

**EXXON** COMPANY, U.S.A.

P.O. BOX 4032 . CONCORD, CA 94524-4032

ENVIRONMENTAL ENGINEERING

MARLA D. GUENSLER

SENIOR ENVIRONMENTAL ENGINEER

(510) 246-8776

(510) 246-8798 FAX

ENVIRONMENTAL  
PROTECTION

95 SEP 20 PM 12:26

03

called Marla to drop  
cc: to RWD and L. Seto.

September 18, 1995

Ms. Juliet Shin  
Alameda County Department of Environmental Health  
Hazardous Materials Division  
1131 Harbor Bay Parkway  
Alameda, CA 94502-6577

**RE: Exxon RAS #7-0104/1725 Park Street, Alameda, CA**

Dear Ms. Shin:

Attached for your review and comment is a report entitled *Quarterly Ground Water Monitoring Report, Third Quarter 1995* for the above referenced site. This report, prepared by Delta Environmental Consultants, Inc., (Delta) of Rancho Cordova, California, details the results of the August 1995 ground water monitoring and sampling event.

Please contact me at (510) 246-8776 if you have any questions or comments.

Sincerely,



Marla D. Guensler  
Senior Engineer

MDG/jb

attachment: Delta Quarterly Report dated September 7, 1995

cc: w/attachment:

Mr. Richard Hiatt - San Francisco Bay RWQCB

Mr. Larry Seto - Alameda Co. Dept. of Environmental Health

w/o attachment:

Ms. Linda J. McGahan - Delta



3164 Gold Camp Drive  
Suite 200  
Rancho Cordova, CA 95670  
916/638-2085  
FAX: 916/638-8385

September 7, 1995

Ms. Marla Guensler  
Exxon Company, U.S.A.  
Post Office Box 4032  
Concord, California 94524-2032

Subject: *Quarterly Ground Water Monitoring Report, Third Quarter 1995*  
Exxon Retail Station No. 7-0104  
1725 Park Street  
Alameda, California  
Delta Project No. D094-832

Dear Ms. Guensler:

Delta Environmental Consultants, Inc. (Delta), has been authorized by Exxon Company, U.S.A. (Exxon), to conduct quarterly ground water monitoring and remediation at Exxon Retail Station No. 7-0104, located at 1725 Park Street, Alameda, California. This letter report presents the results of quarterly ground water monitoring conducted on August 3, 1995. The location of the site is shown in Figure 1 and site features are illustrated in Figure 2. Work conducted at the site by Delta was performed in accordance with the field methods and procedures described in Enclosure A.

#### **Ground Water Elevations, Flow Direction, and Hydraulic Gradient**

Ground water was measured in each of the ten monitoring wells (MW-1 through MW-10) and the five recovery wells (EW-1 through EW-5) on August 3, 1995. Ground water depths in the monitoring wells ranged from 6.28 to 7.46 feet below the top of the well casings. Ground water elevations decreased in the monitoring wells during this quarter an average of approximately 0.7 feet. Cumulative ground water level measurements collected by Delta are presented in Table 1. Historical ground water monitoring and sampling data collected by previous consultants (June 7, 1988 through February 25, 1994) are presented in Enclosure B.

A water table contour map constructed from the ground water level measurements recorded on August 3, 1995, is included as Figure 3. The contour map indicates an induced ground water flow direction toward recovery wells EW-1, EW-3, and EW-5. The ground water extraction system has induced a hydraulic gradient of approximately 0.5 in the vicinity of the recovery wells. **Away from the recovery wells the ground water flow direction is interpreted to be towards the northeast.**

#### **Subjective Analysis**

Liquid-phase hydrocarbons (LPH) were not observed in any monitoring wells during the August 3, 1995, site visit.

### Analytical Results

Ground water samples were collected from each of the monitoring wells on August 3, 1995, and submitted to Sequoia Analytical (a California-certified laboratory) for analyses of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020, and total petroleum hydrocarbons (TPH) as gasoline by EPA Method 8015 Modified. The laboratory analytical results for the August 3, 1995, sampling and historical results from sampling performed by Delta are presented in Table 2. A summary of historical analytical results for ground water samples collected by previous consultants (June 7, 1988 through February 25, 1994) is presented in Enclosure B.

The analytical results for the third quarter 1995 monitoring event indicate that dissolved hydrocarbon constituent concentrations have generally decreased. Concentrations of TPH as gasoline reported above the laboratory's limits of detection ranged from 70 micrograms per liter ( $\mu\text{g/L}$ ) in samples from recovery well EW-5 to 42,000  $\mu\text{g/L}$  in recovery well EW-4. Concentrations of benzene reported above the laboratory's detection limits ranged from 2.7  $\mu\text{g/L}$  in the sample from recovery well EW-1 to 4,600  $\mu\text{g/L}$  in the sample from monitoring well MW-2. Detectable MTBE concentrations ranged from 24  $\mu\text{g/L}$  in the sample from monitoring well MW-3 to 39,000  $\mu\text{g/L}$  in the sample from monitoring well MW-5. Hydrocarbon constituents were below the laboratory's detection limits for ground water samples obtained from monitoring wells MW-8 and MW-9. During the first quarter 1995 monitoring, LPH was detected in monitoring wells MW-2 and MW-5 at thicknesses of 0.01 feet and 0.02 feet, respectively; however, no LPH was detected in any of the wells during the third quarter 1995 monitoring.

A dissolved benzene concentration map based on analytical results for ground water samples collected on August 3, 1995, is included as Figure 4. A copy of the laboratory analytical report and chain-of-custody documentation is presented in Enclosure C.

### Ground Water Remediation System Status

The ground water remediation system is sampled on a quarterly basis, as required in the discharge permit issued by the East Bay Municipal Utility District (EBMUD). Influent and effluent grab water samples are collected for analyses of BTEX by EPA Method 5030/8020, and TPH as gasoline by EPA Method 8015 Modified. As per the revised discharge permit, dated February 14, 1995, reporting of the ground water remediation system analytical sampling results was presented in a semi-annual report, dated July 17, 1995. The discharge concentrations for the first half of 1995 were below the maximum permitted discharge concentration limits established by the EBMUD.

### Future Work

The next quarterly monitoring event for this site is scheduled for October 1995. Delta anticipates continuing operation of the ground water remediation system. Additional off-site assessment activities are anticipated to commence this quarter.

Ms. Marla Guensler  
Exxon Company, U.S.A.  
September 7, 1995  
Page 3

**Remarks/Signatures**

The interpretations contained in this report represent our professional opinions, and are based in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

Delta recommends that copies of this report be forwarded to the following agencies:

Mr. Richard Hiatt  
Regional Water Quality Board  
San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, California 94612

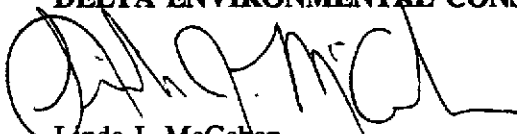
Mr. Larry Seto  
Alameda County Department of Environmental Health  
Hazardous Material Division  
80 Swan Way, Room 200  
Oakland, California 94621

Mr. Safa Toma  
East Bay Municipal Utility District  
Post Office Box 24055  
Oakland, California 94621

If you have any questions regarding this project, please contact Linda McGahan at (916) 638-2085.

Sincerely,

**DELTA ENVIRONMENTAL CONSULTANTS, INC.**



Linda J. McGahan  
Project Manager



Eric J. Holm, R.G.  
California Registered Geologist No. 5880

LJM (LRP671.TA)  
Enclosures

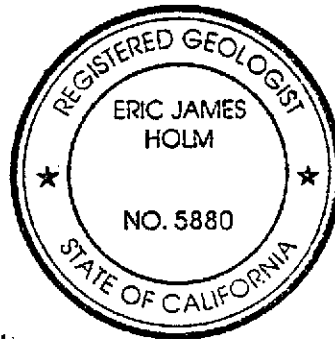


TABLE 1

## GROUND WATER LEVEL MEASUREMENTS

Exxon Retail Station No. 7-0104  
1725 Park Street  
Alameda, California

Monitoring Well	Date	Top of Riser Elevation (ft) <sup>a</sup>	Depth to Water (ft)	Ground Water Elevation (ft)	Comments
MW-1	09/12/94	17.35	7.11	10.24	No LPH <sup>b</sup> or Sheen
	10/01/94		7.44	9.91	No LPH or Sheen
	01/13/95		5.13	12.22	No LPH or Sheen
	04/27/95		6.57	10.78	No LPH or Sheen
	08/03/95		7.46	9.89	No LPH or Sheen
MW-2	09/12/94	16.67	6.71	9.96	No LPH or Sheen
	10/01/94		7.22	9.45	Sheen
	01/13/95		4.46	12.22 <sup>c</sup>	LPH Thickness 0.01
	04/27/95		6.92	9.75	No LPH or Sheen
	08/03/95		6.96	9.71	No LPH or Sheen
MW-3	09/12/94	17.11	6.58	10.53	No LPH or Sheen
	10/01/94		6.85	10.26	No LPH or Sheen
	01/13/95		5.27	11.84	No LPH or Sheen
	04/27/95		6.05	11.06	No LPH or Sheen
	08/03/95		6.71	10.40	No LPH or Sheen
MW-4	09/12/94	17.34	6.80	10.54	No LPH or Sheen
	10/01/94		7.09	10.25	No LPH or Sheen
	01/13/95		4.66	12.68	No LPH or Sheen
	04/27/95		5.54	11.80	No LPH or Sheen
	08/03/95		6.92	10.42	No LPH or Sheen
MW-5	09/12/94	16.71	7.12	9.59	No LPH or Sheen
	10/01/94		7.06	9.65	Sheen
	01/13/95		4.85	11.88 <sup>c</sup>	LPH Thickness 0.02
	04/27/95		6.51	10.20	No LPH or Sheen
	08/03/95		7.24	9.47	No LPH or Sheen
MW-6	09/12/94	17.56	6.88	10.68	No LPH or Sheen
	10/01/94		7.15	10.41	No LPH or Sheen
	01/13/95		4.80	12.76	No LPH or Sheen
	04/27/95		6.14	11.42	No LPH or Sheen
	08/03/95		6.83	10.73	No LPH or Sheen
MW-7	09/12/94	17.12	6.43	10.69	No LPH or Sheen
	10/01/94		6.71	10.41	No LPH or Sheen
	01/13/95		4.29	12.83	No LPH or Sheen
	04/27/95		5.00	12.12	No LPH or Sheen
	08/03/95		6.53	10.59	No LPH or Sheen

TABLE 1-Continued

## GROUND WATER LEVEL DATA

Exxon Retail Station No. 7-0104  
1725 Park Street  
Alameda, California

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)</u>	<u>Depth to Water (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Comments</u>
MW-8	09/12/94	16.33	6.42	9.91	No LPH or Sheen
	10/01/94		6.62	9.71	No LPH or Sheen
	01/13/95		5.25	11.08	No LPH or Sheen
	04/27/95		6.00	10.33	No LPH or Sheen
	08/03/95		6.28	10.05	No LPH or Sheen
MW-9	09/12/94	15.62	6.84	8.78	No LPH or Sheen
	10/01/94		6.97	8.65	No LPH or Sheen
	01/13/95		6.18	9.44	No LPH or Sheen
	04/27/95		6.58	9.04	No LPH or Sheen
	08/03/95		6.72	8.90	No LPH or Sheen
MW-10	09/12/94	16.79	7.04	9.75	No LPH or Sheen
	10/01/94		7.30	9.49	No LPH or Sheen
	01/13/95		6.04	10.75	No LPH or Sheen
	04/27/95		6.66	10.13	No LPH or Sheen
	08/03/95		7.23	9.56	No LPH or Sheen
EW-1	09/12/94	16.22	6.13	10.09	No LPH or Sheen
	10/01/94		7.63	8.59	No LPH or Sheen
	01/13/95		11.46	4.76	No LPH or Sheen
	04/27/95		15.47	0.75	No LPH or Sheen
	08/03/95		13.85	2.37	No LPH or Sheen
EW-2	09/12/94	16.05	6.09	9.96	Sheen
	10/01/94		7.32	8.73	Sheen
	01/13/95		14.38	1.67	No LPH or Sheen
	04/27/95		15.23	0.82	No LPH or Sheen
	08/03/95		7.19	8.86	No LPH or Sheen
EW-3	09/12/94	16.02	6.12	9.9	No LPH or Sheen
	10/01/94		10.52	5.5	No LPH or Sheen
	01/13/95		18.13	-2.11	No LPH or Sheen
	04/27/95		23.07	-7.05	No LPH or Sheen
	08/03/95		22.90	-6.88	No LPH or Sheen
EW-4	09/12/94	16.61	5.69	10.92	No LPH or Sheen
	10/01/94		7.90	8.71	No LPH or Sheen
	01/13/95		11.36	5.25	No LPH or Sheen
	04/27/95		16.30	0.31	No LPH or Sheen
	08/03/95		6.45	10.16	No LPH or Sheen

TABLE 1-Continued

GROUND WATER LEVEL DATA

Exxon Retail Station No. 7-0104  
 1725 Park Street  
 Alameda, California

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)<sup>a</sup></u>	<u>Depth to Water (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Comments</u>
EW-5	09/12/94	16.51	6.30	10.21	No LPH or Sheen
	10/01/94		11.83	4.68	No LPH or Sheen
	01/13/95		12.54	3.97	No LPH or Sheen
	04/27/95		13.11	3.40	No LPH or Sheen
	08/03/95		11.99	4.52	No LPH or Sheen

- <sup>a</sup> Elevation of top of well casing in relative to mean sea level (RESNA Industries, Inc., February 10, 1994).
- <sup>b</sup> Liquid-phase petroleum hydrocarbons.
- <sup>c</sup> Adjusted ground water elevations, based on the specific gravity of gasoline as 0.80.

TABLE 2

**GROUND WATER SAMPLE RESULTS**  
Concentrations in micrograms per liter ( $\mu\text{g/L}$ )

Exxon Retail Station No. 7-0104  
1725 Park Street  
Alameda, California

Monitoring Well	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	TPH <sup>a</sup> as gasoline	MTBE <sup>b</sup>
MW-1	09/12/94	200	1.9	210	6.6	1,600 <sup>c</sup>	NA <sup>d</sup>
	10/01/94	200	<0.5	160	6.6	1,400 <sup>c</sup>	NA
	01/13/95	410 <sup>e</sup>	17	280 <sup>e</sup>	89	2,100 <sup>c</sup>	NA
	04/27/95	460	41	340	270	4,700	NA
	08/03/95	140	<5.0	160	9.9	1,900	30
MW-2	09/12/94	4,400	120	1,700	2,100	31,000 <sup>c</sup>	NA
	10/01/94	4,500	250	1,800	2,400	45,000 <sup>c</sup>	NA
	01/13/95	NS <sup>f</sup>	NS	NS	NS	NS	NA
	04/27/95	7,000	840	2,400	3,400	44,000	NA
	08/03/95	4,600	170	1,600	1,100	30,000	37,000
MW-3	09/12/94	580	8.0	340	100	3,100 <sup>c</sup>	NA
	10/01/94	640	11	230	130	3,800 <sup>c</sup>	NA
	01/13/95	690	24	210	130	3,800 <sup>c</sup>	NA
	04/27/95	940	35	810	530	7,500	NA
	08/03/95	380	<5.0	140	45	1,900	24
MW-4	09/12/94	900	57	310	490	5,200 <sup>c</sup>	NA
	10/01/94	1,200	66	360	380	9,100 <sup>c</sup>	NA
	01/13/95	1,300	200	550	1,000	25,000 <sup>c</sup>	NA
	04/27/95	650	130	350	590	5,900	NA
	08/03/95	1,000	<12	170	140	4,200	5,700
MW-5	09/12/94	2,300	17	320	230	10,000 <sup>c</sup>	NA
	10/01/94	2,300	19	220	200	11,000 <sup>c</sup>	NA
	01/13/95	NS	NS	NS	NS	NS	NA
	04/27/95	2,200	72	540	350	14,000	NA
	08/03/95	2,100	<100	210	<100	<10,000	39,000
MW-6	09/12/94	150	4.4	170	85	1,500 <sup>c</sup>	NA
	10/01/94	120	<0.5	99	38	87 <sup>e</sup>	NA
	01/13/95	710	220	780	1,100	9,900 <sup>c</sup>	NA
	04/27/95	340	40	460	320	3,900	NA
	08/03/95	89	<2.5	110	63	1,100	65
MW-7	09/12/94	490	50	280	70	6,000 <sup>c</sup>	NA
	10/01/94	940	670	310	160	8,900 <sup>c</sup>	NA
	01/13/95	590	780	970	4,200	20,000 <sup>c</sup>	NA
	04/27/95	410	32	410	230	8,800	NA
	08/03/95	390	<50	290	<50	4,900	17,000



TABLE 2-Continued

**GROUND WATER SAMPLE RESULTS**  
Concentrations in micrograms per liter ( $\mu\text{g/L}$ )

Exxon Retail Station No. 7-0104  
1725 Park Street  
Alameda, California

<u>Monitoring Well</u>	<u>Date</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>	<u>TPH<sup>a</sup> as gasoline</u>	<u>MTBE<sup>b</sup></u>
MW-8	09/12/94	<0.5	<0.5	<0.5	<0.5	<50 <sup>c</sup>	NA
	10/01/94	<0.5	<0.5	<0.5	<0.5	<50 <sup>c</sup>	NA
	01/13/95	<0.5	<0.5	<0.5	<0.5	<50 <sup>c</sup>	NA
	04/27/95	<0.5	<0.5	<0.5	<0.5	<50	NA
	08/03/95	<0.5	<0.5	<0.5	<0.5	<50	<2.5
MW-9	09/12/94	<0.5	<0.5	<0.5	<0.5	<50 <sup>c</sup>	NA
	10/01/94	<0.5	<0.5	<0.5	<0.5	<50 <sup>c</sup>	NA
	01/13/95	<0.5	<0.5	<0.5	<0.5	<50 <sup>c</sup>	NA
	04/27/95	<0.5	<0.5	<0.5	<0.5	<50	NA
	08/03/95	<0.5	<0.5	<0.5	<0.5	<50	<2.5
MW-10	09/12/94	<0.5	<0.5	1.6	<0.5	71 <sup>c</sup>	NA
	10/01/94	1.1	<0.5	2.8	0.73	330 <sup>c</sup>	NA
	01/13/95	<0.5	<0.5	<0.5	<0.5	90 <sup>c</sup>	NA
	04/27/95	<0.5	<0.5	5.4	1.3	140	NA
	08/03/95	<0.5	<0.5	<0.5	<0.5	150	<2.5
EW-1	09/12/94	40	<0.5	10	5.4	400 <sup>c</sup>	NA
	10/01/94	<0.5	4.4	30	11	3,400 <sup>c</sup>	NA
	01/13/95	40	<0.5	12	16	680 <sup>c</sup>	NA
	04/27/95	NS	NS	NS	NS	NS	NA
	08/03/95	2.7	<1.2	<1.2	<1.2	<125	590
EW-2	09/12/94	2,000	79	180	290	8,800 <sup>c</sup>	NA
	10/01/94	1,400	6.7	700	310	9,500 <sup>c</sup>	NA
	01/13/95	930	270	21	280	5,700 <sup>c</sup>	NA
	04/27/95	NS	NS	NS	NS	NS	NA
	08/03/95	170	27	36	64	830	1,600
EW-3	09/12/94	44	5.9	12	31	300 <sup>c</sup>	NA
	10/01/94	12	0.42	1.7	3.7	140 <sup>c</sup>	NA
	01/13/95	4.6	7.6	1.2	6.6	230 <sup>c</sup>	NA
	04/27/95	NS	NS	NS	NS	NS	NA
	08/03/95	<2.0	<2.0	<2.0	<2.0	<200	1,400
EW-4	09/12/94	1,700	12	210	77	4,000 <sup>c</sup>	NA
	10/01/94	100	1.5	15	11	460 <sup>c</sup>	NA
	01/13/95	89	8.8	1.6	82	520 <sup>c</sup>	NA
	04/27/95	NS	NS	NS	NS	NS	NA
	08/03/95	3,100	1,100	2,000	8,200	42,000	17,000

TABLE 2-Continued

**GROUND WATER SAMPLE RESULTS**  
 Concentrations in micrograms per liter ( $\mu\text{g/L}$ )

Exxon Retail Station No. 7-0104  
 1725 Park Street  
 Alameda, California

<u>Monitoring Well</u>	<u>Date</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>	<u>TPH<sup>a</sup> as gasoline</u>	<u>MTBE<sup>b</sup></u>
EW-5	09/12/94	26	1.7	11	12	180 <sup>c</sup>	NA
	10/01/94	16	0.92	5.7	8.5	130 <sup>c</sup>	NA
	01/13/95	0.6	0.8	0.6	2.9	130 <sup>c</sup>	NA
	04/27/95	NS	NS	NS	NS	NS	NA
	08/03/95	<0.50	<0.50	<0.50	<0.50	70	210

<sup>a</sup> Total petroleum hydrocarbons by EPA Method 8015 Modified, except as noted.

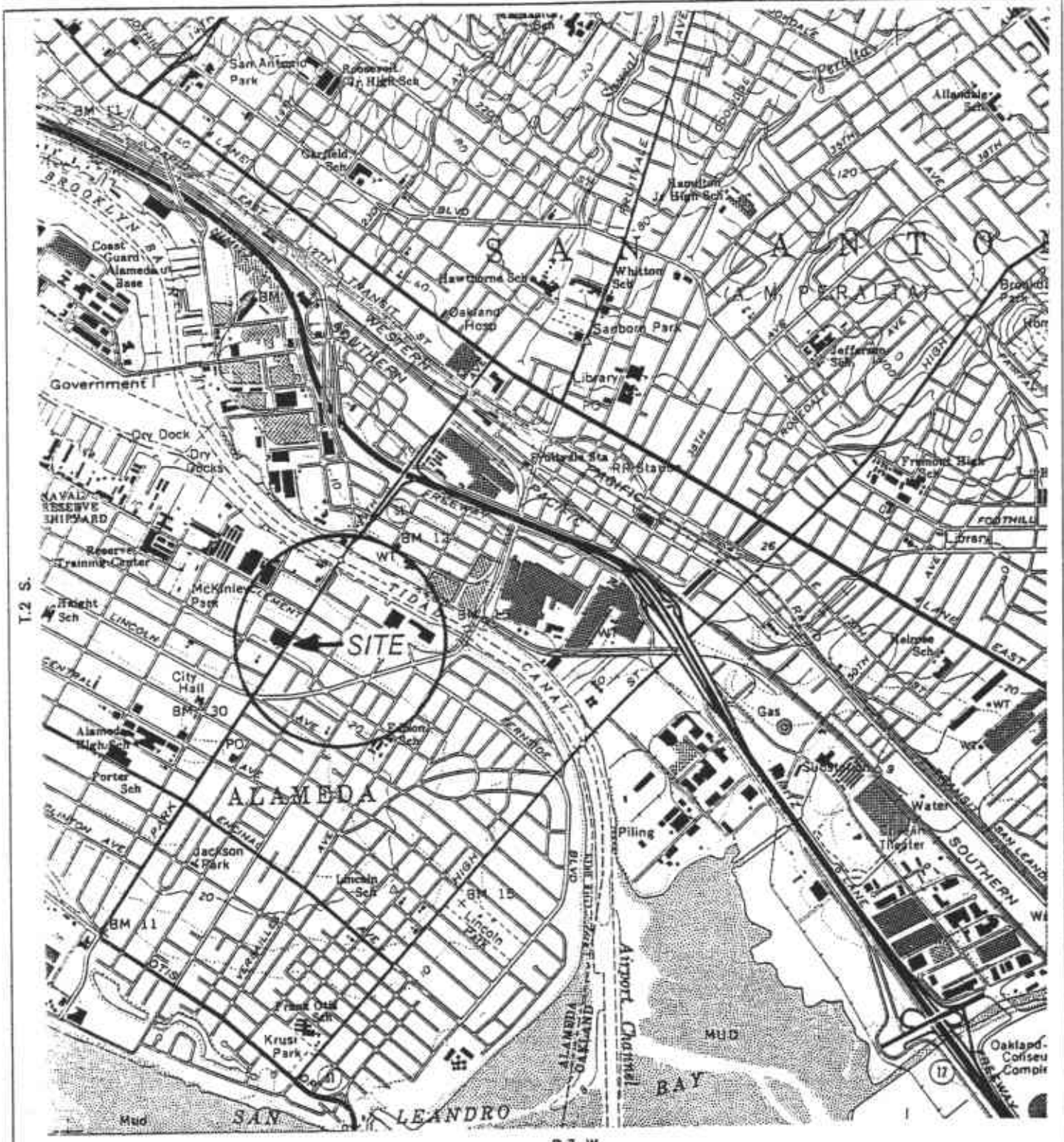
<sup>b</sup> Methyl tertiary butyl ether by EPA Method 8020.

<sup>c</sup> Total volatile hydrocarbons by DOHS/LUFT manual method.

<sup>d</sup> Not analyzed.

<sup>e</sup> Result obtained from a 1:10 dilution analyzed on January 17, 1995.

<sup>f</sup> Not sampled.



GENERAL NOTES:  
 BASE MAP FROM U.S.G.S.  
 OAKLAND EAST, CA.  
 7.5 MINUTE TOPOGRAPHIC  
 PHOTOREVISED 1980

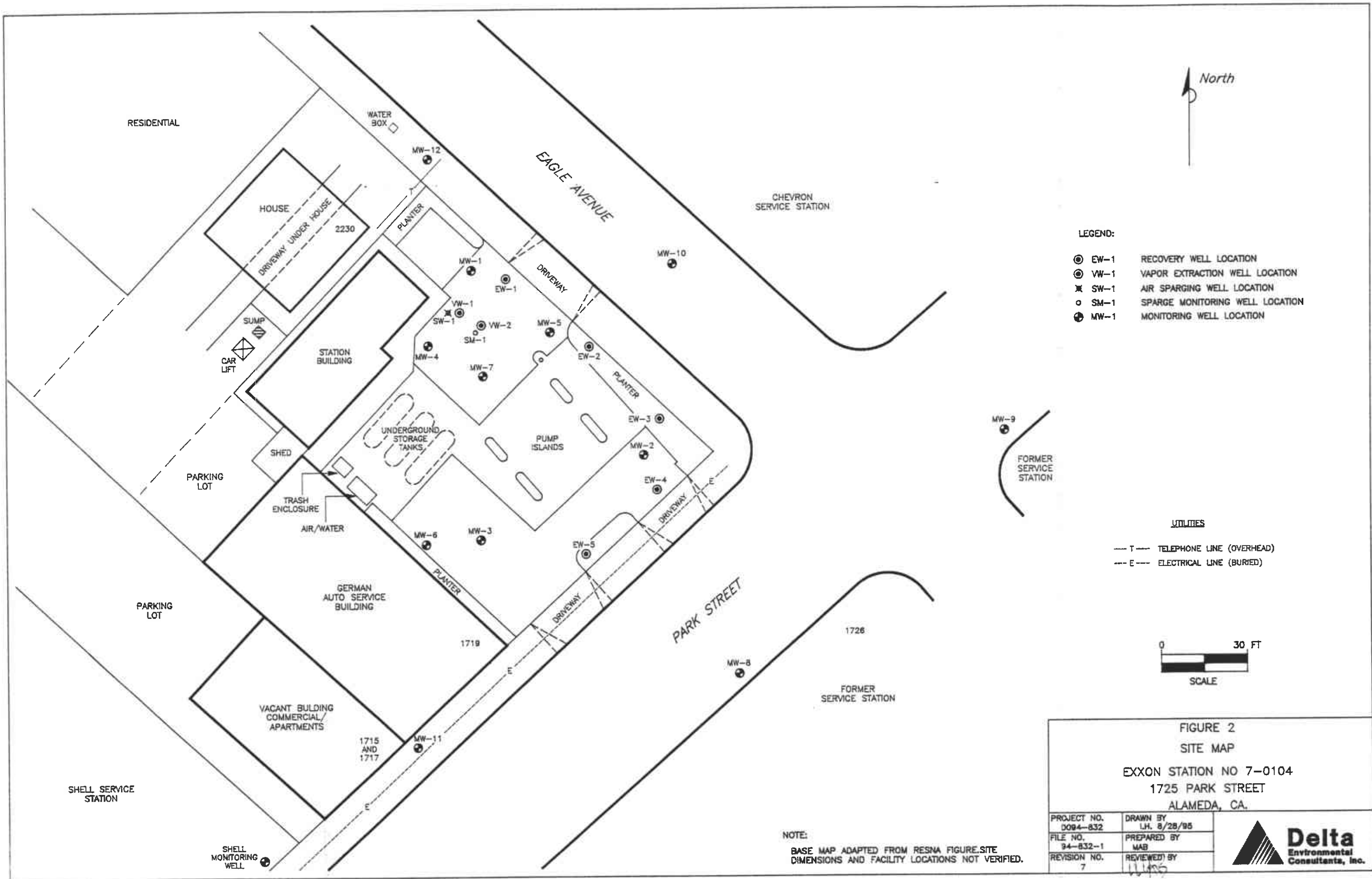


R.3 W.

**FIGURE 1**  
**SITE LOCATION MAP**  
**EXXON STATION NO 7-0104**  
**1725 PARK STREET**  
**ALAMEDA, CA.**

PROJECT NO. D094-532 FILE NO. REVISION NO. 1	DRAWN BY L.H. 9/27/94 PREPARED BY RDM REVIEWED BY <i>[Signature]</i> 10/16/94
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**Delta Environmental Consultants, Inc.**

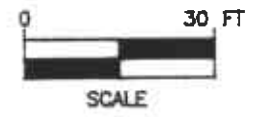


LEGEND:

- ⊙ EW-1 RECOVERY WELL LOCATION
- ⊙ VW-1 VAPOR EXTRACTION WELL LOCATION
- ⊗ SW-1 AIR SPARGING WELL LOCATION
- SM-1 SPARGE MONITORING WELL LOCATION
- ⊕ MW-1 MONITORING WELL LOCATION

UTILITIES

- - - T - - - TELEPHONE LINE (OVERHEAD)
- - - E - - - ELECTRICAL LINE (BURIED)

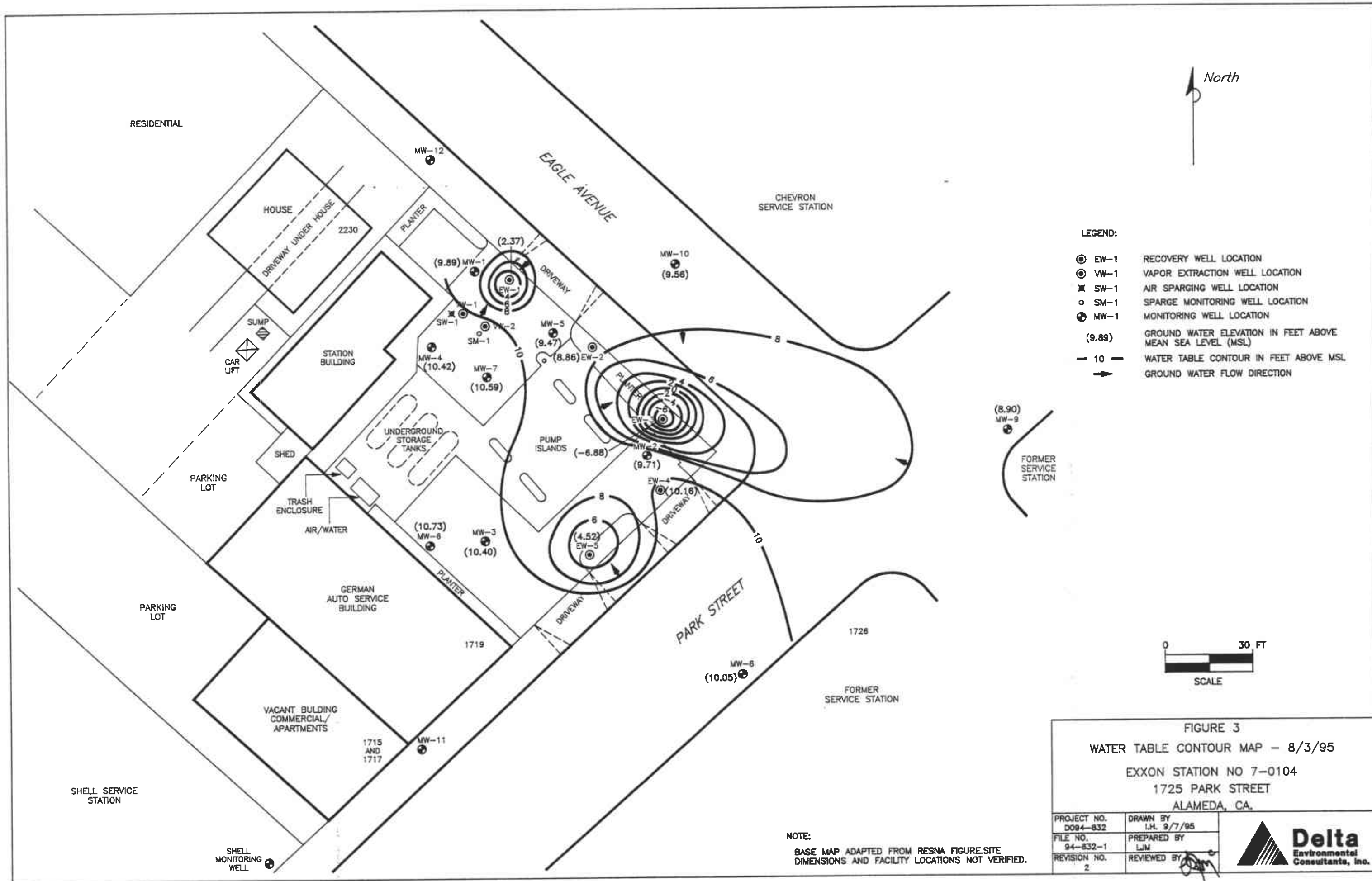


**FIGURE 2**  
**SITE MAP**  
**EXXON STATION NO 7-0104**  
**1725 PARK STREET**  
**ALAMEDA, CA.**

PROJECT NO. 0094-832	DRAWN BY L.H. 8/28/95
FILE NO. 94-832-1	PREPARED BY MAB
REVISION NO. 7	REVIEWED BY L.H.

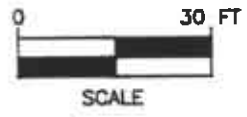
**Delta**  
Environmental  
Consultants, Inc.

NOTE:  
BASE MAP ADAPTED FROM RESNA FIGURE SITE  
DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



**LEGEND:**

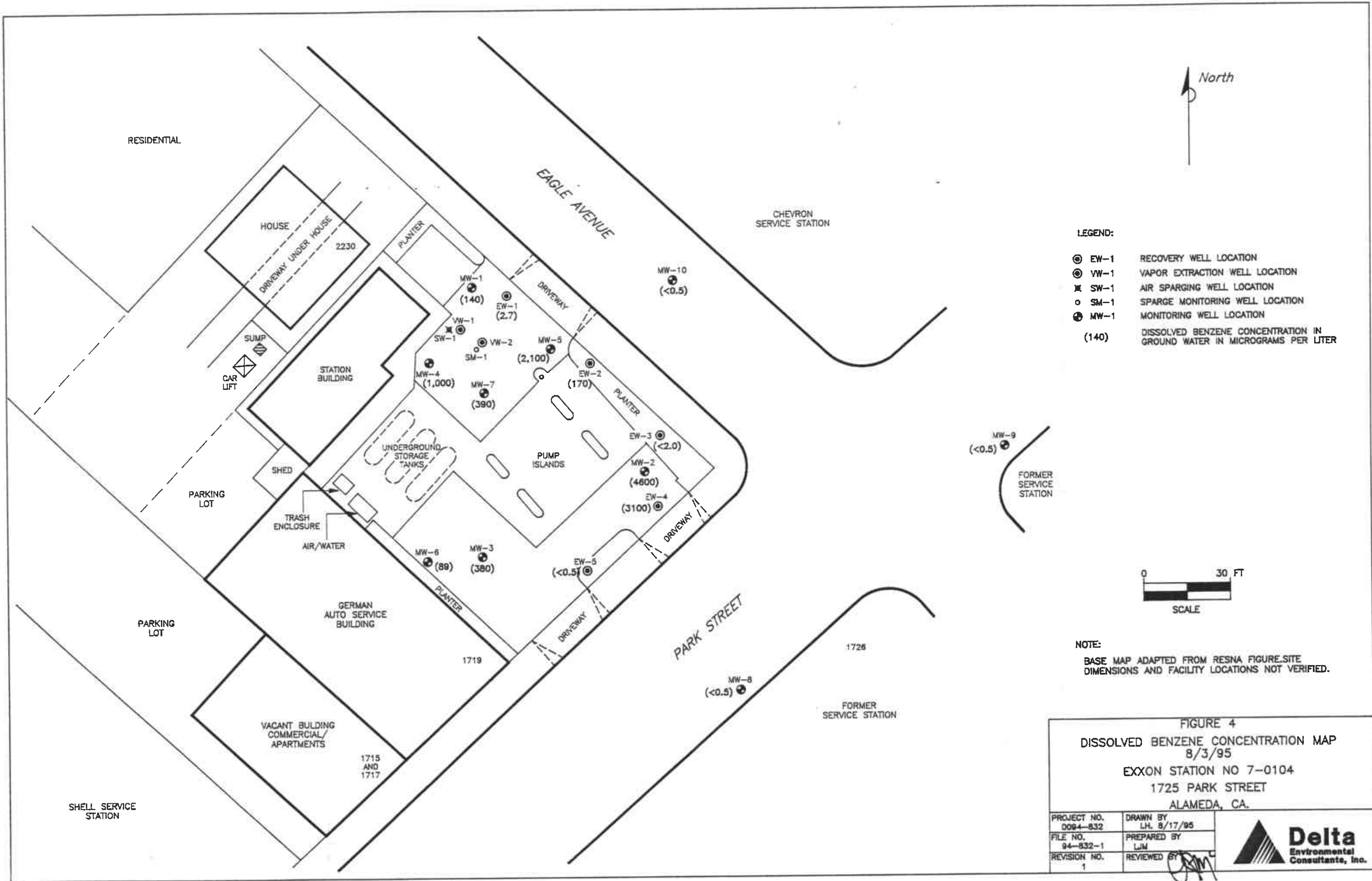
- ⊙ EW-1 RECOVERY WELL LOCATION
- ⊙ VW-1 VAPOR EXTRACTION WELL LOCATION
- ⊗ SW-1 AIR SPARGING WELL LOCATION
- SM-1 SPARGE MONITORING WELL LOCATION
- ⊙ MW-1 MONITORING WELL LOCATION
- (9.89) GROUND WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL)
- 10 - WATER TABLE CONTOUR IN FEET ABOVE MSL
- ➔ GROUND WATER FLOW DIRECTION



**FIGURE 3**  
**WATER TABLE CONTOUR MAP - 8/3/95**  
 EXXON STATION NO 7-0104  
 1725 PARK STREET  
 ALAMEDA, CA.

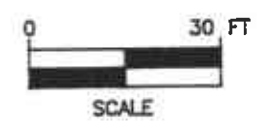
PROJECT NO. D094-832	DRAWN BY L.H. 9/7/95
FILE NO. 94-832-1	PREPARED BY LJM
REVISION NO. 2	REVIEWED BY <i>[Signature]</i>

**NOTE:**  
 BASE MAP ADAPTED FROM RESNA FIGURE SITE  
 DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



**LEGEND:**

- ⊙ EW-1 RECOVERY WELL LOCATION
- ⊙ VW-1 VAPOR EXTRACTION WELL LOCATION
- ⊙ SW-1 AIR SPARGING WELL LOCATION
- ⊙ SM-1 SPARGE MONITORING WELL LOCATION
- ⊙ MW-1 MONITORING WELL LOCATION
- (140) DISSOLVED BENZENE CONCENTRATION IN GROUND WATER IN MICROGRAMS PER LITER



**NOTE:**

BASE MAP ADAPTED FROM RESNA FIGURE SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

**FIGURE 4**  
**DISSOLVED BENZENE CONCENTRATION MAP**  
 8/3/95  
**EXXON STATION NO 7-0104**  
 1725 PARK STREET  
 ALAMEDA, CA.

PROJECT NO. 0094-832	DRAWN BY L.H. 8/17/95
FILE NO. 94-832-1	PREPARED BY LJM
REVISION NO. 1	REVIEWED BY <i>[Signature]</i>

**Delta**  
 Environmental  
 Consultants, Inc.

**ENCLOSURE A**

**Field Methods and Procedures**

## **FIELD METHODS AND PROCEDURES**

### **1.0 GROUND WATER AND LIQUID-PHASE HYDROCARBON DEPTH DETERMINATION**

A water/hydrocarbon interface probe was used to assess the liquid-phase hydrocarbon (LPH) thickness, if present, and a water level indicator was used to measure the ground water depth in monitoring wells that do not contain LPH. Depth to ground water was measured from the top of each monitoring well casing. The tip of the water level indicator was subjectively analyzed for hydrocarbon sheen.

### **2.0 SUBJECTIVE ANALYSIS OF GROUND WATER**

Prior to purging, a water sample was collected from the monitoring well for subjective assessment. The sample was retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer was then retrieved, and the sample contained within the bailer was examined for floating LPH and the appearance of a LPH sheen.

### **3.0 MONITORING WELL PURGING AND SAMPLING**

Monitoring wells were purged using a centrifugal pump until three well volumes of water had been removed. Ground water removed from the wells was discharged to the sanitary sewer through the ground water remediation system located at the subject site. After purging, ground water levels were allowed to stabilize. A ground water sample was then removed from each of the wells using a disposable bailer. If the well was purged dry, it was allowed to sufficiently recharge and a sample was collected. Samples were collected in air-tight vials, appropriately labeled, and stored on ice from the time of collection through the time of delivery to the laboratory. A chain-of-custody form was completed to ensure sample integrity. Ground water samples were transported to the laboratory and analyzed within the EPA-specified holding times for the requested analyses.



**ENCLOSURE B**

**Historical Ground Water Level Data and Analytical Results  
(June 7, 1988 through February 25, 1994)**

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104

1725 Park Street  
 Alameda, California  
 (Page 1 of 11)

Well ID # (TOC)	Sampling Date	SUBJ < . . . . . >	DTW feet . . . . . >	Elev. < . . . . . >	TPHg < . . . . . >	B < . . . . . >	T parts per billion . . . . . >	E parts per billion . . . . . >	X parts per billion . . . . . >
MW-1 (17.35)	06/07/88	NM	NM	—	27.000	5.000	77	1,100	2,700
	06/10/88#	NLPH	6.35	11.00	5.800	2.000	91	300	1,500
	01/17/89	NLPH	5.81	11.54					250
	01/24/89#	NLPH	5.16	12.19	1,700	170	5.9	13	130
	06/01/89	sheen	6.27	11.08	2.100	9.0	53	18	
	09/18/89	NLPH	7.11	10.24					
	10/20/89#	NLPH	7.28	10.07					
	11/22/89#	NLPH	7.02	10.33	5.300	200	42	290	330
	12/11/89	NLPH	5.60	10.75					
	02/13/90#	NLPH	6.02	11.33					
	03/07/90a#	NM	NM	—	2,300	430	14	16	220
	03/13/90	NLPH	5.31	11.44					
	04/13/90#	NLPH	5.18	11.17					
	05/23/90#	NLPH	6.29	11.06	32.000	1,400	19	<5	120
	06/14/90	NLPH	6.19	11.28					
	08/21/90#	NLPH	7.03	10.32	950	290	2.3	<0.5	27
	09/19/90	NLPH	7.26	10.09	2,100	550	13	350	110
	12/17/90	NLPH	6.75	10.50					
	01/31/91#	NLPH	6.78	10.57					
	02/25/91#	NLPH	6.59	10.75	1,400	300	45	390	150
	03/19/91	NLPH	5.35	11.50					
	04/22/91#	sheen	5.72	11.63					
	05/17/91#	NLPH	6.00	11.35	9,700	1,300	670	950	2,100
	07/24/91	NLPH	6.79	10.56					
	09/10/91#	NLPH	7.25	10.10					
	09/23/91#	NLPH	7.33	10.02					
	10/21/91#	NLPH	7.53	9.32	540	220	1.3	110	7.3
	10/22/91	NM	NM	—					
	11/18/91#	NLPH	7.13	10.22					
	12/11/91#	NLPH	7.25	10.10	1,300	650	23	300	64
	01/21/92	NLPH	6.54	10.81					
	02/20/92#	NLPH	4.82	12.53					
	03/19/92#	NLPH	5.24	12.11	4,900	1,600	78	660	250
	04/24/92	NLPH	5.71	11.54					
	05/13/92#	NLPH	5.99	11.36					
	06/24/92#	NLPH	6.65	10.70	3,400	1,000	11	550	100
	07/16/92	NLPH	6.72	10.53					
	08/19/92#	NLPH	7.07	10.28	3,700	1,300	21	330	<10
	09/24/92	NLPH	7.36	9.99	11,000	2,400	160	1,400	790
	02/05/93	NLPH	5.21	12.14	6,500	330	320	640	1,300
	04/30/93	NLPH	5.38	11.47					
	05/14/93#	NLPH	7.22	10.13					

See notes on page 11 of 11.

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TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104  
 1725 Park Street  
 Alameda, California  
 (Page 3 of 11)

Well ID # (TOC)	Sampling Date	SUBJ < . . . . . >	OTW feet . . . . . >	Elev.	TPHg < . . . . . >	B	T	E	X
						parts per billion . . . . . >			
MW-2 cont. (16.67)	06/24/92#	NLPH	6.39	10.28					
	07/16/92	sheen	6.50	10.17	42,000	3,500	490	1,300	3,700
	08/19/92#	NLPH	6.69	9.98					
	09/24/92	sheen	6.74	9.93	26,000	3,600	570	1,700	3,300
	02/05/93#	0.01	6.56	11.10					
	04/30/93	sheen	6.78	10.99	280,000	11,000	6,500	6,500	160,000
	05/14/93#	NA	NA	—					
	07/15/93#	0.01	7.39	9.79					
	10/21/93#	NM	7.24	9.43					
	11/16/93#	0.02	8.37	8.32					
	11/30/93#	NM	7.93	8.74					
	12/17/93#	NM	7.74	8.93					
	01/31/94#	NM	6.32	10.35					
	02/24-25/94	NLPH	6.93	9.74	51,000	11,000	1,700	2,700	3,500
	MW-3 (17.11)		NM	NM	—	23,000	6,000	80	940
06/07/88		NM	NM	—					
06/10/88#		NLPH	6.05	11.06					
01/17/89		NLPH	6.49	11.52	5,300	2,500	230	390	1,100
01/24/89#		NLPH	6.38	11.73					
06/01/89		NLPH	6.96	11.15	5,400	330	300	570	680
09/18/89		NLPH	6.65	10.46	12,000	680	170	350	360
10/20/89#		NLPH	6.98	10.23					
11/22/89#		NLPH	6.74	10.37					
12/11/89		NLPH	6.37	10.74	14,000	1,100	150	670	690
02/13/90#		NLPH	6.58	11.53					
03/13/90		NLPH	6.48	11.63	18,000	6,300	200	1,100	1,100
04/18/90#		NLPH	6.01	11.10					
05/23/90#		NLPH	6.14	10.97					
06/14/90		NLPH	6.83	11.28	9,500	1,300	880	310	1,300
08/21/90#		NLPH	6.67	10.44					
09/19/90		NLPH	6.88	10.23	16,000	5,000	65	1,500	450
12/17/90		NLPH	6.46	10.65	6,700	1,500	64	650	460
01/31/91#		NLPH	6.24	10.87					
02/25/91#		NLPH	6.18	10.93					
03/19/91		NLPH	6.35	11.76	18,000	4,200	2,100	1,100	1,200
04/22/91#		NLPH	6.72	11.39					
05/17/91#		NLPH	6.55	11.56					
07/24/91		NLPH	6.41	10.70	38,000	6,200	990	2,300	9,600
09/10/91#		NLPH	6.80	10.31					
09/23/91#		NLPH	6.80	10.31					
10/21/91#		NLPH	7.09	10.02					
10/22/91	NM	NM	—	23,000	3,400	150	2,500	4,400	

See notes on page 11 of 11.

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104  
 1725 Park Street  
 Alameda, California

(Page 4 of 11)

Well ID # (TOC)	Sampling Date	SUBJ < . . . . . >	DTW feet . . . . .	Elev. < . . . . . >	TPHq < . . . . . >	S	T	E	X	
					parts per billion . . . . . >					
MW-3 cont. (17.11)	11/18/91#	NLPH	6.74	10.37						
	12/11/91#	NLPH	6.79	10.32						
	01/21/92#	NLPH	6.16	10.95	13,000	2,700	30	1,300	740	
	02/20/92#	NLPH	4.39	12.22						
	03/19/92#	NLPH	4.35	12.25	17,000	4,200	170	1,500	600	
	04/24/92	NLPH	5.28	11.33						
	05/13/92#	NLPH	5.58	11.53						
	06/24/92#	NLPH	6.22	10.39	11,000	2,700	230	1,100	570	
	07/16/92	NLPH	6.36	10.75						
	08/19/92#	NLPH	6.65	10.46			44	1,000	220	
	09/24/92	NLPH	6.93	10.18	7,100	2,000	110	1,300	430	
	02/05/93	NLPH	4.71	12.40	13,000	3,500	370	1,500	1,300	
	04/30/93	NLPH	5.46	11.55	13,000	1,500				
	05/14/93#	NLPH	6.53	10.58			15	230	58	
	07/15/93	NLPH	7.28	9.33	2,100	310				
	10/21/93#	NM	7.42	9.59			400	400	120	490
	11/16/93	NLPH	8.02	9.09	4,000	400				
	11/30/93	-	7.79	9.32						
	12/17/93#	NM	7.13	9.98						
	01/31/94#	NM	6.32	10.79	3,300	290	52	150	400	
02/24-25/94	NLPH	6.04	11.07							
MW-4 (17.34)	01/17/89	NLPH	5.36	11.38	19,000	1,000	1,500			
	01/24/89#	NLPH	5.46	11.38				53	810	
	06/01/89	NLPH	6.01	11.33	3,500	130	240	29	510	
	09/18/89	NLPH	6.30	10.54	6,000	290	200			
	10/20/89#	NLPH	7.08	10.25						
	11/22/89#	NLPH	6.82	10.52						
	12/11/89	NLPH	6.37	10.97	13,000	750	910	510	1,200	
	02/13/90#	NLPH	5.49	11.35						
	03/07/90a#	NM	NM	-						
	03/13/90	NLPH	5.44	11.30	12,000	1,500	1,500	470	28,000	
	04/18/90#	NLPH	5.14	11.20						
	05/23/90#	NLPH	6.22	11.12						
	06/14/90	NLPH	5.92	11.42	12,000	3,700	400	1,300	760	
	08/21/90#	NLPH	5.33	10.51						
	09/19/90	NLPH	7.07	10.27	5,500	670	180	390	1,000	
	12/17/90	NLPH	6.50	10.34	14,000	1,400	620	540	2,100	
	01/31/91#	NLPH	6.66	10.58						
02/25/91#	NLPH	6.21	11.13							
03/19/91	NLPH	5.29	12.05	11,000	1,500	740	620	2,100		
04/22/91#	NLPH	5.26	12.08							

See notes on page 11 of 11.

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TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104  
 1735 Park Street  
 Alameda, California  
 (Page 5 of 11)

Well ID # (TOC)	Sampling Date	SUBJ < . . . . . >	OTW feet . . . . . >	Elev. < . . . . . >	TPHg < . . . . . >	B < . . . . . >	T parts per billion	E < . . . . . >	X < . . . . . >
MW-4 cont. (17.34)	05/17/91#	NLPH	5.50	11.74					
	07/24/91	NLPH	5.54	10.30	10,000	1,200	440	410	1,200
	09/10/91#	NLPH	7.04	10.30					
	09/23/91#	NLPH	7.14	10.20					
	10/21/91#	sheen	7.30	10.04	4,500	750	190	350	780
	10/22/91	—	—	—					
	11/18/91#	NLPH	5.30	10.44					
	12/11/91#	NLPH	7.01	10.33					
	01/21/92	NLPH	5.25	11.09	5,000	1,300	320	510	1,200
	02/20/92#	NLPH	4.79	12.55					
	03/19/92#	NLPH	4.70	12.54					
	04/24/92	sheen	5.25	12.09	11,000	1,700	530	710	1,500
	05/13/92#	sheen	5.52	11.72					
	06/24/92#	sheen	5.19	11.15					
	07/16/92	sheen	5.51	10.33	5,400	870	240	440	700
	08/19/92#	NLPH	6.35	10.49					
	09/24/92	NLPH	7.17	10.17	5,900	1,300	130	530	590
	02/05/93	NLPH	4.51	12.73	15,000	2,300	320	980	2,200
	04/30/93	NLPH	5.39	11.75	21,000	4,000	960	1,500	2,900
	05/14/93#	NLPH	5.50	10.34					
	07/15/93	NLPH	7.50	9.34	2,300	440	55	130	220
	10/21/93#	NM	7.77	9.57					
	11/16/93	NLPH	3.27	9.07	5,100	820	160	250	760
	11/30/93	—	3.02	9.32					
	12/17/93#	NM	7.04	10.30					
01/31/94#	NM	5.36	10.98						
02/24-25/94	NLPH	5.78	11.56	9,800	2,200	190	560	1,200	
MW-5 (16.71)	01/17/89	NLPH	5.39	11.32	25,000	8,700	1,900	990	5,900
	01/24/89#	NLPH	5.51	11.20					
	06/01/89	sheen	5.93	10.88	5,200	240	220	130	590
	09/18/89	NLPH	6.52	10.19	8,000	340	150	140	460
	10/20/89#	NLPH	5.72	9.99					
	11/22/89#	NLPH	6.54	10.17					
	12/11/89	NLPH	5.21	10.50	15,000	720	320	450	870
	02/13/90#	NLPH	5.50	11.11					
	03/07/90#	NM	NM	—					
	03/13/90	NLPH	5.54	11.17	10,000	3,400	220	280	900
	04/18/90#	NLPH	5.75	10.96					
	05/23/90#	NLPH	5.98	10.73					
	06/14/90	NLPH	5.91	10.90	12,000	3,300	160	350	730
	08/21/90#	NLPH	5.51	10.20					

See notes on page 11 of 11.

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104  
 1725 Park Street  
 Alameda, California  
 (Page 5 of 11)

Well ID # (TOC)	Sampling Date	SUBJ < . . . . . >	DTW feet . . . . . >	Elev. < . . . . . >	TPHg < . . . . . >	B	T	E	X
						parts per billion . . . . . >			
MW-5 cont. (16.71)	09/19/90	NLPH	6.70	10.01	3,500	1,300	35	120	460
	12/17/90	sheen	6.24	10.47	18,000	2,300	310	430	1,400
	01/31/91#	NLPH	6.31	10.40					
	02/25/91#	NLPH	6.13	10.58	17,000	2,900	310	580	1,200
	03/19/91	NLPH	5.32	11.39					
	04/22/91#	sheen	5.30	11.41					
	05/17/91#	NLPH	5.59	11.12	18,000	3,200	320	590	1,100
	07/24/91	NLPH	6.33	10.38					
	08/10/91#	NLPH	6.66	10.05					
	09/23/91#	NLPH	6.75	9.96					
	10/21/91#	sheen	6.92	9.79					
	10/22/91	NM	NM	—	5,600	2,000	54	320	480
	11/19/91#	NLPH	6.55	10.16					
	12/11/91#	NLPH	6.64	10.07	14,000	4,000	190	630	1,300
	01/21/92	sheen	6.07	10.64					
	02/20/92#	NLPH	4.33	11.38					
	03/19/92#	sheen	4.33	11.38	12,000	2,500	120	620	530
	04/24/92	sheen	5.32	11.39					
	05/13/92#	sheen	5.61	11.10					
	06/24/92#	NLPH	6.17	10.54	20,000	4,000	48	380	720
	07/16/92	sheen	6.25	10.46					
	08/19/92#	sheen	6.53	10.18					
	09/24/92	sheen	6.30	9.91	9,300	2,200	31	330	250
	02/05/93b#	NLPH	4.70	12.01	30,000	5,300	450	1,300	1,500
	04/30/93	sheen	5.43	11.28					
	05/14/93#	NLPH	7.31	9.40					
	07/15/93#	0.07	7.93	8.34					
10/21/93#	NM	7.25	9.46						
11/15/93#	0.04	8.42	8.32						
11/30/93#	—	8.10	8.51						
12/17/93#	NM	7.43	9.23						
01/31/94#	NM	5.95	10.76						
02/24-25/94#	sheen	6.23	10.48						
MW-6 (17.56)	01/17/89	NLPH	5.59	11.97	38,000	7,400	9,300	2,000	9,900
	01/24/89#	NLPH	5.27	12.29					
	06/01/89	sheen	6.25	11.31	23,000	1,900	2,500	2,000	6,000
	09/18/89	NLPH	6.95	10.51	17,000	650	410	650	320
	10/20/89#	NLPH	7.24	10.32					
	11/22/89#	NLPH	7.05	10.51					
	12/11/89	NLPH	6.83	10.93	29,000	1,100	310	330	1,500
	02/13/90#	NLPH	5.70	11.36					

See notes on page 11 of 11.

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104  
 1725 Park Street  
 Alameda, California  
 (Page 7 of 11)

Well ID # (TOC)	Sampling Date	SUBJ < . . . . . >	DTW feet . . . . .	Elev. < . . . . . >	TPHg < . . . . . >	B	T	E	X
						parts per billion . . . . . >			
MW-5 cont. (17.56)	03/07/90#	NM	NM	—	38,000	12,000	15,000	2,500	12,000
	03/13/90	NLPH	5.63	11.93					
	04/18/90#	NLPH	6.26	11.30					
	05/23/90#	NLPH	6.42	11.14					
	06/14/90	NLPH	6.19	11.37	38,000	3,100	7,300	2,900	12,000
	08/21/90#	NLPH	7.01	10.55					
	09/19/90	NLPH	7.23	10.33	22,000	4,200	300	1,400	3,400
	12/17/90	NLPH	6.66	10.90	20,000	3,100	4,100	390	2,700
	01/31/91#	NLPH	6.39	11.17					
	02/25/91#	NLPH	6.39	11.17					
	03/19/91	NLPH	5.57	11.99	180,000	11,000	55,000	5,500	28,000
	04/22/91#	NLPH	5.42	12.14					
	05/17/91#	NLPH	5.73	11.33					
	07/24/91	NLPH	6.72	10.34	48,000	5,400	2,300	2,000	3,000
	09/10/91#	NLPH	7.15	10.41					
	09/23/91#	NLPH	7.25	10.31					
	10/21/91#	NLPH	7.42	10.14					
	10/22/91	NM	NM	—	18,000	3,100	700	1,400	2,900
	11/18/91#	NLPH	7.08	10.48					
	12/11/91#	NLPH	7.17	10.39					
	01/21/92	NLPH	6.40	11.16	9,400	2,100	370	1,000	1,100
	02/20/92#	NLPH	5.06	12.50					
	03/19/92#	NLPH	4.36	12.70					
	04/24/92	NLPH	5.44	12.12	42,000	3,500	3,000	2,100	8,000
	05/13/92#	NLPH	5.33	11.73					
	06/24/92#	NLPH	5.50	11.06					
	07/16/92	NLPH	6.68	10.88	14,000	1,500	1,000	1,000	2,500
	08/19/92#	NLPH	7.00	10.56					
	09/24/92	NLPH	7.29	10.28	4,700	790	97	540	540
	02/05/93	NLPH	4.94	12.72	26,000	2,500	4,300	1,700	5,300
	04/30/93	NLPH	5.89	11.37	9,600	1,000	410	1,100	1,600
	05/14/93#	NLPH	6.52	11.04					
	07/15/93	NLPH	7.51	10.05	4,500	250	72	540	650
	10/21/93#	NM	7.35	9.71					
	11/16/93	NLPH	8.29	9.27	410	41	12	47	71
	11/30/93#	NM	8.08	9.48					
	12/17/93#	NM	7.17	10.29					
	01/31/94#	NM	6.62	10.94					
	02/24-25/94	NLPH	6.23	11.33	4,300	190	190	300	460

See notes on page 11 of 11.



TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104  
 1725 Park Street  
 Alameda, California  
 (Page 3 of 11)

Well ID # (TOC)	Sampling Date	SUBJ < . . . . . >	DTW feet . . . . .	Elev. > . . . . .	TPHg < . . . . .	B parts per billion	T parts per billion	E parts per billion	X >
MW-7 (17.12)	01/09/90	NM	NM	—	17,000	380	180	330	1,300
	02/13/90#	NLPH	4.38	12.14	16,000	360	270	33	460
	03/13/90	NLPH	4.94	12.18					
	05/23/90#	NLPH	5.37	11.25				75	330
	06/14/90	NLPH	5.55	11.57	14,000	1,200	2,900	2,500	1,700
	09/19/90	NLPH	6.79	10.33	16,000	2,300	7,000	3,300	14,000
	12/17/90	NLPH	6.15	10.97	75,000	2,500			
	01/31/91#	NLPH	6.34	10.48					
	02/25/91#	NLPH	5.30	11.32					
	03/19/91	NLPH	4.96	12.16	44,000	1,300	740	3,400	8,500
	04/22/91#	NLPH	4.92	12.30					
	05/17/91#	NLPH	5.13	11.94					
	07/24/91	NLPH	6.22	10.90	18,000	1,300	160	2,700	1,000
	09/10/91#	NLPH	6.71	10.41					
	09/23/91#	NLPH	6.34	10.28					
	10/21/91#	NLPH	7.00	10.12					
	10/22/91	—	—	—	10,000	990	25	1,300	490
	11/18/91#	NLPH	6.56	10.56					
	12/11/91#	NLPH	6.53	10.44					
	01/21/92	NLPH	6.99	11.13	23,000	2,200	3,000	1,300	6,100
	02/20/92#	NLPH	4.36	12.75					
	03/19/92#	NLPH	4.22	12.90					
	04/24/92	NLPH	4.34	12.28	25,000	1,400	220	2,100	2,600
	05/13/92#	NLPH	5.24	11.38					
	06/24/92#	NLPH	6.04	11.08					
	07/16/92	NLPH	6.19	10.93	8,700	470	48	970	36
	08/19/92#	NLPH	6.55	10.57					
	09/24/92	NLPH	6.33	10.29	9,200	560	48	1,300	54
	02/05/93	NLPH	4.11	13.01	33,000	1,100	2,300	1,200	4,200
	04/30/93b	NLPH	5.29	11.33	13,000	240	85	710	320
	05/14/93#	NLPH	5.91	11.21					
	07/15/93	NLPH	7.07	10.05	6,300	200	30	500	48
	10/21/93#	NM	7.55	9.57					
	11/16/93	NLPH	7.35	9.27	7,400	300	95	480	120
	11/30/93#	NM	7.56	9.46					
	12/17/93#	NM	6.75	10.37					
	01/31/94#	NM	6.22	10.90					
	02/24-25/94	NLPH	5.52	11.50	7,200	470	120	400	330

See notes on page 11 of 11.

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104  
 1725 Park Street  
 Alameda, California  
 (Page 9 of 11)

Well ID # (TOC)	Sampling Date	SUBJ < . . . . . >	DTW feet . . . . .	Elev.	TPHg < . . . . . >	B parts per billion	T parts per billion	E parts per billion	X parts per billion
MW-8 (16.33)	05/14/93	NLPH	6.54	9.79	<50	<0.5	<1.0	<0.5	<0.5
	07/15/93	NLPH	6.57	9.76	<50	<0.5	<0.5	<0.5	<0.5
	10/21/93#	NM	6.33	9.50	<50	<0.5	<0.5	<0.5	<0.5
	11/16/93	NLPH	7.15	9.18	—	—	—	—	—
	11/30/93	—	6.94	9.39	—	—	—	—	—
	12/17/93#	NM	6.48	9.35	—	—	—	—	—
	01/31/94#	NM	6.13	10.20	<50	<0.5	<0.5	<0.5	<0.5
	02/24-25/94	NLPH	6.30	10.53	<50	<0.5	<0.5	<0.5	<0.5
MW-9 (15.52)	05/14/93	NLPH	6.51	9.01	<50	<0.5	<1.0	<0.5	<0.5
	07/15/93	NLPH	6.79	8.33	<50	<0.5	<0.5	<0.5	<0.5
	10/21/93#	NM	6.97	8.55	<50	<0.5	<0.5	<0.5	<0.5
	11/16/93	NLPH	7.12	8.50	—	—	—	—	—
	11/30/93	—	6.98	8.64	—	—	—	—	—
	12/17/93#	NM	6.73	8.37	—	—	—	—	—
	01/31/94#	NM	6.71	8.91	<50	<0.5	<0.5	<0.5	<0.5
	02/24-25/94	NLPH	6.45	9.17	<50	<0.5	<0.5	<0.5	<0.5
MW-10 (16.79)	05/14/93	NLPH	6.91	9.38	97	<0.5	<0.5	9.3	22
	07/15/93	NLPH	7.47	9.32	160	<0.5	<0.5	15	19
	10/21/93#	NM	7.57	9.22	<50	<0.5	<0.5	<0.5	<0.5
	11/16/93	NLPH	8.17	8.52	—	—	—	—	—
	11/30/93	—	7.96	8.33	—	—	—	—	—
	12/17/93#	NM	7.25	9.54	—	—	—	—	—
	01/31/94#	NM	6.56	10.13	290	<0.5	<0.5	12	7.0
	02/24-25/94	NLPH	6.53	10.26	290	<0.5	<0.5	12	7.0
EW-1 (16.22)	10/21/93#	NM	6.67	9.55	—	—	—	—	—
	12/17/93#	NM	10.09	8.13	—	—	—	—	—
	01/31/94#	NM	5.38	10.34	1,000	140	4.5	15	120
	02/24-25/94	NLPH	5.58	10.64	1,000	140	4.5	15	120
EW-2 (16.05)	10/21/93#	NM	6.71	9.34	—	—	—	—	—
	12/17/93#	NM	14.95	1.10	—	—	—	—	—
	01/31/94#	NM	5.35	10.70	5,200	1,200	390	53	410
	02/24-25/94	LPH	14.30	1.75	5,200	1,200	390	53	410
EW-3 (16.02)	10/21/93#	NM	6.55	9.47	—	—	—	—	—
	12/17/93#	NM	15.55	0.37	—	—	—	—	—
	01/31/94#	NM	5.34	10.88	91	<0.5	<0.5	<0.5	<0.5
	02/24-25/94	NLPH	21.00	-4.98	91	<0.5	<0.5	<0.5	<0.5

See notes on page 11 of 11.

TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104  
 1725 Park Street  
 Alameda, California  
 (Page 10 of 11)

Well ID # (TOC)	Sampling Date	SUBJ < . . . . . >	DTW feet . . . . . >	Elev.	TPHg < . . . . . >	B	T	E	X
						parts per billion . . . . . >			
EW-4 (15.51)	10/21/93#	NM	5.13	9.48					
	12/17/93#	NM	14.50	1.01					
	01/31/94#	NM	5.08	10.53	4,600	1,300	140	13	450
	02/24-25/94	LPH	14.88	0.73					
EW-5 (16.51)	10/21/93#	NM	5.77	9.74					
	12/17/93#	NM	14.20	2.31					
	01/31/94#	NM	5.54	10.97	1,000	140	45	3.4	190
	02/24-25/94	NLPH	11.95	4.58					
Field Blanks	12/11/89	--	--	--	<50	0.38	0.95	0.52	1.7
	12/17/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	03/19/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	07/24/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	10/22/91	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	01/21/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	07/16/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
Travel Blanks	06/14/90	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	09/19/90	--	--	--	<50	0.3	<0.5	0.5	1.0
	04/24/92	--	--	--	<50	<0.5	<0.5	<0.5	<0.5
	09/24/92	--	--	--	230	<0.5	<0.5	<0.5	<0.5
Maximum Contaminant Levels (MCLs) (DHS)					--	1.0	--	580	1,750
Drinking Water Action Level (DWAL) (DHS)					--	--	100	--	--

See notes on page 11 of 11.

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TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA  
 Exxon Service Station No. 7-0104  
 1725 Park Street  
 Alameda, California  
 (Page 11 of 11)

Well ID #	Sampling Date	SUBJ	DTW	Elev.	TPHg	B	T	E	X
(TOC)	Date	< . . . . .	feet . . . . .	>	< . . . . .	parts per billion . . . . . >			

Notes:

- TOC = Elevation of top of well casing; datum is mean sea level, revised February 10, 1994.
- SUBJ = Results of subjective evaluation, liquid-phase product thickness (PT) in feet
- DTW = Depth to water
- Elev. = Elevation of groundwater; datum is mean sea level; adjusted for free-phase petroleum hydrocarbons when present using the equation: Elev. = TOC - (DTW - (PT \* 0.3)) where PT is the product thickness
- TPHg = Total petroleum hydrocarbons as gasoline analyzed using EPA method 5030/8015
- BTEX = Benzene, Toluene, Ethylbenzene, and total Xylenes analyzed using EPA method 5030/8020
- NM = Not Monitored
- NLPH = No liquid-phase petroleum hydrocarbons present in well
- LPH = Liquid-phase petroleum hydrocarbons present in well, thickness not measured, or not measurable.
- NA = Well not accessible on this date
- < = Less than the indicated detection limit shown by the laboratory
- = Not applicable
- # = Well not sampled on this date
- a = 03/07/90 sampling: Total Dissolved Solids were detected in samples from MW-1 and MW-4 at 910 parts-per-million (ppm) and 370 ppm, respectively.
- b = a peak eluting before benzene was present in the groundwater samples from MW-5 and MW-7, and is suspected to be methyl-tert-butyl-ether (MTBE).

**ENCLOSURE C**

**Laboratory Analytical Report**



Deita Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670 Attention: Linda McGahan	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-10	Sampled: 08/03/95 Received: 08/07/95  Analyzed: 08/08/95 Reported: 08/15/95
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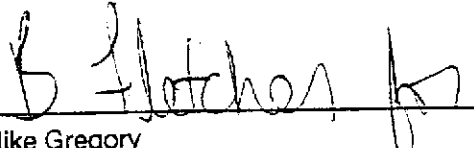
QC Batch Number: GC080895BTEX17A -  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	1900
Methyl t-Butyl Ether	25	30
Benzene	5.0	140
Toluene	5.0	N.D.
Ethyl Benzene	5.0	160
Xylenes (Total)	5.0	9.9
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	88

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Mike Gregory  
Project Manager



Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670 Attention: Linda McGahan	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-05	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/09/95 Reported: 08/15/95
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QC Batch Number: GC080895BTEX20A -  
Instrument ID: GCHP20

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	30000
Methyl t-Butyl Ether	500	37000
Benzene	100	4600
Toluene	100	170
Ethyl Benzene	100	1600
Xylenes (Total)	100	1100
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	85

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

SEQUOIA ANALYTICAL - ELAP #1210

*B. Fletcher*  
\_\_\_\_\_  
Mike Gregory  
Project Manager



Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-06	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/10/95 Reported: 08/15/95
Attention: Linda McGahan		

QC Batch Number: GC080995BTEX17B -  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	1900
Methyl t-Butyl Ether	25	24
Benzene	5.0	380
Toluene	5.0	N.D.
Ethyl Benzene	5.0	140
Xylenes (Total)	5.0	45
Chromatogram Pattern:		Gas
	<b>Control Limits %</b>	<b>% Recovery</b>
Surrogates	70	130
Trifluorotoluene		100

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

SEQUOIA ANALYTICAL - ELAP #1210

*B. Blotches for*  
Mike Gregory  
Project Manager





Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670 Attention: Linda McGahan	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-08	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/10/95 Reported: 08/15/95
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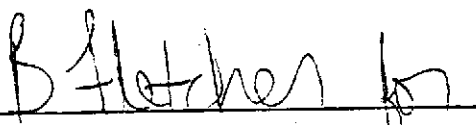
QC Batch Number: GC081095BTEX20A  
Instrument ID: GCHP20

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1250	4200
Methyl t-Butyl Ether	62	5700
Benzene	12	1000
Toluene	12	N.D.
Ethyl Benzene	12	170
Xylenes (Total)	12	140
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	102

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Mike Gregory  
Project Manager



Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-5 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-04	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/08/95 Reported: 08/15/95
Attention: Linda McGahan		

QC Batch Number: GC080895BTEX02A -  
Instrument ID: GCHP02

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	N.D.
Methyl t-Butyl Ether	500	39000
Benzene	100	2100
Toluene	100	N.D.
Ethyl Benzene	100	210
Xylenes (Total)	100	N.D.
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	76

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

**SEQUOIA ANALYTICAL** - ELAP #1210

*B. Fletcher for*  
Mike Gregory  
Project Manager



Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-6 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-07	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/09/95 Reported: 08/15/95
Attention: Linda McGahan		

QC Batch Number: GC080895BTEX21A -  
Instrument ID: GCHP21

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	250	1100
Methyl t-Butyl Ether	12	65
Benzene	2.5	89
Toluene	2.5	N.D.
Ethyl Benzene	2.5	110
Xylenes (Total)	2.5	63
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	70

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

**SEQUOIA ANALYTICAL - ELAP #1210**

*B. Blotcher for*  
Mike Gregory  
Project Manager



Deita Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-7 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-09	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/10/95 Reported: 08/15/95
Attention: Linda McGahan		

QC Batch Number: GC080995BTEX17B  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	5000	4900
Methyl t-Butyl Ether	250	17000
Benzene	50	390
Toluene	50	N.D.
Ethyl Benzene	50	290
Xylenes (Total)	50	N.D.
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	89

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

**SEQUOIA ANALYTICAL - ELAP #1210**

*B Fletcher for*  
Mike Gregory  
Project Manager



AUG 23

Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-8 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-01	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/08/95 Reported: 08/15/95
Attention: Linda McGahan		

QC Batch Number: GC080895BTEX02A -  
Instrument ID: GCHP02

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	98

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

**SEQUOIA ANALYTICAL - ELAP #1210**

*B. Hatcher for*  
\_\_\_\_\_  
Mike Gregory  
Project Manager



Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-9 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-02	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/08/95 Reported: 08/15/95
Attention: Linda McGahan		

QC Batch Number: GC080895BTEX02A -  
Instrument ID: GCHP02

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	90

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

**SEQUOIA ANALYTICAL** - ELAP #1210

*B. Blotcher for*  
\_\_\_\_\_  
Mike Gregory  
Project Manager



Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: MW-10 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-03	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/08/95 Reported: 08/15/95
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QC Batch Number: GC080895BTEX02A -  
Instrument ID: GCHP02

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	150
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	97

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

**SEQUOIA ANALYTICAL - ELAP #1210**

*B. Blotches for*  
Mike Gregory  
Project Manager



Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670 Attention: Linda McGahan	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: EA-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-11	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/08/95 Reported: 08/15/95
---	--	---

QC Batch Number: GC080895BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	125	N.D.
Methyl t-Butyl Ether	6.2	590
Benzene	1.2	2.7
Toluene	1.2	N.D.
Ethyl Benzene	1.2	N.D.
Xylenes (Total)	1.2	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	76

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

**SEQUOIA ANALYTICAL - ELAP #1210**

*B. Fletcher for*  
\_\_\_\_\_  
Mike Gregory  
Project Manager





Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670 Attention: Linda McGahan	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: EA-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-12	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/10/95 Reported: 08/15/95
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QC Batch Number: GC080995BTEX17B-  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	830
Methyl t-Butyl Ether	25	1600
Benzene	5.0	170
Toluene	5.0	27
Ethyl Benzene	5.0	36
Xylenes (Total)	5.0	64
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	86

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

**SEQUOIA ANALYTICAL** - ELAP #1210

*B. Fletcher*  
Mike Gregory  
Project Manager



Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670 Attention: Linda McGahan	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: EA-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-13	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/08/95 Reported: 08/15/95
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QC Batch Number: GC080895BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	200	N.D.
Methyl t-Butyl Ether	10	1400
Benzene	2.0	N.D.
Toluene	2.0	N.D.
Ethyl Benzene	2.0	N.D.
Xylenes (Total)	2.0	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	77

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

**SEQUOIA ANALYTICAL - ELAP #1210**

*B. Fletcher for*  
\_\_\_\_\_  
Mike Gregory  
Project Manager



Delta Environmental Consults 3330 Data Drive Rancho Cordova, CA 95670 Attention: Linda McGahan	Client Proj. ID: Exxon 7-0104, Alameda Sample Descript: EA-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9508436-14	Sampled: 08/03/95 Received: 08/07/95 Analyzed: 08/08/95 Reported: 08/15/95
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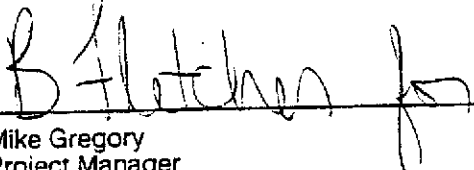
QC Batch Number: GC080895BTEX17A  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	42000
Methyl t-Butyl Ether	500	17000
Benzene	100	3100
Toluene	100	1100
Ethyl Benzene	100	2000
Xylenes (Total)	100	8200
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	97

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

SEQUOIA ANALYTICAL - ELAP #1210

  
 Mike Gregory  
 Project Manager



Delta Environmental Consults	Client Proj. ID: Exxon 7-0104, Alameda	Sampled: 08/03/95
3330 Data Drive	Sample Descript: EA-5	Received: 08/07/95
Rancho Cordova, CA 95670	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/08/95
Attention: Linda McGahan	Lab Number: 9508436-15	Reported: 08/15/95

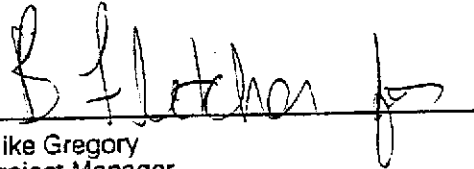
QC Batch Number: GC080895BTEX17A -  
Instrument ID: GCHP17

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	70
Methyl t-Butyl Ether	2.5	210
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern: Discrete Peak		C7-C8
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	99

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

SEQUOIA ANALYTICAL - ELAP #1210

  
Mike Gregory  
Project Manager



Sequoia  
Analytical

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FAX (916) 921-0100

Deita Environmental Consults  
3330 Data Drive  
Rancho Cordova, CA 95670  
Attention: Linda McGahan

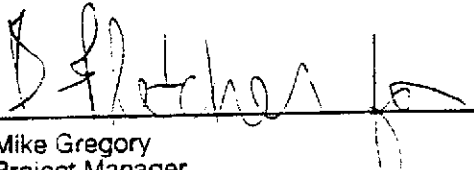
Client Proj. ID: Exxon 7-0104, Alameda  
Lab Proj. ID: 9508436

Received: 08/07/95

Reported: 08/15/95

## LABORATORY NARRATIVE

SEQUOIA ANALYTICAL

  
Mike Gregory  
Project Manager



Delta Environmental Consultants      Client Project ID: Exxon 7-0104, Alameda  
3330 Data Drive                              Matrix: Liquid  
Rancho Cordova, CA 95670  
Attention: Linda McGahan                  Work Order #: 9508436 -01 -04                  Reported: Aug 16, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC080895BTEX02A	GC080895BTEX02A	GC080895BTEX02A	GC080895BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	G9507J14-03C	G9507J14-03C	G9507J14-03C	G9507J14-03C
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/8/95	8/8/95	8/8/95	8/8/95
Analyzed Date:	8/8/95	8/8/95	8/8/95	8/8/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	10	11	10	31
MS % Recovery:	100	110	100	103
Dup. Result:	11	11	11	32
MSD % Recov.:	110	110	110	107
RPD:	9.5	0.0	9.5	3.2
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD	71-133	72-128	72-130	71-120
LCS				
Control Limits				

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*B. Fletcher for*  
Mike Gregory  
Project Manager

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9508436.DLT <1>



Deita Environmental Consultants  
3330 Data Drive  
Rancho Cordova, CA 95670  
Attention: Linda McGahan

Client Project ID: Exxon 7-0104, Alameda  
Matrix: Liquid

Work Order #: 9508436 -05

Reported: Aug 16, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC080895BTEX20A	GC080895BTEX20A	GC080895BTEX20A	GC080895BTEX20A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	G9507J14-07C	G9507J14-07C	G9507J14-07C	G9507J14-07C
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/8/95	8/8/95	8/8/95	8/8/95
Analyzed Date:	8/8/95	8/8/95	8/8/95	8/8/95
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	10	10	10	31
MS % Recovery:	100	100	100	103
Dup. Result:	12	12	12	34
MSD % Recov.:	120	120	120	113
RPD:	18	18	18	9.2
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
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**SEQUOIA ANALYTICAL**

*B Fletcher for*  
Mike Gregory  
Project Manager

\*\* MS= Matrix Spike, MSD= MS Duplicate, RPD= Relative % Difference

9508436.DLT <2>



Delta Environmental Consultants Client Project ID: Exxon 7-0104, Alameda  
3330 Data Drive Matrix: Liquid  
Rancho Cordova, CA 95670 Work Order #: 9508436 -06, 09, 12 Reported: Aug 16, 1995  
Attention: Linda McGahan

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC080995BTEX17B	GC080995BTEX17B	GC080995BTEX17B	GC080995BTEX17B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	G9507437-01A	G9507437-01A	G9507437-01A	G9507437-01A
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/9/95	8/9/95	8/9/95	8/9/95
Analyzed Date:	8/9/95	8/9/95	8/9/95	8/9/95
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	9.2	9.0	9.2	27
MS % Recovery:	92	90	92	90
Dup. Result:	9.5	9.4	9.5	28
MSD % Recov.:	95	94	95	93
RPD:	3.2	4.3	3.2	3.6
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
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**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

*B. Fletcher for*  
Mike Gregory  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9508436.DLT <3>





Delta Environmental Consultants      Client Project ID: Exxon 7-0104, Alameda  
3330 Data Drive                              Matrix:                              Liquid  
Rancho Cordova, CA 95670  
Attention: Linda McGahan                  Work Order #:      9508436      -07                              Reported:      Aug 16, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC080895BTEX21A	GC080895BTEX21A	GC080895BTEX21A	GC080895BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	G9507J14-07C	G9507J14-07C	G9507J14-07C	G9507J14-07C
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/8/95	8/8/95	8/8/95	8/8/95
Analyzed Date:	8/8/95	8/8/95	8/8/95	8/8/95
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	11	11	11	35
MS % Recovery:	110	110	110	117
Dup. Result:	11	11	11	32
MSD % Recov.:	110	110	110	107
RPD:	0.0	0.0	0.0	9.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
Analyzed Date:  
Instrument I.D.#:  
Conc. Spiked:

LCS Result:  
LCS % Recov.:

MS/MSD	71-133	72-128	72-130	71-120
LCS				
Control Limits				

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*B. Blotcher for*  
Mike Gregory  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9508436.DLT <4>



Deita Environmental Consultants Client Project ID: Exxon 7-0104, Alameda  
 3330 Data Drive Matrix: Liquid  
 Rancho Cordova, CA 95670  
 Attention: Linda McGahan Work Order #: 9508436 -08 Reported: Aug 16, 1995

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC081095BTEX20A	GC081095BTEX20A	GC081095BTEX20A	GC081095BTEX20A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	G9508434-02B	G9508434-02B	G9508434-02B	G9508434-02B
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/10/95	8/10/95	8/10/95	8/10/95
Analyzed Date:	8/10/95	8/10/95	8/10/95	8/10/95
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	10	9.9	9.8	30
MS % Recovery:	100	99	98	100
Dup. Result:	9.7	9.6	9.5	29
MSD % Recov.:	97	96	95	97
RPD:	3.0	3.1	3.1	3.4
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:  
 Analyzed Date:  
 Instrument I.D.#:  
 Conc. Spiked:

LCS Result:  
 LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
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**Please Note:**  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*B. Fletcher*  
 Mike Gregory  
 Project Manager

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9508436.DLT <5>



Delta Environmental Consultants Client Project ID: Exxon 7-0104, Alameda  
 3330 Data Drive Matrix: Liquid  
 Rancho Cordova, CA 95670 Work Order #: 9508436 -10, 11, 13 - 15 Reported: Aug 16, 1995  
 Attention: Linda McGahan

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC080895BTEX17A	GC080895BTEX17A	GC080895BTEX17A	GC080895BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	G9507J14-05C	G9507J14-05C	G9507J14-05C	G9507J14-05C
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/8/95	8/8/95	8/8/95	8/8/95
Analyzed Date:	8/8/95	8/8/95	8/8/95	8/8/95
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	7.4	6.8	6.6	23
MS % Recovery:	74	68	66	77
Dup. Result:	9.8	10	9.9	29
MSD % Recov.:	98	100	99	97
RPD:	150	38	40	23
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	GBLK080895BS	GBLK080895BS	GBLK080895BS	GBLK080895BS
Prepared Date:	8/8/95	8/8/95	8/8/95	8/8/95
Analyzed Date:	8/8/95	8/8/95	8/8/95	8/8/95
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
LCS Result:	9.4	9.4	9.4	28
LCS % Recov.:	94	94	94	93

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120
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**Please Note:**  
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

*B. Fletcher*  
 Mike Gregory  
 Project Manager

\*\* MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9508436.DLT <6>





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(415) 364-9600 • FAX (415) 364-9233

# EXXON COMPANY, U.S.A.

P.O. Box 2180, Houston, TX 77002-7426

## CHAIN OF CUSTODY

9508436

Consultant's Name: <u>Delta Environmental Consultants</u>		Page <u>2</u> of <u>2</u>
Address: <u>3164 Cold Camp Ranchos Cordova</u>		Site Location:
Project #: _____	Consultant Project #: <u>DOM-832</u>	Consultant Work Release #: <u>A432522</u>
Project Contact: <u>Linda McGahan</u>	Phone #: <u>916-639-9085</u>	Laboratory Work Release #: _____
EXXON Contact: <u>Marta Gwenslak</u>	Phone #: _____	EXXON RAS #: <u>7-0109</u>
Sampled by (print): <u>Jay Stoups</u>	Sampler's Signature: <u>Jay Stoups</u>	
Shipment Method: <u>Sequoia</u>	Air Bill #: _____	

TAT:  24 hr  48 hr  72 hr  96 hr  Standard (10 day)

### ANALYSIS REQUIRED

Sample Description	Collection Date	Collection Time	Matrix Soil/Water/Air	Prsv	# of Cont.	Sequoia's Sample #	TPH/Gas BTEX/8015/8020	TPH/Diesel EPA 8015	TRPH S.M. 5520	TAT/BE	Temperature: _____	
											Inbound Seal: Yes No	Outbound Seal: Yes No
MW-1	8-39-95	1315	H70	Hel	3	10A-C	+					Note only
EA-1		1220			3	11 ↓						2 vials for
EA-2		1225			2	12A-B						EA-2
EA-3		1517			3	13A-C						
EA-4		1530			3	14 ↓						
EA-5		1525			3	15 ↓						

RELINQUISHED BY / AFFILIATION	Date	Time	ACCEPTED / AFFILIATION	Date	Time	Additional Comments
<u>Jay Stoups / Delta</u>	<u>8/4/95</u>	<u>1600</u>	<u>John Youell/Sequoia</u>	<u>8/4/95</u>	<u>1600</u>	
<u>John Youell/Sequoia</u>	<u>8/4/95</u>	<u>1710</u>	<u>Sarah Hanson/Sequoia</u>	<u>8/4/95</u>	<u>1710</u>	
<u>Harold Manos/Sequoia</u>	<u>8/7/95</u>	<u>1135</u>	<u>[Signature]</u>	<u>8-7</u>	<u>1135</u>	

Pink - Client

Yellow - Sequoia

White - Sequoia