EXON 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 February 17, 1994

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 report entitled <u>Letter Report Groundwater Monitoring and Remediation</u> <u>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 October through December 1993.

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

Sincerely,

Marla D. Guensler

Senior Environmental Engineer

MDG/mdg

attachment:

RESNA Letter Report Dated December 30, 1993

cc: w/attachment:

Mr. Sum Arigalia - San Francisco Bay Region CRWOCB
Mr. Jerry Killingstad - Alameda Co. Flood Control (Zone-7)
Mr. Steve Cusenza - City of Pleasanton Public Works Dept.





3315 Almaden Expressway, Suite 34 San Jose, CA 95118

Phone: (408) 264-7723 FAX: (408) 264-2435 еххоп1293

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

October - December 1993 December 29, 1993 (Page 1 of 2)

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

Work Performed During This Quarter

October through December 1993

- Submitted final work plan to Exxon on November 9, 1993.
- o Submitted final report for third quarter 1993 Quarterly Monitoring and Remediation Activities to Exxon November 18, 1993.
- o Performed quarterly monitoring and sampling for fourth quarter 1993 on November 23 and 24, 1993.
- Collected influent and effluent air samples for laboratory analysis of TPHg and BTEX from the interim vapor extraction and treatment system on September 15, 1993
- Performed bi-weekly inspections/maintenance and monthly air monitoring of the interim vapor extraction and treatment system on October 27, November 30, and December 29, 1993.
- o Drilled four confirmation soil borings on December 1 and 2, 1993.
- Temporarily shut down interim vapor extraction and treatment system until confirmation soil boring data has been evaluated.
- Submitted final report for fourth quarter 1993 Quarterly Monitoring and Remediation Activities to Exxon.

Groundwater Sampling (sampled 11/24/93) Results: (ug/L)

Well	TPHg	<u>B</u>	<u>T</u>	<u>E</u>	<u>x</u>	Historical Trends
MW-1	<50	< 0.5	< 0.5	< 0.5	<0.5	Unchanged
MW-2			Well Destroy	/ed		
MW-3			Well Destroy	yed .		
MW-4	360	20	10	22	80	Decreased
MW-5d	<50	<0.5	<0.5	< 0.5	< 0.5	Decreased
MW-5s	<50	<0.5	<0.5	< 0.5	< 0.5	Unchanged
MW-6			Well Destroy	yed		
MW-7	<50	<0.5	<0.5	<0.5	< 0.5	Decreased
MW-8	<50	<0.5	< 0.5	< 0.5	< 0.5	Unchanged
MW-9			Well Dry			
MW-10			Well Dry			
MW-11	< 50	< 0.5	<0.5	<0.5	< 0.5	Unchanged



exxon1293

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

October - December 1993 December 29, 1993 (Page 2 of 2)

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

Free Phase Product Recovery

Not Applicable

Work to be Performed Next Quarter

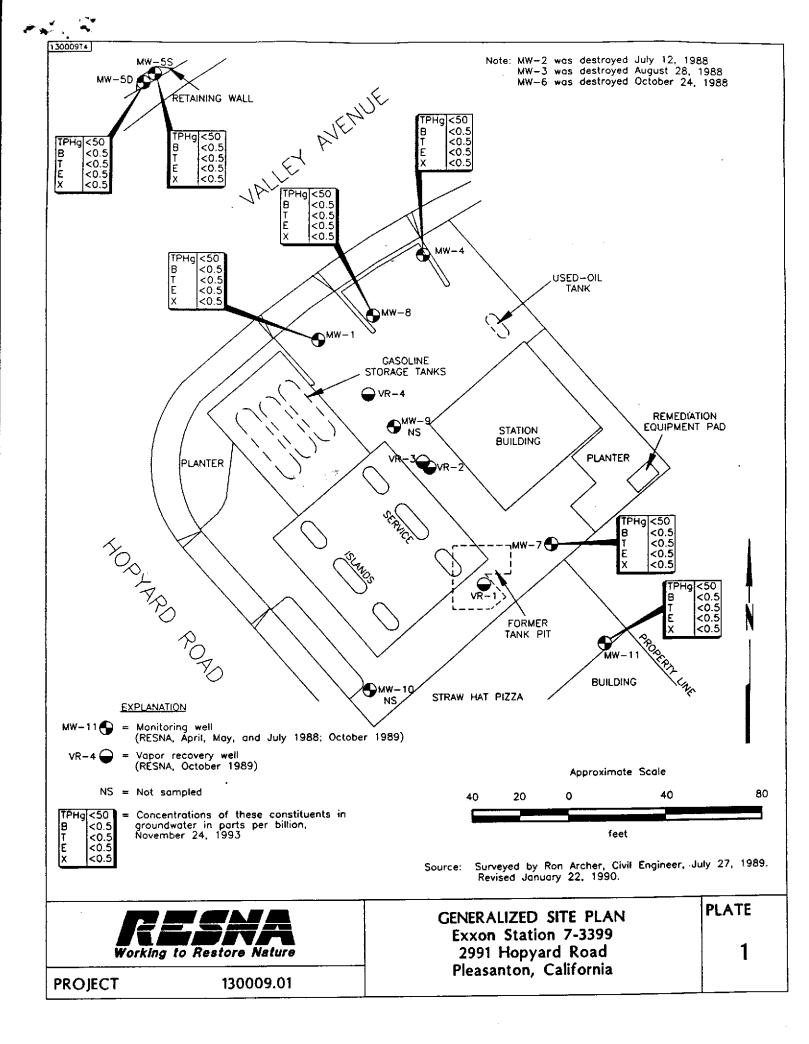
Estimated Completion Date 03/31/94

- Perform monthly monitoring for the first quarter 1994 on January 20 and March 16, 1994.
- o Perform quarterly monitoring and sampling for the first quarter 1994 on February 22, 1994.
- o Complete evaluation of confirmation soil boring data.
- Submit final report for first quarter 1994 Quarterly Monitoring to Exxon.

Work to be Performed Next 12 Months

Estimated Completion Date 12/31/94

- 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.
- o If necessary, continue with bi-weekly inspections/maintenance and monthly air monitoring of the interim vapor extraction and treatment system.





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San Jose, CA 95118 Phone: (408) 264-7723 FAX: (408) 264-2435

LETTER REPORT
GROUNDWATER MONITORING
AND
REMEDIATION ACTIVITIES
Fourth Quarter 1993
at
Exxon Station 7-3399
2991 Hopyard Road
Pleasanton, California

130009.01

12-30-93



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

> December 30, 1993 1210MGUE 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 Groundwater Monitoring and Remediation Activities Fourth

Quarter 1993 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 fourth 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 as shown on Plate 1, Site Vicinity Map. 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, and to operate, maintain, and evaluate the performance of the vapor extraction remediation system.

Site Setting and Background

Former gasoline USTs were located in the southeastern portion of the site. The USTs 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



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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.

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.

Applied GeoSystems (AGS) submitted an Application for Authority to Construct and Permit to Operate Industrial Sources to the Bay Area Air Quality Management District (BAAQMD) on April 13, 1989. The BAAQMD issued an Authority to Construct (Application No. 2821) by letter of July 20, 1989. AGS initially started the vapor-extraction system on August 7, 1989 (In AGS Report No. 18034-6, dated August 29, 1989, it was mistakenly stated that the system was started on July 28, 1989). 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.

In July of 1993, the Dublin-San Ramon Services District requested that RESNA temporarily cap the discharge point of the groundwater recovery system because the system was not being used at the time.

Groundwater Sampling and Gradient Evaluation

Monthly depth-to-water (DTW) levels were measured in monitoring wells MW-1, MW-4, MW-5d, MW-5s, and MW-7 through MW-11 on October 28, and November 23, 1993, and quarterly purging and sampling was performed on November 23 and 24, 1993. 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-1, MW-4, MW-5d, MW-5s, MW-7, and MW-8. Wells MW-9 and MW-10 were dry. Water samples from wells MW-7 and MW-11 are considered grab samples because the groundwater level did not recharge to 80% in well MW-7, and the bailer used for purging MW-11 leaked. Field methods are described



in the Field Protocol section of the second quarter monitoring report (RESNA, August 2, 1993).

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.

Based on DTW measurements taken on November 23, 1993 from wells in the first water-bearing unit (MW-1, MW-4, MW-5s, MW-7, and MW-9 through MW-11), water levels have increased approximately 0.3 foot since September 29, 1993. The water level in wells MW-5d (second water-bearing unit) and MW-8 (third water-bearing unit) have increased approximately 2.7 feet and 8.5 feet, respectively, since September 29, 1993.

Based on the October 28, 1993, groundwater elevation data, the interpreted local groundwater surface of the shallowest water-bearing unit consisted of a depression in the vicinity or well MW-7 and a ridge in the vicinity of wells MW-1 and MW-4. Based on the November 23, 1993, groundwater elevation data, the interpreted local groundwater surface of the shallowest water-bearing consisted of a depression in the vicinity of well MW-7. Thus, the groundwater gradients and flow directions for October and November cannot be interpreted.

Free-phase hydrocarbons were not observed in the water samples collected for subjective analysis from wells MW-1, MW-4, MW-5d, MW-5s, MW-7, MW-8, and MW-11. Results of the subjective analyses are summarized in Table 1, Cumulative Groundwater Monitoring Data.

Wells MW-1, MW-4, MW-5d, MW-5s, MW-7, and MW-8 were purged and sampled in accordance with RESNA's groundwater sampling protocol in the second quarter monitoring report (RESNA, August 2, 1993). Well purge data sheets reporting the monitored parameters, temperature, pH, conductivity, and turbidity, are included in Appendix A.

Results of Laboratory Analysis

The groundwater samples from monitoring wells MW-1, MW-4, MW-5d, MW-5s, MW-7, MW-8, and MW-11 were 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) using modified Environmental Protection Agency (EPA) Methods 5030/8015/8020. The chain of custody record and laboratory analysis sheets are included in Appendix B, Laboratory Analysis Reports and Chain of Custody Record. The results of this and previous groundwater analyses are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples.

Results of this quarter's laboratory analyses of groundwater samples from wells MW-1, MW-4, MW-5d, MW-5s, MW-7, MW-8, and MW-11 indicate:

O TPHg and BTEX were not detected at the laboratory detection limits of 50 parts per billion (ppb) and 0.5 ppb, respectively, in the wells sampled.

INTERIM SOIL REMEDIATION

Soil-Vapor Extraction/Treatment System

Field organic vapor concentrations are being monitored using a FID (Flame Ionization Detector) or a PID (Photoionization Detector) at the system influent, effluent, and inbetween canisters, as indicated in RESNA's letter to the BAAQMD (RESNA, December 3, 1992). Field air monitoring and carbon changeouts are being performed in accordance to the BAAQMD permit to operate conditions for this system. On October 13, 1993, BAAQMD granted approval to change the field air monitoring schedule from bi-weekly to monthly in response to a letter request by RESNA (RESNA, October 4, 1993). Cumulative results of field organic vapor measurements are summarized in Table 3.

During this quarter, the influent organic vapor measurements ranged from 0.0 to 2.7 part per million by volume (ppmv) and the effluent measurements were either 0.0 or 0.1 ppmv (see Table 3, Cumulative Results of Field Organic Vapor Measurements). The effluent measurement of 0.1 ppmv can be interpreted to be 0.0 ppmv since the subsequent effluent measurement was 0.0 ppmv with no carbon changeout. The influent organic vapor measurements this quarter is less than 5 ppmv. Carbon changeout has been occurring approximately every 30 days prior to January 21, 1993, as summarized in Table 3. There has been one carbon changeout event each during 1993 first and second quarters, and none during 1993 third and fourth quarters. It is estimated that 0.7 lbs (0.11 gallons) of TPHg has been recovered this quarter, and a cumulative total extracted amount of approximately of 9.5 gallons TPHg extracted since system startup in October of 1992.

Following the collection of the air samples and the submittal of the air samples to Pace Incorporated Laboratories on September 15, 1993, the vapor extraction system has been



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operating continuously with the valves completely open on all of the vapor extraction wells. The consistently lower field organic vapor measurements recorded this quarter indicate that the vapor extraction system has been removing gasoline hydrocarbons from the soil beneath the site in areas effectively influenced by the vapor extraction wells (Table 4).

Limitations

This report was prepared in accordance with generally accepted standards of environmental geological practice in California at the time this investigation was performed. This report has been prepared for Exxon Company U.S.A. and any reliance on this report by third parties shall be at such party's sole risk.

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

Sincerely,

RESNA Industries Inc. Jeann Guckthal

Jeanne Buckthal Staff Geologist

Von Chiw

Dora Chew appropriate

GEO/OProject Engineer

JAMES LEWIS NELSON

No. 1463

CERTIFIED

ENGINEERING GEOLOGIST

James L. Nelson

¢.E.G. No. 1463



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Enclosures:	References
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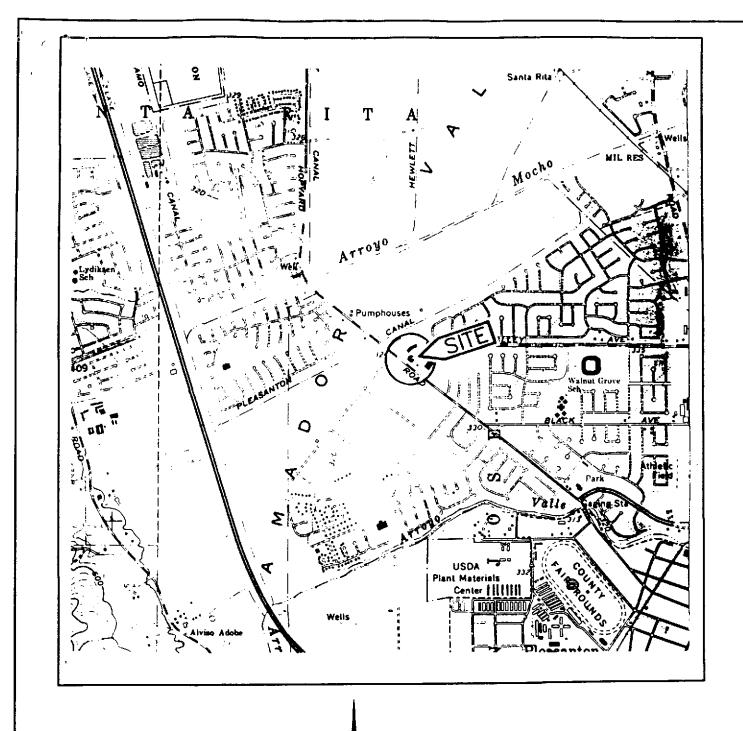
Plate 1:	Site Vicinity Map
Plate 2:	Generalized Site Plan
Plate 3:	Groundwater Gradient Map (October 28, 1993)
Plate 4:	Groundwater Gradient Map (November 23, 1993)
Plate 5:	Gasoline Hydrocarbons in Groundwater
Table 1:	Cumulative Groundwater Monitoring Data
Table 2:	Cumulative Results of Laboratory Analyses of Groundwater
	Samples
Table 3:	Cumulative Results of Field Organic Vapor Measurements
Table 4:	Cumulative Results of Influent and Effluent Vapor Samples
Annendiy A	Well Purge Data Sheets
	Laboratory Analysis Reports and Chain of Custody Record
whhener p	Laboratory Analysis Reports and Chain of Custody Record



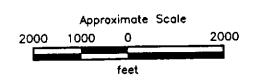
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REFERENCES CITED

- Applied GeoSystems. April 22, 1988. Report, Soil Vapor Investigation, Drilling of Soil
 Borings, and Installation of Groundwater Monitoring Wells at Exxon Station No. 73399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-1.
- Applied GeoSystems. August 29, 1989. <u>Letter Report, Ground-Water Monitoring and Testing at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California.</u> Report No. 18034-6.
- 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. March 3, 1993. <u>Proposal to Change the Monitoring Schedule at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u>. Job No. 130009.02.
- RESNA Industries Inc. August 2, 1993. <u>Letter Report, Groundwater Monitoring, Second Quarter 1993 at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u>. Job No. 130009.01.
- RESNA Industries Inc. November 18, 1993. <u>Letter Report, Groundwater Monitoring, Third Quarter 1993 at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u>. Job No. 130009.01.
- RESNA Industries Inc. October 4, 1993. Request to Change the Air Monitoring Schedule Monthly at Exxon Station No. 7-3399, Pleasanton, California. 130009.02.



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



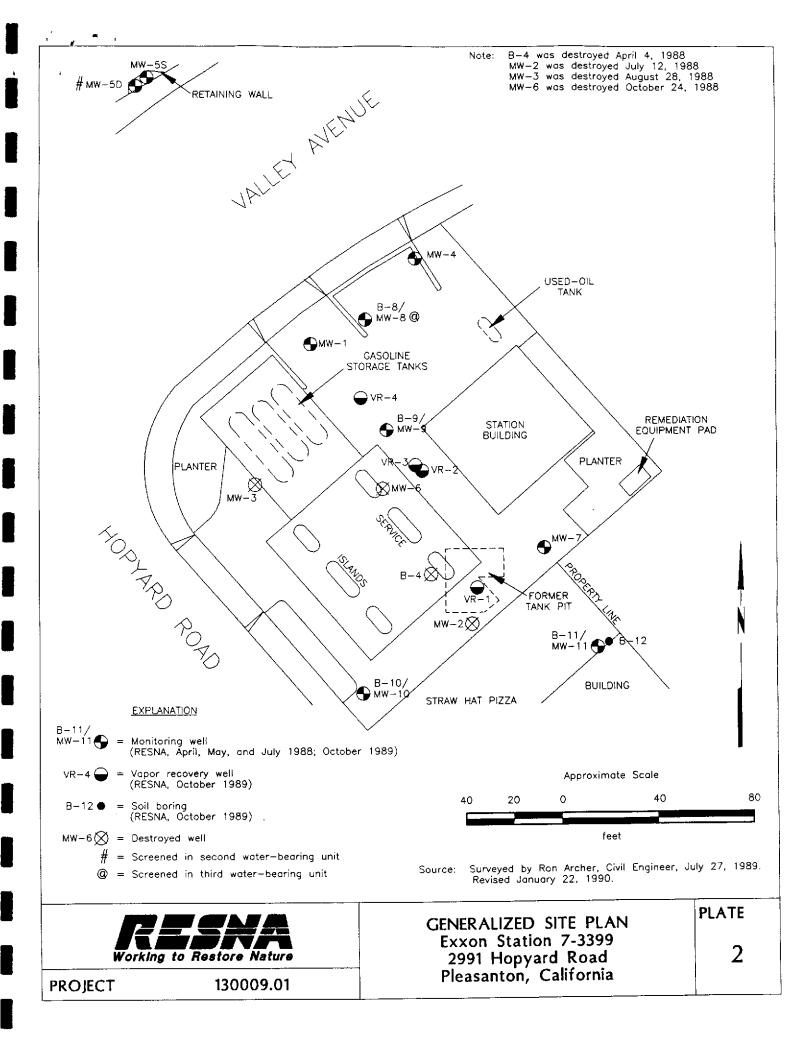
Working to Restore Nature

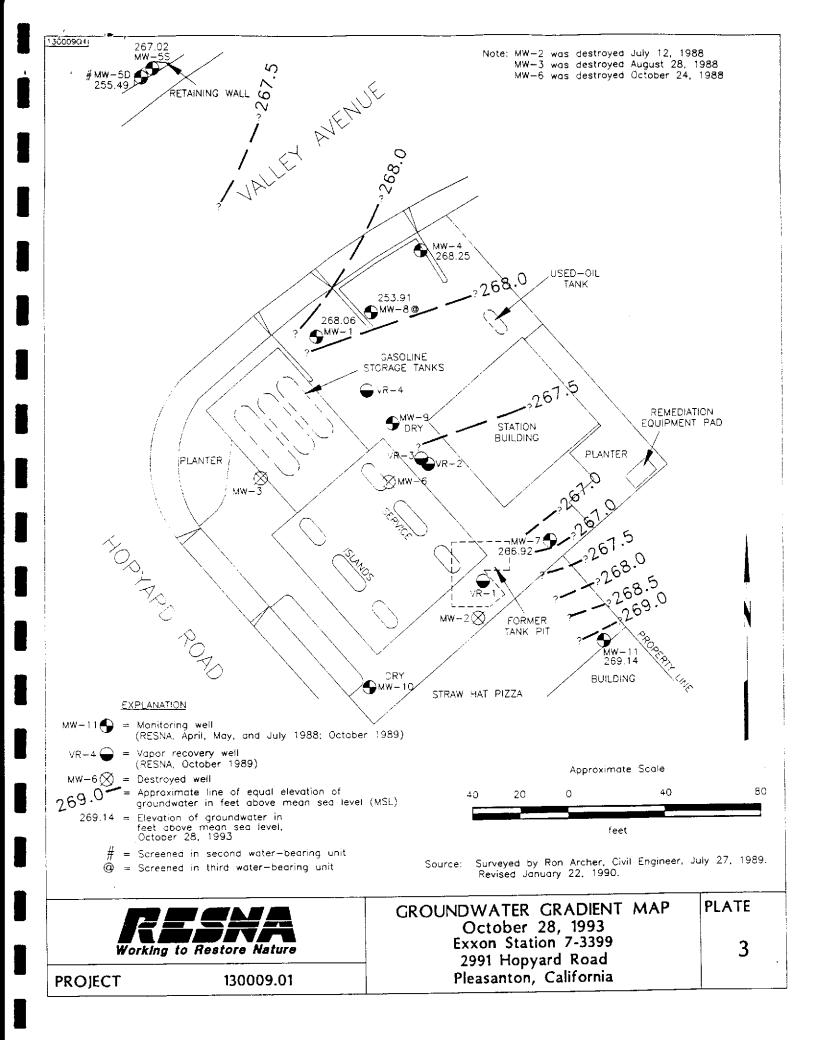
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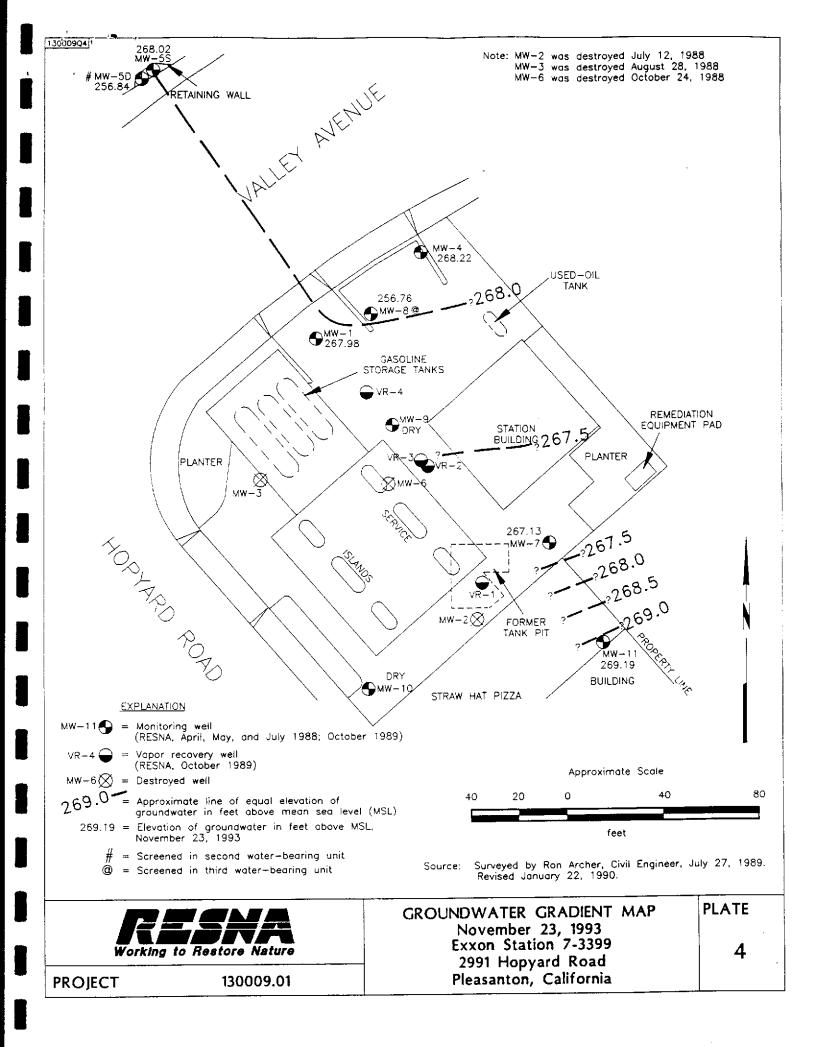
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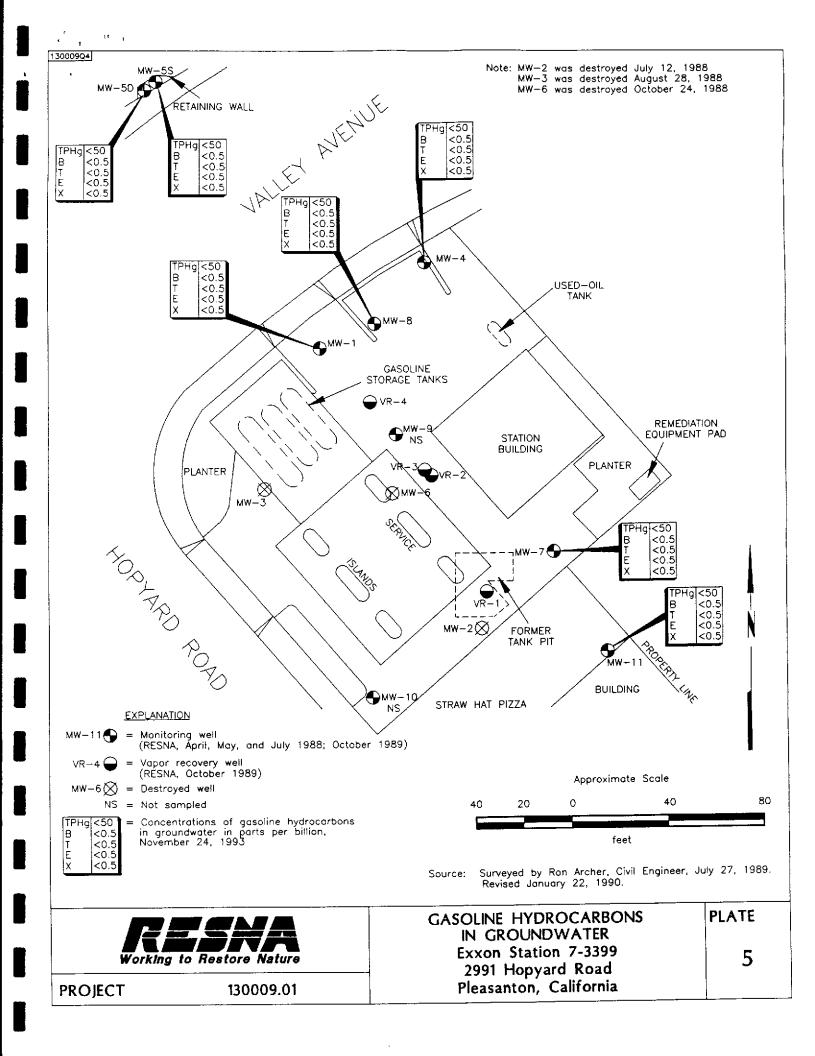
SITE VICINITY MAP Exxon Station 7-3399 2991 Hopyard Road Pleasanton, California PLATE

1











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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 1 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
<u> </u>		eggansi kakatel 1000, ya kekansibe, ca			
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
1	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 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 2 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO	GROUNDWATER ELEVATION	FLOATING PRODUCT
	7 47 L 1.	ELEVATION	WATER		
MW-1	01/26/90		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		
	01/26/93		NA		
	02/16/93		NA.	1	



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 3 of 18 See notes on page 18

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
	06/01/93		53.40	268.04	None
	07/15/93		59.80	261.64	None
	08/15/93		53.45	267.99	None
	09/29/93		53.43	268.01	None
	10/28/93		53.38	268.06	None
	11/23/93		53.46	267.98	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	ļ	39.23	NA	1.50"
	06/28/88		39.72	NA	NA
	07/06/88		40.31	NA	Slight
	07/12/88	'	Well De	estroyed	•
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
	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 D	estroyed	•



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 4 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
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
	07/13/88		40.31	281.25	None
	08/12/88		NA		
	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



December 30, 1993 130009.01

TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 5 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
N 4537 A	02 /22 /00		#49.18	272.38	None
MW-4	02/23/90		#49.16 49.15	272.41	None
cont.	02/23/90		#48.84	272.72	None
	03/26/90		48.83	272.73	None
	03/26/90 04/18/90		48.90	272.66	None
	i ' '		50.03	271.53	None
	05/17/90	·	50.98	270.58	None
	06/11/90		53.57	267.99	None
	07/30/90		53.61	267.95	None
	08/27/90		53.57	267.99	None
	09/28/90		53.68	267.88	None
	12/27/90		53.56	268.00	None
	03/20/91		53.75	267.81	None
	06/20/91			267.86	None
	09/12/91	İ	53.70 DRY	207.80	ROLE
	12/30/91				ļ
	01/30/92		DRY	267.72	None
	03/02/92		53.83	267.73	None
	03/24/92	ļ	53.73	267.83	None
	04/14/92		53.76	267.80	į.
	05/21/92		54.73	266.83	None
	06/08/92	į	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		
	12/10/92		53.83	267.73	None
	01/26/93		DRY		
	02/16/93		53.64	267.92	None



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 6 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-4	03/11/93		53.54	268.02	None
cont.	04/12/93		53.62	267.94	None
	06/01/93		53.52	268.04	None
	07/15/93		53.80	267.76	None
	08/15/93		53.65	267.91	None
	09/29/93		54.23	267.33	None
	10/28/93		53.54	268.25	None
	11/23/93		53.57	268.22	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
	07/13/88		41.22	280.57	None
	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 damag	ged by construction	
	03/08/89		Casing head cut t	o lower elevation	
	03/08/93		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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 7 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-5d	08/02/89		NA		
cont.	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	ļ	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
	07/30/90		53.47	268.32	None
	08/27/90	:	58.24	263.55	None
	09/28/90		60.70	261.09	None
	12/27/90		62.52	259.27	None
	03/20/91		59.18	262.61	None
	06/20/91		65.02	256.77	None
	09/12/91		DRY		
	12/30/91		DRY		
	01/30/92		DRY		•
	03/02/92		DRY		
	03/24/92	1	74.98	246.81	None
	04/14/92		74.42	247.37	None
	05/21/92		75.67	246.12	None
	06/08/92		DRY		
	07/14/92		DRY	,	
	08/10/92		DRY		
	09/16/92		DRY		



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 8 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-5d	10/07/92		DRY		
cont.	11/09/92		DRY		
	12/10/92		DRY		
	01/26/93		DRY		
	02/16/93		76.47	245.32	None
	03/11/93		74.03	247.76	None
	04/12/93		70.96	250.83	None
	06/01/93		67.64	254.15	None
<u> </u>	07/15/93		54.40	267.39	None
	08/15/93		67.85	253.94	None
	09/29/93		67,62	254.17	None
	10/28/93		66.15	255.49	None
	11/23/93		64.80	256.84	None
MW-5s	05/25/88	321.64	38.46	283.18	None
	06/06/88		38.86	282.78	None
	06/23/88		39.52	282.12	None
	06/28/88		39.84	281.80	None
	07/06/88		40.45	281.19	None
	07/13/88		40.90	280.74	None
	07/22/88		41.30	280.34	None
1	08/05/88		▼23.84	297.80	None
	08/12/88		42.21	279.43	None
	08/26/88		42.55	279.09	None
	09/07/88		42.94	278.70	None
	12/07/88		44.67	276.97	None
	02/09/89		43.19	278.45	None
	03/08/89		Casing head cut	to lower elevation	-
			42.11	279.53	None
	04/26/89		41.84	279.80	None
	06/30/89		43.95	277.69	None



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 9 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-5s	07/17/89		44.91	276.73	None
cont.	07/18/89		44,93	276.71	None
	07/19/89		44.98	276.66	None
	07/20/89		45.02	276.62	None
	07/21/89		45.10	276.54	None
	07/26/89		45.57	276.07	None
	08/02/89		NA		
	08/03/89		46.31	275.33	None
	08/17/89		47.25	274.39	None
	09/13/89		49.22	272.42	None
	11/28/89		50.39	271.25	None
}	01/09/90		49.51	272.13	None
	01/26/90	,	49.40	272.24	None
	02/23/90		#49.20	272.44	None
	02/23/90		49.20	272.44	None
	03/26/90		#48.89	272.75	None
	03/26/90		48.88	272.76	None
	04/18/90		48.95	272.69	None
	05/17/90		50.06	271.58	None
	06/11/90		50.98	270.66	None
	07/30/90		53.40	268.24	None
	08/27/90		53.60	268.04	None
	09/28/90		53.55	268.09	None
ŀ	12/27/90		53.61	268.03	None
İ	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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 10 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-5s	04/14/92		53.74	267.90	None
cont.	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
	06/01/93		53.56	268.08	None
	07/15/93		53.00	268.64	None
	08/15/93		53.60	268.04	None
	09/29/93		53.62	268.02	None
	10/28/93		54.62	267.02	None
	11/23/93		53.62	268.02	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
	07/13/88		40.78	NA	None
	08/05/88		41.72	NA	None
	08/12/88		42.14	NA	None
	08/17/88		NA		
	08/26/88		42.51	NA	None
	09/07/88		42.85	NA	None
	10/24/88		Well D	estroyed	



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 11 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
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	ı	#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		
-	03/20/91		54.11	267.16	None
	06/20/91		55.14	266.13	None
	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		



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 12 of 18 See notes on page 18

WELL	DATE	WELL	DEPTH TO	GROUNDWATER	FLOATING
	त्र पुरात । यहाँ कियाँ विश्वपूर्व से १०४८ इ.स. अ.स. साम्यादा स्टब्स	ELEVATION	WATER	ELEVATION	PRODUCT
MW-7	03/24/92		NA		
cont.	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
1	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
]	06/01/93		54.90	266.37	None
	07/15/93		54.50	266.77	None
	08/15/93		54.25	267.02	None
	09/29/93		54.55	266.72	None
	10/28/93		54.94	266.92	None
	11/23/93		54.73	267.13	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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 13 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-8	07/30/90	The state of the s	64.33	257.53	None
cont.	08/27/90		70.41	251.45	None
	09/28/90		71.93	249.93	None
	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	1	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
	06/01/93		68.04	253.82	None
	07/15/93		78.05	243.81	None
	08/15/93		78.45	243.41	None
	09/29/93		73.64	248.22	None
	10/28/93		67.53	253.91	None
	11/23/93		64.68	256.76	None



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 14 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
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
	01/26/90		49.30	272.14	None
	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	272.71	Very Slight
	04/18/90	1	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 NA		
	12/30/91		NA		
	01/30/92		NA		
	03/02/92		NA		
	03/24/92		NA		
ľ	04/14/92		NA		
	05/21/92		NA		
	06/08/92		NA		
	07/14/92		NA		



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 15 of 18 See notes on page 18

WELL	WELL DATE W		DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
2		ELEVATION			FRODUCE
MW-9	08/10/92		NA		
cont.	09/16/92		NA		
	10/07/92		DRY		
	11/09/92		DRY		
	12/10/92		NA		
	01/26/93		DRY		
	02/16/93		DRY	·	
	03/11/93		DRY		
	04/12/93		DRY		
	06/01/93		DRY		
	07/15/93		DRY		
	08/15/93		DRY		
	09/29/93		DRY		
	10/28/93		DRY		
	11/23/93		DRY		<u></u>
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		#5 0.67	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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 16 of 18 See notes on page 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
		EEEVATION	<u> Salak al-C-Dregnerer bilak</u>		
MW-10	06/20/91		58.00	264.99	None
cont.	09/12/91		DRY		
	12/30/91		NA		
	01/30/92		DRY		
	03/02/92		DRY	24.44	
	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	İ	
	09/16/92		DRY		
	10/07/92		DRY		
	11/09/92		DRY		
	12/10/92		DRY		
	01/26/93		DRY		
	02/16/93		58.23	264,76	None
	03/11/93		57.81	265.18	None
	04/12/93	,	57.84	265.15	None
	06/01/93		57.88	265.11	None
	07/15/93		DRY		
	08/15/93		DRY		
	09/29/93		DRY		
	10/28/93		DRY		
	11/23/93		DRY		
MW-11	11/10/89	321.77	50.64	272.13	None
1	11/28/89		50.51	272.26	None
	12/20/89		51.47	271.30	None
İ	01/09/90		49.68	273.09	None
	01/26/90		49.55	273.22	None
	02/23/90		#49.37	273.40	None



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 17 of 18 See notes on page 18

WELL	DATE	WELL	DEPTH TO	GROUNDWATER	FLOATING
,,,,,,,,		ELEVATION	WATER	ELEVATION	PRODUCT
MW-11	02/23/90		49.35	273.42	None
cont.	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	i	53.60	269.17	None
	12/30/91		53.95	268.82	None
	01/30/92		53.65	269.12	None
	03/02/92		53.68	269.09	None
	03/24/92		53.70	269.07	None
	04/14/92		53.66	269.11	None
	05/21/92		53.62	269.15	None
	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
	06/01/93		53.52	269.25	None
	07/15/93		53.60	269.17	None



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 18 of 18

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-11	08/15/93		53.55	269.22	None
cont.	09/29/93		53.62	269.15	None
	10/28/93		53.63	269.14	None
	11/23/93		53.58	269.19	None

Well elevat	Well elevation relative to Mean Sea Level (MSL).						
Measureme	Measurements in feet						
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 2 CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES

Exxon Station 7-3399 Pleasanton, California Page 1 of 11 See notes on page 11

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-1	04/02/88	<20	<0.5	1.7	< 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
	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
ļ	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
1	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	TPHg	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 Accessible								
,	02/16/93	Not Accessible								
	04/12/93	Not Accessible								
	09/30/93	< 50	<0,5	<0.5	<0.5	< 0.5	NA			
	11/24/93	< 50	<0.5	<0.5	<0.5	< 0.5	NA			
MW-2	07/06/88	62,000	25,700	18,500	2,900	21,400	NA			
	07/12/88	Well Destroyed								
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			
	08/26/88	<20	< 0.5	<0.5	<0.5	<0.5	NA			
	08/29/88			Well Dest	oyed	•	-			

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WELL	DATE	трнд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
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
	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*
ļ	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
	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
	03/24/92	< 50	< 0.5	< 0.5	<0.5	<0.5	NA
	12/10/92		·	Not Acces	sible	· · · · · · · · · · · · · · · · · · ·	

Exxon Station 7-3399 Pleasanton, California Page 4 of 11 See notes on page 11

WELL	DATE	ТРНд	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-4	02/16/93	600	57	34	11	200	NA
cont.	04/12/93	360	20	10	22	80	NA
	09/30/93	< 50	< 0.5	< 0.5	< 0.5	<0.5	NA
	11/24/93	< 50	< 0.5	< 0.5	< 0.5	<0.5	NA
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
	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
Ì	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
3	12/27/90	< 50	< 0.5	<0.5	<0.5	< 0.5	NA NA

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WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs	
MW-5d	03/20/91	<50	<0.5	< 0.5	<0.5	< 0.5	NA	
cont.	06/20/91	<50	< 0.5	< 0.5	<0.5	< 0.5	NA	
1	12/10/92	•	•	Not Samp	pled			
	02/16/93		Not Sampled					
	04/12/93	< 50	1.0	1.0	2.5	7.4	NA	
	09/30/93	< 50	<0.5	< 0.5	< 0.5	<0.5	NA	
	11/24/93	< 50	< 0.5	<0.5	<0.5	< 0.5	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	
	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	

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Pleasanton, California
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WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs			
MW-5s	07/26/89	< 20	<0.5	<0.5	<0.5	< 0.5	NA			
cont.	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			
	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			
	12/10/92	Not Sampled								
	02/16/93	Not Sampled								
	04/12/93	220	11	5.9	13	48	NA			
	09/30/93	< 50	<0.5	<0.5	<0.5	<0.5	NA			
	11/24/93	< 50	<0.5	< 0.5	<0.5	<0.5	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 Desti	oyed					

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

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs		
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		
	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 Sam	pled				
	02/16/93	600	28	30	17	200	NA		
	04/12/93	Not Sampled							
	09/30/93	Not Sampled							
	11/24/93	<50	<0.5	<0.5	<0.5	<0.5	NA		

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

WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
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
	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
	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
ļ	05/17/90	<20	< 0.5	<0.5	<0.5	< 0.5	NA
	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

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WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-8	12/27/90	< 50	< 0.5	< 0.5	<0.5	0.6	NA
cont.	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
	02/16/93	< 50	0.7	0.6	<0.5	2.3	NA
	04/12/93	230	26	7.3	- 11	38	NA
	09/30/93	< 50	< 0.5	<0.5	<0.5	<0.5	NA
	11/24/93	< 50	<0.5	<0.5	<0.5	< 0.5	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

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-9	03/26/90	89000	1800	7700	2000	11000	NA		
cont.	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	Not Accessible							
MW-10	10/12/89	20	<0.5	< 0.5	<0.5	1.5	NA		
	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		
	02/16/93	Not Sampled							
	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 Samj	pled				

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WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs		
MW-11	04/12/93	< 50	<0.5	<0.5	< 0.5	< 0.5	NA		
cont.	09/30/93	Not Sampled							
	11/24/93	< 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		
	MCLs		1.0		680	1,750			
	DWAL		***	100	***				

Results in pa	ırts per bill	ion (ppb).
<	:	Less than the laboratory detection limit.
NA	:	Not Analyzed
ND	:	Not detected at or above method detection limit
	:	Not Applicable
TPHg	:	Total petroleum hydrocarbons as gasoline analyzed using modified EPA method 5030/8015.
BTEX	:	Analyzed using modified EPA method 5030/8020.
VOCs	:	Volatile organic compounds
*	:	VOCs analyzed using EPA method 502.2.
**	:	VOCs analyzed using EPA method 524.2.
MCLs	:	Maximum Contaminant Levels, DHS (October 1990).
DWAL	:	Drinking Water Action Level, DHS (October 1990).



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

December 30, 1993 130009.01

TABLE 3 CUMULATIVE RESULTS OF FIELD ORGANIC VAPOR MEASUREMENTS

Exxon Station 7-3399 Pleasanton, California Page 1 of 3 See notes on page 3

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



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

December 30, 1993 130009.01

TABLE 3 CUMULATIVE RESULTS OF FIELD ORGANIC VAPOR MEASUREMENTS

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

DATE	INFLUENT	BETWEEN CANISTERS 1 AND 2	BETWEEN CANISTERS 2 AND 3	EFFLUENT
12/21/92	74.8	5. 7	2.8	0
12/31/92	2.4	6.6	10.8	0
01/05/93	0.2	0.2	1.6	0
01/11/93	30.8	7.4	24.4	0
01/21/93*	0.8	4.4	0	0
01/26/93	0	0	0	0
02/01/93	0	0	0	0
02/08/93	8.7	1.3	0.7	0
02/16/93	2.9	0	0	0
02/26/93	1.6	0.3	0.5	0
03/01/93	2.4	2.7	4.3	0
03/17/93	9.4	0.3	1.0	2.4
04/14/93*	0.0	0.0	0.0	0.0
05/07/93	5.0	0.0	0.0	0.0
06/01/93	0.7	0.0	0.0	0.0
06/16/93	2.0	0.0	0.0	0.0
07/02/93	0.0	0.0	0.0	0.0
07/15/93	0.5	0.0	0.0	0.0
07/31/93	0.0	0.0	0.0	0.0
08/15/93	1.2	0.0	0.0	0.0
08/27/93	0.0	0.0	0.0	0.0
09/11/93	0.0	0.0	0.0	0.0
09/15/93		Collected Air San	nplesSee Table 4	
10/01/93	0.3	1.4	0.6	0.1
10/27/93	0.0	0.0	0.0	0.0
11/30/93	2.4	1.9	0.0	0.0



Quarterly Groundwater Sampling and Remediation Activities Exxon Station 7-3399, Pleasanton, California December 30, 1993 130009.01

TABLE 3 CUMULATIVVE RESULTS OF FIELD ORGANIC VAPOR MEASUREMENTS Exxon Station 7-3399 Pleasanton, California

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Field measurements in parts per million using a Photoionization Dectector (PID) (shaded area) and Flame Ionization Dectector (FID) (unshaded area)

FID readings are non-methane measurements

NM

No measurements-only two carbon canisters in-series

: influent carbon changeout



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

December 30, 1993 130009.01

TABLE 4 CUMULATIVE RESULTS OF INFLUENT AND EFFLUENT VAPOR SAMPLES

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

occ noces on page 2									
DATE	SAMPLE	TPHg	BENZENE	TOLUENE	ETHYL-	TOTAL			
					BENZENE	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*			
09/15/93	influent	<50**	<0.5**	2.3**	1.2**	3.7**			
	effluent	<50**	<0.5**	2.7**	1.0**	3.1**			
	VR-1	<50**	<0.5**	3.8**	1.2**	4.0**			
	VR-1 + VR-2	<50**	<0.5**	1.3**	1.2**	4.0**			
	VR-1 + VR-3	<50**	<0.5**	2.0**	0.8**	2.1**			
	VR-1 + VR-4	<50**	<0.5**	2.1**	1.1**	3.3**			
	VR-1 + MW-1	<50**	<0.5**	1.6**	1.3**	4.1**			



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

December 30, 1993 130009.01

TABLE 4 CUMULATIVE RESULTS OF INDLUENT AND EFFLUENT VAPOR SAMPLES

Exxon Station 7-3399 Pleasanton, California Page 2 of 2

Results are in parts per million per volume (ppmv)

Less than the method detection limit.

TPHg

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

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

Results in micrograms per liter (μ/L) .

VR-1

Vapor extraction well 1

VR-2

Vapor extraction well 2

Vapor extraction well 3

VR-3 VR-4

Vapor extraction well 4

MW-1

Groundwater monitoring well 1



APPENDIX A WELL PURGE DATA SHEETS



Project Name: Exxon 7-3399

Job No. <u>130009.01</u>

Date: November 23, 1993

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

Well No. MW-1

Time Started 1417

TIME (hr)	GALLONS (cum.)	TEMP. (F)	рН	CONDUCT. (micromho x 100)	TURBIDITY (NTU)
1417	Start pu	rging MW-1			· · · · · · · · · · · · · · · · · · ·
1417	0	61.4	6.91	13.12	53.2
1425	1	58.8	6.99	12.75	>200
1430	2	57.8	7.03	12.63	>200
1435	3	58.9	7.04	12.78	>200
1441	4	58.6	7.11	12.64	>200
1441	Stop pu	rging MW-1			

Notes:

Well Diameter (inches): 4

Depth to Bottom (feet) : 55.10

Depth to Water - initial (feet): 53.46

Depth to Water - final (feet) (11/24/93) : 53.43

% recovery : 102

Time Sampled(11/24/93): 1515

Gallons per Well Casing Volume: 1.07

Gallons Purged: 4

Well Casing Volume Purged: 3.7

Approximate Pumping Rate (gpm): 2



Project Name: <u>Exxon 7-3399</u>

Job No. <u>130009.01</u>

Date: November 24, 1993

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

Well No. MW-4

Time Started 1140

TIME (hr)	GALLONS (cum.)	TEMP. (F)	нф	CONDUCT. (micromho x 100)	TURBIDITY (NTU)
1140	Start pu	rging MW-4			
1140	0	62.5	6.85	12.32	31.0
1149	2	63.0	6.85	12.42	>200
1200	4	Dr	y at 3.5	gallons (120	0)
1355	4	63.1	6.81	12.41	54.4
1403	6	63.9	6.83	12.61	>200
1403	6	r	ry at 6 ga	allons (1203)
1403	Stop pu	rging MW-4			

Notes:

Well Diameter (inches): 4

Depth to Bottom (feet): 56.76

Depth to Water - initial (feet)(11/23/93): 53.57

Depth to Water - final (feet): 54.30

% recovery: 77

Time Sampled: 1700

Gallons per Well Casing Volume: 2.08

Gallons Purged: 6

Well Casing Volume Purged : 2.8

Approximate Pumping Rate (gpm): 3.8



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

Date: November 23, 1993 Page 1 of 1

Well No. <u>MW-5D</u> Time Started <u>1523</u>

TIME (hr)	GALLONS (cum.)	TEMP. (F)	На	CONDUCT. (micromho x 100)	TURBIDIT
1523	Start pu	rging MW-5D)		
1523	0	59.2	7.34	11.33	115.9
1528	8.5	61.0	7.14	11.46	22.0
1537	17	52.3	7.11	10.76	6.0
1546	25.5	57.9	7.11	11.03	2.5
1554	34	56.7	7.10	10.71	1.2
1554	Stop pu	rging MW-5E)		

Notes:

Well Diameter (inches): 4

Depth to Bottom (feet): 77.54

Depth to Water - initial (feet): 64.80

Depth to Water - final (feet) (11/24/93) : 64.62

% recovery : 101

Time Sampled(11/24/93) : 1600

Gallons per Well Casing Volume: 8.32

Gallons Purged: 34

Well Casing Volume Purged : 4.1

Approximate Pumping Rate (gpm): 1.1



Project Name: <u>Exxon 7-3399</u>

Job No. <u>130009.01</u>

Date: November 23, 1993

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

Well No. MW-5S

Time Started 1527

TIME (hr)	GALLONS (cum.)	TEMP. (F)	рн	CONDUCT. (micromho x 100)	TURBIDITY (NTU)
1527	Start pu	rging MW-58	3		
1527	o	59.2	6.92	16.21	128.7
1533	.5	59.4	6.89	16.19	>200
1544	1	57.1	6.88	15.90	>200
1558	1.5	55.6	6.89	15.60	198.8
1615	2.5	53.3	6.87	15.29	>200
1615	Stop pu	rging MW-58	3		

Notes:

Well Diameter (inches): 4

Depth to Bottom (feet): 54.64

Depth to Water - initial (feet) : 53.62

Depth to Water - final (feet) (11/24/93) : 53.60

% recovery : 101 Time Sampled(11/24/93) : 1615

Gallons per Well Casing Volume : .67

Gallons Purged: 2.5

Well Casing Volume Purged: 3.73

Approximate Pumping Rate (gpm): 0.05



Project Name: Exxon 7-3399

Job No. <u>130009.01</u>

Date: November 23, 1993

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

Well No. MW-7

Time Started 1715

TIME (hr)	GALLONS (cum.)	TEMP. (F)	рĦ	CONDUCT. (micromho x 100)	TURBIDITY (NTU)	
1715	Start pu	rging MW-7	· · · · · · · · · · · · · · · · · · ·			
1715	0	56.8	6.97	13.31	>200	
1724	Dry at 7 gallons					
1724	Stop purging MW-7					
Notes:	Depth to W	Dept pth to Wate ater - fina Time allons per Well Ca	th to Botto er - initia al (feet)(1 % Sampled(1 Well Casin Gallon asing Volum	(inches): m (feet): 1 (feet): 1/24/93): recovery: 1/24/93): g Volume: s Purged: te (gpm):	59.59 54.73 57.57 42 1715 7.14 7	



Project Name: Exxon 7-3399

Job No. 130009.01

Date: November 24, 1993

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

Well No. MW-8

Time Started 1100

TIME (hr)	GALLONS (cum.)	TEMP. (F)	рн	CONDUCT. (micromho x 100)	TURBIDITY (NTU)
1100	Start pu	rging MW-8		····	1
1100	0	58.9	7.27	6.60	>200
1123	50	58.7	7.41	6.59	56.4
1143	100	62.6	7.31	6.97	5.0
1210	150	61.4	7.44	7.04	86.6
1230	200	61.3	7.59	6.78	10.3
1230	Stop pu	rging MW-8			

Notes:

Well Diameter (inches): 4

Depth to Bottom (feet): 138.0

Depth to Water - initial (feet) (11/23/93) : 64.68

Depth to Water - final (feet) : 64.49

% recovery : 100

Time Sampled: 1645

Gallons per Well Casing Volume: 47.88
Gallons Purged: 2.0

Well Casing Volume Purged: 4.2

Approximate Pumping Rate (gpm): 2.2



APPENDIX B

LABORATORY ANALYSIS REPORTS AND CHAIN OF CUSTODY RECORD



December 06, 1993

RECEIVED

DEC 9 1993

RESNA SANJOSE

Mr. Marc Briggs RESNA 3315 Almaden Expressway Suite 34 San Jose, CA 95118

RE: PACE Project No. 431129.515

Client Reference: Exxon 7-3399 (EE)

Dear Mr. Briggs:

Enclosed is the report of laboratory analyses for samples received November 29, 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,

Stypnany matis

Stephanie Matzo Project Manager

Enclosures



RESNA

3315 Almaden Expressway Suite 34

San Jose, CA 95118

Attn: Mr. Marc Briggs

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Parameter

Ethylbenzene

Xylenes, Total

Client Sample ID:

Units

70 0200253

December 06, 1993

PACE Project Number: 431129515

DATE ANALYZED

12/01/93

12/01/93

11/24/93 11/29/93

Rinsate

ND

ND

 MDL

0.5

0.5

ORGANIC ANALYSIS PURGEABLE FUELS AND AROMATICS 12/01/93 TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015M) ug/L 50 ND 12/01/93 12/01/93 PURGEABLE AROMATICS (BTXE BY EPA 8020M): 0.5 ND 12/01/93 Benzene ug/L 0.5 12/01/93 Toluene ug/L ND

ug/L

ug/L



Page 2

December 06, 1993

PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID:

11/24/93 11/29/93 MW1 R

70 0200261

Parameter Units MDL DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS TOTAL FUEL HYDROCARBONS, (LIGHT):
Purgeable Fuels, as Gasoline (EPA 8015M) ug/L 12/01/93 50 ND 12/01/93 PURĞEABLE AROMATICS (BTXE BY ÈPA 8020M): 12/01/93 0.5 ND 12/01/93 ug/L Benzene 12/01/93 0.5 ND Toluene ug/L 12/01/93 ug/L 0.5 ND Ethylbenzene

Xylenes, Total ug/L 0.5 ND 12/01/93



Page

December 06, 1993

PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

70 0200270 11/24/93 11/29/93 W-53-MW1

Parameter

MDL Units

DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS TOTAL FUEL HYDROCARBONS, (LIGHT):

Purgeable Fuels, as Gasoline (EPA 8015M) ug/L PURGEABLE AROMATICS (BTXE BY EPA 8020M): Benzene

Toluene Ethylbenzene

Xylenes, Total

0.5 ug/L ug/L 0.5

0.5

50

ND ND ND

ND

ND

12/01/93 12/01/93

12/01/93 12/01/93

12/01/93

12/01/93

ug/L

ug/L

0.5

12/01/93



Page

December 06, 1993

PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID: Parameter

70 0200296

11/24/93

11/29/93 W-53-MW11

MDL DATE ANALYZED Units

ND

ND

ND

ND

ND

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015M) ug/L

PURGEABLE AROMATICS (BTXE BY EPA 8020M):

Benzene

Toluene

Ethylbenzene

Xylenes, Total

ug/L ug/L

ug/L

ug/L

0.5

50

0.5

0.5

0.5

12/01/93

12/01/93

12/01/93 12/01/93

12/01/93

12/01/93

12/01/93



Page

December 06, 1993

PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

70 0200318 11/24/93 11/29/93

W-64-MW5D

ND

MDL DATE ANALYZED Parameter Units

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS TOTAL FUEL HYDROCARBONS, (LIGHT):

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

Benzene Toluene Ethylbenzene

ug/L 0.5 ug/L ug/L

0.5 0.5

50

ND ND ND

12/01/93 12/01/93 12/01/93

12/01/93

12/01/93

12/01/93

12/01/93



Page

December 06, 1993

PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

70 0200334 11/24/93 11/29/93

Parameter

W-53-MW5S MDL DATE ANALYZED Units

ND

ND

ND

ND

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015M) ug/L

PURGEABLE AROMATICS (BTXE BY EPA 8020M):

Benzene

Toluene Ethylbenzene

Xylenes, Total

0.5 ug/L 0.5 uq/L

ug/L

ug/L

0.5

50

ND

12/01/93

0.5

12/01/93

12/01/93

12/01/93

12/01/93 12/01/93

12/01/93



Page

December 06, 1993

PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID:

70 0200369 11/24/93 11/29/93

W-64-MW8

MDL DATE ANALYZED Parameter Units

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015M) ug/L 12/01/93 ND 12/01 93 50 12/01/93 PURGEABLE AROMATICS (BTXE BY EPA 8020M):

ND 12/01/93 0.5 Benzene ug/L 12/01/93 Toluene ug/L 0.5 ND 0.5 ND 12/01/93 Ethylbenzene ug/L

12/01/93 0.5 ND Xylenes, Total ug/L



Page

December 06, 1993

PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID:

70 0200415 11/24/93 11/29/93 W-54-MW4

Parameter

Units

ug/L

ug/L

MDL

DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

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

Toluene Ethylbenzene

Xylenes, Total

ND 50 ND 0.5 ug/L ug/L

0.5 0.5

0.5

ND ND

ND

12/03/93 12/03/93 12/03/93

12/03/93

12/03/93

12/03/93

12/03/93



Page 9

December 06, 1993

PACE Project Number: 431129515

12/03/93

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID:

70 0200431

11/24/93

11/29/93 W-57-MW7

Parameter Units MDL DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

12/03/93 TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015M) ug/L ND 12/03/93 50 PURGEABLE AROMATICS (BTXE BY EPA 8020M): 12/03/93 0.5 ND 12/03/93 Benzene ug/L 12/03/93 Toluene ug/L 0.5 ND 12/03/93 0.5 ND Ethylbenzene ug/L

ug/L

0.5

ND

Xylenes, Total

These data have been reviewed and are approved for release.

Darrell C. Cain

Regional Director



FOOTNOTES l through for pages

December 06, 1993 PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

MDL

Method Detection Limit

ND

Not detected at or above the MDL.



QUALITY CONTROL DATA

December 06, 1993

PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

PURGEABLE FUELS AND AROMATICS

Batch: 70 26791

Samples: 70 0200253, 70 0200261, 70 0200270, 70 0200296, 70 0200318

70 0200334, 70 0200369

METHOD BLANK:

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

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

			Reference		Dupl	
Parameter	Units	MDL	Value	Recv		RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	1000	91%	95%	4%
Benzene	ug/L	0.5	100	93%	87%	6%
Toluene	ug/L	0.5	100	87%	87%	0%
Ethylbenzene	uq/L	0.5	100	85%	85%	0%
Xylenes, Total	ug/L	0.5	300	87%	87%	0%



QUALITY CONTROL DATA

December 06, 1993

Method

PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

PURGEABLE FUELS AND AROMATICS

Batch: 70 26796

Samples: 70 0200415, 70 0200431

METHOD BLANK:

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

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

			Reference		Dupi	
Parameter	Units	MDL	Value	Recv	Recv I	
Purgeable Fuels, as Gasoline (EPA 8015M	uq/L	50	1000	<u>103%</u>	92%	11%
Benzene	ug/L	0.5	100	107%	108%	0%
Toluene	ug/L	0.5	100	107%	107%	0%
Ethylbenzene	ug/L	0.5	100	105%	104%	0%
Xylenes, Total	ug/L	0.5	300	105%	105%	0%



FOOTNOTES for pages 11 through 12

December 06, 1993 PACE Project Number: 431129515

Client Reference: Exxon 7-3399 (EE)

MDL

Method Detection Limit

ND

Not detected at or above the MDL.

RPD

Relative Percent Difference

THE ASSURANCE OF QUALITY

Consultant's Name:

Project #:

TAT:

Project Contact:

EXXON Contact:

Sampled by (print):

Shipment Method:

Sample Description

24 hr

EXXON COMPANY, U.S.A.

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

431129.5165

CHAIN OF CUSTODY

Novato, CA, 11 Digital Drive, 94949 Huntington Beach, CA, 5702 Bolsa Avenue, 92649 (415) 883-6100 (714) 892-2565 Site Location: Consultant Project #: Consultant Work Release #: Fax #: 264-243 Laboratory Work Release #: 69300140 Phone #(570)24 EXXON RAS #: Sampler's Signature Air Bill #: Shipment Date: ANALYSIS REQUIRED Sample Condition as Received 72 hr Standard (5 day) 48 hr Temperature ° C: Cooler #: TPH/GAS/BTEX EPA 8015/8020 Inbound Seal Yes No Outbound Seal Yes No. TPH/Diesel EPA 8015 TRPH EPA 418.1 PACE # of Collection Matrix Prsv Soil/Water Sample # Date/Time Cont COMMENTS 200253 awai D

0-03-1600015-	<u> </u>	460.32	 		\rightarrow	
4W8 R 4124 .	12	200342				
Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Daje	Time	Additional Comments:
hodella	1/24	7:00	Call Vou	1/24	400	5/1
a Dath ine	ing	Tra	Sainte Melital Hace	11/29/23	1720	> '.

POCCES

EXXON COMPANY, U.S.A.

431129.515

P.O. Box 4415, Houston, TX 77210-4415 CHAIN OF CUSTODY

Novato, CA, 11 Digital Drive, 94949 Huntington Beach, CA, 5702 Bolsa Avenue, 92649 (714) 892-2565 (415) 883-6100 Consultant's Name: Consultant Project #: Consultant Work Release # Project #: -7733 Fax #26 4 -2435 Laboratory Work Release #:09300140 Project Contact: EXXON RAS #: 7-3399 EXXON Contact: Sampler's Signature: Sampled by (print): Shipment Method: Courier Air Bill #: Shipment Date: ANALYSIS REQUIRED Sample Condition as Received 72 hr Standard (5 day) 24 hr Temperature ° C: Cooler #: ___ Inbound Seal Yes No Outbound Seal Yes No. Prsv # of PACE Sample Description Collection Matrix Soil/Water Cont Sample # Date/Time COMMENTS 20042.3 Accepted by/Affinition Additional Comments: Reinquished by/Athiraign Date Time Date Time