Delta
Environmental
Consultants, Inc.

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

September 18, 1991

Mr. Dennis Byrne
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. Bryne:

Enclosed is a copy of Delta Environmental Consultants, Inc. *Quarterly Monitoring Report, Third Quarter 1991* for the subject site. This report contains results of quarterly monitoring of ground water elevation and quality conducted on August 6, 1991, at the referenced site.

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

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Lisa Rainger

Lisa Rainger
Hydrogeologist/Project Manager

LR (QMR004.BJJ)
Enclosure

cc: Ms. Lisa Mc Cann, California Regional Water Quality Control Board,
San Francisco Bay Region
Mr. Jack Brastad, Shell Oil Company
Mr. Jim Brownell, Delta Environmental Consultants, Inc.

QUARTERLY MONITORING REPORT, THIRD QUARTER 1991

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

September 18, 1991

Prepared By

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

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QUARTERLY MONITORING REPORT, THIRD 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 August 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:

Report	Date	Author
Soil and Ground Water Investigation	September 1988	EnscoEnvironmental Services, Inc.
Phase I Hydrogeologic Assessment Investigation	August 14, 1989	Delta
Phase II Hydrogeologic Assessment Investigation	May 30, 1990	Delta
Quarterly Monitoring Report	July 30, 1990	Delta
Quarterly Monitoring Report	October 11, 1990	Delta
Quarterly Monitoring Report, Fourth Quarter 1990	January 4, 1991	Delta
Quarterly Monitoring Report, First Quarter 1991	April 25, 1991	Delta
Quarterly Monitoring Report, Second Quarter 1991	June 19, 1991	Delta

On August 6, 1991, a site visit was made to perform the following:

- Measure and record water levels.
- Collect water samples from monitoring wells 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.

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 August 6, 1991. The results are presented in Table 1. Subjective analysis of water from monitoring wells indicated that monitoring well MW-1 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 well MW-5 was not used in mapping ground water contours due to the presence of free product in the well. The August 6, 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-2 through MW-9 on August 6, 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 August 6, 1991, sampling event are included in Appendix A.

Petroleum hydrocarbon constituents were detected in samples collected from each monitoring well on August 6, 1991. Concentrations of TPH as gasoline ranged from 430 parts per billion (ppb) in monitoring well MW-3 to 50,000 ppb in monitoring well MW-2. Benzene concentrations ranged from 8.3 ppb in monitoring well MW-3 to 15,000 ppb in monitoring well MW-2.

3.0 DISCUSSION

Water levels in the monitoring wells ranged from depths of 8.00 to 11.18 feet below grade on August 6, 1991, indicating that the ground water table has dropped approximately 3 feet since the last measurements were recorded on April 30, 1991. Ground water elevations indicate a complex pattern of ground water flow. Free product thickness remained the same in monitoring well MW-1 between April and August 1991. Free product thickness decreased in monitoring well MW-2 from 0.01 foot to 0.0 foot between April and August 1991.

Analytical test results for ground water samples collected on August 6, 1991, are consistent with previous results. Concentrations of TPH as gasoline increased in monitoring wells MW-5, MW-7, MW-8, and MW-9, and decreased in monitoring wells MW-2, MW-3, MW-4, MW-6 and MW-7, since the previous sampling event in April 1991. Concentrations of benzene increased in monitoring wells MW-2, MW-3, MW-5, MW-7, MW-8, and MW-9 decreased in monitoring wells MW-4 and MW-6 between April and August 1991.

Delta will continue to monitor water levels and water quality on a quarterly basis. The next sampling event will take place in October 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.

4.0 REMARKS/SIGNATURES

The findings contained in this report 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.

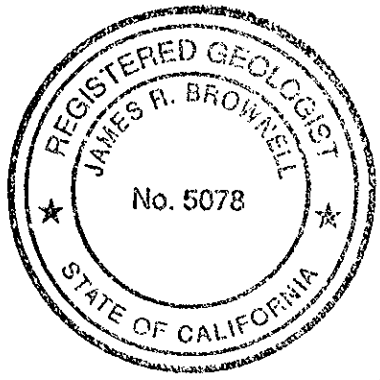
DELTA ENVIRONMENTAL CONSULTANTS, INC.

PREPARED BY:

Lisa Rainger Date 9/18/91
Lisa Rainger
Hydrogeologist/Project Manager

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

James R Brownell Date 9/18/91
James R. Brownell, R.G.
California Registered Geologist No. 5078



/bj

TABLE 1-Continued

GROUND WATER ELEVATIONS

Monitoring Well	Date	Top of Riser Elevation (ft)	Water Depth (ft)	Ground Water Elevation (ft)	Physical Observations
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
	08/06/91		10.23	10.68	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
	08/06/91		10.61	11.71	No sheen or product
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
	08/06/91		8.00	12.36	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
	08/06/91		9.60	11.35	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	9.62	No sheen or product
	01/28/91		10.38	10.81	No sheen or product
	04/30/91		7.20	13.99	No sheen or product
	08/06/91		10.33	10.86	No sheen or product

TABLE 1

GROUND WATER ELEVATIONS

Monitoring Well	Date	Top of Riser Elevation (ft)	Water Depth (ft)	Ground Water Elevation (ft)	Physical Observations
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
	08/06/91		10.86	10.42	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
	40/10/90		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
	08/06/91		9.72	11.84	No sheen or 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[a]	---	---
	04/30/91		8.74	13.04	No sheen or product
	08/06/91		11.18	10.60	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
	08/06/91		10.57	9.74	No sheen or product

TABLE 2

GROUND WATER CHEMICAL ANALYSIS
Concentrations in parts per million

Monitoring Well	Date Sampled	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB[a]	EDC[b]	TPH[c]
							0.010	12.0
MW-1	04/17/89	1.4	2.3	6.6	1.1	ND[d]		
	01/23/90[e]							
	04/10/90[e]							
	07/26/90[e]							
	10/25/90[e]							
	01/28/91[e]							
	04/30/91	2.4	2.1	1.9	10	NA[f]	NA	39
	08/06/91[e]							
							36 ppb	
MW-2	04/17/89	12.0	1.8	12.0	2.2	<0.10	~~<0.036~~	35.0
	01/23/90	0.11	0.0096	0.14	3.3	NA[f]	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[e]							
	04/30/91	14	1.5	2.5	11	NA	NA	64
	08/06/91	15	1.4	2.7	13.0	NA	NA	50
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[g]	---	---	---	---	---	---	---
	04/30/91	<0.0003	<0.0003	<0.0003	0.00037	NA	NA	0.46
	08/06/91	0.008	0.001	0.004	0.015	NA	NA	0.43
MW-4	04/17/89	0.0012	<0.0001	0.003	0.001	<0.0001	0.0015	0.50
	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
	08/06/91	0.028	0.018	0.068	0.15	NA	NA	1.3
MW-5	01/23/90	0.0048	<0.0003	<0.0003	<0.0003	NA	NA	0.29
	04/10/90	0.04	.00059	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
	08/06/91	0.21	0.027	0.24	0.66	NA	NA	9.1

TABLE 2 - Continued

GROUND WATER CHEMICAL ANALYSIS
Concentrations in parts per million

Monitoring Well	Date Sampled	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB[a]	EDC[b]	TPH[c]
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
	08/06/91	1.4	0.20	1.3	4.2	NA	NA	28.0
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
	08/06/91	4.3	0.076	0.77	0.73	NA	NA	13.0
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
	08/06/91	3.7	1.1	1.4	6.1	NA	NA	32.0
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
	08/06/91	1.7	0.095	0.52	1.4	NA	NA	11.0

[a]Ethylene dibromide.
[b]1,2-dichloroethane.
[c]Total petroleum hydrocarbons as gasoline.
[d]Not detected.
[e]Not sampled due to the presence of free product.
[f]Not analyzed.
[g]Not sampled due to well obstruction.

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

North

QUADRANGLE LOCATION

0 2000 FT

SCALE 1 : 24,000

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.

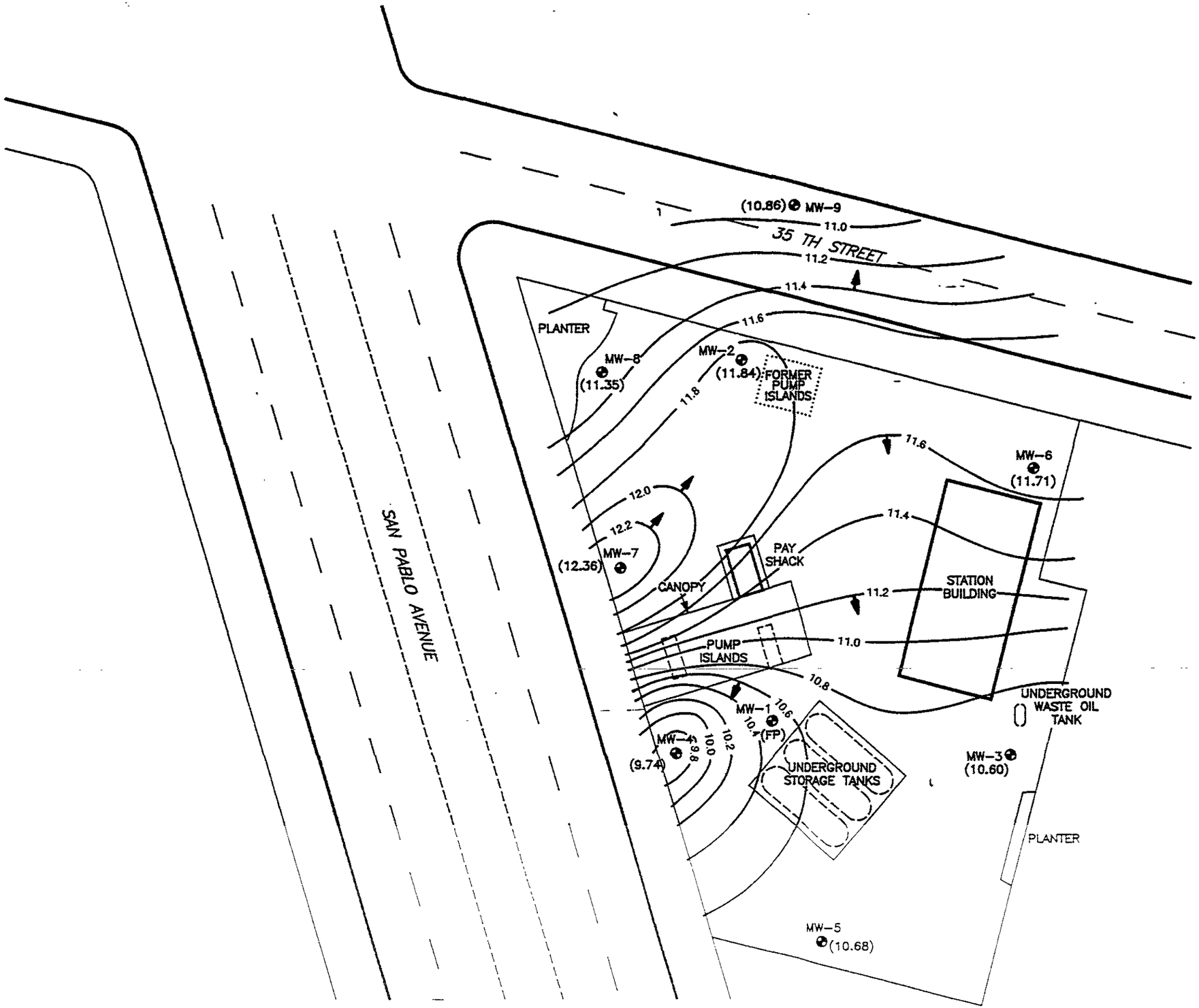


FIGURE 2

WATER TABLE CONTOUR MAP – 8/6/91

3420 SAN PABLO AVENUE

OAKLAND, CA.

PROJECT NO. 40-58-666	DRAWN BY LH. 9/18/91
FILE NO. 58-666-2	PREPARED BY LER
REVISION NO. 1	REVIEWED BY 9/18/91 LER

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

AUG 16 1991

8/20/91

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 8 water samples received at Sequoia Analytical on August 7,1991. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
1081400	Water, MW-2	8/6/91	EPA 5030/8015/8020
1081401	Water, MW-3	8/6/91	EPA 5030/8015/8020
1081402	Water, MW-4	8/6/91	EPA 5030/8015/8020
1081403	Water, MW-5	8/6/91	EPA 5030/8015/8020
1081404	Water, MW-6	8/6/91	EPA 5030/8015/8020
1081405	Water, MW-7	8/6/91	EPA 5030/8015/8020
1081406	Water, MW-8	8/6/91	EPA 5030/8015/8020
1081407	Water, MW-9	8/6/91	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

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:	Aug 6, 1991
3330 Data Drive	Matrix Descript:	Water	Received:	Aug 7, 1991
Rancho Cordova, CA 95670	Analysis Method:	EPA 5030/8015/8020	Analyzed:	8/12-8/13/91
Attention: Hal Hanson	First Sample #:	108-1400 A-B	Reported:	Aug 14, 1991

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

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)
108-1400	MW-2	50,000	15,000	1,400	2,700	13,000
108-1401	MW-3	430	8.3	1.1	4.0	15
108-1402	MW-4	1,300	280	18	68	150
108-1403	MW-5	9,100	210	27	240	660
108-1404	MW-6	28,000	1,400	200	1,300	4,200
108-1405	MW-7	13,000	4,300	76	770	730
108-1406	MW-8	32,000	3,700	1,100	1,400	6,100
108-1407	MW-9	11,000	1,700	95	520	1,400
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 McBirney Springer
Project Manager

1081400.DLT <1>

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
QC Sample Group: 1084104-7
Reported: Aug 14, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylene
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	G. Meyer	G. Meyer	G. Meyer	G. Meyer
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Aug 13, 1991	Aug 13, 1991	Aug 13, 1991	Aug 13, 1991
QC Sample #:	GBLK081391	GBLK081391	GBLK081391	GBLK081391
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	10	10	10	30
Matrix Spike % Recovery:	100	100	100	100
Conc. Matrix Spike Dup.:	10	10	10	32
Matrix Spike Duplicate % Recovery:	100	100	100	110
Relative % Difference:	0.0	0.0	0.0	6.5

SEQUOIA ANALYTICAL

Maile McBirney Springer
Project Manager

$$\text{\% Recovery:} \quad \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

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

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
QC Sample Group: 1081400-03
Reported: Aug 14, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylene
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	L. Laikhtman	L. Laikhtman	L. Laikhtman	L. Laikhtman
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Aug 12, 1991	Aug 12, 1991	Aug 12, 1991	Aug 12, 1991
QC Sample #:	GBLK081291	GBLK081291	GBLK081291	GBLK081291
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	10	10	10	31
Matrix Spike % Recovery:	100	100	100	100
Conc. Matrix Spike Dup.:	10	10	10	30
Matrix Spike Duplicate % Recovery:	100	100	100	100
Relative % Difference:	0.0	0.0	0.0	3.3

SEQUOIA ANALYTICAL

Maile McBirney Springer
Project Manager

$$\text{\% Recovery:} \quad \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

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

CHAIN OF CUSTODY

Page _____ of _____

Delta
Environmental
Consultants, Inc.

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

LABORATORY SAMPLES SENT TO: Sequoia Analytical
ADDRESS: 680 Chesapeake Dr, Redwood City CA 94063

PROJ. NO. 40-88-666.101
PROJECT NAME: Oakland Shell
PROJECT LOCATION: 3420 San Pablo Ave
PROJECT MANAGER: Hal Hanson
SAMPLERS (Signature) Gary Mostue

LABORATORY SAMPLE ID	SAMPLE ID	DATE	TIME	SAMPLE TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	Analysis Requested & Container Description: BTEX	TPHg					REMARKS
081400	MW-2	8/6	12:44	W		2							
01	-3		14:00										
02	-4		13:30										
03	-5		13:20										
04	-6		13:05										
05	-7		12:44										
06	-8		12:30										
07	-9		12:14										

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Gary Mostue	8/7	1:10			8/7/91	1505	
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Turnaround Time:	
			Delta Group	8/7/91	1505	Normal	

Sealed for shipment by: (signature) Gary Mostue
Date/Time
Shipment method: Lab pickup

Sampler Comments:

Laboratory Comments:

Condition of Samples:

White: Return with analytical results to Delta Yellow: Laboratory Copy Pink: Delta's Copy