



**Delta**  
Environmental  
Consultants, Inc.

3330 Data Drive, Suite 100  
Rancho Cordova, CA 95670  
916/638-2085  
FAX: 916/638-8385

91 JUN 25 PM 12:19

June 19, 1991

Mr. Dennis Byrne  
Environmental Health Services  
Hazardous Materials Department  
County of Alameda  
470 27th Street  
Oakland, California 94607

Subject: *Quarterly Monitoring Report*  
Shell Service Station  
3420 San Pablo Avenue, Oakland, California  
Shell WIC No. 204-5508-5306  
Delta Project No. 40-88-666

Dear Mr. Byrne:

Enclosed is a copy of Delta Environmental Consultants, Inc. (Delta), *Quarterly Monitoring Report* for the subject site. Delta is currently seeking encroachment permits upgradient of MW-6, and on the west side of San Pablo Avenue across from the site, to complete our hydrogeologic investigation.

If you have any questions regarding this matter, please contact me at (916) 638-2085.

Sincerely,

**DELTA ENVIRONMENTAL CONSULTANTS, INC.**

Hal Hansen  
Hydrogeologist/Project Manager

HH:ecd  
Enclosure

cc/enc: Ms. Lisa McCann, California Regional Water Quality Control Board,  
San Francisco Bay Region  
Mr. Jack Brastad, Shell Oil Company



**Delta**  
Environmental  
Consultants, Inc.

✓ STD 381

QUARTERLY MONITORING REPORT, SECOND QUARTER 1991

3420 SAN PABLO AVENUE

OAKLAND, CALIFORNIA

SHELL WIC NO. 204-5508-5306

DELTA PROJECT NO. 40-88-666

**QUARTERLY MONITORING REPORT, SECOND QUARTER 1991**

**3420 SAN PABLO AVENUE  
OAKLAND, CALIFORNIA  
SHELL WIC NO. 204-5508-5306  
DELTA PROJECT NO. 40-88-666**

**Prepared by:**

**DELTA ENVIRONMENTAL CONSULTANTS, INC.  
3330 Data Drive, Suite 100  
Rancho Cordova, California 95670  
(916) 638-2085**

**May 28, 1991**

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QUARTERLY MONITORING REPORT, SECOND QUARTER 1991

3420 SAN PABLO AVENUE  
OAKLAND, CALIFORNIA  
SHELL WIC NO. 204-5508-5306  
DELTA PROJECT NO. 40-88-666

1.0 INTRODUCTION

This report presents results of ground water quality and ground water elevation measurements made by Delta Environmental Consultants, Inc. (Delta), in April 1991 for nine existing monitoring wells at the Shell service station located at 3420 San Pablo Avenue, Oakland, Alameda County, California (site) (Figure 1).

Previous reports on the site include the following:

<u>Report</u>	<u>Date</u>	<u>Author</u>
<i>Soil and Ground Water Investigation</i>	September 1988	Ensco Environmental Services, Inc.
<i>Phase I Hydrogeologic Assessment Investigation</i>	August 14, 1989	Delta
<i>Phase II Hydrogeologic Assessment Investigation</i>	May 30, 1990	Delta
<i>Quarterly Monitoring Report</i>	July 30, 1990	Delta
<i>Quarterly Monitoring Report</i>	October 11, 1990	Delta
<i>Quarterly Monitoring Report</i>	January 4, 1991	Delta
<i>Quarterly Monitoring Report</i>	April 25, 1991	Delta

On April 30, 1991, a site visit was made to perform the following:

- Measure and record water levels.
- Collect water samples from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, and MW-9 for analysis of benzene, toluene, ethylbenzene, xylenes (BTEX), and total petroleum hydrocarbons (TPH) as gasoline by U.S. Environmental Protection Agency (EPA) Methods 8015 and 8020.

QUARTERLY MONITORING REPORT, SECOND QUARTER 1991

3420 San Pablo Avenue, Oakland, California

Shell Wic No. 204-5508-5306

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2.0 SITE DATA

2.1 Depth to Ground Water Elevations

Depth to ground water was measured and recorded at monitoring wells MW-1 through MW-9 on April 30, 1991. The results are presented in Table 1. Subjective analysis of water from monitoring wells indicated that monitoring wells MW-1 and MW-2 each contained 0.01 foot of free product. Figure 2 is a ground water contour map showing the location of the nine monitoring wells and the measured ground water elevations. Monitoring wells containing free product were not used in mapping ground water contours. The April 30, 1991, ground water elevations indicate a complex pattern of ground water flow. The direction of ground water flow across the site is variable; there are components of flow toward monitoring well MW-9 (north of the site) and monitoring well MW-4 (southwest).

2.2 Ground Water Quality

Ground water samples collected from monitoring wells MW-1 through MW-9 on April 30, 1991, were analyzed for BTEX and TPH as gasoline. The results from these laboratory analyses are presented in Table 2. Analytical results from samples collected during previous sampling events are provided for comparison. Copies of certified laboratory reports for the April 30, 1991, sampling event are included in Appendix A.

Petroleum hydrocarbon constituents were detected in samples collected from each monitoring well on April 30, 1991. Concentrations of TPH as gasoline ranged from 460 parts per billion (ppb) in monitoring well MW-3 to 64,000 ppb in monitoring well MW-2. Benzene concentrations ranged from less than detection levels (<0.3 ppb) in monitoring well MW-3 to 14,000 ppb in monitoring well MW-2.

3.0 DISCUSSION

Water levels in the monitoring wells ranged from depths of 5.40 to 8.74 feet below grade on April 30, 1991, indicating that the ground water table has risen approximately 3 feet since the last measurements were recorded on January 28, 1991. Ground water elevations indicate a complex pattern of ground water flow. Free product thickness decreased in monitoring wells MW-1 and MW-2 between January and April 1991.

QUARTERLY MONITORING REPORT, SECOND QUARTER 1991

3420 San Pablo Avenue, Oakland, California

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Analytical test results for ground water samples collected on April 30, 1991, are consistent with previous results. Concentrations of TPH as gasoline increased in monitoring wells MW-5, MW-6, MW-8, and MW-9, and decreased in monitoring wells MW-4 and MW-7, since the previous sampling event in January 1991. Concentrations of benzene increased in monitoring well MW-9 and decreased in monitoring wells MW-4 through MW-8 between January and April 1991.

Delta will continue to monitor water levels and water quality on a quarterly basis. The next sampling event will take place in July 1991. Delta is currently seeking an encroachment permit from the City of Oakland to install two additional monitoring wells to complete the hydrogeologic investigation of this site.

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4.0 REMARKS/SIGNATURES

The recommendations 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. This report has been prepared solely for the use of Shell and any reliance on this report by third parties shall be at such party's sole risk. Other than this, no warranty is implied or intended.

**DELTA ENVIRONMENTAL CONSULTANTS, INC.**

This report was prepared by:

Lisa Rainger for  
Richard E. Chandler  
Hydrogeologist

Date

6/19/91

This report was reviewed by:

Hal E. Hansen  
Hal E. Hansen  
Project Manager

Date

6-19-91

The work performed in this report was done under the supervision of a California Registered Geologist:

Dale A. van Dam  
Dale A. van Dam, R.G.  
California Registered  
Geologist #4632

Date

6/19/91

/bp

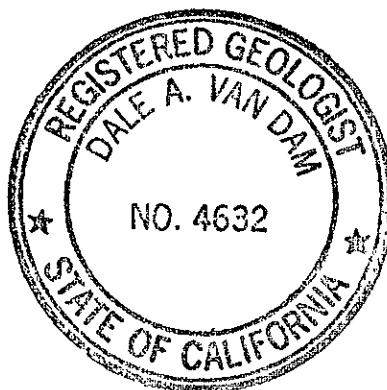




TABLE 1

## Ground Water Elevations

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)</u>	<u>Water Depth (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Physical Observations</u>
MW-1	06/12/89	21.28	9.57	11.71	No sheen or product
	01/23/90		9.04	12.24	No sheen or product
	02/02/90		8.89	12.39	No sheen or product
	02/21/90		8.00	13.28	0.01' Free product
	04/10/90		9.47	11.81	0.01' Free product
	07/26/90		9.73	11.55	0.01' Free product
	10/25/90		12.53	8.75	0.04' Free product
	01/28/91		11.62	9.66	0.03' Free product
04/30/91	8.10	13.18	0.01' Free product		
MW-2	06/12/89	21.56	7.96	13.60	No sheen or product
	01/23/90		8.30	13.26	No sheen or product
	02/02/90		8.04	13.52	No sheen or product
	02/21/90		7.57	13.99	No sheen or product
	04/10/90		7.94	13.62	No sheen or product
	07/26/90		8.41	13.15	No sheen or product
	10/25/90		11.13	10.43	No sheen or product
	01/28/91		9.62	11.94	0.31' Free product
04/30/91	6.76	14.80	0.01' Free product		
MW-3	06/12/89	21.78	10.77	11.01	No sheen or product
	01/23/90		9.26	12.52	No sheen or product
	02/02/90		9.33	12.45	No sheen or product
	02/21/90		8.24	13.54	No sheen or product
	04/10/90		10.26	11.52	No sheen or product
	07/26/90		10.98	10.80	No sheen or product
	10/25/90		12.70	9.08	No sheen or product
	01/28/91		NM <sup>a</sup>	---	---
04/30/91	8.74	13.04	No sheen or product		
MW-4	06/12/89	20.31	11.19	9.12	No sheen or product
	01/23/90		9.25	11.06	No sheen or product
	02/02/90		8.04	12.27	No sheen or product
	02/21/90		7.90	12.41	No sheen or product
	04/10/90		9.30	11.01	No sheen or product
	07/26/90		9.56	10.75	No sheen or product
	10/25/90		11.98	8.33	No sheen or product
	01/28/91		10.69	9.62	No sheen or product
04/30/91	8.17	12.14	No sheen or product		
MW-5	01/23/90	20.91	7.89	13.02	No sheen or product
	02/02/90		8.23	12.68	No sheen or product
	02/21/90		7.31	13.60	No sheen or product
	04/10/90		9.89	11.72	No sheen or product
	07/26/90		9.80	11.11	No sheen or product
	10/25/90		11.35	9.56	No sheen or product
	01/28/91		10.37	10.54	No sheen or product
04/30/91	7.56	13.35	No sheen or product		
MW-6	01/23/90	22.32	7.57	14.75	No sheen or product
	02/02/90		7.86	14.46	No sheen or product
	02/21/90		6.95	15.37	No sheen or product
	04/10/90		9.25	13.07	No sheen or product
	07/26/90		8.64	13.68	No sheen or product
	10/25/90		11.79	10.53	No sheen or product
	01/28/91		9.99	12.33	Sheen on VOA sample
04/30/91	7.03	15.29	No sheen or product		

TABLE 1-Continued

## Ground Water Elevations

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)</u>	<u>Water Depth (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Physical Observations</u>
MW-7	01/23/90	20.36	6.98	13.38	No sheen or product
	02/02/90		8.91	11.45	No sheen or product
	02/21/90		6.65	13.71	No sheen or product
	04/10/90		6.99	13.37	No sheen or product
	07/26/90		7.33	13.03	No sheen or product
	10/25/90		9.43	10.93	No sheen or product
	01/28/91		7.82	12.54	No sheen or product
	04/30/91		5.40	14.96	No sheen or product
MW-8	01/23/90	20.95	7.19	13.76	No sheen or product
	02/02/90		7.32	13.36	No sheen or product
	02/21/90		6.90	14.05	No sheen or product
	04/10/90		7.20	13.75	No sheen or product
	07/26/90		7.58	13.37	No sheen or product
	10/25/90		10.11	10.84	No sheen or product
	01/28/91		9.33	11.62	No sheen or product
	04/30/91		6.35	14.60	No sheen or product
MW-9	01/23/90	21.19	9.31	11.88	No sheen or product
	02/02/90		9.02	12.17	No sheen or product
	02/21/90		8.28	12.91	No sheen or product
	04/10/90		8.41	12.78	No sheen or product
	07/26/90		9.18	12.01	No sheen or product
	10/25/90		11.57 <sup>a</sup>	9.62	No sheen or product
	01/28/91		10.38 <sup>a</sup>	10.81	No sheen or product
	04/30/91		7.20	13.99	No sheen or product

<sup>a</sup>Not measured; inaccessible due to obstruction.

TABLE 2

Ground Water Chemical Analysis \\  
Concentrations in parts per million

Monitoring Well	Date Sampled	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB <sup>a</sup>	EDC <sup>b</sup>	TPH <sup>c</sup>
MW-1	04/17/89	1.4	2.3	6.6	1.1	ND <sup>d</sup>	0.010	12.0
	01/23/90 <sup>e</sup>							
	04/10/90 <sup>e</sup>							
	07/26/90 <sup>e</sup>							
	10/25/90 <sup>e</sup>							
	01/28/91 <sup>e</sup>							
MW-2	04/30/91	2.4	2.1	1.9	10	NA <sup>f</sup>	NA	39
	04/17/89	12.0	1.8	12.0	2.2	<0.10	NA	35.0
	01/23/90	0.11	0.0096	0.14	3.3	NA <sup>f</sup>	NA	40.0
	04/10/90	12.0	0.57	0.56	6.8	NA	NA	45.0
	07/26/90	15.0	0.84	1.4	10.0	NA	NA	53.0
	10/25/90	12.0	1.4	3.5	18.0	NA	NA	140.0
	01/28/91 <sup>e</sup>							
	04/30/91	14	1.5	2.5	11	NA	NA	64
MW-3	04/17/89	0.003	0.0002	0.009	<0.0001	<0.001	<0.001	0.10
	01/23/90	0.0011	<0.0003	<0.0003	<0.0003	NA	NA	0.14
	04/10/90	0.0011	<0.0003	<0.0003	0.0012	NA	NA	0.25
	07/26/90	<0.0003	<0.0003	<0.0003	<0.0003	NA	NA	<0.03
	10/25/90	<0.0003	<0.0003	<0.0003	<0.0003	NA	NA	0.093
	01/28/91 <sup>g</sup>	---	---	---	---	---	---	---
	04/30/91	<0.0003	<0.0003	<0.0003	0.00037	NA	NA	0.46
	MW-4	04/17/89	0.0012	<0.0001	0.003	0.001	<0.0001	0.0015
01/23/90		0.0012	<0.0003	<0.0003	<0.0003	NA	NA	0.15
04/10/90		0.15	0.0035	0.0098	0.011	NA	NA	1.0
07/26/90		0.078	0.0037	<0.0003	0.012	NA	NA	3.3
10/25/90		0.61	0.18	0.12	0.29	NA	NA	3.8
01/28/91		0.59	0.042	0.06	0.22	NA	NA	3.3
04/30/91		0.35	0.013	0.029	0.042	NA	NA	1.3
MW-5		01/23/90	0.0048	<0.0003	<0.0003	<0.0003	NA	NA
	04/10/90	0.04	0.0059	0.00063	0.0027	NA	NA	0.75
	07/26/90	0.0089	<0.0003	<0.0003	<0.0003	NA	NA	1.7
	10/25/90	0.015	0.0018	0.0024	0.0099	NA	NA	0.32
	01/28/91	0.21	0.011	0.069	0.280	NA	NA	3.1
	04/30/91	0.16	0.0077	0.012	0.57	NA	NA	3.7
MW-6	01/23/90	0.46	0.10	0.0093	1.6	NA	NA	33.0
	04/10/90	0.46	0.021	0.004	0.17	NA	NA	9.2
	07/26/90	0.89	0.043	0.12	0.49	NA	NA	7.7
	10/25/90	1.0	0.027	0.27	0.26	NA	NA	8.7
	01/28/91	2.5	0.19	1.5	5.4	NA	NA	38.0
	04/30/91	1.9	0.28	1.7	6.0	NA	NA	42
MW-7	01/23/90	0.061	0.0013	<0.0003	1.6	NA	NA	3.2
	04/10/90	4.3	0.023	0.018	0.55	NA	NA	15.0
	07/26/90	3.8	0.024	0.28	0.34	NA	NA	8.8
	10/25/90	3.9	0.015	0.64	0.29	NA	NA	11.0
	01/28/91	4.0	<0.0003	0.62	0.15	NA	NA	14.0
	04/30/91	3.0	<0.0003	0.57	0.59	NA	NA	9.2

TABLE 2 - Continued

Ground Water Chemical Analysis  
Concentrations in parts per million

<u>Monitoring Well</u>	<u>Date Sampled</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl-benzene</u>	<u>Xylenes</u>	<u>EDBa</u>	<u>EDC<sup>b</sup></u>	<u>TPH<sup>c</sup></u>
MW-8	01/23/90	0.16	0.73	0.047	3.3	NA	NA	22.0
	04/10/90	2.6	0.63	0.25	2.1	NA	NA	21.0
	07/26/90	3.6	1.6	0.61	3.6	NA	NA	20.0
	10/25/90	3.4	0.10	0.30	0.27	NA	NA	8.6
	01/28/91	3.6	0.58	0.84	2.6	NA	NA	25.0
	04/30/91	3.1	1.1	1.3	5.7	NA	NA	31
MW-9	01/23/90	<0.0003	0.0003	0.00097	0.003	NA	NA	0.0088
	04/10/90	0.50	0.0041	0.0013	0.05	NA	NA	2.5
	07/26/90	0.73	0.004	0.0067	0.012	NA	NA	2.5
	10/25/90	0.36	0.0029	0.046	0.0038	NA	NA	1.4
	01/28/91	0.14	0.0012	0.029	0.047	NA	NA	1.1
	04/30/91	0.27	0.015	0.10	0.12	NA	NA	1.9

<sup>a</sup>Ethylene dibromide.

<sup>b</sup>1,2-dichloroethene.

<sup>c</sup>Total petroleum hydrocarbons as gasoline.

<sup>d</sup>Not detected.

<sup>e</sup>Not sampled due to the presence of free product.

<sup>f</sup>Not analyzed.

<sup>g</sup>Not sampled due to well obstruction.



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



QUADRANGLE LOCATION

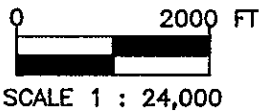


FIGURE 1

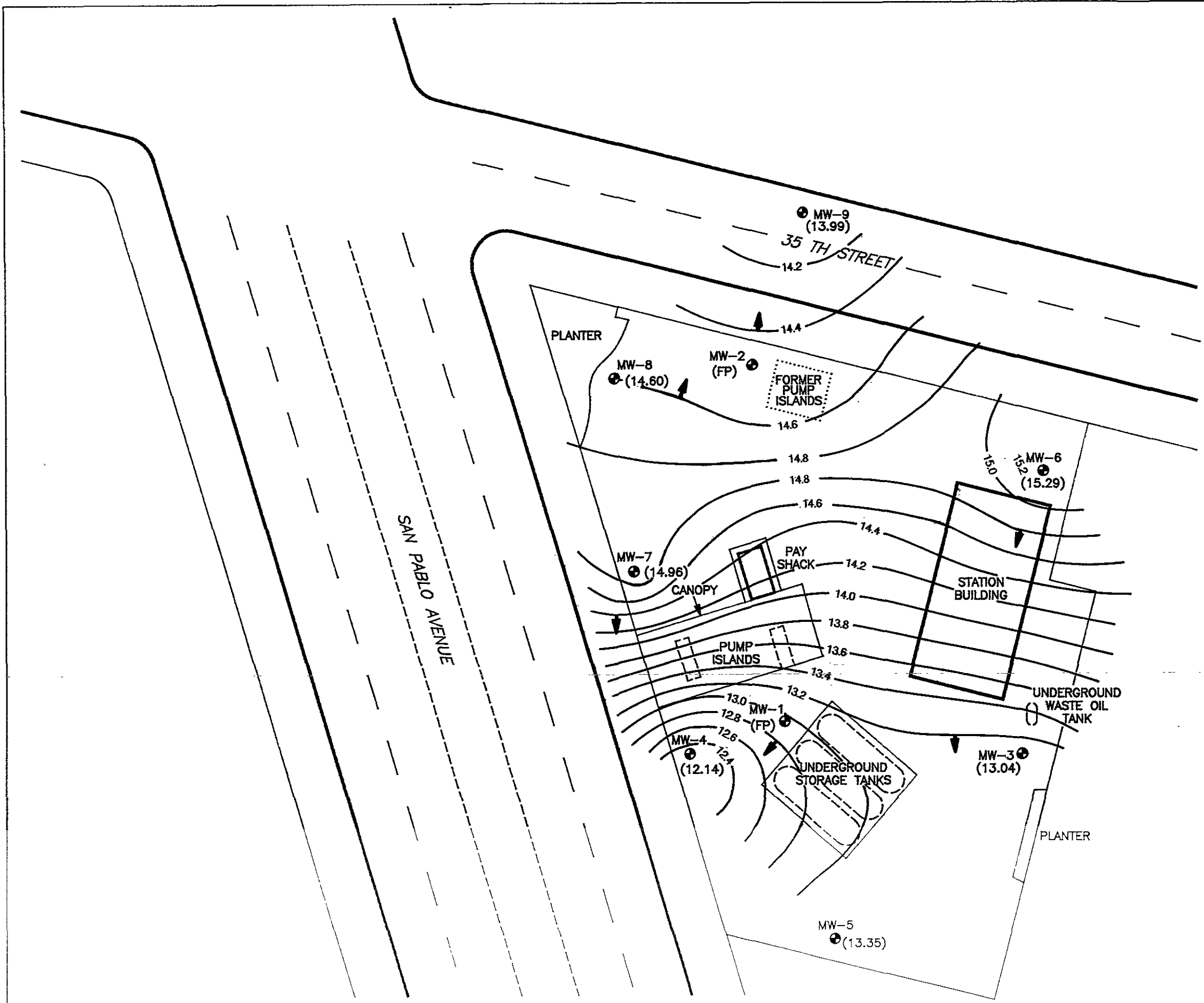
SITE LOCATION MAP

3420 SAN PABLO AVENUE  
 OAKLAND, CA.

PROJECT NO. 40-88-666	DRAWN BY I.H. 12/20/90
FILE NO.	PREPARED BY HEH
REVISION NO. 1	REVIEWED BY Dvd 1/8/90



Delta  
 Environmental  
 Consultants, Inc.



- LEGEND:**
- MW-1 MONITORING WELL LOCATION
  - (FP) FREE PRODUCT
  - (15.29) GROUND WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
  - 13.6— WATER TABLE CONTOUR IN FEET ABOVE MEAN SEA LEVEL
  - ↘ GROUND WATER FLOW DIRECTION

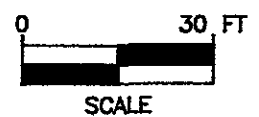


FIGURE 2  
 WATER TABLE CONTOUR MAP - 4/30/91  
 3420 SAN PABLO AVENUE  
 OAKLAND, CA.

PROJECT NO. 40-88-666	DRAWN BY LH 5/23/91
FILE NO. 88-666-2	PREPARED BY REC
REVISION NO. 2	REVIEWED BY NEH

Delta  
Environmental  
Consultants, Inc.

**APPENDIX A**

Certified Analytical Laboratory Reports



# SEQUOIA ANALYTICAL

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

Delta Environmental Consultants  
 3330 Data Drive  
 Rancho Cordova, CA 95670  
 Attention: Hal Hanson

Project: 40-88-666-01 / Shell, Oakland

Enclosed are the results from 9 water samples received at Sequoia Analytical on May 1, 1991. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
1050048	Water, MW-1	4/30/91	EPA 5030/8015/8020
1050049	Water, MW-2	4/30/91	EPA 5030/8015/8020
1050050	Water, MW-3	4/30/91	EPA 5030/8015/8020
1050051	Water, MW-4	4/30/91	EPA 5030/8015/8020
1050052	Water, MW-5	4/30/91	EPA 5030/8015/8020
1050053	Water, MW-6	4/30/91	EPA 5030/8015/8020
1050054	Water, MW-7	4/30/91	EPA 5030/8015/8020
1050055	Water, MW-8	4/30/91	EPA 5030/8015/8020
1050056	Water, MW-9	4/30/91	EPA 5030/8015/8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

*Malle McBimey Springer*  
 Malle McBimey Springer  
 Project Manager





# SEQUOIA ANALYTICAL

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

Delta Environmental Consultants 3330 Data Drive Rancho Cordova, CA 95670 Attention: Hal Hanson	Client Project ID: 40-88-666-01 / Shell, Oakland Matrix Descript: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 105-0048	Sampled: Apr 30, 1991 Received: May 1, 1991 Analyzed: 5/1-7/91 Reported: May 7, 1991
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## TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P.	Benzene	Toluene	Ethyl Benzene	Xylenes
		Hydrocarbons $\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)
105-0048	MW-1	39,000	2,400	2,100	1,900	10,000
105-0049	MW-2	64,000	14,000	1,500	2,500	11,000
105-0050	MW-3	460	N.D.	N.D.	N.D.	0.37
105-0051	MW-4	1,300	350	13	29	42
105-0052	MW-5	3,700	160	7.7	12	57
105-0053	MW-6	42,000	1,900	280	1,700	6,000
105-0055	MW-8	31,000	3,100	1,100	1,300	5,700
105-0056	MW-9	1,900	270	15	100	120

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

*Maile Springer*  
Maile McBirney Springer  
Project Manager



# SEQUOIA ANALYTICAL

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

Delta Environmental Consultants	Client Project ID: 40-88-666-01 / Shell, Oakland	Sampled: Apr 30, 1991
3330 Data Drive	Matrix Descript: Water	Received: May 1, 1991
Rancho Cordova, CA 95670	Analysis Method: EPA 5030/8015/8020	Analyzed: May 2, 1991
Attention: Hal Hanson	First Sample #: 105-0054	Reported: May 7, 1991

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

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons	Benzene	Toluene	Ethyl Benzene	Xylenes
		$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)
105-0054	MW-7	9,200	3,000	N.D.	570	590

Detection Limits:

15,000

150

150

150

150

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

*Malle McBirney Springer*  
 Malle McBirney Springer  
 Project Manager

1050048.DLT <2>



# SEQUOIA ANALYTICAL

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

Delta Environmental Consultants Client Project ID: 40-88-666-01 / Shell, Oakland  
 3330 Data Drive  
 Rancho Cordova, CA 95670  
 Attention: Hal Hanson QC Sample Group: - Reported: May 7, 1991

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nguyen	M. Nguyen	M. Nguyen	M. Nguyen
Reporting Units:	ng	ng	ng	ng
Date Analyzed:	May 1, 1991	May 1, 1991	May 1, 1991	May 1, 1991
QC Sample #:	GBLK050191	GBLK050191	GBLK050191	GBLK050191
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	100	100	100	300
Conc. Matrix Spike:	98	97	98	290
Matrix Spike % Recovery:	98	97	98	97
Conc. Matrix Spike Dup.:	100	100	99	300
Matrix Spike Duplicate % Recovery:	100	100	99	100
Relative % Difference:	2.0	3.0	1.0	3.4

SEQUOIA ANALYTICAL

Malle McBirney Springer  
 Project Manager

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

# CHAIN OF CUSTODY



Delta Environmental Consultants, Inc.  
3330 Data Drive, Suite 100  
Rancho Cordova, CA 95670  
916/638-2085 • FAX 916/638-8385

LABORATORY SAMPLE SENT TO: SEQUIA ANALYT.

PROJ. NO. 40.84  
666.01  
PROJECT NAME: OAKLAND Shell  
PROJECT LOCATION: 3420 San Pablo Ave  
PROJECT MANAGER: HEM

Analysis Requested & Container Description

ADDRESS: \_\_\_\_\_

SAMPLERS (Signature)  
[Signature]

LABORATORY SAMPLE ID	SAMPLE ID	DATE	TIME	SAMPLE TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	Analysis Requested & Container Description				REMARKS	
	MW-9	4/30/11	940	H <sub>2</sub> O		2	✓					
	MW-3		10 <sup>35</sup>			2	✓					
	MW-4		1125			2	✓					
	MW-5		1220			2	✓					
	MW-7		115			2	✓					
	MW-8		210			2	✓					
	MW-2		350			2	✓					
	MW-6		300			2	✓					

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>5/1/11</u>	Time <u>10<sup>30</sup></u>	Received by: (Signature) <u>[Signature]</u>	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
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Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Turnaround Time: <u>STANDARD</u>
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Sealed for shipment by: (signature) <u>[Signature]</u>	Date/Time	Shipment method: <u>SEQ. COURIER</u>
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Sampler Comments:	Laboratory Comments:
	Condition of Samples:

