AW-6	2-25/4:00	" "	"		X	3			✓	✓	200					X			
TOTAL NO. OF CONTAINERS:						39													

RELINQUISHED BY: Daniel J. Bud

RECEIVED BY: Stephen Butler

DATE/TIME: 2-26-92 12:30

METHOD OF SHIPMENT:

RELINQUISHED BY: Stephen Butler

RECEIVED BY: A. Nagle

DATE/TIME: 2-26-92 6:20

SHIPPED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE/TIME:

COURIER:



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience
5870 Stoneridge Drive, Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: Mobil #10-KNK/ 30-0095-01
Sample Descript.: Water, AW-6
Analysis Method: EPA 5030/ 8015/8020
Lab Number: 203-0375

Sampled: Mar 5, 1992
Received: Mar 9, 1992
Analyzed: 3/9-3/10/92
Reported: Mar 12, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015/8020)

Analyte	Detection Limit µg/L (ppb)	Sample Results µg/L (ppb)
Low to Medium Boiling Point Hydrocarbons	1,200	14,000
Benzene	12	5,200
Toluene	12	2,500
Ethyl Benzene	12	550
Xylenes	12	2,200

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard
Analytes reported as N D were not present above the stated limit of detection. Because matrix effects and/or other factors
required additional sample dilution, detection limits for this sample have been raised

SEQUOIA ANALYTICAL

Scott A. Chieffo
Scott A. Chieffo
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience
5870 Stoneridge Drive, Suite 6
Pleasanton, CA 94588
Attention: Brady Nagle

Client Project ID: Mobil #10-KNK/ 30-0095-01

QC Sample Group: 203-0375

Reported: Mar 12, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020
Analyst:	K.E.	K.E.	K.E.	K.E.
Reporting Units:	ug/L	ug/L	ug/L	ug/L
Date Analyzed:	Mar 9, 1992	Mar 9, 1992	Mar 9, 1992	Mar 9, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60
Conc. Matrix Spike:	24	25	22	72
Matrix Spike % Recovery:	120	125	110	120
Conc. Matrix Spike Dup.:	21	22	21	64
Matrix Spike Duplicate % Recovery:	105	110	105	106
Relative % Difference:	13	13	4.6	12

SEQUOIA ANALYTICAL

Scott A. Chieffo
Scott A. Chieffo
Project Manager

% Recovery	$\frac{\text{Conc of M S} - \text{Conc of Sample}}{\text{Spike Conc Added}} \times 100$
Relative % Difference	$\frac{\text{Conc of M S} - \text{Conc of M S D.}}{(\text{Conc. of M.S} + \text{Conc. of M.S D.}) / 2} \times 100$

Mobil Chain of Custody



**SEQUOIA
ANALYTICAL**

Redwood City: (415) 364-9600
 Concord: (510) 686-9600
 Sacramento: (916) 921-9600

Consulting Firm Name: <u>ALTON GEOSCIENCE</u>		Site SS #: <u>10-KNK</u>	Phase of Work:
Address: <u>5870 Stoneridge Dr, Suite #6</u>		Mobil Site Address: <u>7197 Village Pkwy, Dublin</u>	<input type="checkbox"/> A. Emrg. Response
City: <u>Pleasanton</u> State: <u>CA</u> Zip Code: <u>94588</u>	Mobil Engineer:		<input type="checkbox"/> B. Site Assessment
Telephone: <u>(510) 734-8134</u> FAX #: <u>(510) 734-8420</u>	Consultant Project #: <u>30-0095-01</u>		<input type="checkbox"/> C. Remediation
Project Contact: <u>G. Nieder-Westermann</u>	Sampled by: <u>J. VAIL</u>	Sequoia's Work Order Release #:	<input checked="" type="checkbox"/> D. Monitoring
			<input type="checkbox"/> E. OGC/Claims

Turnaround Time: Standard TAT (5 - 10 Working Days)
 Other _____

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Description	# of Containers	Sequoia's Sample #	Analyses Requested				Comments
					TPH Gas/BTEX	TPH Diesel	TRPH by I.R. EPA 418.1	Oil & Grease EPA 413.2	
1. <u>AW-6</u>	<u>4-15-92</u> <u>13:18</u>	<u>Water</u>	<u>2</u>		<input checked="" type="checkbox"/>				<u>Analyze</u>
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									

Relinquished By: <u>[Signature]</u>	Date:	Time:	Received By:	Date:	Time:
Relinquished By: _____	Date:	Time:	Received By:	Date:	Time:
Relinquished By: _____	Date:	Time:	Received By:	Date:	Time:

Method of Shipment _____



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience	Client Project ID: Mobil #04-KNK/ 30-0095-01	Sampled: Apr 15, 1992
5870 Stoneridge Drive, Suite 6	Sample Descript.: Water, AW-6	Received: Apr 15, 1992
Pleasanton, CA 94588	Analysis Method: EPA 5030/ 8015/8020	Analyzed: Apr 20, 1992
Attention: G. Nieder Westermann	Lab Number: 204-0641	Reported: Apr 22, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015/8020)

Analyte	Detection Limit µg/L (ppb)	Sample Results µg/L (ppb)
Low to Medium Boiling Point Hydrocarbons	300	1,100
Benzene	3.0	400
Toluene	3.0	N.D.
Ethyl Benzene	3.0	30
Xylenes	3.0	N.D.

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard. Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Alton Geoscience
5870 Stoneridge Drive, Suite 8
Pleasanton, CA 94588
Attention: G. Nieder Westermann

Client Project ID: Mobil #04-KNK/ 30-0095-01

QC Sample Group: 204-0641

Reported: Apr 22, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
	Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020
Analyst:	K.N.	K.N.	K.N.	K.N.
Reporting Units:	ug/L	ug/L	ug/L	ug/L
Date Analyzed:	Apr 17, 1992	Apr 17, 1992	Apr 17, 1992	Apr 17, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60
Conc. Matrix Spike:	22	22	22	69
Matrix Spike % Recovery:	110	110	110	115
Conc. Matrix Spike Dup.:	23	22	20	71
Matrix Spike Duplicate % Recovery:	115	110	100	118
Relative % Difference:	4.4	0.0	9.5	2.9

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Mobil Chain of Custody



SEQUOIA ANALYTICAL

Redwood City:
Concord:
Sacramento:

(415) 364-9600
(510) 686-9600
(916) 921-9600

Consulting Firm Name: <u>ALTON GEOSCIENCE</u>		Site SS #: <u>10-KNK 04-KNK</u>	Phase of Work:
Address: <u>5870 Stoneridge Dr, Suite #6</u>		Mobil Site Address: <u>7197 Village Pkwy, Dublin</u>	<input type="checkbox"/> A. Emrg. Response
City: <u>Pleasanton</u> State: <u>CA</u> Zip Code: <u>94588</u>	Telephone: <u>(510) 734-8134</u> FAX #: <u>(510) 734-8420</u>	Mobil Engineer: <u>Randy Begier</u>	<input type="checkbox"/> B. Site Assessment
Project Contact: <u>G. Nieder-Westerman</u>	Sampled by: <u>J. VAIL</u>	Consultant Project #: <u>30-0095-01</u>	<input type="checkbox"/> C. Remediation
		Sequoia's Work Order Release #:	<input checked="" type="checkbox"/> D. Monitoring
			<input type="checkbox"/> E. OGC/Claims

Turnaround Time: Standard TAT (5 - 10 Working Days)
 Other _____

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Description	# of Containers	Sequoia's Sample #	TPH Gas/BTEX	TPH Diesel	TPPH by I.R. EPA 418.1	Oil & Grease EPA 413.2	Comments
1. <u>AW-6</u>	<u>4-15-92</u> <u>13:18</u>	<u>Water</u>	<u>2</u>	<u>2040411A0</u>	<u>X</u>				<u>Analyze</u>
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									

Relinquished By: <u>[Signature]</u>	Date: <u>4/15/92</u> Time: <u>14:11</u>	Received By: <u>[Signature]</u>	Date: <u>4-15-92</u> Time: <u>14:11</u>
Relinquished By: <u>[Signature]</u>	Date: <u>4-15-92</u> Time: <u>1630</u>	Received By: <u>[Signature]</u>	Date: <u>4/15/92</u> Time: <u>4:31</u>
Relinquished By: <u>[Signature]</u>	Date: <u>4/15/92</u> Time: <u>5:20 PM</u>	Received By: <u>[Signature]</u>	Date: <u>4/15/92</u> Time: <u>5:20 PM</u>