exxon0694

EXXON COMPANY, U.S.A.
QUARTERLY STATUS REPORT
April - June 1994
June 24, 1994

RAS #7-3399
[redacted]
Pleasanton, California
Job No: 130009

Work Performed During This Quarter

April through June 1994

- Performed quarterly monitoring and sampling for the second quarter 1994 on May 4 and 5, 1994.
- Submit final Subsurface Investigation and Interim Remediation System Evaluation report to Exxon on May 13, 1994.
- Submitted final report for second quarter 1994 Quarterly Monitoring to Exxon on June 22, 1994.

Groundwater Sampling (sampled 05/04-05/94) Results: (ug/L)

Well	TPHg	B	T	E	X	Historical Trends
MW-1	<50	<0.5	<0.5	<0.5	<0.5	Unchanged
MW-2			Well Destroyed			
MW-3			Well Destroyed			
MW-4	<50	<0.5	<0.5	<0.5	<0.5	Decreased
MW-5d	<50	<0.5	<0.5	<0.5	<0.5	Unchanged
MW-5s	<50	<0.5	<0.5	<0.5	<0.5	Unchanged
MW-6			Well Destroyed			
MW-7	<50	<0.5	<0.5	<0.5	<0.5	Unchanged
MW-8	<50	<0.5	<0.5	<0.5	<0.5	Unchanged
MW-9			Well Dry			
MW-10			Well Dry			
MW-11			Well Dry			

Free Phase Product Recovery

Not Applicable

EXXON COMPANY, U.S.A.
QUARTERLY STATUS REPORT
April - June 1994
June 24, 1994

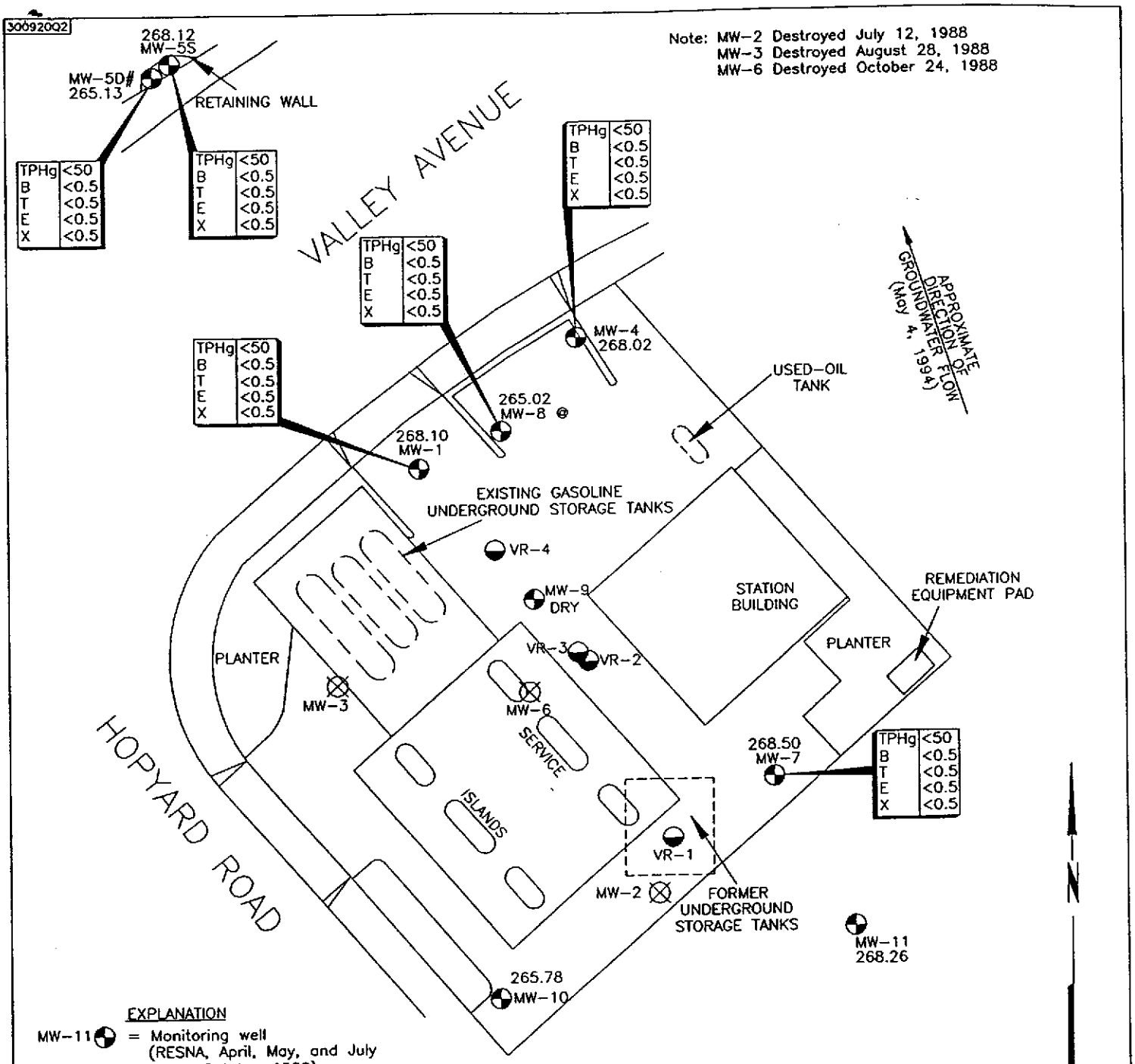
RAS #7-3399
2991 Hopyard Road
Pleasanton, California
Job No: 130009

Work to be Performed Next Quarter Estimated Completion Date 09/30/94

- Perform quarterly monitoring and sampling for the third quarter 1994.
- Submit final report for third quarter 1994 Quarterly Monitoring to Exxon.

Work to be Performed Next 12 Months Estimated Completion Date 06/30/95

- Continue monthly monitoring and quarterly groundwater sampling program to evaluate the trends of gasoline hydrocarbons and groundwater gradient in first encountered groundwater below the site.



Source: Surveyed by Ron Archer, Civil Engineer, July 27, 1989. Revised January 22, 1990.

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PROJECT 130009.20

GROUNDWATER ELEVATION AND CHEMICAL CONCENTRATIONS
Exxon Station 7-3399
2991 Hopyard Road
Pleasanton, California

PLATE 2

RESNA
Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
FAX: (408) 264-2435

exxon0693

EXXON COMPANY, U.S.A.
QUARTERLY STATUS REPORT
April - June 1993
June 30, 1993

RAS #7-7003
349 Main Street
Pleasanton, California
Job No: 130015

Work Performed During This Quarter

April through June 1993

- Performed quarterly monitoring second quarter 1993 on June 8 and 9, 1993.

Groundwater Sampling (sampled June 8 and 9, 1993) Results: (ug/L)

Well	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	VOCs	Historical Trends
MW-1	7,500	42	32	970	720	1.8[1] 0.8[2] 1.0[3]	Decreased
MW-2	160	0.5	3.3	5.7	2.0	NA	Decreased
MW-3	<50	0.6	0.9	3.4	2.8	NA	Increased
MW-4	<50	0.7	0.9	0.7	<0.5	0.6[3]	Decreased
MW-5	<50	<0.5	<0.5	<0.5	<0.5	NA	Decreased
MW-6	<50	0.6	0.7	1.7	1.8	NA	Increased
MW-7	<50	<0.5	0.8	<0.5	<0.5	NA	Decreased
MW-8	65	<0.5	1.1	0.8	1.7	NA	Not Applicable
VE-1	5,800	<5.0	15	830	500	NA	Not Applicable
VE-2	7,000	10	18	900	340	NA	Not Applicable
VE-3	130	3.1	3.1	18	15	NA	Not Applicable

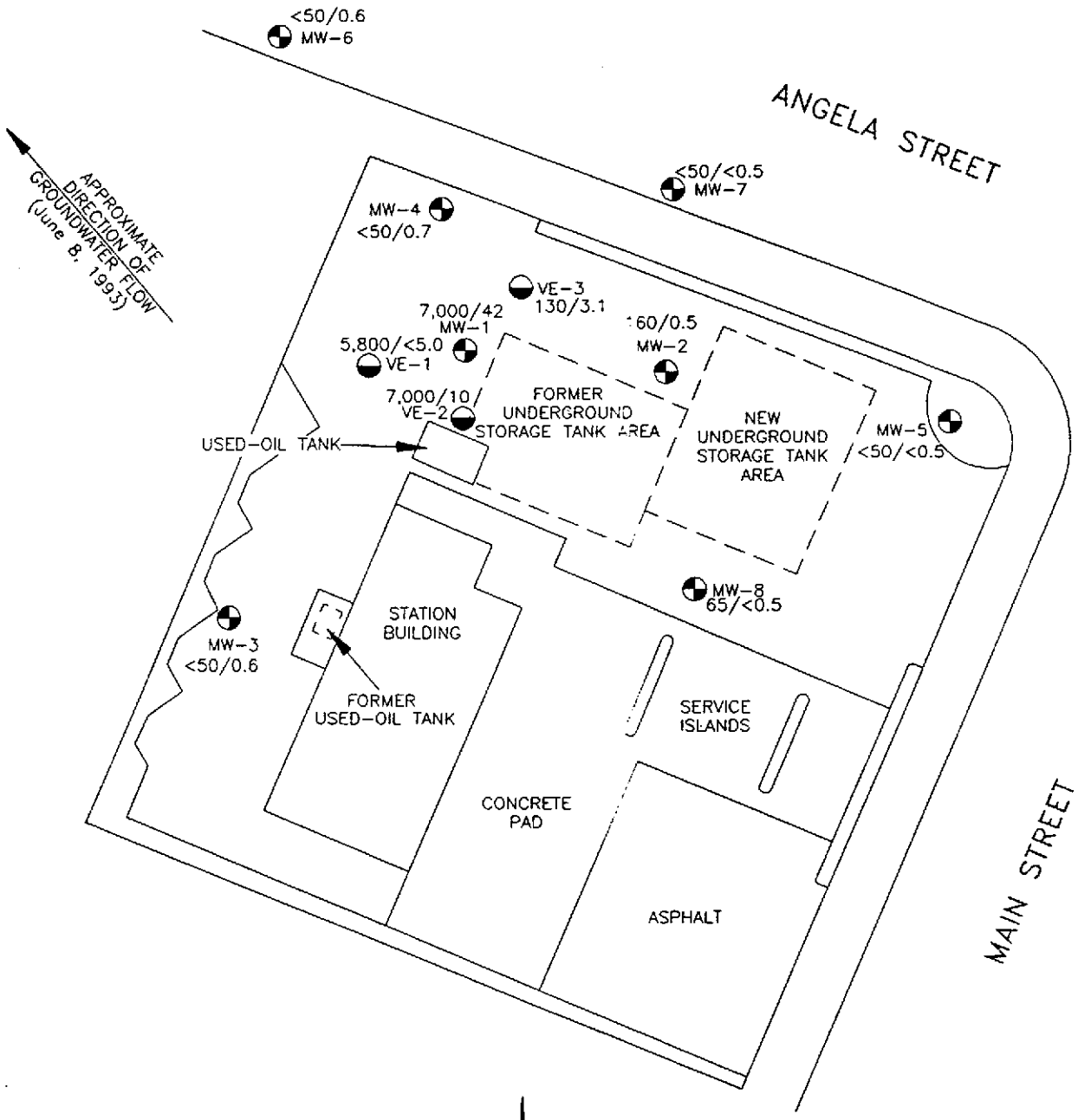
[1] Chloroform
[2] Tetrachloroethene
[3] 1,2-Dichloroethane

Free Phase Product Recovery

Not Applicable

Work to be Performed Next Quarter Estimated Completion Date 09/30/93

- Submit final report for second quarter 1993 Quarterly Monitoring to Exxon.
- Perform Quarterly Monitoring for the third quarter 1993 on September 1 and 2, 1993.



EXPLANATION

MW-8 = Monitoring well

VE-3 = Vapor extraction well

7,500/42 = Concentration of TPHg/Benzene in groundwater in ppb, June 8 and 9, 1993

N

Approximate Scale

30 15 0 30 60

feet

Source: Surveyed by Ron Archer Civil Engineer, Inc., June 1990 and April 1991.

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PROJECT 130015.01

GENERALIZED SITE PLAN
Exxon Station 7-7003
349 Main Street
Pleasanton, California

PLATE
1

EXXON COMPANY, U.S.A.

POST OFFICE BOX 4032 . CONCORD, CA 94524-2032

ENVIRONMENTAL ENGINEERING

MARLA D. GUENSLER
SENIOR ENVIRONMENTAL ENGINEER
(510) 246-8776

February 3, 1993

Ms. Linda Spencer
San Francisco Bay Regional Water Quality Control Board
2101 Webster Street, Room 500
Oakland, California 94612

RE: **EXXON RAS #7-3399, 2991 HOPYARD RD., PLEASANTON, CA 94566**

Dear Ms. Spencer:

Attached for your review and comment, please find a report entitled "Letter Report Third Quarter 1992, Groundwater Monitoring and Remediation Activities". This report, prepared by RESNA Industries, San Jose, California, presents the results of the third quarter monitoring event for the above referenced site.

Should you have any questions or comments, or require additional information, please do not hesitate to contact me at the above listed phone number.

Sincerely,

Marla D. Guensler

Marla D. Guensler
Senior Environmental Engineer

MDG/pdp

3027E

Attachment

cc: w/attachment
Mr. S. Cusenza - City of Pleasanton Public Works Department
Mr. J. Killingstad - Alameda County Flood Control District, Zone 7
Mr. R. Meuller - City of Pleasanton Fire Department

w/o attachment
Mr. M. Briggs - RESNA, San Jose

Recd 2/5/93

RESNA

Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
Fax: (408) 264-2345

LETTER REPORT
THIRD QUARTER 1992
GROUNDWATER MONITORING
AND
REMEDIATION ACTIVITIES
at
Exxon Station 7-3399
2991 Hopyard Road
Pleasanton, California

RESNA 18034.15

RESNA
Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
Fax: (408) 264-2345

December 1, 1992
0901MGUE
18034.15

Ms. Marla D. Guensler
Exxon Company U.S.A.
2300 Clayton Road, Suite 1250
P.O. Box 4032
Concord, California 94520

Subject: Letter Report on Third Quarter 1992 Groundwater Monitoring and Remediation Activities, at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California.

Ms. Guensler:

As requested by Exxon Company U.S.A. (Exxon), this letter report summarizes the methods and results of the third quarter 1992 groundwater monitoring performed by RESNA Industries Inc. (RESNA) at the above-subject site. The Exxon station is located at the eastern corner of the intersection of Hopyard Road and Valley Avenue in Pleasanton, California, Site Vicinity Map (Plate 1). The site is bounded on the northwest by Valley Avenue; on the southwest by Hopyard Road; on the northeast by a shopping center parking lot owned by Lucky Stores, Inc., of Dublin, California; and on the southeast by an access drive and Straw Hat pizza parlor owned by Mr. Ralph Henderlong of Alamo, California.

The objectives of this quarterly monitoring are to evaluate trends in the groundwater flow direction and gradient, and trends in concentrations of gasoline hydrocarbons in the local groundwater associated with former and existing underground gasoline-storage tanks (USTs) at the site.

Prior to the present monitoring, RESNA and others performed environmental investigations and subsequent limited subsurface investigations related to the removal and replacement of three USTs and one used-oil UST in July 1988. The results of these investigations are presented in the reports listed in the references section. Quarterly groundwater monitoring began in April 1988, after RESNA (formerly Applied GeoSystems [AGS]) completed a limited subsurface environmental investigation (AGS, April 22, 1988).

Site Setting and Background

The original service station on the site was demolished in September 1988, and new station facilities were constructed between September 1988 and February 1989. The gasoline USTs in the southeastern portion of the site were removed in July 1988, prior to station demolition. The new station facility is occupied by four USTs that contain premium unleaded, super-regular unleaded, regular unleaded gasoline, and used-oil; Generalized Site Plan (Plate 2).

Of the twelve original monitoring wells, nine wells are currently used to monitor groundwater at the site (Plate 2). Seven of the existing wells (MW-1, MW-4, MW-5s, MW-7, MW-9, MW-10, and MW-11) are screened in the shallowest water-bearing unit beneath the site, well MW-5d is screened in the second deepest water-bearing unit, and well MW-8 is screened in the third deepest water-bearing unit. Monitoring wells MW-2, MW-3, and MW-6 were destroyed in 1988.

Prior to the recent drought, a groundwater recovery system was in operation at the site between 1988 and 1990, and consisted of pumping groundwater from well MW-7, passing it through an oil-water separator, and discharging the treated groundwater into the sanitary sewer under a permit from the Dublin-San Ramon Services District. It is anticipated that groundwater recovery from well MW-7 will continue once sufficient water has recharged in the shallow water-bearing unit.

A vapor extraction system consisting of a liquid ring vacuum pump and vapor scrub carbon system began operating at the site on August 1989. The vapor system was permitted by the Bay Area Air Quality Management District (BAAQMD) under Authority to Construct, dated April 27, 1989, and under Permit to Operate, dated January 25, 1990. The vacuum system is connected to the following six wells; well VR-1, screened in the backfill material of the former UST pit; wells VR-3 and VR-4, screened in an unsaturated silty clay layer overlying the shallowest water-bearing unit; and wells VR-2, MW-1, and MW-9, screened in sand and gravel of the shallowest water-bearing unit.

Because of the drop in water levels since 1988, the groundwater in the shallowest water-bearing unit has been absent, preventing the use of the liquid ring vacuum pump. Additionally, gasoline hydrocarbons extracted from the soil prevented the use of the vapor scrub carbon system. As a result, a vapor extraction and treatment system was modified in November 1990 to a 100-cubic-feet-per-minute (cfm) vacuum pump and catalytic oxidizer. The vapor system was permitted by the BAAQMD under Authority to Construct No. 5125, dated August 2, 1990, and under Permit to Operate, dated January 4, 1991. After start up

testing in late November 1990, the system began operating on December 7, 1990. During December 1990 and January 1991, influent vapor samples were collected for laboratory analysis on a weekly and biweekly basis, and after January, were collected on a monthly basis. Gasoline hydrocarbon vapors were extracted from the soil from December 1990 to June 1991, until vapor concentrations were low enough so that the use of the catalytic oxidizer was no longer necessary.

On March 10, 1992, the existing vapor treatment system was modified to a vapor scrub carbon system. RESNA submitted a letter to the BAAQMD titled "Modification to Existing Soil Vapor Extraction System Previously Permitted Under Application Number 5125", dated August 6, 1992, a letter to the BAAQMD titled "Notification of Startup of Vapor-Phase Activated Carbon System and Application for Permit to Operate", dated September 25, 1992, and a letter to the BAAQMD titled "Addendum to Application for Permit to Operate", dated October 9, 1992. The estimated start-up date of the vapor treatment system is mid- to late October 1992.

Groundwater Sampling and Gradient Evaluation

Monthly depth to water (DTW) measurements in monitoring wells MW-4, MW-5s, MW-7, MW-8, and MW-11 were performed on July 14, August 10, and September 16, 1992, and quarterly sampling was performed on September 16, 1992. Because wells MW-1 and MW-9 are coupled to the vapor extraction system, they are inaccessible. Wells MW-4, MW-5s, MW-7, and MW-11 contained insufficient water for sampling, and wells MW-5d and MW-10 were dry. During field work at the site, RESNA personnel measured DTW levels in the groundwater monitoring wells, subjectively analyzed water from the wells for the presence of floating product, and purged and sampled the groundwater from MW-8. Field methods used by RESNA personnel are described in Appendix A, Groundwater Sampling Protocol.

Results of Groundwater Monitoring

RESNA calculated groundwater elevations for each well by subtracting the measured DTW from the elevation of the wellhead. The measured DTW levels, wellhead elevations, and groundwater elevations for this and previous monitorings at the site are summarized in Table 1, Cumulative Groundwater Monitoring Data. Data from Table 1 were used to produce hydrographs for the sampled well which show fluctuations in local groundwater elevations. A hydrograph for MW-8 is included in Appendix B.

Based on DTW measurements taken between July and September 1992 from wells in the shallowest water-bearing unit, water levels had not changed significantly since the previous

quarter. The water level in MW-5d (second deepest water-bearing unit) was just above the bottom of the well; however, the water level in MW-8 (third deepest water-bearing unit) rose approximately 3 feet.

Groundwater gradient and flow direction could not be evaluated this quarter due to insufficient water levels in the shallowest water-bearing unit. Previous water level data suggest the groundwater flow in the shallowest water-bearing unit is generally southward and the hydraulic gradient beneath much of the site is essentially flat (AGS, April 1990).

No evidence of floating product or noticeable hydrocarbon vapor was observed in the water samples collected for subjective analysis from wells MW-4, MW-5s, MW-7, MW-8, and MW-11. Results of the subjective analyses are summarized in Table 1.

Well MW-8 was purged and sampled in accordance with the enclosed groundwater sampling protocol (Appendix A). A well purge data sheet and stabilization graph for the monitored parameters temperature, turbidity, pH, and conductivity of the groundwater from monitoring well MW-8 is also included in Appendix A.

Results of Laboratory Analysis

Groundwater samples from monitoring well MW-8 was analyzed by Pace Incorporated laboratories (California State Certification Number 1282) in Novato, California for total petroleum hydrocarbons as gasoline (TPHg) and the gasoline constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX) by modified Environmental Protection Agency (EPA) Methods 5030/8015/8020. The Chain of Custody Record and Laboratory Analysis sheets for monitoring well MW-8 is attached to this letter report included in Appendix C.

The results of this and previous groundwater analyses are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples. Chemical analyses data from Table 2 were used to produce a histogram which show fluctuations in TPHg concentrations in MW-8 over time. The histogram for MW-8 is included on the hydrograph in Appendix B.

Results of this quarter's laboratory analyses of groundwater samples from well MW-8 indicate that:

- TPHg was nondetectable in well MW-8.

- Except for 0.9 ppb toluene, concentrations of the other purgeable gasoline constituents (benzene, ethylbenzene, and total xylenes) in well MW-8 were nondetectable.

- A concentration of 0.8 ppb toluene and 1.3 ppb total xylenes were reported in the rinsate blank from well MW-8.

REMEDIATION

Soil-Vapor Extraction System

Since November 1990, the existing catalytic oxidizer has effectively reduced vapor concentrations to levels below 0.5 ppm TPHg (Table 3). To continue vapor extraction of low hydrocarbon concentrations, the current cat-ox unit was shut off on July 24, 1991, and the existing system underwent modification to an activated carbon abatement system on March 10, 1992.

Copies of this report should be forwarded to:

Mr. Steve Cusenza
City of Pleasanton Public Works Department
P.O. Box 520
Pleasanton, California 94566-0802

Mr. Rick Mueller
Pleasanton Fire Department
4444 Railroad Street
Pleasanton, California 94566

Mr. Lester Feldman
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Mr. Jerry Killingstad
Alameda County Flood Control
and Water Conservation District (Zone 7)
5997 Parkside Drive
Pleasanton, California 94566

If you have any questions or comments, please call us at (408) 264-7723 or (800) 926-0815.

Sincerely,
RESNA Industries Inc.

Marc A. Briggs
Assistant Project Geologist

REGISTERED GEOLOGIST
JAMES LEWIS NELSON
No. 1463
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

James L. Nelson
C.E.G. No. 1463

Enclosures: References

Plate 1, Site Vicinity Map
Plate 2, Generalized Site Plan

Table 1, Cumulative Groundwater Monitoring Data
Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples

Appendix A: Groundwater Sampling Protocol, Well Purge Data Sheet, and Stabilization Graph
Appendix B: Hydrograph and TPHg Concentration Graphs
Appendix C: Chain of Custody Records and Laboratory Analysis Reports

REFERENCES

Applied GeoSystems. April 22, 1988. Report, Soil Vapor Investigation, Drilling of Soil Borings, and Installation of Groundwater Monitoring Wells at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-1.

Applied GeoSystems. July 15, 1988. Report, Phase II Drilling of Soil Borings, Installation of Groundwater Monitoring Wells, and Aquifer Testing at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-2.

Applied GeoSystems. August 17, 1988. Report, Installation of Temporary Recovery Well, Periodic Monitoring, and Remediation of Groundwater at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-2A.

Applied GeoSystems. August 22, 1988. Report, Removal of Underground Gasoline Storage Tanks and Excavation of Hydrocarbon-Contaminated Soils at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-3.

Applied GeoSystems. September 23, 1988. Letter Report, Aeration of Excavated Soil at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-3A.

Applied GeoSystems. September 30, 1989. Progress Report on Groundwater and Soil-Vapor Extraction and Treatment at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-4.

Applied GeoSystems. December 1, 1989. Progress Report, Delineation and Remediation of Hydrocarbons in Soil and Groundwater at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-7.

Applied GeoSystems. February 1, 1990. Progress Report on Monitoring and Remediation Activities at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-7.

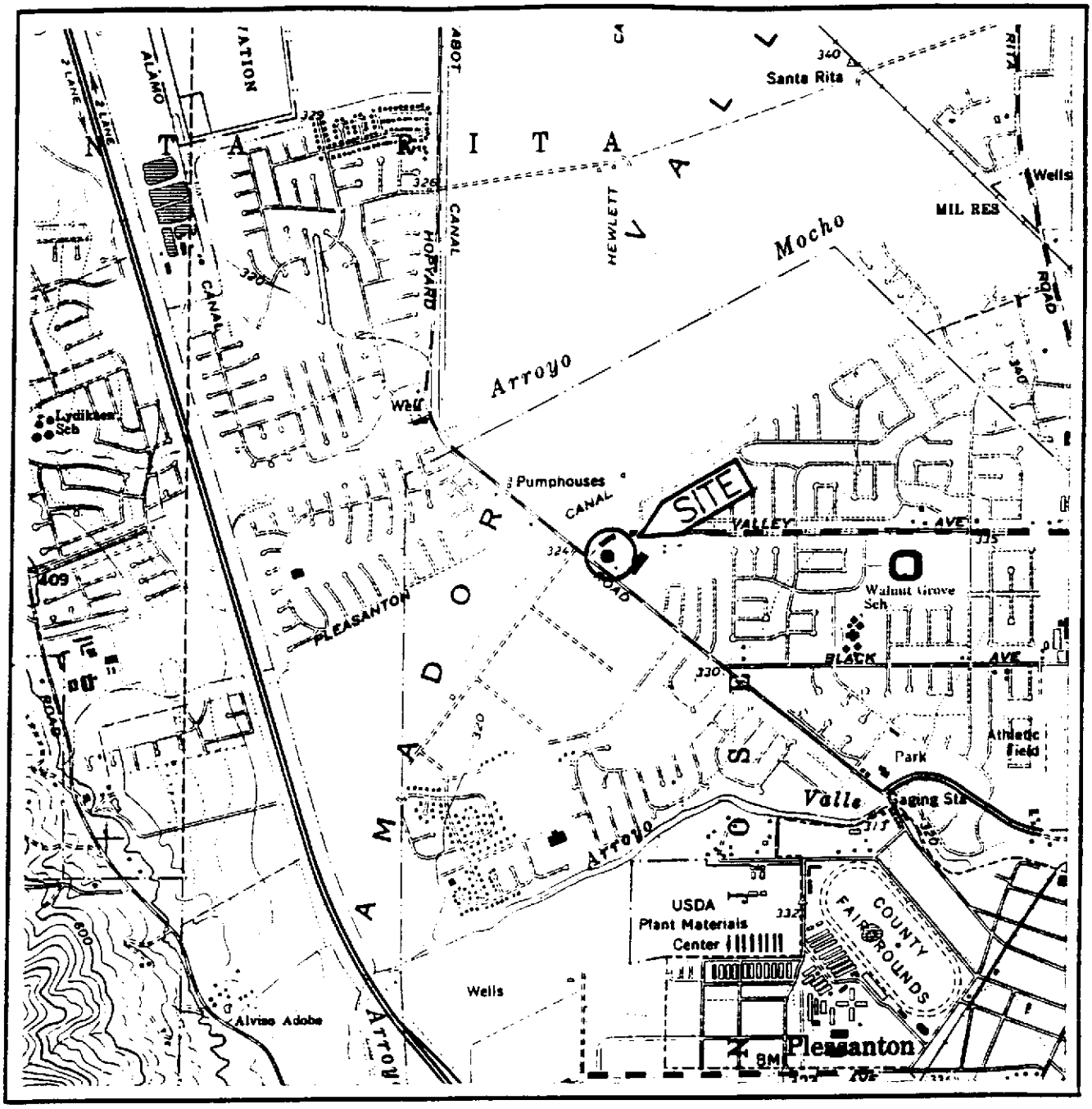
Applied GeoSystems. April 5, 1990. Soil Characterization Report, Delineation of Hydrocarbons in Soil and Groundwater at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-7.

REFERENCES
(continued)

California Department of Health Services, October, 1990. Title 22, California Administrative Code, Section 64444.5.

RESNA Industries Inc. June 18, 1992. Letter Report First Quarter 1992 Groundwater Monitoring at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California Job No. 19025.05.

RESNA Industries Inc. July 20, 1992. Letter Report Second Quarter 1992 Groundwater Monitoring at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California Job No. 19025.05.



Source: U.S. Geological Survey
7.5-Minute Quadrangle
Dublin, California
Photorevised 1980

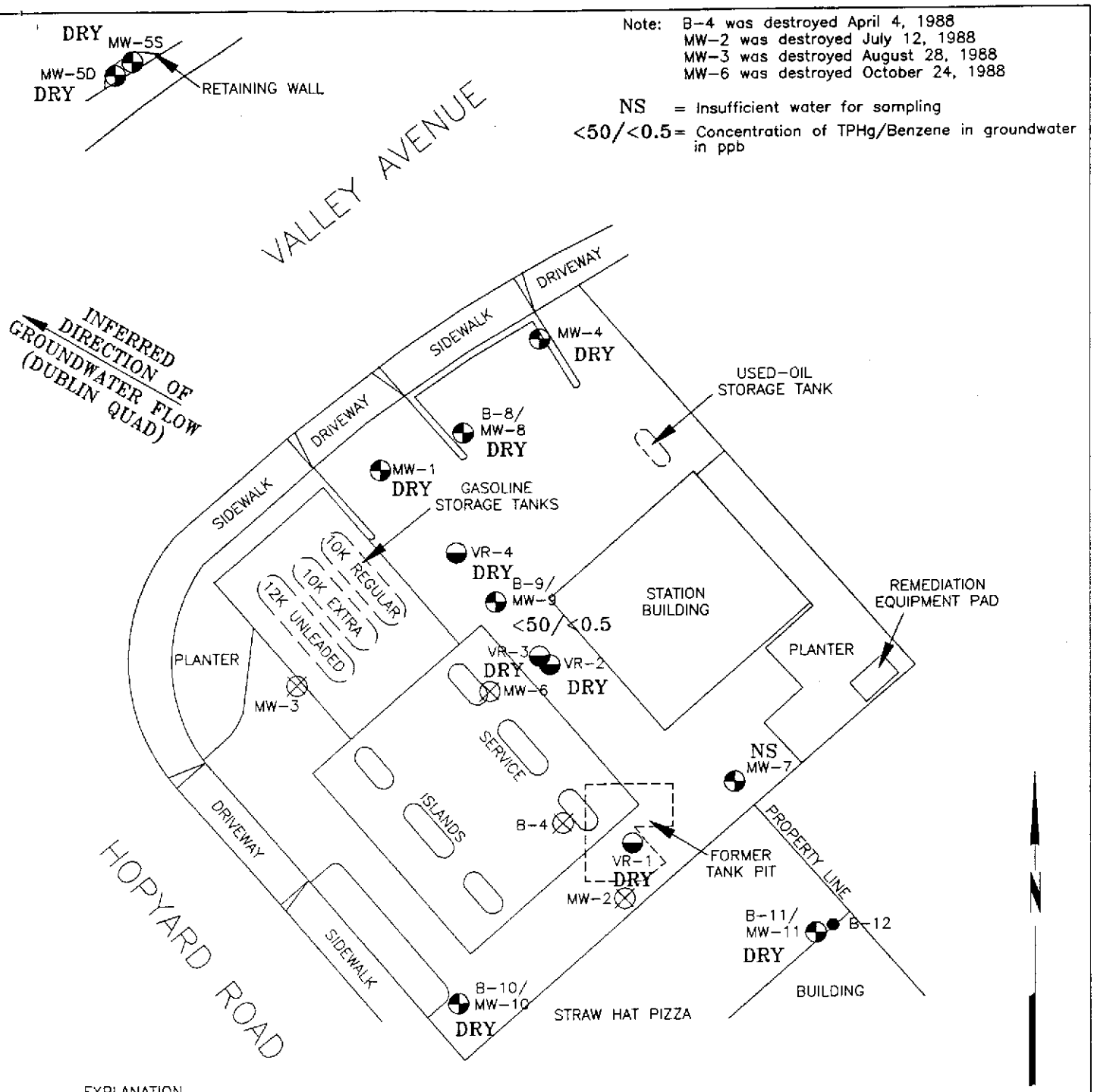
N

Approximate Scale

2000 1000 0 2000 4000

feet

RESNA	**SITE VICINITY MAP** **Exxon Station No. 7-3399** **2991 Hopyard Road** **Pleasanton, California**	**PLATE** **1**
PROJECT NO. 18034-15		



Source: Surveyed by Ron Archer, Civil Engineer, July 27, 1989. Revised January 22, 1990.

RESNA
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PROJECT 18034.15

GENERALIZED SITE PLAN
Exxon Station 7-3399
2991 Hopyard Road
Pleasanton, California

PLATE 2

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 1 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-1 (Wellhead Elevation = 321.44 ft)				
04/06/88	36.34	285.00	None	None
04/08/88	36.29	285.15	None	None
04/19/88	36.36	285.08	None	None
06/06/88	38.16	283.28	None	None
06/23/88	38.71	282.73	None	None
06/28/88	39.16	282.28	–	–
07/06/88	39.73	281.71	None	None
07/13/88	40.22	281.22	None	None
08/12/88		Well buried under excavated soil		
08/26/88	41.90	279.54	–	–
09/07/88	42.27	279.17	None	None
12/07/88	43.94	277.50	None	None
12/19/88	43.70	277.74	None	None
02/09/89	42.53	278.91	–	–
03/08/89	41.96	279.48	None	None
04/03/89	41.59	279.85	–	–
04/26/89	41.67	279.77	–	–
06/30/89	43.79	277.65	None	None
07/17/89	44.74	276.70	None	None
07/18/89	44.76	276.68	–	–
07/19/89	44.82	276.62	–	–
07/20/89	44.85	276.59	None	None
07/21/89	44.95	276.49	–	–
07/26/89	45.42	276.02	None	None
08/02/89	–	NA	NA	NA
08/03/89	46.18	275.26	–	–
08/17/89	47.12	274.32	–	–
09/13/89	49.08	272.36	None	None
11/28/89	50.21	271.23	None	None
01/09/90	49.31	272.13	None	None
01/26/90	49.29	272.15	None	None
02/23/90	49.02#	272.42	None	None
02/23/90	49.02	272.42	None	None
03/26/90	48.71#	272.73	None	None
03/26/90	48.70	272.74	None	None
04/18/90	48.79	272.65	None	None
05/17/90	49.40	272.04	None	None
06/11/90	50.83	270.61	None	None
07/30/90	52.17	269.27	None	None
08/27/90	53.44	268.00	None	None
09/28/90	53.40	268.04	None	None
12/27/90	–	NA	NA	NA

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 2 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-1 (continued)				
03/20/91	53.35	268.08	–	–
06/20/91	53.55	267.89	None	None
09/12/91	–	NA	None	None
12/30/91	–	NA	NA	NA
01/30/92	–	NA	NA	NA
03/02/92	–	NA	NA	NA
03/24/92	–	NA	NA	NA
04/14/92	–	NA	NA	NA
05/21/92	–	NA	NA	NA
06/08/92	–	NA	NA	NA
07/14/92	–	NA	NA	NA
08/10/92	–	NA	NA	NA
09/16/92	–	NA	NA	NA
MW-2				
04/02/88	–	–	3.0	Heavy
04/04/88	–	–	18.0	Heavy
04/05/88	–	–	18.0	Heavy
04/06/88	39.31	–	38.4	Heavy
04/08/88	–*	–	–*	–*
04/19/88	38.90	–	29.76**	Heavy
06/06/88	38.78	–	3.12	Heavy
06/23/88	39.23	–	1.50	Heavy
06/28/88	39.72	–	–	–
07/06/88	40.31	–	None	Slight
07/12/88	Well destroyed due to excavation (old pit)			
MW-3				
04/06/88	37.19	–	None	None
04/08/88	37.14	–	None	None
04/19/88	37.22	–	None	None
06/06/88	39.02	–	None	None
06/23/88	39.58	–	None	None
06/28/88	40.04	–	–	–
07/06/88	40.60	–	None	None
07/13/88	41.09	–	None	None
08/12/88	Well buried under excavated soil			
08/26/88	42.77	–	–	–
08/29/88	Well destroyed due to excavation (new pit)			

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 3 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-4 (Wellhead elevation = 321.56 ft)				
04/08/88	36.41	285.15	None	None
04/19/88	36.51	285.05	None	None
06/06/88	38.26	283.30	None	None
06/23/88	38.83	282.73	None	None
06/28/88	39.28	282.28	--	--
07/06/88	39.85	281.71	None	None
07/13/88	40.31	281.25	None	None
08/12/88		Well buried under excavated soil		
08/26/88	42.01	279.55	--	--
09/07/88		Not accessible due to construction		
12/07/88		Not accessible due to construction		
12/19/88	43.83	277.73	None	None
02/09/89	42.67	278.89	--	--
03/08/89	42.11	279.45	None	None
04/03/89	41.73	279.83	--	--
04/26/89	41.79	279.77	--	--
06/30/89	43.88	277.68	None	None
07/17/89	44.85	276.71	None	None
07/18/89	44.88	276.68	--	--
07/19/89	44.92	276.64	--	--
07/20/89	44.98	276.58	None	None
07/21/89	45.04	276.52	--	--
07/26/89	45.50	276.06	None	None
08/02/89	--	NA	NA	NA
08/03/89	46.28	275.28	--	--
08/17/89	47.22	274.34	--	--
09/13/89	49.19	272.37	None	None
11/28/89	50.34	271.22	None	None
01/09/90	49.47	272.09	None	None
01/26/90	49.36	272.20	None	None
02/23/90	49.18#	272.38	None	None
02/23/90	49.15	272.41	None	None
03/26/90	48.84#	272.72	None	None
03/26/90	48.83	272.73	None	None
04/18/90	48.90	272.66	None	None
05/17/90	50.03	271.53	None	None
06/11/90	50.98	270.58	None	None
07/30/90	53.57	267.99	None	None
08/27/90	53.61	267.95	None	None
09/28/90	53.57	267.99	None	None

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 4 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-4 (continued)				
12/27/90	53.68	267.88	None	None
03/20/91	53.56	268.00	None	None
06/20/91	53.75	267.81	None	None
09/12/91	53.70	267.86	None	None
12/30/91	Dry	NA	NA	NA
01/30/92	Dry	NA	NA	NA
03/02/92	53.83	267.73	None	None
03/24/92	53.73	267.83	None	None
04/14/92	53.76	267.80	None	None
05/21/92	54.73	266.83	None	None
06/08/92	53.80	267.76	None	None
07/14/92	53.60	267.96	None	None
08/10/92	53.71	267.85	None	None
09/16/92	53.89	267.67	None	None
MW-5d (Wellhead Elevation = 321.79 ft)				
05/25/88	38.55	283.24	None	None
06/06/88	38.90	282.89	None	None
06/23/88	39.56	282.23	None	None
06/28/88	40.23	281.33	–	–
07/06/88	40.69	281.10	None	None
07/13/88	41.22	280.57	None	None
08/12/88	42.34	279.45	–	–
08/26/88	42.60	279.19	–	–
09/07/88	42.99	278.80	–	–
12/07/88	44.58	277.21	None	None
02/09/89		Casing head damaged by construction		
03/08/89		Casing head cut to lower elevation		
	42.49	279.30	None	None
04/03/89	42.21	279.58	–	–
04/26/89	42.36	279.43	–	–
06/30/89	44.79	277.00	None	None
07/17/89	45.73	276.06	None	None
07/18/89	45.75	276.04	–	–
07/19/89	44.89	276.90	–	–
07/20/89	46.02	275.77	None	None
07/21/89	46.18	275.38	–	–
07/26/89	46.83	274.96	None	None
08/02/89	–	NA	NA	NA
08/03/89	47.67	274.12	–	–
08/17/89	48.27	273.52	–	–

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 5 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-5d (continued)				
09/13/89	50.60	271.19	None	None
11/28/89	51.16	270.63	None	None
01/09/90	50.42	271.37	None	None
01/26/90	50.10	271.66	None	None
02/23/90	50.08	271.77	None	None
03/26/90	49.80#	271.99	None	None
03/26/90	49.77	272.02	None	None
04/18/90	49.80	271.99	None	None
05/17/90	51.32	270.47	None	None
06/11/90	52.10	269.69	None	None
07/30/90	53.47	268.32	None	None
08/27/90	58.24	263.55	None	None
09/28/90	60.70	261.09	None	None
12/27/90	62.52	259.27	None	None
03/20/91	59.18	262.61	None	None
06/20/91	65.02	256.77	None	None
09/12/91	DRY	NA	NA	NA
12/30/91	DRY	NA	NA	NA
01/30/92	DRY	NA	NA	NA
03/02/92	DRY	NA	NA	NA
04/14/92	74.98	246.81	None	None
05/21/92	74.42	247.37	None	None
06/08/92	75.67	246.12	None	None
07/14/92	DRY	NA	NA	NA
08/10/92	DRY	NA	NA	NA
09/16/92	DRY	NA	NA	NA
MW-5s (Wellhead Elevation = 321.64 ft)				
05/25/88	38.46	283.18	None	None
06/06/88	38.86	282.78	None	None
06/23/88	39.52	282.12	None	None
06/28/88	39.84	281.80	–	–
07/06/88	40.45	281.19	None	None
07/13/88	40.90	280.74	None	None
07/22/88	41.30	280.34	None	None
08/05/88	23.84▼	297.80	None	None
08/12/88	42.21	279.43	–	–
08/26/88	42.55	279.09	–	–
09/07/88	42.94	278.70	None	None

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 6 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-5s (continued)				
12/07/88	44.67	276.97	None	None
02/09/89	43.19	278.45	--	--
03/08/89		Casing head cut to lower elevation		
	42.11	279.53	None	None
04/26/89	41.84	279.80	--	--
06/30/89	43.95	277.69	None	None
07/17/89	44.91	276.73	None	None
07/18/89	44.93	276.71	--	--
07/19/89	44.98	276.66	--	--
07/20/89	45.02	276.62	None	None
07/21/89	45.10	276.54	--	--
07/26/89	45.57	276.07	None	None
08/02/89	--	--	NA	NA
08/03/89	46.31	275.33	--	--
08/17/89	47.25	274.39	--	--
09/13/89	49.22	272.42	None	None
11/28/89	50.39	271.25	None	None
01/09/90	49.51	272.13	None	None
01/26/90	49.40	272.24	None	None
02/23/90	49.20#	272.44	None	None
02/23/90	49.20	272.44	None	None
03/26/90	48.89#	272.75	None	None
03/26/90	48.88	272.76	None	None
04/18/90	48.95	272.69	None	None
05/17/90	50.06	271.58	None	None
06/11/90	50.98	270.66	None	None
07/30/90	53.40	268.24	None	None
08/27/90	53.60	268.04	None	None
09/28/90	53.55	268.09	None	None
12/27/90	53.61	268.03	None	None
03/20/91	53.56	268.08	None	None
06/20/91	53.73	267.91	None	None
09/12/91	53.78	267.86	None	None
12/30/91	53.80	267.84	None	None
01/24/92	53.82	267.82	None	None
03/02/92	53.82	267.82	None	None
04/14/92	53.74	267.90	None	None
05/21/92	53.77	267.87	None	None
06/08/92	53.81	267.83	None	None
07/14/92	53.74	267.90	None	None
08/10/92	53.78	267.86	None	None
09/16/92	53.90	267.74	None	None

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 7 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-6				
05/11/88	37.71	--	None	None
06/06/88	38.70	--	None	None
06/23/88	39.23	--	None	None
06/28/88	39.74	--	None	None
07/13/88	40.78	--	None	None
08/05/88	41.72	--	None	None
08/12/88	42.14		--	--
08/17/88		Well buried under excavated soil		
08/26/88	42.51	--	--	--
09/07/88	42.85	--	None	None
10/24/88		Well destroyed for station construction		
MW-7 (Wellhead Elevation = 321.27 ft)				
07/13/88	40.50	280.77	None	None
07/22/88	41.85#	279.42	None##	None##
08/05/88	41.45#	279.82	None##	None##
08/12/88	42.69	278.58	--	--
09/07/88	42.60	278.67	--	--
12/07/88		Not accessible		
01/17/89	43.20	278.07	--	--
02/09/89		Not accessible, pump equipment in well		
10/12/89	49.93	271.34	None	None
11/28/89	57.61#	264.03	--	--
01/09/90	57.57#	263.70	--	--
01/26/90	57.54#	263.73	None	None
01/26/90	49.08	272.19	None	None
02/23/90	55.26#	266.01	None	None
02/23/90	48.93	272.34	None	None
03/26/90	57.52#	263.73	None	None
03/26/90	48.60	272.67	None	None
04/18/90	57.55#	263.72	None	None
05/17/90	57.40#	263.87	None	None
06/11/90	50.68	270.59	None	None
07/30/90	--	NA	None	None
08/27/90	53.05	268.22	None	None
09/28/90	--	NA	NA	NA
12/27/90	--	NA	NA	NA
03/20/91	54.11	267.16	--	--
06/20/91	55.14	266.13	None	None
09/12/91	55.84	265.43	None	None

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 8 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-7 (continued)				
12/30/91	55.21	266.06	None	None
01/30/92	54.88	266.39	None	None
03/02/92	NA	–	–	–
03/24/92	NA	–	–	–
04/14/92	NA	–	–	–
05/21/92	53.36	267.91	None	None
06/08/92	54.20	267.07	None	None
07/14/92	53.31	268.60	None	None
08/10/92	54.01	267.26	None	None
09/16/92	55.97	268.60	None	None
MW-8 (Wellhead Elevation = 321.86 ft)				
10/01/89	53.88	267.98	None	None
11/28/89	53.74	268.12	None	None
01/09/90	57.90	263.96	None	None
01/26/90	53.57	268.29	None	None
02/23/90	52.16	269.70	None	None
03/26/90	52.80#	269.06	None	None
04/18/90	51.60	270.26	None	None
05/17/90	58.21	263.65	None	None
06/11/90	58.65	263.21	None	None
07/30/90	64.33	257.53	None	None
08/27/90	70.41	251.45	None	None
09/28/90	71.93	249.93	None	None
12/27/90	66.60	255.26	None	None
03/20/91	60.75	261.11	None	None
06/20/91	88.77	233.09	None	None
09/12/91	103.17	218.69	None	None
12/30/91	81.15	240.71	None	None
01/30/92	81.69	240.17	None	None
03/02/92	78.45	243.41	None	None
03/24/92	76.55	245.31	None	None
04/14/92	75.56	246.30	None	None
05/21/92	86.99	234.87	None	None
06/08/92	91.69	230.17	None	None
07/14/92	94.65	227.48	None	None
08/10/92	95.02	226.84	None	None
09/16/92	91.90	229.96	None	None
MW-9 (Wellhead elevation = 321.44 ft)				
10/12/89	50.24	271.20	None	None

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 9 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-9 (continued)				
11/28/89	50.59	270.85	1.0	Heavy
12/01/89	50.32	271.12	0.25	Heavy
12/07/89	50.13	271.31	1.92	Heavy
12/13/89	49.91	271.53	None	Slight
12/20/89	49.78	271.66	None	Slight
01/02/90	–	NA	None	Slight
01/09/90	49.39	272.05	None	Slight
01/26/90	49.30	272.14	None	None
02/23/90	49.06#	272.38	None	None
02/23/90	49.05	272.39	None	None
03/26/90	48.75#	272.69	None	None
03/26/90	48.73	272.71	None	Very Slight
04/18/90	48.81	272.63	None	Slight
05/17/90	49.96	271.48	None	Slight
06/11/90	51.58	269.86	4.5	NA
07/30/90	Dry	NA	NA	NA
08/27/90	Dry	NA	NA	NA
09/28/90	Dry	NA	NA	NA
12/27/90	–	NA	NA	NA
03/20/91	Dry	NA	None	Very Slight
06/20/91	49.63	271.81	None	None
09/12/91	–	NA	NA	NA
12/30/91	–	NA	NA	NA
01/30/92	–	NA	NA	NA
03/02/92	–	NA	NA	NA
03/24/92	–	NA	NA	NA
04/14/92	–	NA	NA	NA
05/21/92	–	NA	NA	NA
06/08/92	–	NA	NA	NA
07/14/92	–	NA	NA	NA
08/10/92	–	NA	NA	NA
09/16/92	–	NA	NA	NA
MW-10 (Wellhead Elevation = 322.99 ft)				
10/12/89	51.93	271.06	None	None
11/28/89	51.88	271.11	None	None
12/20/89	51.47	271.52	None	None
01/09/90	50.98	272.01	None	None
01/26/90	50.87	272.12	None	None
02/23/90	50.67#	272.32	None	None
02/23/90	50.65	272.34	None	None

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 10 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-10 (continued)				
03/26/90	50.36#	272.63	None	None
03/26/90	50.35	272.64	None	None
04/18/90	50.45	272.54	None	None
06/11/90	51.16	271.83	None	None
07/30/90	55.72	267.27	None	None
08/27/90	57.75	265.24	None	None
09/28/90	–	NA	NA	NA
12/27/90	58.08	264.91	None	None
03/20/91	57.80	265.19	None	None
06/20/91	58.00	264.99	None	None
09/12/91	DRY	NA	NA	NA
12/30/91	–	NA	NA	NA
01/30/92	DRY	NA	NA	NA
03/02/92	DRY	NA	NA	NA
03/24/92	58.53	264.46	None	None
04/14/92	DRY	NA	NA	NA
05/21/92	DRY	NA	NA	NA
06/08/92	DRY	NA	NA	NA
07/14/92	DRY	NA	NA	NA
08/10/92	DRY	NA	NA	NA
09/16/92	DRY	NA	NA	NA
MW-11 (Wellhead Elevation = 321.77 ft)				
11/10/89	50.64	271.13	None	None
11/28/89	50.51	271.26	None	Very Slight
12/20/89	51.47	270.30	None	None
01/09/90	49.68	272.09	None	None
01/26/90	49.55	272.22	None	None
02/23/90	49.37#	272.40	None	None
02/23/90	49.35	272.42	None	None
03/26/90	49.03#	272.74	None	None
04/18/90	49.12	272.65	None	None
05/17/90	50.30	271.47	None	None
06/11/90	51.16	270.61	None	None
07/30/90	53.50	268.27	None	None
08/27/90	53.65	268.12	None	None
09/28/90	53.62	268.15	None	None
12/27/90	53.63	268.14	None	None
03/20/91	53.26	268.51	None	None
06/20/91	53.60	268.17	None	None
09/12/91	53.60	268.17	None	None

See notes on page 11 of 11.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Exxon Service Station 7-3399
Pleasanton, California
(Page 11 of 11)

Date	Depth to Water (ft)	Groundwater Elevation (ft)	Product Thickness (ft)	Sheen
MW-11 (continued)				
12/30/91	53.95	267.82	None	None
01/30/92	53.65	268.13	None	None
03/02/92	53.68	268.09	None	None
03/24/92	53.70	268.07	None	None
04/14/92	53.66	268.11	None	None
05/21/92	53.62	268.15	None	None
06/08/92	53.61	268.16	None	None
07/14/92	53.53	268.24	None	None
08/10/92	53.58	268.19	None	None
09/16/92	53.60	268.17	None	None
VR-1				
03/24/92	24.77	--	None	None

Depth to groundwater is in feet below top of casing.
Elevation is in feet above mean sea level.

-- : Not measured
NA : Not applicable
* : Not measured because of installed product-skimmer pump.
** : Thickness of floating product after the well was allowed to recharge for approximately 3 hours.
▾ : Anomalous water level possibly due to recharge from a perched water zone.
: Water level during pumping of MW-7.
: Water inspected in oil-water separator tank.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES
Exxon Station 7-3399
Pleasenton, California
(page 1 of 5)

Date	Sample No.	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)	TPHg (ppb)	EPA 502.2 (ppb)	EPA 524.2 (ppb)
MW-1								
4/02/88	W-38-MW1	<0.5	1.7	<0.5	<0.5	<20	–	–
7/06/88	W-40-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/13/88	W-42-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
9/07/88	W-43-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
3/08/89	W-43-MW1	1.6	<0.5	<0.5	<0.5	<20	–	–
6/30/89	W-44-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/17/89	W-45-MW1	<0.5	<0.5	<0.5	<0.5	23	–	–
7/20/89	W-45-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/26/89	W-46-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/02/89	W-46-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
9/13/89	W-50-MW1	39	0.60	<0.50	5.1	220	–	–
12/20/89	W-50-MW1	56	0.72	<0.50	0.71	220	–	–
1/25/90	W-50-MW1	18	1.6	<0.50	1.8	57	–	–
2/27/90	W-50-MW1	3.2	2.3	<0.50	3.2	55	–	–
3/26/90	W-49-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
4/18/90	W-49-MW1	1.1	1.6	<0.50	3.1	25	–	–
5/17/90	W-49-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
6/11/90	W-52-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/30/90	W-53-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/27/90	W-53-MW1	<0.5	<0.5	<0.5	<0.5	<20	–	–
9/28/90	W-53-MW1	<0.5	<0.5	<0.5	<0.5	<50	–	–
MW-2								
7/06/88	W-41-MW	25,700	18,500	2,900	21,400	62,000	–	–
7/12/88				Well destroyed				
MW-3								
4/06/88	W-39-MW3	<0.5	<0.5	<0.5	<0.5	20	–	–
7/06/88	W-41-MW3	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/13/88	W-43-MW3	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/26/88	W-44-MW3	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/29/88				Well destroyed				

See notes on page 5 of 5.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES
Exxon Station 7-3399
Pleasanton, California
(page 2 of 5)

Date	Sample No.	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylenes (ppm)	TPHg (ppm)	EPA 502.2 (ppm)	EPA 524.2 (ppm)
MW-4								
4/11/88	W-37-MW4	1.8	16.3	0.6	7.1	80	–	–
7/06/88	W-41-MW4	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/13/88	W-42-MW4	<0.5	0.9	<0.5	<0.5	<20	–	–
3/08/89	W-43-MW4	3.8	1.0	<0.5	<0.5	440	–	–
6/30/89	W-44-MW4	<0.5	<0.5	<0.5	<0.5	100	–	–
7/17/89	W-45-MW4	<0.5	<0.5	<0.5	<0.5	390	–	–
7/20/89	W-45-MW4	<0.5	<0.5	<0.5	<0.5	200	ND*	–
7/26/89	W-46-MW4	<0.5	<0.5	<0.5	<0.5	66	–	–
8/02/89	W-46-MW4	–	–	–	–	–	–	ND*
9/13/89	W-50-MW4	<0.5	<0.5	<0.5	<0.5	<20	–	–
12/20/89	W-50-MW-4	<0.5	<0.5	<0.5	<0.5	<20	–	–
3/26/90	W-49-MW-4	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/01/90	W-54-MW-4	<0.5	<0.5	<0.5	<0.5	<20	–	–
12/27/90	W-54-MW-4	<0.5	<0.5	<0.5	<0.5	<50	–	–
03/20/91	W-53-MW-4	<0.5	<0.5	<0.5	<0.5	<50	–	–
03/24/92	W-55-MW-4	<0.5	<0.5	<0.5	<0.5	<50	–	–
MW-5d								
5/25/88	W-9-MW5a	<0.5	3.1	<0.5	<0.5	<20	–	–
7/06/88	W-41-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/13/88	W-43-MW5d	<0.5	<0.5	<0.5	<0.5	40	–	–
3/08/89	W-43-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
6/30/80	W-45-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/17/89	W-46-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/20/89	W-47-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/26/89	W-47-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/02/89	W-48-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
9/13/89	W-51-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
12/20/89	W-51-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
3/26/90	W-50-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/01/90	W-56-MW5d	<0.5	<0.5	<0.5	<0.5	<20	–	–
12/27/90	W-63-MW5d	<0.5	<0.5	<0.5	<0.5	<50	–	–
03/20/91	W-59-MW5d	<0.5	<0.5	<0.5	<0.5	<50	–	–
06/20/91	W-65-MW5d	<0.5	<0.5	<0.5	<0.5	<50	–	–

See notes on page 5 of 5.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES
Exxon Station 7-3399
Pleasenton, California
(page 3 of 5)

Date	Sample No.	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)	TPHg (ppb)	EPA 502.2 (ppb)	EPA 524.2 (ppb)
MW-5s								
5/25/88	W-41-MW5b	<0.5	0.9	<0.5	<0.5	<20	–	–
7/06/88	W-41-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/13/88	W-44-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/22/88	W-42-MW5s	0.9	4.1	1.3	8.7	50	–	–
8/05/88	W-25-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
9/07/88	W-43-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
3/08/89	W-43-MW5s	<0.5	<0.5	<0.5	<1.0	<20	–	–
6/30/89	W-45-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/17/89	W-46-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/20/89	W-46-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
7/26/89	W-46-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/02/89	W-47-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
9/13/89	W-50-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
12/20/89	W-50-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
3/26/90	W-49-MW5s	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/01/90	W-55-MW5s	<0.5	<0.5	<0.5	<0.5	<50	–	–
12/27/90	W-54-MW5s	<0.5	<0.5	<0.5	<0.5	<50	–	–
MW-6								
5/17/88	W-40-MW6	<0.5	<0.5	<0.5	<0.5	<20	–	–
6/28/88	W-38-MW6	31.8	7.5	5.4	6.7	440	–	–
7/13/88	W-42-MW6	162.3	7.7	22.5	14.1	290	–	–
8/05/88	W-42-MW6	245	5.2	47.1	23.7	1,180	–	–
9/07/88	W-43-MW6	474	16	262	136	2,920	–	–
10/24/88				Well destroyed				
MW-7 (recovery well)								
7/13/88	W-34-MW7	860	1,910	710	4,420	16,700	–	–
7/22/88	W-50-MW7	136	85	5	58	460	–	–
8/05/88	W-45-MW7	73.3	52.8	2.3	28.1	270	–	–
2/09/89	W-50-MW7	600	688	10	448	6,700	–	–
6/30/89	W-Pump-MW7	180	50	13	40	1,100	–	–
8/02/89	W-TAP-MW7	1.6	<0.5	<0.5	0.60	31	–	–
9/13/89	W-Influent	<0.5	2.6	<0.5	12	87	–	–
12/20/89	W-TAP-MW7	<0.5	<0.5	<0.5	<0.5	<20	–	–
6/20/91	W-55-MW7	<0.5	1.8	0.6	4.1	74	–	–
9/12/91	W-56-MW7	3.5	<0.5	1.7	6.8	<50	–	–
12/30/91	W-55-MW7	<0.5	<0.5	<0.5	<0.5	<50	–	–
6/08/92	W-54-MW7	<0.5	<0.5	<0.5	<0.5	<50	–	–

See notes on page 5 of 5.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES
Exxon Station 7-3399
Pleasenton, California
(page 4 of 5)

Date	Sample No.	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)	TPHg (ppb)	EPA 502.2 (ppb)	EPA 524.2 (ppb)
Well No. 7 (City of Pleasanton)								
7/20/89	Well 7	–	–	–	–	–	ND*	–
8/02/89	W-TAP-CW7	–	–	–	–	–	–	ND*
3/26/90	W-TAP-MW7	<0.50	<0.50	<0.50	<0.50	<20	–	–
MW-8								
10/03/89	W-53-MW8	<0.5	<0.5	<0.5	<0.5	<20	–	–
12/20/89	W-52-MW8	<0.50	<0.50	<0.50	0.61	<20	–	–
1/31/90	W-55-MW8	<0.50	<0.50	<0.50	0.87	<20	–	–
2/09/90	W-52-MW8	<0.5	<0.5	<0.5	1.1	<20	–	–
	(Blank)	<0.5	<0.5	<0.5	<0.5	<20	–	–
3/26/90	W-55-MW8	<0.5	<0.5	<0.5	<0.5	<20	–	–
	(Blank)	<0.5	<0.5	<0.5	<0.5	<20	–	–
4/18/90	W-52-MW8	<0.50	0.58	<0.50	1.1	<20	–	–
5/17/90	W-60-MW8	<0.5	<0.5	<0.5	<0.5	<20	–	–
6/11/90	W-62-MW8	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/01/90	W-61-MW8	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/27/90	W-70-MW8	<0.5	<0.5	0.5	0.5	<20	–	–
9/28/90	W-71-MW8	<0.5	<0.5	<0.5	0.5	<50	–	–
12/27/90	W-67-MW8	<0.5	<0.5	<0.5	0.6	<50	–	–
03/20/91	W-60-MW8	<0.5	<0.5	<0.5	<0.5	<50	–	–
06/20/91	W-88-MW8	<0.5	<0.5	<0.5	0.6	<50	–	–
10/14/91	W-99-MW8	<0.5	<0.5	<0.5	<0.5	<50	–	–
12/30/91	W-81-MW8	<0.5	<0.5	<0.5	<0.5	<50	–	–
03/24/92	W-76-MW8	<0.5	<0.5	<0.5	<0.5	<50	–	–
06/08/92	W-92-MW8	<0.5	<0.5	<0.5	<0.5	<50	–	–
09/16/92	W-91-MW8	<0.5	0.9	<0.5	<0.5	<50	–	–
MW-9								
10/13/89	W-50-MW9	1,000	9,200	3,000	13,000	89,000	–	–
12/20/89	W-50-MW9	6,300	31,000	9,500	55,000	190,000	–	–
1/25/90	W-50-MW9	2,400	9,400	2,700	15,000	77,000	–	–
2/27/90	W-50-MW9	1,200	7,100	2,300	14,000	97,000	–	–
3/26/90	W-49-MW9	1,800	7,700	2,000	11,000	89,000	–	–
4/18/90	W-49-MW9	2,000	7,500	2,500	16,000	110,000	–	–
5/17/90	W-50-MW9	1,500	5,700	2,300	14,000	81,000	–	–
6/20/91	W-19-MW9	<0.5	<0.5	<0.5	<0.5	430	–	–
MW-10								
10/12/89	W-52-MW10	<0.5	<0.5	<0.5	1.5	20	–	–
12/20/89	W-52-MW10	<0.5	<0.5	<0.5	1.8	<20	–	–
3/26/90	W-51-MW10	<0.5	<0.5	<0.5	<0.5	<20	–	–
8/01/90	W-57-MW10	<0.5	<0.5	<0.5	<0.5	<20	–	–

See notes on page 5 of 5.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES
Exxon Station 7-3399
Pleasenton, California
(page 5 of 5)

Date	Sample No.	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)	TPHg (ppb)	EPA 502.2 (ppb)	EPA 524.2 (ppb)
VR-1								
3/24/92	W-25-VR1	1.7	<0.5	<0.5	<0.5	<50	–	–
MW-11								
11/16/89	W-51-MW11	4.1	9.4	0.74	20	150	–	–
12/20/89	W-50-MW11	7.2	7.5	2.9	13	150	–	–
3/26/90	W-50-MW11	<0.5	<0.5	<0.5	2.7	32	–	–
7/30/90	W-54-MW11	<0.5	<0.5	<0.5	3.8	26	–	–
Jan. 1990								
MCLs	—	1.0	-.-	680	1,750	–	–	–
DWALs	—	-.-	100	—	—	–	–	–

TPHg : total petroleum hydrocarbons as gasoline by EPA modified Method 8015
EPA 502.2 : EPA Method 502.2 (volatile organic compounds)
EPA 524.2 : EPA Method 524.2 (volatile organic compound)
< : Less than the method detection limits of the laboratory
– : Not analyzed or not applicable
ND : Nondetectable or below the method detection limit(s) of the laboratory
* : Nondetectable concentrations for 58 volatile organic compounds
MCLs : Adopted Maximum Contaminant Levels in Drinking Water, DHS (July 1989)
DWALs : Recommended Drinking Water Action Levels, DHS (January 1990)

Sample designation: W-54-MW11
- W: water
- 54: depth of sample to the nearest foot
- MW11: monitoring well number

TABLE 3
CUMULATIVE RESULTS OF INFLUENT AND EFFLUENT VAPOR SAMPLES
Exxon Station 7-3399
Pleasenton, California

Date	Sample No.	TPHg	Benzene	Toluene	Ethyl-benzene	Total xylenes
11/30/90	influent	1800*	19*	21*	15*	52*
12/11/90	influent	1.4	<0.0001	0.0005	0.0003	0.0008
12/14/90	influent	0.94	<0.0005	0.011	0.0083	0.025
	effluent	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
12/17/90	influent	0.20	0.0024	0.0016	0.0010	0.0026
	effluent	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
12/28/90	influent	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	effluent	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
01/04/91	influent	0.94	0.013	0.0005	0.0006	0.0015
01/14/91	influent	1.2	0.0023	0.0013	0.0009	0.0039
01/28/91	influent	0.96	0.028	0.0008	0.0005	0.0005
02/28/91			System inoperative			
03/18/91	influent	0.91	0.0037	0.0015	0.0018	0.0091
04/22/91			System inoperative			
05/03/91	influent	0.62	<0.0005	<0.0005	<0.0005	0.0009
06/20/91	influent	0.49	0.026	0.041	0.0089	0.050

Results are in parts per million (ppm).
* : Results in milligrams per cubic meter (mg/m3).
TPHg : Total petroleum hydrocarbons as gasoline.
< : Less than the method detection limit of the laboratory.

APPENDIX A

GROUNDWATER SAMPLING PROTOCOL, WELL PURGE DATA SHEET, AND STABILIZATION GRAPH

GROUNDWATER SAMPLING PROTOCOL

The static water level and floating product level, if present, in each well that contained water and/or floating product were measured with an ORS Interphase Probe Model No. 1068018; this instrument is accurate to the nearest 0.01 foot. These groundwater depths were subtracted from wellhead elevations (measured on July 27, 1989, and revised January 22, 1990, by Ron Archer, Civil Engineer, Inc., of Pleasanton, California, a licensed land surveyor), including corrections for product thickness, when necessary, for gradient evaluation by multiplying product thickness (PT) by a correction factor 0.8 and subtracting from DTW (Adjusted DTW = DTW - [PT $\times$ 0.8]), to calculate the differences in groundwater elevations.

Water samples collected for subjective evaluation were collected by gently lowering approximately half the length of a clean Teflon® bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples were checked for measurable floating hydrocarbon product. Any floating product is removed from the well.

Before water samples were collected from the groundwater monitoring wells, the wells were purged until stabilization of the temperature, pH, and conductivity was obtained. Approximately four well casing volumes were purged before those characteristics stabilized. Water samples from the wells that do not obtain stability of the temperature, pH, and conductivity are considered to be "grab samples". Turbidity measurements were collected from the purged well water. The quantity of water purged from the wells was calculated as follows:

1 well casing volume = $\pi r^2 h(7.48)$ where:

r = radius of the well casing in feet.
h = column of water in the well in feet (well depth - depth to water)
7.48 = conversion constant from cubic feet to gallons

gallons of water purged/gallons in 1 well casing volume = well casing volumes removed.

After purging, each well was allowed to recharge to the approximate initial water level. Water samples were then collected with an Environmental Protection Agency (EPA) approved Teflon® sampler which had been cleaned with Alconox® and deionized water. Water samples from the wells that do not recover to approximately 80% (due to slow recharging of the well) of the initial water level within the time between purging and sampling are considered to be "grab samples". The water samples were carefully poured

into 40-milliliter glass vials or one-liter glass amber bottles, which were filled so as to produce a positive meniscus. Each sample container was preserved with hydrochloric acid, when applicable, sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace which would allow volatilization to occur. The samples were promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain of Custody Record, to a California-certified laboratory.

WELL PURGE DATA SHEET

Project Name: Exxon 3399 Job No. 18034.15

Date: August 16, 1992 Page 1 of 1

Well No. MW-8 Time Started 11:15

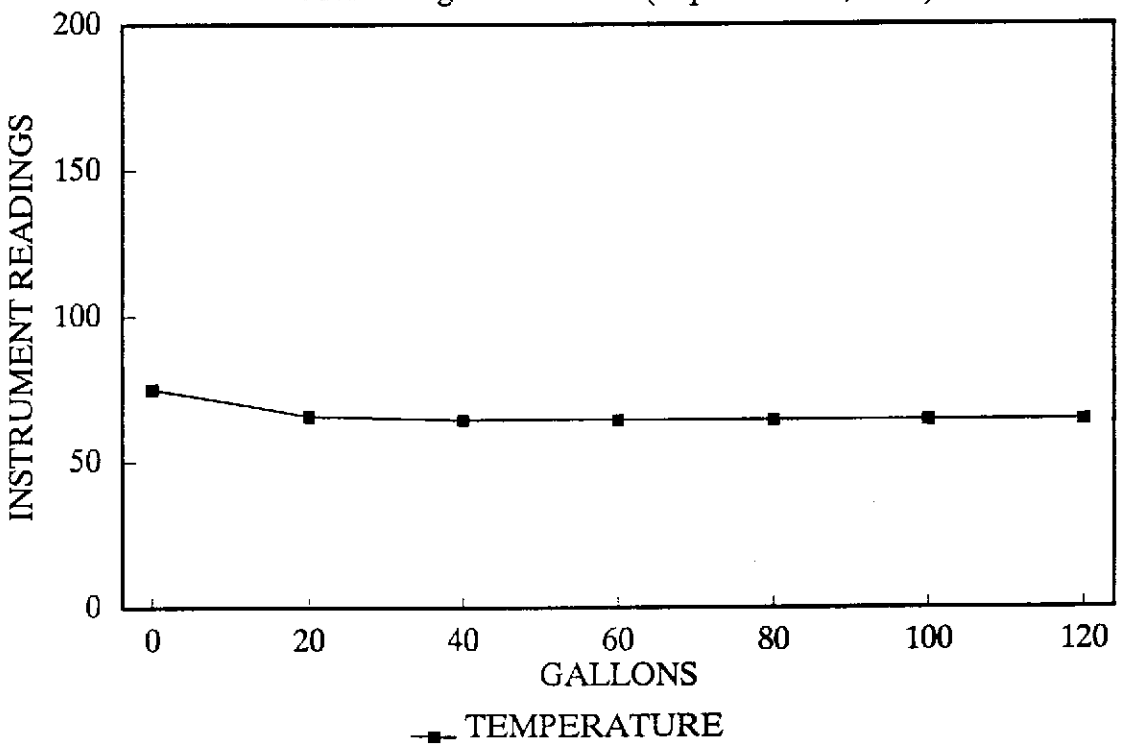
TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)	TURBIDITY (NTU)
11:15	Start purging MW-8				
11:15	0	75.0	7.36	5.64	4.7
11:25	20	65.7	7.40	5.87	5.2
11:34	40	64.5	7.54	5.85	2.2
11:42	60	64.3	7.59	5.84	1.8
11:51	80	64.3	7.57	5.88	1.4
12:01	100	64.5	7.58	5.88	1.8
12:09	120	64.5	7.56	5.89	2.2
	Stop purging MW-8				

Notes:

Well Diameter (inches) :	4"
Depth to Bottom (feet) :	133.45
Depth to Water - initial (feet) :	91.90
Depth to Water - final (feet) :	91.76
% recovery :	100.3%
Time Sampled :	13:35
Gallons per Well Casing Volume :	27.12
Gallons Purged :	120.0
Well Casing Volume Purged :	4.42
Approximate Pumping Rate (gpm) :	2.22

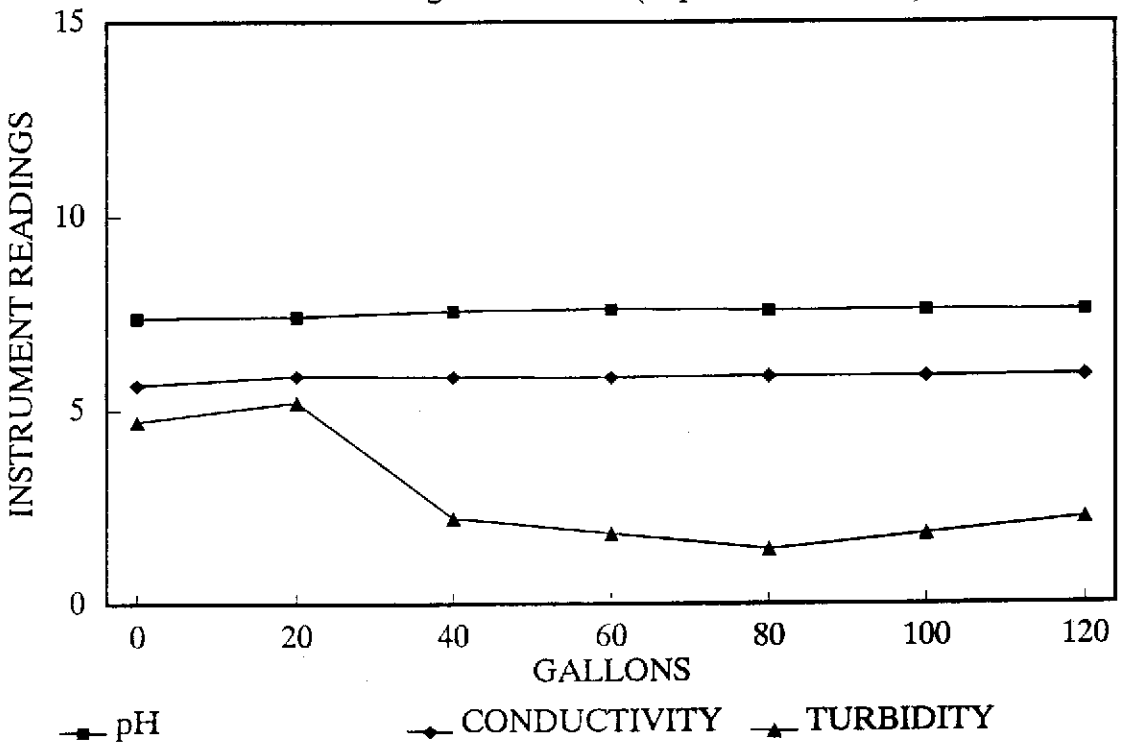
EXXON 3399 STABILIZATION GRAPH

Monitoring Well MW–8 (September 16, 1992)



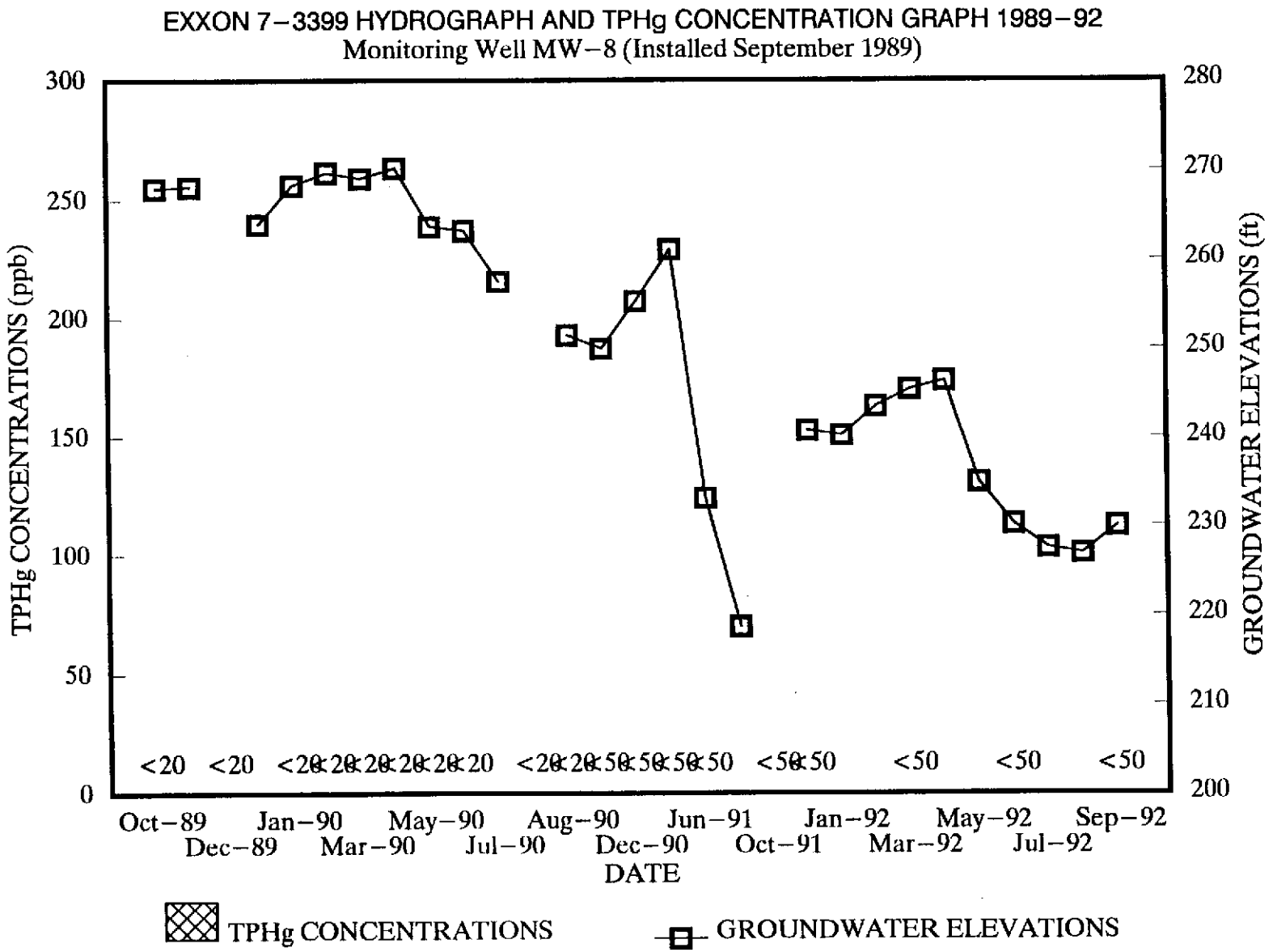
EXXON 3399 STABILIZATION GRAPH

Monitoring Well MW–8 (September 16, 1992)



APPENDIX B

HYDROGRAPH AND TPHg CONCENTRATION GRAPH


EXXON 7-3399 HYDROGRAPH AND TPHg CONCENTRATION GRAPH 1989-92
Monitoring Well MW-8 (Installed September 1989)
TPHg CONCENTRATIONS (ppb)
GROUNDWATER ELEVATIONS (ft)
300
250
200
150
100
50
0
280
270
260
250
240
230
220
210
200
<20 <20 <20 <20 <20 <20 <20 <20 <20 <50 <50 <50 <50 <50 <50 <50 <50
Oct-89
Dec-89
Jan-90
Mar-90
May-90
Jul-90
Aug-90
Dec-90
Jun-91
Oct-91
Jan-92
Mar-92
May-92
Jul-92
Sep-92
DATE
TPHg CONCENTRATIONS
GROUNDWATER ELEVATIONS

APPENDIX C

CHAIN OF CUSTODY RECORDS AND LABORATORY ANALYSIS REPORTS

pace INCORPORATED THE ASSURANCE OF QUALITY

EXXON COMPANY, U.S.A.

P.O. Box 4415, Houston, TX 77210-4415

CHAIN OF CUSTODY

420917.509

☒ Novato, CA, 11 Digital Drive, 94949 (415) 883-6100

☐ Huntington Beach, CA, 5702 Bolsa Avenue, 92649 (714) 892-2565

Consultant's Name: RESNA Industries Inc.

Page 1 of 1

Address: 3315 Almaden Exp. #34, San Jose, CA 95118

Site Location: 2991 Hopyard Rd.

Project #:

Consultant Project #: 18034.15

Consultant Work Release #:

Project Contact: Dave Huggins

Phone #: (408) 264-7723 Fax #: 264-7435

Laboratory Work Release #: 920492223

EXXON Contact: Dawn Lyons ☒ EE ☐ C&M

Phone #: (510) 246-8768 Fax #:

EXXON RAS #: 7-3319

Sampled by (print): Jeanne Buckthal

Sampler's Signature: Jeanne Buckthal

Shipment Method: Courier

Air Bill #:

Shipment Date: 9/17/92

TAT: ☐ 24 hr ☐ 48 hr ☐ 72 hr ☒ Standard (5 day)

ANALYSIS REQUIRED

Sample Condition as Received
Temperature ° C: _____
Cooler #: _____
Inbound Seal Yes No
Outbound Seal Yes No
Pace Courier

Sample Description	Collection Date/Time	Matrix Soil/Water	Prsv	# of Cont	PACE Sample #	TPH/GAS/BTEX EPA 8015/8020	TPH/Diesel EPA 8015	TRPH EPA 418.1	COMMENTS
W-91-HW8R	9-16-92 1335	water	HCl	3	20908.0	X			
W-91-HW8	1335	↓	↓	3	9.9	X			

Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Date	Time
Jeanne Buckthal / RESNA	9/16/92		T. Nelson PACE, Inc	9/17	1156
T. Nelson / Pace Inc	9/17	1413	Jim Op / Pace	9/17	1430

Additional Comments: temperature Surrogate included

Distribution: 10/3 White - Original Yellow - Exxon Pink - Lab Goldenrod - Consultant Field Staff

pace
INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

September 23, 1992

Mr. Dave Higgins
Resna/Applied Geosystems
3315 Almaden Expressway Suite 34
San Jose, CA 95118

RE: PACE Project No. 420917.509
Client Reference: Exxon 7-3399 (EE)

Dear Mr. Higgins:

Enclosed is the report of laboratory analyses for samples received September 17, 1992.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Stephanie Matzo

Stephanie Matzo
Project Manager

Enclosures

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Resna/Applied Geosystems
3315 Almaden Expressway Suite 34
San Jose, CA 95118

September 23, 1992
PACE Project Number: 420917509

Attn: Mr. Dave Higgins

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:			70 0209080	
Date Collected:			09/16/92	
Date Received:			09/17/92	
Client Sample ID:			W-91-MW8R	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
TPH GASOLINE/BTEX				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/18/92
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND	09/18/92
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	09/18/92
Benzene	ug/L	0.5	ND	09/18/92
Toluene	ug/L	0.5	0.8	09/18/92
Ethylbenzene	ug/L	0.5	ND	09/18/92
Xylenes, Total	ug/L	0.5	1.3	09/18/92

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

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Dave Higgins
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September 23, 1992
PACE Project Number: 420917509

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:			70 0209099	
Date Collected:			09/16/92	
Date Received:			09/17/92	
Client Sample ID:			W-91-MW8	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
TPH GASOLINE/BTEX				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/18/92
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND	09/18/92
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	09/18/92
Benzene	ug/L	0.5	ND	09/18/92
Toluene	ug/L	0.5	0.9	09/18/92
Ethylbenzene	ug/L	0.5	ND	09/18/92
Xylenes, Total	ug/L	0.5	ND	09/18/92

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

These data have been reviewed and are approved for release.

Mark A. Valentini, Ph.D.
Regional Director

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Mr. Dave Higgins
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QUALITY CONTROL DATA

September 23, 1992
PACE Project Number: 420917509

Client Reference: Exxon 7-3399 (EE)

PURGEABLE FUELS AND AROMATICS
Batch: 70 15566
Samples: 70 0209080, 70 0209099

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	297	102%	98%	4%
Benzene	ug/L	0.5	40.0	100%	92%	8%
Toluene	ug/L	0.5	40.0	106%	97%	8%
Ethylbenzene	ug/L	0.5	40.0	106%	100%	5%
Xylenes, Total	ug/L	0.5	80.0	109%	101%	7%

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