

exxon0393

EXXON COMPANY, U.S.A. QUARTERLY STATUS REPORT

January - March 1993 April 9, 1993 (Page 2 of 2)

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

Work to be Performed Next Quarter

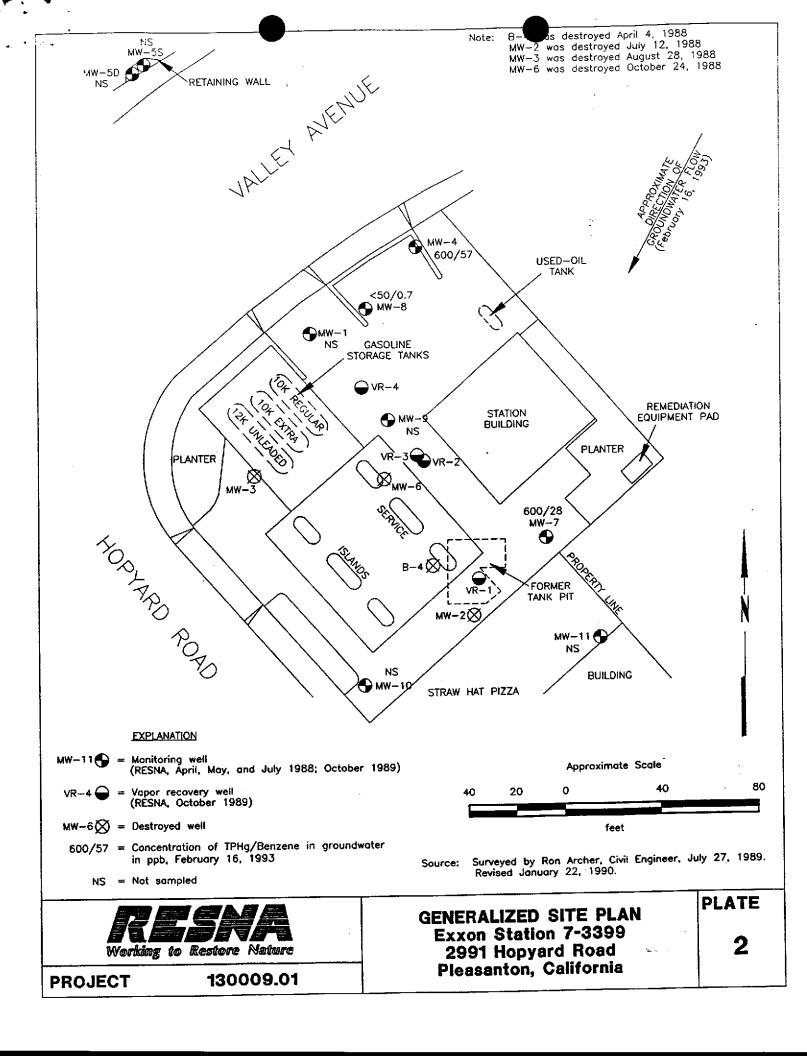
Estimated Completion Date 06/30/93

- Submit report for first quarter 1993 Quarterly Monitoring to Exxon for review and approval.
- Continue with bi-weekly monitoring of the carbon system until it is determined that less frequent monitoring is sufficient.
- o Continue turning vapor extraction system on and off intermittently to verify soil vapor concentrations.
- Perform Quarterly and Monthly Monitoring for the second quarter 1993 on April 8, 1993.

Work to be Performed Next 12 Months

Estimated Completion Date 03/31/94

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.



EXXON COMPANY, U.S.A. QUARTERLY SUMMARY REPORT

January - March, 1993

Date: 13 April, 1993

RAS #7-3567 3192 Santa Rita Road Pleasanton, California

WORK PERFORMED THIS QUARTER

NOT APPLICABLE

QUARTERLY GROUND WATER SAMPLING RESULTS

NOT APPLICABLE

FREE PHASE PRODUCT RECOVERY

NOT APPLICABLE

WORK TO BE PERFORMED NEXT QUARTER

NOT APPLICABLE PENDING CLOSURE

WORK TO BE PERFORMED NEXT 12 MONTHS

NOT APPLICABLE PENDING CLOSURE

🔝 🛴 E COMPANY, U.S.A.

P.O. BOX 4032 CONCORD, CA 94524-2032

ENVIRONMENTAL ENGINEERING

MARLA D. GUENSLER

SENIOR ENVIRONMENTAL ENGINEER

(510) 246-8776

(510) 246-8798 FAX

May 19, 1993

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

RE: Exxon RAS #7-3399; 2991 Hopyard Road, Pleasanton, CA

Dear Mr. Mueller:

Attached for your review and comment is a letter report entitled <u>First Quarter 1993 Groundwater Monitoring and Remediation Activities</u>, for the above referenced site. This report, prepared by RESNA Industries, Inc., of San Jose, California, details the results of the groundwater monitoring and remediation events which occurred January through April 1993.

If you have any questions or comments, or require additional information, please contact me at the above listed phone number.

Sincerely,

Marla D. Guensler

Senior Environmental Engineer

MDG/mdg

attachment:

RESNA Letter Report Dated 05/11/93

Huensler_

cc: w/attachment:

Mr. Sum Arigalia - San Francisco Bay Region CRWQCB

Mr. Jerry Killingstad - Alameda Co. Flood Control (Zone-7)

Mr. Steve Cusenza - City of Pleasanton Public Works Dept.

w/o attachment:

Mr. Marc Briggs - RESNA, San Jose



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

FAX: (408) 264-2435

LETTER REPORT FIRST QUARTER 1993 GROUNDWATER MONITORING AND REMEDIATION ACTIVITIES

at Exxon Station 7-3399 2991 Hopyard Road Pleasanton, California

130009.01



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

FAX: (408) 264-2435

May 11, 1993 0301MGUE 130009.01

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 First Quarter 1993 Groundwater Monitoring and Remediation Activities, at Exxon Station 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 first quarter 1993 groundwater monitoring and remediation activities 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 (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 gradient and flow direction, and trends in concentrations of gasoline hydrocarbons in the local groundwater associated with former and existing gasoline underground storage tanks (USTs) at the site. Remediation activities at this site currently consists of vapor extraction to reduce gasoline hydrocarbons in the subsurface soils.

Prior to the present monitoring, RESNA and others performed environmental investigations and subsequent limited subsurface investigations related to the removal and replacement of three gasoline 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).



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Site Setting and Background

The gasoline USTs in the southeastern portion of the site were removed and replaced in July 1988. 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 new station facility is occupied by four gasoline USTs that contain premium unleaded, super-regular unleaded, regular unleaded gasoline, and used-oil (Plate 2, Generalized Site Plan).

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

On March 10, 1992, the existing vapor treatment system was modified to a vacuum pump and vapor-phase activated carbon system, permitted under Authority to Construct No. 7845, dated January 8, 1992 and Permit to Operate dated October 9, 1992. Start-up of the vapor-phase carbon system was initiated on October 12, 1992.

Groundwater Sampling and Gradient Evaluation

Monthly depth-to-water (DTW) levels were measured in monitoring wells MW-4, MW-5d, MW-5s, and MW-7 through MW-11 on January 26, 1993 and February 16, 1993, and quarterly sampling was performed on February 16, 1993. Because wells MW-1 and MW-9 are coupled to the vapor extraction system, they are inaccessible for groundwater monitoring and sampling. Wells MW-5d, MW-5s, MW-10, and MW-11 contained insufficient water for sampling. Field work at the site consisted of measuring DTW levels in the groundwater monitoring wells, subjectively analyzing water from the wells for the presence of free-phase hydrocarbons, and purging and sampling the groundwater from wells MW-4, MW-7, and MW-8. Field methods are described in Appendix A, Groundwater Sampling Protocol.



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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 2, Cumulative Groundwater Monitoring Data.

Based on DTW measurements taken between January and February 1993 from wells in the first water-bearing unit, water levels have not changed significantly since the previous quarter. The water level in well MW-5d (second water-bearing unit) increased and currently contains one foot of water, and the water level in well MW-8 (third water-bearing unit) increased approximately 7 feet.

Groundwater gradient and flow direction could not be evaluated for January 26 due to insufficient water levels in the first water-bearing unit. The water in well MW-11 was considered to be residual water since there was approximately 6 inches of water. Based on the February 16, 1993, groundwater elevation data, the interpreted local groundwater gradient and flow direction of the shallowest water-bearing unit is approximately 0.04 toward the south-southwest.

No evidence of free-phase hydrocarbons or noticeable hydrocarbon odor was observed in the water samples collected for subjective analysis from wells MW-4, MW-7, and MW-8. Results of the subjective analyses are summarized in Table 2, Cumulative Groundwater Monitoring Data.

Wells MW-4, MW-7, and MW-8 were purged and sampled in accordance with the groundwater sampling protocol included in Appendix A. Well purge data sheets reporting the monitored parameters, temperature, pH, conductivity, and turbidity, are also included in Appendix A.

Results of Laboratory Analysis

The groundwater samples from monitoring wells MW-4, MW-7, and MW-8 were analyzed by Pace Incorporated laboratories (California State Certification Number 1282) in Novato, California for TPHg and the gasoline constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX) using modified Environmental Protection Agency (EPA) Methods 5030/8015/8020. The Chain of Custody Record and Laboratory Analysis sheets are included in Appendix B. The results of this and previous groundwater analyses are summarized in Table 3, Cumulative Results of Laboratory Analyses of Groundwater Samples.



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Results of this quarter's laboratory analyses of groundwater samples from wells MW-4, MW-7, and MW-8 indicate:

- TPHg was detected in wells MW-4 and MW-7 at concentrations of 600 parts per billion (ppb), and was nondetectable in well MW-8;
- benzene was detected at concentrations of 0.7 ppb in well MW-8, 28 ppb in well MW-7, and 57 ppb in well MW-4. The concentrations in wells MW-7 and MW-4 are greater than the Department of Health Services (DHS) Maximum Contaminant Level (MCL) of 1.0 ppb benzene in drinking water;
- concentrations of toluene, ethylbenzene, and total xylenes ranged from nondetectable to concentrations that are less than the DHS Drinking Water Action Level (DWAL) of 100 ppb toluene, and MCLs of 680 ppb ethylbenzene and 1,750 ppb total xylenes in drinking water.

INTERIM SOIL REMEDIATION

Soil-Vapor Extraction System

Field monitoring of organic vapor concentrations is performed with both a FID (Flame Ionization Detector) and a PID (Photoionization Detector) as indicated in a letter to the BAAQMD (RESNA, December 3, 1992). Monitoring is conducted at the system influent, effluent, and in-between canisters. Monitoring and carbon changeouts is being performed in accordance to the permit conditions for this system. Cumulative results of field organic vapor measurements are shown in Table 4.

During this quarter, the influent organic vapor concentrations have ranged from 0 to approximately 30.8 ppm (Table 4, Cumulative Results of Field Organic Vapor Measurements). The influent organic vapor concentrations are lower compared to fourth quarter, 1992, and appear to be continually decreasing with time. Carbon changeout has been occurring once every 30 days or more as shown in Table 4. Approximately two lbs (81 gallons) of TPHg has been recovered for this quarter.

Beginning February 16, 1993, the system has been alternately turned on and off and organic vapor levels are being measured at each of the onsite vapor wells and dry groundwater monitoring wells. The system is currently being "pulsed" to determine whether the lowered



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levels of organic vapor levels observed in the past few months are representative of the subsurface soils, and whether the system is efficiently removing gasoline hydrocarbons from beneath the site. As influent concentrations decrease, it is expected that system flowrate can be increased. Field monitoring of the carbon system will continue on a bi-weekly basis until consistently lowered organic vapor concentrations have been observed, warranting another request by RESNA to the BAAQMD to further decrease the frequency of monitoring.

Copies of this report should be forwarded to:

Mr. Sum Arigalia
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

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



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If you have any questions or comments, please call (408) 264-7723.

Sincerely, RESNA Industries Inc.

Hanne Buchthaf

Jeanne Buckthal Geologic Technician

Naresh Channaveerappa

Staff Engineer

James L. Nelson

C.E.G. No. 1463

Enclosures: References

Plate 1: Site Vicinity Map

Plate 2: Generalized Site Plan

Plate 3: Groundwater Elevation Map (January 26, 1993)
Plate 4: Groundwater Gradient Map (February 16, 1993)

Plate 5: TPHg Concentrations in Groundwater
Plate 6: Benzene Concentrations in Groundwater

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Table 1: Cumulative Results of Influent and Effluent Vapor Samples

GEOLOG

JAMES LEWIS NELSON

GEOLOGIST

OF CALIFO

Table 2: Cumulative Groundwater Monitoring Data

Table 3: Cumulative Results of Laboratory Analyses of Groundwater

Samples

Table 4: Cumulative Results of Field Organic Vapor Measurements

Appendix A, Groundwater Sampling Protocol and Well Purge Data Sheet Appendix B, Laboratory Analysis Reports and Chain of Custody Record



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Quarterly Groundwater Monitoring and Remediation Activity Exxon Station 7-3399, Pleasanton, California

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

 <u>Tanks and Excavation of Hydrocarbon-Contaminated Soils at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u>. Job No. 18034-3.
- Applied GeoSystems. September 23, 1988. <u>Letter Report, Aeration of Excavated Soil at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u>. Job No. 18034-3A.
- Applied GeoSystems. September 30, 1989. <u>Progress Report on Groundwater and Soil-Vapor Extraction and Treatment at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u>. Job No. 18034-4.
- Applied GeoSystems. December 1, 1989. <u>Progress Report, Delineation and Remediation of Hydrocarbons in Soil and Groundwater at Exxon Station No. 7-3399, 2991</u>
 Hopyard Road, Pleasanton, California. Job No. 18034-7.
- Applied GeoSystems. February 1, 1990. <u>Progress Report on Monitoring and Remediation Activities at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California.</u> 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.
- California Department of Health Services, October, 1990. Title 22, <u>California Administrative Code</u>, Section 64444.5.

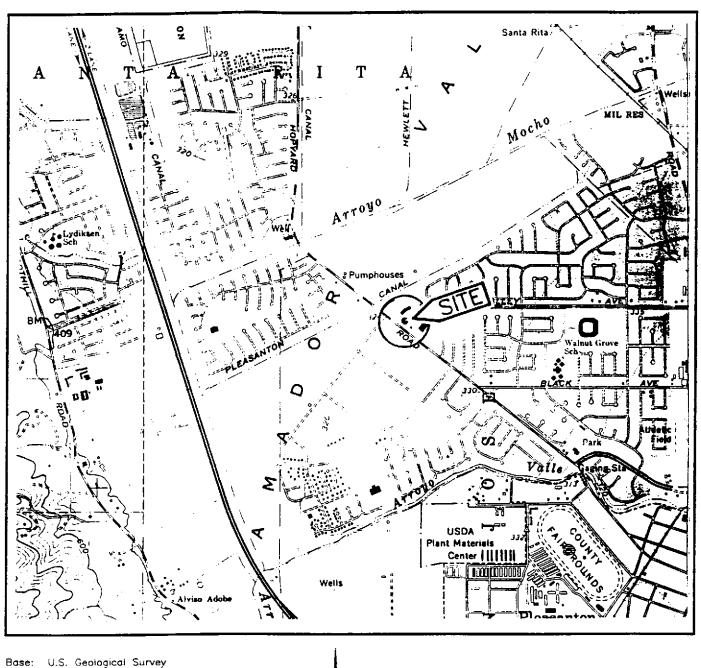
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Quarterly Groundwater Monitoring and Remediation Activity Exxon Station 7-3399, Pleasanton, California

REFERENCES

(continued)

- RESNA Industries Inc. June 18, 1992. <u>Letter Report First Quarter 1992 Groundwater</u>
 <u>Monitoring at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u>
 Job No. 18034.15.
- RESNA Industries Inc. July 20, 1992. <u>Letter Report Second Quarter 1992 Groundwater Monitoring at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California Job No. 18034.15.</u>
- RESNA Industries Inc. December 1, 1992. <u>Letter Report Third Quarter 1992 Groundwater Monitoring at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California Job No.</u> 18034.15.
- RESNA Industries Inc. December 3, 1992. <u>Proposal to Change the Monitoring Schedule at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u> Job No. 62035.01.
- RESNA Industries Inc. February 1, 1993. <u>Letter Report Fourth Quarter 1992 Groundwater Monitoring at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California Job No.</u> 18034.15.



Base: U.S. Geological Survey 7.5—Minute Quadrangle Dublin, California, Photorevised 1980

LEGEND

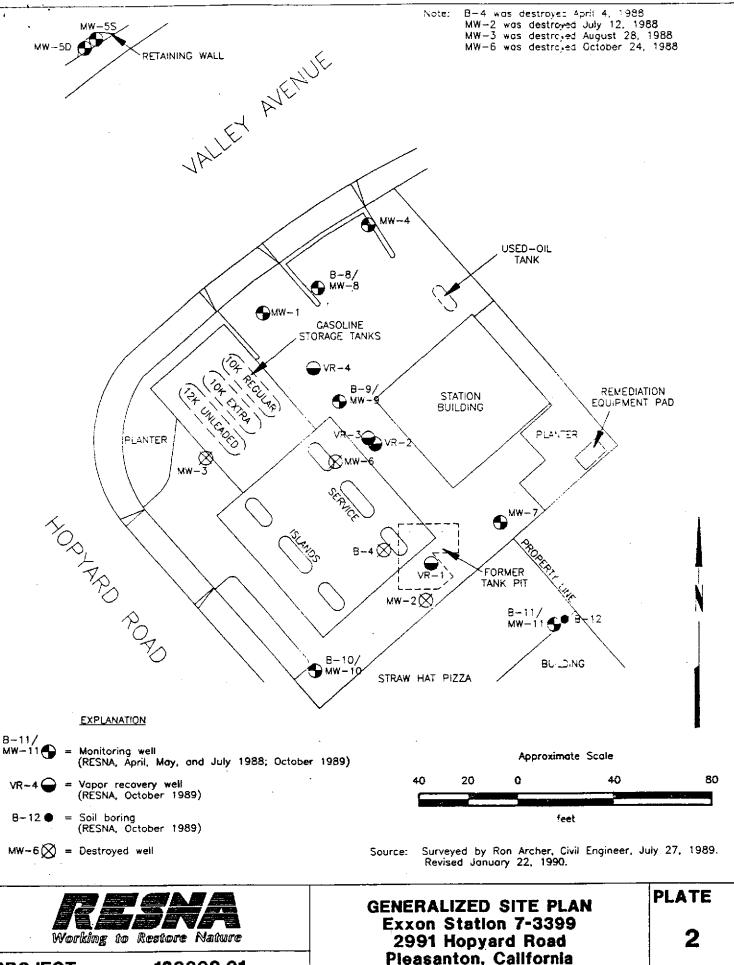
 (\bullet) = Site Location

Approximate Scale
2000 1000 0 2000 4000
feet

Working to Restore Nature

PROJECT 130009.01

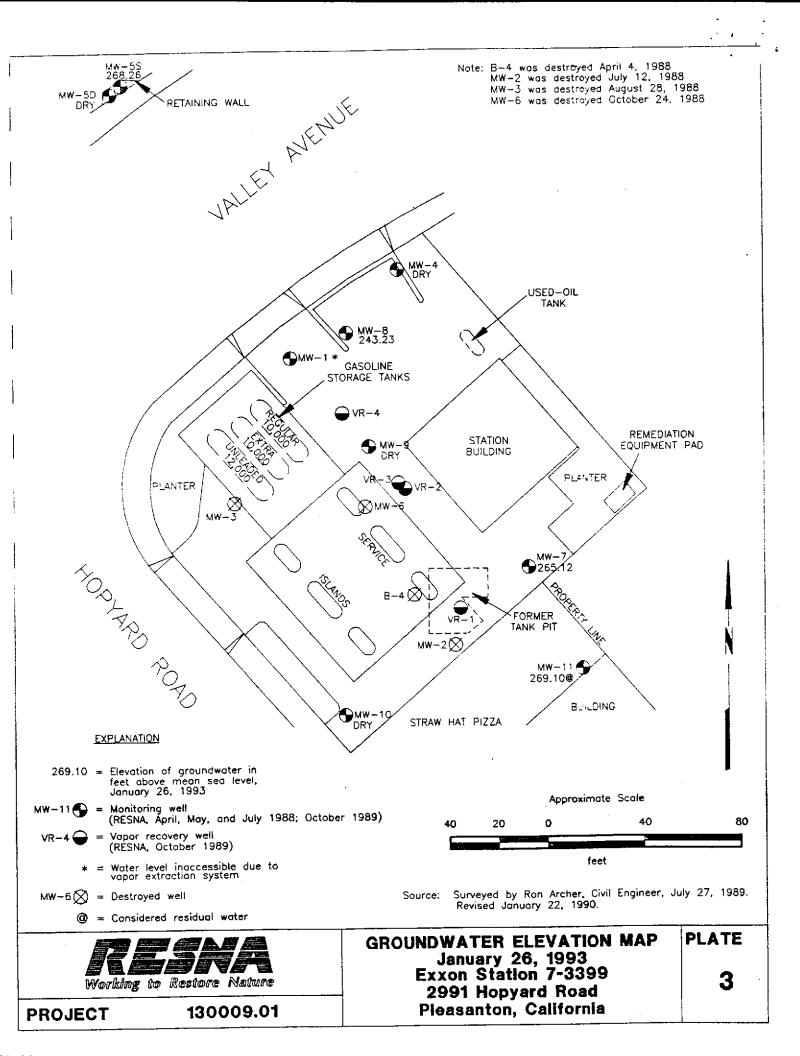
SITE VICINITY MAP Exxon Station 7-3399 2991 Hopyard Road Pleasanton, California PLATE

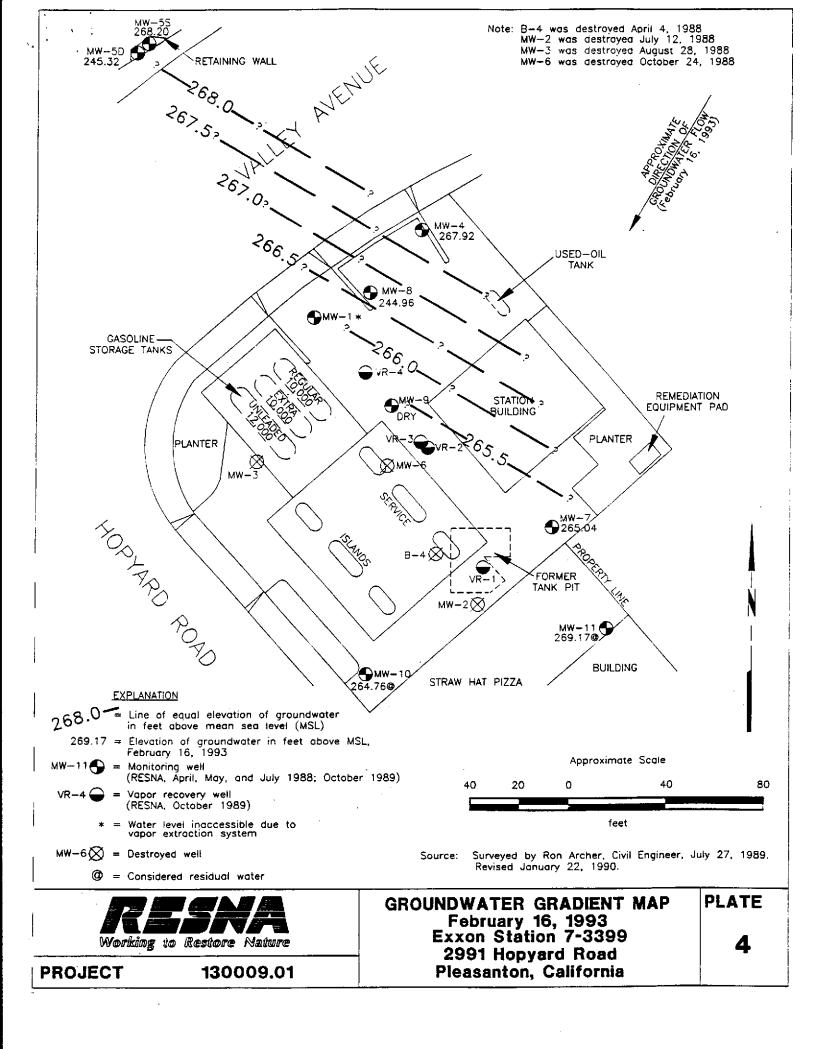


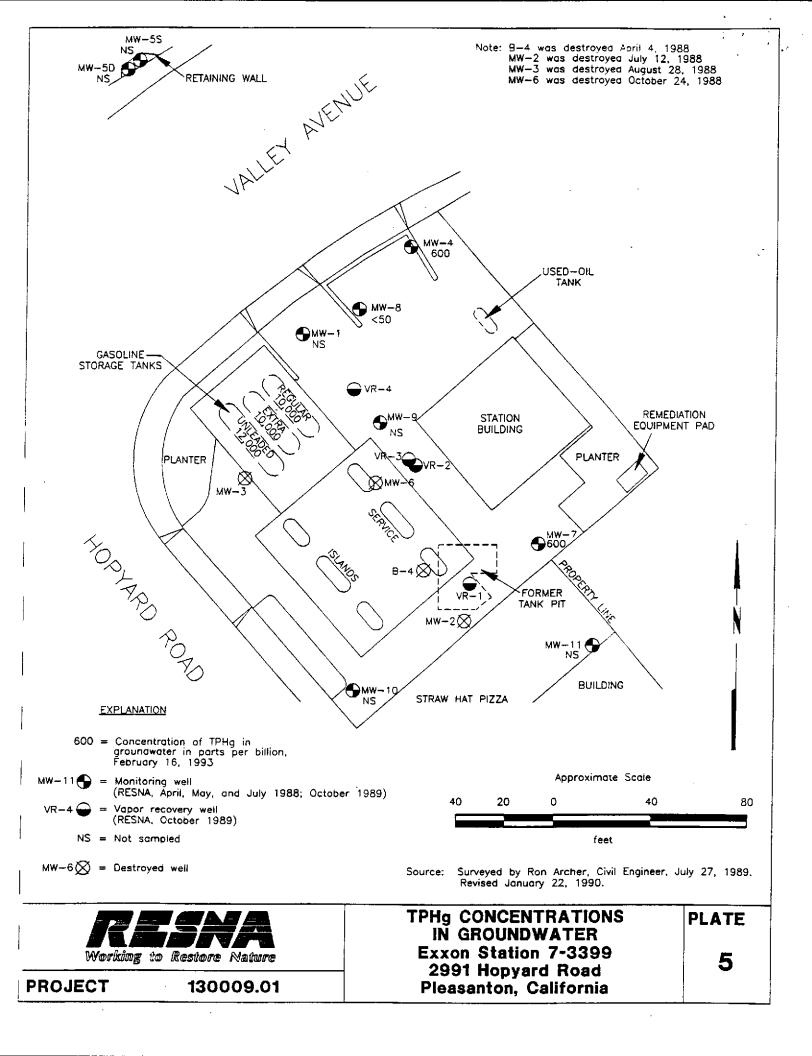
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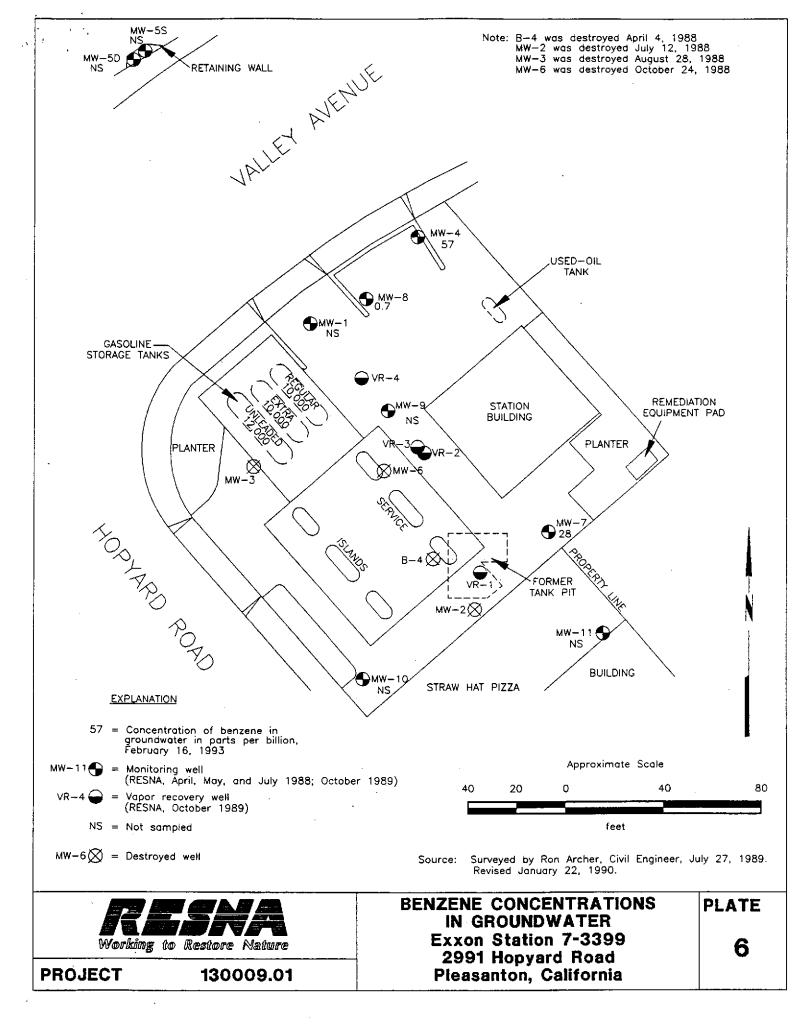
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Pleasanton, California











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TABLE 1 CUMULATIVE RESULTS OF INFLUENT AND EFFLUENT VAPOR SAMPLES Exxon Station 7-3399 Pleasanton, California

DATE	SAMPLE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES
11/30/90	influent	1800*	19*	21*	15*	52*
12/14/90	influent	1.4	< 0.0001	0.0005	0.0003	0.0008
12/17/90	influent	0.20	0.0024	0.016	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 Inope	rative	•	
03/18/91	influent	0.91	0.0037	0.0015	0.0018	0.0091
04/22/91		•	System Inope	rative	•	•
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
10/12/92	influent	97*	<0.5*	0.7*	<0.5*	0.7*
	between canisters	< 50*	<0.5*	<0.5*	<0.5*	1.0*
	effluent	<50*	<0.5*	<0,5*	<0.5*	0.7*

Results are in parts per million (ppm)

< : Less than the method detection limit.

TPH : total petroleum hydrocarbons as gasoline analyzed by modified EPA method 5030/8015.

* : Results in milligrams per cubic meter (mg/m³).



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 1 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-1	04/06/88	321.44	36.34	285.10	None
	04/08/88		36.29	285.15	None
	04/19/88		36.36	285.08	None
	06/06/88		38.16	283.28	None
	06/23/88		38.71	282.73	None
	06/28/88		39.16	282.28	None
	07/06/88		39.73	281.71	None
	07/13/88		40.22	281.22	None
	08/12/88	:	NA		
	08/26/88		41.90	279.54	None
	09/07/88		42.27	279.17	None
	12/07/88		43.94	277.50	None
}	12/19/88		43.70	277.74	None
	02/09/89		42.53	278.91	None
	03/08/89		41.96	279.48	None
	04/03/89		41.59	279.85	None
	04/26/89		41.67	279.77	None
	06/30/89		43.79	277.65	None
	07/17/89		44.74	276.70	None
	07/18/89		44.76	276.68	None
	07/19/89		44.82	276.62	None
	07/20/89	•	44.85	276.59	None
	07/21/89		44.95	276.49	None
	07/26/89		45.42	276.02	None
	08/02/89		NA		
	08/03/89		46.18	275.26	None
	08/17/89		47.12	274.32	None
	09/13/89		49.08	272.36	None
	11/28/89		50.21	271.23	None
	01/09/90		49.31	272.13	None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 2 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-1	01/26/90		a salamia		
			49.29	272.15	None
cont.	02/23/90		#49.02	272.42	None
	02/23/90		49.02	272.42	None
	03/26/90		#48.71	272.73	None
	03/26/90		48.70	272.74	None
	04/18/90		48.79	272.65	None
	05/17/90		49.40	272.04	None
	06/11/90		50.83	270.61	None
	07/30/90		52.17	269.27	None
	08/27/90		53.44	268.00	None
	09/28/90		53.40	268.04	None
	12/27/90		NA	·	
	03/20/91		53.35	268.09	None
	06/20/91		53.55	267.89	None
	09/12/91		NA		
}	12/30/91	,	NA		
	01/30/92		NA		
	03/02/92		NA		
	03/24/92		NA		
	04/14/92		NA		
	05/21/92		NA		
	06/08/92		NA		
	07/14/92		NA		
	08/10/92	:	NA		
	09/16/92		NA		
	10/07/92		NA		
	11/09/92		DRY		
	12/10/92		NA NA		
	01/26/93		NA		
	02/16/93		NA NA		•
	02/10/93		INA		



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 3 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-1	03/11/93		53.09	268.35	None
cont.	04/12/93		53.32	268.12	None
MW-2	04/02/88	NA	NA		3"
	04/04/88		NA		18.0"
	04/05/88		NA		18.0"
	04/06/88		39.31	NA	38.4"
	04/08/88		*	NA	*
	04/19/88		38.90	NA	29.76**
	06/06/88		38.78	NA	3.12"
	06/23/88		39.23	NA	1.50"
	06/28/88		39.72	NA	NA
	07/06/88		40.31	NA	Slight
	07/12/88	•	Well Dest	royed	
MW-3	04/06/88		37.19	NA	None
	04/08/88		37.14	NA	None
	04/19/88		37.22	NA	None
	06/06/88		39.02	NA	None
	06/23/88		39.58	NA	None
	06/28/88		40.04	NA	None
i	07/06/88		40.60	NA	None
	07/13/88		41.09	NA	None
	08/12/88		NA		
	08/26/88		42.77	NA	None
	08/29/88	,	Well Des	troyed	•
MW-4	04/08/88	321.56	36.41	285.15	None
	04/19/88		36.51	285.05	None
	06/06/88	[38.26	283.30	None
	06/23/88		38.83	282.73	None
	06/28/88		39.28	282.28	None
	07/06/88		39.85	281.71	None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399
Pleasanton, California
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See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-4	07/13/88		40.31	281.25	None
cont.	08/12/88		NA		i
	08/26/88		42.01	279.55	None
	09/07/88		NA		
	12/07/88		NA		
	12/19/88		43.83	277.73	None
	02/09/89		42.67	278.89	None
	03/08/89		42.11	279.45	None
	04/03/89		41.73	279.83	None
	04/26/89		41.79	279.77	None
	06/30/89		43.88	277.68	None
	07/17/89		44.85	276.71	None
	07/18/89		44.88	276.68	None
	07/19/89		44.92	276.64	None
	07/20/89		44.98	276.58	None
	07/21/89		45.04	276.52	None
	07/26/89		45.50	276.06	None
	08/02/89		NA		
	08/03/89		46.28	275.28	None
	08/17/89		47.22	274.34	None
	09/13/89		49.19	272.37	None
	11/28/89		50.34	271.22	None
	01/09/90		49.47	272.09	None
	01/26/90		49.36	272.20	None
	02/23/90		#49.18	272.38	None
	02/23/90		49.15	272.41	None
	03/26/90		#48.84	272.72	None
	03/26/90		48.83	272.73	None
	04/18/90	•	48.90	272.66	None
	05/17/90		50.03	271.53	None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 5 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-4	06/11/90		50.98	270.58	None
cont.	07/30/90		53.57	267.99	None
	08/27/90		53.61	267.95	None
	09/28/90		53.57	267.99	No n e
	12/27/90		53.68	267.88	None
	03/20/91		53.56	268.00	None
	06/20/91		53.75	267.81	None
	09/12/91		53.70	267.86	None
	12/30/91		DRY		
	01/30/92		DRY		
	03/02/92		53.83	267.73	None
	03/24/92		53,73	267.83	None
	04/14/92		53.76	267.80	None
	05/21/92		54.73	266.83	
	06/08/92	1	53.80	267.76	None
	07/14/92		53.60	267.96	None
	08/10/92		53.71	267.85	None
	09/16/92		53.89	267.67	None
	10/07/92		DRY		
	11/09/92		DRY	t:	
	12/10/92		53.83	267.73	None
	01/26/93		DRY		1
	02/16/93		53.64	267.92	None
	03/11/93	·	53.54	268.02	None
	04/12/93		53.62	267.94	None
MW-5d	05/25/88	321.79	38.55	283.24	None
	06/06/88		38.90	282.89	None
	06/23/88		39.56	282.23	None
	06/28/88		40.23	281.56	None
	07/06/88		40.69	281.10	None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 6 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-5d	07/13/88		41.22	280.57	None
cont.	08/12/88		42,34	279.45	None
	08/26/88		42.60	279.19	None
	09/07/88		42.99	278.80	None
	12/07/88		44.58	277.21	None
	02/09/89		Casing head damaged	d by construction	•
	03/08/89		Casing head cut to	lower elevation	
			42.49	279.30	None
	04/03/89	·	42.21	279.58	None
	04/26/89		42.36	279.43	None
	06/30/89		44.79	277.00	None
	07/17/89		45.73	276.06	None
	07/18/89		45.75	276.04	None
	07/19/89		44.89	276.90	None
	07/20/89		46.02	275.77	None
	07/21/89		46.18	275.61	None
	07/26/89		46.83	274.96	None
	08/02/89		NA NA		
	08/03/89		47.67	274.12	None
	08/17/89		48.27	273.52	None
	09/13/89		50.60	271.19	None
	11/28/89		51.16	270.63	None
	01/09/90		50.42	271.37	None
	01/26/90		50.10	271.69	None
	02/23/90		50.08	271.71	None
	03/26/90		*49.80	271.99	None
	03/26/90		49.77	272.02	None
	04/18/90		49.80	271.99	None
	05/17/90		51.32	270.47	None
	06/11/90		52.10	269.69	None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

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WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-5s	06/11/90		50.98	270.66	None
cont.	07/30/90		53.40	268.24	None
	08/27/90		53.60	268.04	None
	09/28/90		53.55	268.09	None
	12/27/90	•	53.61	268.03	None
	03/20/91		53.56	268.08	None
	06/20/91		53.73	267.91	None
	09/12/91		53.78	267.86	None
	12/30/91		53.80	267.84	None
	01/30/92		53.82	267.82	None
	03/02/92		53.82	267.82	None
	04/14/92		53.74	267.90	None
	05/21/92		53.77	267.87	None
	06/08/92		53.81	267.83	None
	07/14/92		53.74	267.90	None
	08/10/92		53.78	267.86	None
	09/16/92		53.90	267.74	None
	10/07/92		DRY		,
	11/09/92		53.87	267.77	None
	12/10/92		53.78	267.86	None
	01/26/93		53.38	268.26	None
	02/16/93		53.44	268.20	None
	03/11/93		53.28	268.36	None
	04/12/93		53.42	268.22	None
MW-6	05/11/88	NA	37.31	NA	None
	06/06/88		38.70	NA	None
	06/23/88		39.23	NA	None
'	06/28/88		39.74	NA	None
1	07/13/88		40.78	NA	None
	08/05/88		41.72	NA	None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399
Pleasanton, California
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WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-6	08/12/88		42.14	NA	None
cont.	08/17/88		NA		
	08/26/88		42.51	NA	None
	09/07/88		42.85	NA	None
	10/24/88		Well Dest	royed	
MW-7	07/13/88	321.27	40.50	280.77	None
	07/22/88		#41.85	279.42	##None
	08/05/88		#41.45	279.82	##None
	08/12/88		42.69	278.58	NM
	09/07/88		42.60	278.67	NM
	12/07/88		NA		
	01/17/89		43.20	278.07	, NM
	02/09/89		NA		
	10/12/89		49.93	271.34	None
	11/28/89		#57.61	263.66	NM
	01/09/90		#57. 57	263.70	NM
	01/26/90		#57.54	263.73	None
	01/26/90		49.08	272.19	None
	02/23/90		#55.26	266.01	None
	02/23/90		48.93	272.34	None
	03/26/90		#57.52	263.75	None
}	03/26/90	,	48.60	272.67	None
	04/18/90		#57.55	263.72	None
	05/17/90		#57.40	263.87	None
	06/11/90		50.68	270.59	None
	07/30/90		NA		
	08/27/90		53.05	268.22	None
	09/28/90		NA		
	12/27/90		NA		1
	03/20/91		54.11	267.16	None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

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Pleasanton, California
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WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-7	06/20/91		55.14	266.13	None
cont.	09/12/91		55.84	265.43	None
	12/30/91		55.21	266.06	None
	01/30/92		54.88	266.39	None
	03/02/92		NA		
	03/24/92		NA		
	04/14/92		NA		
	05/21/92		53.36	267.91	None
	06/08/92		54.20	267.07	None
	07/14/92		53.31	267.96	None
	08/10/92		54.01	267.26	None
	09/16/92		55.97	265.30	None
	10/07/92		56.09	265.18	None
	11/09/92		54.16	267.11	None
	12/10/92		56.02	265.25	None
	01/26/93		56.15	265.12	None
	02/16/93		56.23	265.04	None
	03/11/93		55.82	265.45	None
	04/12/93		55.45	265.82	None
MW-8	10/01/89	321.86	53.88	267.98	None
	11/28/89		53.74	268.12	None
	01/09/90		57.90	263.96	None
	01/26/90		53.57	268.29	None
	02/23/90		52.16	269.70	None
	03/26/90		#52.80	269.06	None
	04/18/90		51.60	270.26	None
	05/17/90		58.21	263.65	None
	06/11/90		58.65	263.21	None
1	07/30/90		64.33	257.53	None
	08/27/90		70.41	251.45	None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

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WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-8	09/28/90		71.93	249.93	None
cont.	12/27/90		66.60	255.26	None
	03/20/91		60.75	261.11	None
	06/20/91		88.77	233.09	None
	09/12/91		103.17	218.69	None
	12/30/91		81.15	240.71	None
	01/30/92		81.69	240.17	None
	03/02/92		78.45	243.41	None
	03/24/92		76.55	245.31	None
	04/14/92		75.56	246.30	None
	05/21/92		86.99	234.87	None
	06/08/92		91.69	230.17	None
	07/14/92		94.65	227.21	None
;	08/10/92		95.02	226.84	None
,	09/16/92		91.90	229.96	None
	10/07/92		DRY		
	11/09/92		84.35	237,51	None
	12/10/92		82.20	239.66	None
	01/26/93		78.63	243.23	None
	02/16/93		76.90	244.96	None
	03/11/93	•	74.39	247.47	None
	04/12/93	•	71.20	250.66	None
MW-9	10/12/89	321.44	50.24	271.20	None
	11/28/89		50.59	270.85	Heavy
	12/01/89		50.32	271.12	Heavy
	12/07/89		50.13	271.31	Heavy
	12/13/89		49.91	271.53	Slight
	12/20/89		49.78	271.66	Slight
	01/02/89		NA		
	01/09/90		49.39	272.05	Slight



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

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WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-9	01/26/90	-	49.30	272.14	None
cont.	02/23/90		#49.06	272.38	None
	02/23/90		49.05	272.39	None
	03/26/90		#48.75	272.69	None
	03/26/90		48.73	272.7 1	Very Slight
	04/18/90		48.81	272.63	Slight
	05/17/90		49.96	271.48	Slight
	06/11/90		51.58	269.86	NA
	07/30/90		DRY		
	08/27/90		DRY		
	09/28/90		DRY		
	12/27/90		NA		
	03/20/91		DRY		
	06/20/91		49.63	271.81	None
	09/12/91		NA		
1	12/30/91		NA		
	01/30/92		NA		
	03/02/92		NA		
	03/24/92		NA		
	04/14/92		NA		
	05/21/92		NA		
	06/08/92	·	NA		
	07/14/92		NA	·	
	08/10/92		NA		
	09/16/92		NA		
	10/07/92		DRY		
	11/09/92		DRY		
	12/10/92		NA		
	01/26/93		DRY		
	02/16/93		DRY		



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

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Pleasanton, California
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WELL	DATE	WELL ELEVATION	DEPTH TO GROUNDWATER ELEVATION		FLOATING PRODUCT
MW-9	03/11/93		DRY	322.99	
cont.	04/12/93		DRY	322.99	
MW-10	10/12/89	322.99	51.93	271.06	None
	11/28/89		51.88	271.11	None
	12/20/89	·	51.47	271.52	None
	01/09/90		50.98	272.01	None
	01/26/90		50.87	272.12	None
	02/23/90		#50.67	272.32	None
	02/23/90		50.65	272.34	None
	03/26/90		#50.36	272.63	None
	03/26/90		50.35	272.64	None
!	04/18/90		50.45	272.54	None
	06/11/90		51.16	271.83	None
	07/30/90		55.72	267.27	None
	08/27/90		57.75	265.24	None
	09/28/90		NA		
	12/27/90		58.08	264.91	None
	03/20/91		57.80	265.19	None
	06/20/91		58.00	264.99	None
	09/12/91		DRY	·	
	12/30/91		NA		
	01/30/92		DRY		
	03/02/92		DRY		
	03/24/92		58.53	264.46	None
	04/14/92		DRY		
	05/21/92		DRY		
	06/08/92		DRY		[
	07/14/92		DRY		
	08/10/92		DRY		ĺ
	09/16/92		DRY		



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

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Pleasanton, California
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WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-10	10/07/92		DRY		
cont.	11/09/92		DRY		
	12/10/92		DRY		
	01/26/93		DRY		Į
	02/16/93		58.23	264.76	None
	03/11/93		57.81	265.18	None
	04/12/93		57.84	265.15	None
MW-11	11/10/89	321.77	50.64	272.13	None
	11/28/89		50.51	272.26	None
	12/20/89		51.47	271.30	None
	01/09/90		49.68	273.09	None
	01/26/90		49.55	273.22	None
	02/23/90		#49.37	273.40	None
	02/23/90		, 49.35	273.42	None
	03/26/90		#49.03	273.74	None
	04/18/90		49.12	273.65	None
	05/17/90		50.30	272,47	None
	06/11/90		51.16	271.61	None
	07/30/90		53.50	269.27	None
	08/27/90		53.65	269.12	None
	09/28/90		53.62	269.15	None
	12/27/90		53.63	269.14	None
	03/20/91		53.26	269.51	None
	06/20/91		53.60	269.17	None
	09/12/91		53.60	269.17	None
	12/30/91	:	53.95	268.82	None
	01/30/92		53.65	269.12	None
a a	03/02/92		53.68	269.09	None
	03/24/92		53.70	269.07	None
	04/14/92		53.66	269.11	None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

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WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-11	05/21/92		53.62	269.15	None
cont.	06/08/92	-	53.61	269.16	None
	07/14/92		53.53	269.24	None
	08/10/92		53.58	269.19	None
	09/16/92		53.60	269.17	None
	10/07/92		DRY		
	11/09/92	-	DRY		
	12/10/92		53.59	269.18	None
	01/26/93		53.67	269.10	None
	02/16/93		53.60	269.17	None
	03/11/93		53.58	269.19	None
	04/12/93		53.54	269.23	None
VR-1	03/24/92		24:77		None



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TABLE 2 CUMULATIVE GROUNDWATER MONITORING DATA

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Well elev	ation relat	ive to Mean Sea Level (MSL).
Measure	ments in fe	pet Company of the Co
NA	;	Not accessible
*	:	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 possibley due to recharge from a perched water zone.
#	:	Water level during pumping of MW-7.
##	:	Water inspected in oil-water separator tank.

TABLE 3 CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES

Exxon Station 7-3399
Pleasanton, California
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WELL	DATE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-1	04/02/88	<20	<0.5	1.7	< 0.5	<0.5	ŃΑ
	07/06/88	< 20	< 0.5	<0.5	<0.5	< 0.5	NA
	07/13/88	< 20	<0.5	< 0.5	<0.5	< 0.5	NA
	09/07/88	<20	< 0.5	< 0.5	< 0.5	<0.5	NA
	03/03/89	< 20	1.6	< 0.5	< 0.5	<0.5	NA
	06/30/89	< 20	<0.5	< 0.5	<0.5	< 0.5	NA
	07/17/89	23	< 0.5	< 0.5	<0.5	<0.5	NA
	07/20/89	<20	< 0.5	< 0.5	<0.5	<0.5	NA
	07/26/89	<20	< 0.5	< 0.5	< 0.5	<0.5	NA
	08/02/89	<20	<0.5	< 0.5	< 0.5	<0.5	NA
	09/13/89	220	39	0.60	< 0.50	5.1	NA
	12/20/89	220	56	0.72	< 0.50	0.71	NA
	01/25/90	57	18	1.6	< 0.50	1.8	NA
	02/27/90	55	3.2	2.3	< 0.50	3.2	NA
	03/26/90	<20	< 0.5	< 0.5	< 0.5	<0.5	NA
	04/18/90	25	1.1	1.6	< 0.50	3.1	NA
	05/17/90	<20	<0.5	< 0.5	< 0.5	<0.5	NA



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WELL	DATE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-1 cont.	06/11/90	<20	< 0.5	<0.5	<0.5	< 0.5	NA
	07/30/90	<20	< 0.5	< 0.5	< 0.5	< 0.5	NA
	08/27/90	<20	< 0.5	<0.5	< 0.5	< 0.5	NA
	09/28/90	< 50	< 0.5	<0.5	< 0.5	< 0.5	NA
	12/10/92	•		Not Acces	sible ,	•	
	02/16/93			Not Acces	sible		
	04/12/93		Not Accessible				
MW-2	07/06/88	62,000	25,700	18,500	2,900	21,400	NA
	07/12/88	·		Well Destr	oyed	•	
MW-3	04/06/88	20	< 0.5	< 0.5	< 0.5	< 0.5	NA ,
	07/06/88	<20	<0.5	< 0.5	<0.5	<0.5	NA
	07/13/88	<20	<0.5	< 0.5	< 0.5	< 0.5	NA
1	08/26/88	<20	<0.5	< 0.5	< 0.5	< 0.5	NA
	08/29/88	•	'	Well Destr	oyed	•	•
MW-4	04/11/88	80	1.8	16.3	0.6	7.1	NA
	07/06/88	. <20	< 0.5	< 0.5	< 0.5	<0.5	NA
	07/13/88	<20	< 0.5	0.9	< 0.5	<0.5	NA



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Pleasanton, California
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WELL	DATE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-4 cont.	03/08/89	440	3.8	1.0	< 0.5	<0.5	NA
	06/30/89	100	< 0.5	< 0.5	< 0.5	<0.5	NA
]	07/17/89	390	<0.5	< 0.5	< 0.5	< 0.5	NA
	07/20/89	200	<0.5	< 0.5	< 0.5	<0.5	ND*
	07/26/89	66	< 0.5	< 0.5	< 0.5	<0.5	NA
	08/02/89	NA	NA .	NA	NA	NA	ND**
	09/13/89	<20	< 0.5	< 0.5	<0.5	<0.5	NA
1.	12/20/89	<20	<0.5	<0.5	< 0.5	<0.5	NA
	03/26/90	< 20	< 0.5	<0.5	< 0.5	<0.5	NA
	08/01/90	<20	<0.5	< 0.5	<0.5	<0.5	NA
]	12/27/90	< 50	<0.5	< 0.5	< 0.5	<0.5	NA
	03/20/91	< 50	< 0.5	< 0.5	< 0.5	<0.5	NA
1	03/24/92	<50	< 0.5	<0.5	< 0.5	<0.5	NA
	12/10/92		1	Not Acces	sible	•	
	02/16/93	600	57	34	11	200	NA
	04/12/93	360	20	10	22	80	NA



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WELL	DATE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-5d	05/25/88	< 20	<0.5	3.1	<0.5	<0.5	NA
	07/06/88	<20	< 0.5	<0.5	<0.5	<0.5	· NA
	07/13/88	40	< 0.5	<0.5	< 0.5	<0.5	NA
1	03/08/89	<20	<0.5	< 0.5	< 0.5	< 0.5	NA
	06/30/89	<20	<0.5	< 0.5	< 0.5	< 0.5	NA
1	07/17/89	<20	<0.5	<0.5	< 0.5	< 0.5	NA
	07/20/89	<20	<0.5	<0.5	< 0.5	< 0.5	NA
	07/26/89	<20	<0.5	< 0.5	< 0.5	<0.5	NA
	08/02/89	<20	<0.5	< 0.5	< 0.5	<0.5	NA
	09/13/89	< 20	<0.5	< 0.5	< 0.5	<0.5	NA
	12/20/89	<20	<0.5	< 0.5	< 0.5	< 0.5	NA
	03/26/90	< 20	<0.5	< 0.5	< 0.5	<0.5	NA
	08/01/90	< 20	< 0.5	< 0.5	< 0.5	< 0.5	NA
it	12/27/90	<50	< 0.5	< 0.5	< 0.5	< 0.5	NA
	03/20/91	<50	<0.5	< 0.5	<0.5	<0.5	NA
]	06/20/91	< 50	<0.5	< 0.5	<0.5	<0.5	NA
	12/10/92			Not Samp	oled	,	



Exxon Station 7-3399
Pleasanton, California
Page 5 of 11
See notes on page 11

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-5d	02/16/93		Not Sampled				
	04/12/93	< 50	1.0	1.0	2.5	7.4	NA
MW-5s	05/25/88	<20	<0.5	0.9	<0.5	< 0.5	NA
	07/06/88	<20	< 0.5	< 0.5	<0.5	<0.5	NA
	07/13/88	<20	< 0.5	<0.5	<0.5	<0.5	NA
	07/22/88	50	0.9 .	4.1	1.3	8.7	NA
1	08/05/88	< 20	< 0.5	<0.5	<0.5	<0.5	NA
	09/07/88	< 20	< 0.5	<0.5	<0.5	<0.5	NA
'	03/08/89	< 20	<0.5	<0.5	<0.5	< 1.0	NA
	06/30/89	< 20	<0.5	<0.5	<0.5	<0.5	NA
	07/17/89	<20	<0.5	<0.5	< 0.5	< 0.5	NA
	07/20/89	<20	<0.5	< 0.5	<0.5	< 0.5	NA
	07/26/89	<20	<0.5	<0.5	< 0.5	< 0.5	NA
	08/02/89	< 20	< 0.5	<0.5	< 0.5	< 0.5	NA
	09/13/89	<20	<0.5	<0.5	< 0.5	< 0.5	NA -
	12/20/89	<50	<0.5	<0.5	< 0.5	<0.5	NA
	03/26/90	<20	< 0.5	< 0.5	< 0.5	<0.5	NA



Exxon Station 7-3399 Pleasanton, California Page 6 of 11 See notes on page 11

WELL	DATE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs	
MW-5s	08/01/90	< 50	< 0.5	<0.5	< 0.5	< 0.5	NA	
	12/27/90	< 50	< 0.5	< 0.5	< 0.5	<0.5	NA NA	
•	12/10/92	·		Not Sam	oled	•		
	02/16/93		Not Sampled					
	04/12/93	220	11	5.9	13	48	NA	
MW-6	05/17/88	< 20	<0.5	< 0.5	< 0.5	<0.5	NA	
	06/28/88	440	31.8	7.5	5.4	6.7	NA	
	07/13/88	290	162.3	7.7	22.5	14.1	NA	
	08/05/88	1180	245	5.2	47.1	23.7	NA	
	09/07/88	2920	474	16	262	136	NA	
,	10/24/88	'	•	Well Destr	oyed	•	•	
MW-7	07/13/88	16700	860	1910	710	4420	NA	
	07/22/88	460	136	85	5	58	NA	
	08/05/88	270	73.3	52.8	2.3	28.1	NA	
	02/09/89	6700	600	688	10	448	NA	
	06/30/89	1100	180	50	13	40	NA	
	08/02/89	31	1.6	<0.5	< 0.5	0.60	NA	



Exxon Station 7-3399
Pleasanton, California
Page 7 of 11
See notes on page 11

WELL	DATE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs			
MW-7 cont.	09/13/89	87	<0.5	2.6	<0.5	12	NA			
	12/20/89	< 20	<0.5	< 0.5	< 0.5	<0.5	NA			
	06/20/91	74	<0.5	1.8	0.6	4,1	NA			
	09/12/91	< 50	3.5	<0.5	1.7	6.8	NA			
·	12/30/91	< 50	<0.5	<0.5	<0.5	<0.5	NA			
	06/08/92	< 50	<0.5	< 0.5	< 0.5	<0.5	NA			
	12/10/92	Not Sampled								
	02/16/93	600	28	30	17	200	NA			
	04/12/93		'	Not Samp	pled	·				
Well #7	07/20/89	NA	NA	NA	NA	NA	ND*			
(City of	08/02/89	NA	NA	NA	NA	NA	ND**			
Pleasanton)	03/26/90	< 50	< 0.50	< 0.50	<0.50	< 0.50	NA			
MW-8	10/03/89	<20	< 0.5	<0.5	< 0.5	<0.5	NA			
101 10-0	12/20/89	< 20	< 0.50	< 0.50	< 0.50	0.61	NA			
	01/31/90	<20	< 0.50	< 0.50	< 0.50	0.87	NA			
	02/09/90	< 20	<0.5	< 0.5	< 0.5	1.1	NA			
	(Blank)	<20	<0.5	<0.5	< 0.5	<0.5	NA			



Exxon Station 7-3399
Pleasanton, California
Page 8 of 11
See notes on page 11

WELL	DATE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-8 cont.	03/26/90	< 20	< 0.5	<0.5	< 0.5	< 0.5	NA
	(Blank)	<20	<0.5	< 0.50	< 0.5	< 0.5	NA
]	04/18/90	<20	<0.50	0.58	< 0.50	1.1	NA
1	05/17/90	<20	<0.5	<0.5	<0.5	< 0.5	ÌΝΑ
1	06/11/90	<20	. <0.5	< 0.5	< 0.5	< 0.5	NA
	08/01/90	<20	< 0.5	< 0.5	< 0.5	<0.5	NA
	08/27/90	<20	< 0.5	< 0.5	<0.5	0.5	NA
	09/28/90	< 50	< 0.5	<0.5	<0.5	0.5	NA
•	12/27/90	< 50	< 0.5	< 0.5	< 0.5	0.6	NA
	03/20/91	<50	<0.5	<0.5	< 0.5	< 0.5	NA
	06/20/91	< 50	<0.5	< 0.5	< 0.5	0.6	NA
	10/14/91	<50	<0.5	< 0.5	< 0.5	<0.5	NA
	12/30/91	< 50	<0.5	< 0.5	< 0.5	<0.5	NA
	03/24/92	< 50	<0.5	< 0.5	<0.5	< 0.5	NA
	06/08/92	< 50	<0.5	< 0.5	< 0.5	<0.5	NA
	09/16/92	< 50	<0.5	0.9	<0.5	< 0.5	NA
	12/10/92	<50	<0.5	0.6	< 0.5	< 0.5	NA



Exxon Station 7-3399
Pleasanton, California
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See notes on page 11

WELL	DATE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-8 cont.	02/16/93	< 50	0.7	0.6	< 0.5	2.3	NA
	04/12/93	230	26	7.3	11	38	NA
MW-9	10/03/89	89000	1000	9200	3000	13000	NA
	12/20/89	190000	6300	31000	9500	55000	NA
,	01/25/90	77000	2400	9400	2700	15000	NA
	02/27/90	97000	1200	7100	2300	14000	NA
	03/26/90	89000	1800	7700	2000	11000	NA
	04/18/90	110000	2000	7500	2500	16000	NA
	05/17/90	81000	1500	5700	2300	14000	NA
	06/20/90	430	<0.5	< 0.5	< 0.5	<0.5	NA
	12/10/92		ı	Not Acces	sible	•	
	02/16/93			Not Sam	pled		
	04/12/93			Not Sam	pled		
MW-10	10/12/89	20	<0.5	<0.5	<0.5	1.5	NA
14144-10	12/20/89	<20	<0.5	< 0.5	<0.5	1.8	NA
	03/26/90	< 20	<0.5	<0.5	< 0.5	<0.5	NA
	08/01/90	< 20	<0.5	<0.5	< 0.5	<0.5	NA



Exxon Station 7-3399 Pleasanton, California Page 10 of 11 See notes on page 11

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs		
MW-10	12/10/92			Not Sam	pled				
	02/16/93			Not Sam	pled				
	04/12/93	350	21	11	21	75	NA		
MW-11	11/16/89	150	4.1	9.4	0.74	20	NA		
	12/20/89	150	7.2	7.5	2.9	13	NA		
	03/26/90	32	<0.5	< 0.5	<0.5	2.7	NA		
	07/30/90	26	<0.5	< 0.5	<0.5	3.8	NA		
	12/10/92	Not Sampled							
	02/16/93			Not Sami	pled				
	04/12/93	< 50	<0.5	<0.5	<0.5	<0.5	NA		
VR-1	03/24/92	< 50	1.7	< 0.5	<0.5	<0.5	NA		
	12/10/92	Not Sampled							
	04/12/93	<u> </u> 		Not Sam	pled				
	MCLs		1.0		680	1,750			
	DWAL			100					



Drinking Water Action Level, DHS (October 1990).

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TABLE 3 CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES

Exxon Station 7-3399 Pleasanton, California Page 11 of 11

Resu	ults in parts	per billion (ppb).
<	:	Less than the laboratory detection limit.
N	:	Not Analyzed
N	:	Not detected at or above method detection limit
	:	Not Applicable
TP	:	Total petroleum hydrocarbons as gasoline analyzed using modified EPA method 5030/8015.
BT	:	Analyzed using modified EPA method 5030/8020.
v	:	Volatile organic compounds
*	:	VOCs analyzed using EPA method 502.2.
**	:	VOCs analyzed using EPA method 524.2.
M	:	Maximum Contaminant Levels, DHS (October 1990).





Quarterly Groundwater Sampling and Remediation Activities Exxon Station 7-3399, Pleasanton, California

May 14, 1993 130009.01

TABLE 4 CUMULATIVE RESULTS OF FIELD ORGANIC VAPOR MEASUREMENTS

Exxon Station 7-3399
Pleasanton, California
Page 1 of 2
See notes on page 2

DATE	INFLUENT	BETWEEN CANISTERS 1 AND 2	BETWEEN CANISTERS 2 AND 3	EFFLUENT
10/22/92	280	NM	0	0
10/23/92	90	NM	0	0
10/26/92	145	NM	10	0
10/27/92	190	NM	10	0
10/28/92	270	NM	30	10
11/02/92	120	NM	40	0
11/03/92*	210	10	20	0
11/04/92	129.5	6.8	0	0
11/05/92	20	0	0	0
11/09/92	76.4	4.1	0 ***	0
11/10/92	100	20	10	0
11/13/92	49.5	3.1	0	0
11/16/92	45.9	5.2	2.4	0
11/17/92	110	30	0	0
11/18/92	100	30	5	0
11/19/92	83.4	4.5	2.4	0
11/20/92	90	20	20	15
11/23/92	93	10.1	1.4	0
11/24/92	115.4	5.6	1.4	0
11/25/92	105.3	16.2	4,9	0
11/30/92	161.2	4.2	2.7	.0
12/01/92*	14.7	6.9	3.3	0
12/02/92	20	20	10	0
12/03/92	70	20	10	0
12/11/92	7.8	9.0	4.8	0
12/16/92	2.5	3.2	1.6	0
12/21/92	74.8	5.7	2.8	0
12/31/92	2.4	6.6	10.8	0

APPENDIX A

GROUNDWATER SAMPLING PROTOCOL AND WELL PURGE DATA SHEETS

Quarterly Groundwater Monitoring and Remediation Activity Exxon Station 7-3399, Pleasanton, California May 11, 1993 130009.01

GROUNDWATER SAMPLING PROTOCOL

The static water level and free-phase hydrocarbon level, if present, in each well that contained water and/or free-phase hydrocarbons are measured with an ORS Interphase Probe Model No. 106801, which is accurate to the nearest 0.01 foot. To calculate groundwater elevations and evaluate groundwater gradient, depth to water (DTW) levels are subtracted from wellhead elevations and corrected for product thickness, when necessary, by multiplying product thickness (PT) by a correction factor 0.8 and subtracting from the DTW level (Adjusted DTW = DTW - [PT x 0.8]).

Groundwater samples collected for subjective evaluation are 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 are checked for measurable free-phase hydrocarbons or sheen. Any free-phase hydrocarbons are removed from the well.

Before water samples are collected from the groundwater monitoring wells, the wells are purged until stabilization of the temperature, pH, and conductivity is obtained. Approximately four well casing volumes are purged before those characteristics stabilize. Water samples from the wells that do not obtain stability of the temperature, pH, and conductivity are considered to be "grab samples". Turbidity measurements are also collected from the purged well water. The quantity of water purged from each well is 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
(depth to bottom - 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 is allowed to recharge to at least 80% of the initial water level. Water samples from wells that do not recover at least 80% (due to slow recharging of the well) between purging and sampling are considered to be "grab samples". Water samples were collected with an Environmental Protection Agency (EPA) approved Teflon® sampler which has been cleaned with Alconox® and deionized water. The groundwater was carefully poured into 40-milliliter (ml) glass vials, which are filled so as to produce a positive



Quarterly Groundwater Monitoring and Remediation Activity Exxon Station 7-3399, Pleasanton, California May 11, 1993 130009.01

meniscus. Each vial is preserved with hydrochloric acid, 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 are promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain of Custody form, to a California-certified laboratory.



WELL PURGE DATA SHEET

Project Name: Exxon 7-3399

Job No. <u>130009.01</u>

Date: February 16, 1993

Page <u>1</u> of <u>1</u>

Well No. MW-4

Time Started 12:51

TIME (hr)	GALLONS (cum.)	TEMP. (F)	рН	CONDUCT. (micromho)	TURBIDITY (NTU)
12:51	Start pu	rging MW-4			
12:51	0	61.3	7.03	1.40	>200
12:56	2	61.9	6.64	1.61	>200
1:05	. 4	57.6	6.88	1.40	>200
1:16	5	59.5	6.99	1.41	>200
1:16	Stop pu	rging MW-4			
Notes:	De; De;	Dept pth to Wate	h to Botte r - initi r - final	(inches) : 4 om (feet) : ! al (feet) : ! feet) : !	56.50 53.64 53.72

Time Sampled: 2:15

Gallons per Well Casing Volume: 1.87
Gallons Purged: 5
Well Casing Volume Purged: 2.7

Approximate Pumping Rate (gpm): 0.2



WELL PURGE DATA SHEET

Job No. <u>130009.01</u> Project Name: Exxon 7-3399

Page <u>1</u> of <u>1</u> Date: February 16, 1993

Time Started 1:52 Well No. MW-7

TIME (hr)	GALLONS (cum.)	TEMP. (F)	рН	CONDUCT.	TURBIDITY (NTU)
1:52	Start pu	rging MW-7			·
1:52	0	60.4	7.15	1.83	157.8
1:54	1	Dry			
1:54	Stop pu	rging MW-7			
Notes:	De	Dept pth to Wate	h to Botter - initia	(inches) : com (feet) : dal (feet) : deet) : deet) : deet) : deet	59.50 56.23

% recovery : 65

Time Sampled: 4:05

Gallons per Well Casing Volume: 2.14
Gallons Purged: 1

Well Casing Volume Purged: 0.5

Approximate Pumping Rate (gpm): 0.5



WELL PURGE DATA SHEET

Job No. 130009.01 Project Name: Exxon 7-3399

Page <u>1</u> of <u>1</u> Date: February 16, 1993

Time Started 2:45 Well No. MW-8

TIME (hr)	GALLONS (CUM.)	TEMP.	pН	CONDUCT. (micromho)	TURBIDITY (NTU)
2:45	Start pu	rging MW-8			
2:45	0	61.0	8.17	0.72	15.1
2:54	20	60.0	7.95	0.90	8.1
3:00	40	59.1	7.66	0.91	2.0
3:06	60	60.0	7.60	0.90	4.1
3:10	80	60.2	7.56	0.91	3.0
3:15	100	59.8	7.49	0.92	2.6
3:30	120	59.0	7.53	0.75	1.6
3:45	140	59.6	7.40	0.91	1.4
4:00	160	58.5	7.38	0.87	5.4
4:00	Stop pu	rging MW-8			·
otes:		Dept	h to Bott r - initi r - final	(inches) : om (feet) : al (feet) : feet) : recovery :	139.00

Time Sampled: 4:35

Gallons per Well Casing Volume: 40.56
Gallons Purged: 160

Well Casing Volume Purged: 3.95

Approximate Pumping Rate (gpm): 2.1

APPENDIX B

LABORATORY ANALYSIS REPORTS AND CHAIN OF CUSTODY RECORD



February 26, 1993

Ms. Dora Chew Resna 3315 Almaden Expressway, Suite 34 San Jose, CA 95118

RE: PACE Project No. 430219.513

stephanie mat,

Client Reference: Exxon 7-3399 (EE)

Dear Ms. Chew:

Enclosed is the report of laboratory analyses for samples received February 19, 1993.

Footnotes are given at the end of the report.

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

Sincerely,

Stephanie Matzo Project Manager

Enclosures



Resna 3315 Almaden Expressway, Suite 34 San Jose, CA 95118

February 26, 1993

PACE Project Number: 430219513

Attn: Ms. Dora Chew

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number: Date Collected: Date Received:

70 0012988 02/16/93 02/19/93

Parameter	Units	_MDL_	W-53-MW4	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015M) PURGEABLE AROMATICS (BTXE BY EPA 8020M): Benzene Toluene Ethylbenzene	ug/L ug/L ug/L ug/L	50 0.5 0.5 0.5	- 600 - 57 34 11	02/23/93 02/23/93 02/23/93 02/23/93 02/23/93 02/23/93
Xylenes, Total	ug/L	0.5	200	02/23/93



Ms. Dora Chew

Page 2

February 26, 1993

PACE Project Number: 430219513

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

Parameter

70 0012996

02/16/93

02/19/93 W-57-MW7

Units MDL DATE ANALYZED

600

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):
Purgeable Fuels, as Gasoline (EPA 8015M) ug/L
PURGEABLE AROMATICS (BTXE BY EPA 8020M):

PURGEABLE AROMATICS (BTXE BY ÈPA 8020M): Benzene Toluene

Ethylbenzene Xylenes, Total ug/L 50

ug/L ug/L ug/L

ug/L

0.5 0.5 0.5

0.5

28 02/23/93 30 02/23/93 17 02/23/93

200

02/23/93

02/23/93

02/23/93 02/23/93

Kansas City, Missouri



Ms. Dora Chew

Page 3

February 26, 1993

PACE Project Number: 430219513

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number: Date Collected:

Date Received: Client Sample ID:

Parameter

70 0013003 02/16/93

02/19/93 W-76-82-

MW-8R

MDL

DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS TOTAL FUEL HYDROCARBONS, (LIGHT):				02/22/02
Purgeable Fuels, as Gasoline (EPA 8015M)	ua /I	E0	ND.	02/23/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):	ug/L	50	ND	02/23/93
•	ua /I	0 5	ND.	02/23/93
Benzene Toluene	ug/L	0.5	ND	02/23/93
	ug/L	0.5	ND	02/23/93
Ethylbenzene	ug/L	0.5	ND	02/23/93
Xylenes, Total	ug/L	0.5	ND	02/23/93

Units



Ms. Dora Chew Page 4 February 26, 1993

PACE Project Number: 430219513

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number: Date Collected: 70 0013011 02/16/93

Date Received:

02/19/93 N 76 92

MDL

Client Sample ID: Parameter

W-76-82-MW-8 DATE

DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT): 02/24/93 Purgeable Fuels, as Gasóline (EPA 8015M) ug/L 02/24/93 ND 50 PURGEABLE AROMATICS (BTXE BY EPA 8020M): 02/24/93 Benzene 0.5 0.7 02/24/93 ug/L Toluene 02/24/93 0.5 0.6 ug/L Ethylbenzene 0.5 ND 02/24/93 ug/L

Units

Xylenes, Total

ug/L 0.5

2.3

02/24/93

These data have been reviewed and are approved for release.

Darrell C. Cain

Regional Director



Ms. Dora Chew

FOOTNOTES

February 26, 1993 PACE Project Number: 430219513

Page

for pages 1 through

Client Reference: Exxon 7-3399 (EE)

MDL

Method Detection Limit

ND

Not detected at or above the MDL.

Denver Colorado



Ms. Dora Chew Page 6 QUALITY CONTROL DATA

February 26, 1993

PACE Project Number: 430219513

Client Reference: Exxon 7-3399 (EE)

PURGEABLE FUELS AND AROMATICS

Batch: 70 18972

Samples: 70 0012988, 70 0012996, 70 0013003, 70 0013011

METHOD BLANK:

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

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

			Reference		Dupi	
Parameter	Units	MDL	Value	Recv	Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	1000	103%	110%	6%
Benzene	ug/L	0.5	40.0	105%	101%	3%
Toluene	ug/L	0.5	40.0	104%	98%	5%
Ethylbenzene	ug/L	0.5	40.0	104%	100%	3%
Xylenes, Total	ug/L	0.5	120	105%	101%	3%



Ms. Dora Chew Page

FOOTNOTES

February 26, 1993

for page 6 PACE Project Number: 430219513

Client Reference: Exxon 7-3399 (EE)

MDL

Method Detection Limit

ND

Not detected at or above the MDL.

RPD

Relative Percent Difference

Pittsburgh, Pennsylvania

Denver, Colorado

112000 .513

Distribution: 10/4

White - Original

EXXON COMPANY, U.S.A.

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

CHAIN OF CUSTODY

Novato, CA, 11 Digital Drive, 94949 Huntington Beach, CA, 5702 Bolsa Avenue, 92649 (415) 883-6100 (714) 892-2565 RESNA Consultant's Name: EXPRESS WAY #34, SAN TOSE, CA 95118 Site Location: 2991 HOPYARD RD. PLEASANTON Address: 3315 ALAMADEN 130009-01 Consultant Work Release #: 09300140 COM Project #: Consultant Project #: Project Contact: DORA CHEWMARE BYIGHS. Phone #: (408) 264 - 7723 Fax #: 264-2435 Laboratory Work Release #: EXXON Contact: Marla Guensler EE CAM Phone #: (570) 246-8776 \$8778 Fax #: EXXON RAS #: Sampler's Signature: Navest - C. Sampled by (print): NARESH. C Shipment Date: Air Bill #: Shipment Method: Sample Condition as Received ANALYSIS REQUIRED 72 lir Standard (5 day) 24 hr 48 hr l TAT: Temperature " C: Cooler #: ______ \(\sqrt{\text{Ves No. } \sqrt{\text{V}}} \) TPH/GAS/BTEX EPA 8015/8020 Outbound Scal Yes No 2 5 TPH/Diesel TRPH EPA 418. PACE Matrix # of Sample Description Collection Date/Time Soil/Water Sample # COMMENTS W-53-MW4R 02/16 15:10 * Hold 1302.0 1120 W-53-MW 4 02/16 15:15 W-S7-HW 7R 02/16 16:00 1400d W-57-MW7 02/16 15:05 W-76.82-MW8R 02/16 16:35 1300.3 W-7682 MW802/16 1640 [2014 Accepted by/Affiliation Additional Comments: Date Time Relinquished by/Affiliation Date Time

Pink - Lab

Yellow Exxon

Goldenrod - Consultant Field Staff