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LETTER REPORT
GROUNDWATER MONITORING
AND
REMEDIATION ACTIVITIES
Third Quarter 1993
at

Exxon Station 7-3399 2991 Hopyard Road Pleasanton, California

130009.01

11-16-93



3315 Almaden Expressway, Suite 34 San Jose, CA 95118

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> November 16, 1993 0610MGUE 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, Third 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 third 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. 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.

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 July 15, August 15, and September 29, 1993, and quarterly sampling was performed on September 29 and 30, 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-4, MW-5d, MW-5s, and MW-8. Well MW-7 and MW-11 were not purged due to insufficient water. Wells MW-9 and MW-10 were dry. Groundwater sampled collected from wells MW-4, MW-5s, and MW-8 are considered grab



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water samples due to low purge volumes. Field methods are described in Field Protocol (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 between July and September 1993 from wells in the first water-bearing unit, water levels have decreased approximately 0.4 feet in wells MW-4, MW-5s, MW-7, and MW-11, and have increased an approximately of 6.5 feet in well MW-1 since last quarter. The water level in wells MW-5d (second water-bearing unit) decreased approximately 15 feet, and MW-8 (third water-bearing unit) has increased approximately 4.5 feet since last quarter.

Based on the July 15, 1993, groundwater elevation data, the interpreted local groundwater gradient and flow direction of the shallowest water-bearing unit is approximately 0.1 toward the southwest. Based on the August 15, 1993, groundwater elevation data, the interpreted local groundwater gradient and flow direction of the shallowest water-bearing unit is approximately 0.01 toward the southeast. Based on the September 29, 1993, groundwater elevation data, the interpreted local groundwater gradient and flow direction of the shallowest water-bearing unit is approximately 0.01 toward the southeast. The interpreted flow directions and gradients for August and September are consistent with previous quarters. The interpreted flow direction and gradient for July is not consistent with previous quarters.

No evidence of free-phase hydrocarbons was observed in the water samples collected for subjective analysis from wells MW-1, MW-4, MW-5d, MW-5s, and MW-8. Results of the subjective analyses are summarized in Table 1, Cumulative Groundwater Monitoring Data.

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



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Results of Laboratory Analysis

The groundwater samples from monitoring wells MW-1, MW-4, MW-5d, MW-5s, and MW-8 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, and MW-8 indicate:

- O TPHg and BTEX was less than the laboratory detection limits of 1.0 parts per billion (ppb) and 0.5 ppb, respectively;
- o concentrations of 0.6 ppb toluene, 0.7 ethylbenzene, and 2.1 ppb total xylenes were detected in the rinsate blank collected from MW-1.

INTERIM SOIL REMEDIATION

Soil-Vapor Extraction/Treatment System

Field organic vapor concentrations are being monitored using a FID (Flame Ionization Detector) and a PID (Photoionization Detector) at the system influent, effluent, and inbetween canisters as indicated in a letter to the Bay Area Air Quality Management District (BAAQMD) [RESNA, December 3, 1992]. Monitoring and carbon changeouts are being performed in accordance to the BAAQMD permit to operate conditions for this system. Cumulative results of field organic vapor measurements are summarized in Table 3.

During this quarter, the influent organic vapor measurements have ranged from 0.0 to approximately 1.2 ppmv (part per million by volume) and the effluent measurements were consistently 0.0 ppm (Table 3, Cumulative Results of Field Organic Vapor Measurements). The influent organic vapor measurements this quarter appear to be generally lower than second quarter 1993 results and appear to be continually decreasing with time. 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 during the first and second quarter. It is calculated that 0.5 lbs (0.08 gallons) of TPHg has been recovered this



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quarter bringing the total extracted amount of TPHg to approximately 9 gallons since system startup in October of 1992.

Beginning February 16, 1993, the system has been alternately turned on and off (pulsed) approximately every two weeks. Organic vapor levels have been measured at each of the onsite vapor wells and any dry groundwater monitoring wells. The system is being pulsed to evaluate whether the lowered levels of organic vapor concentrations measured in the past few months are representative of the gasoline hydrocarbons in the subsurface soils, and whether the system is efficiently removing gasoline hydrocarbons from beneath the site. The organic vapor field measurements during pulsing of the system has been consistently below 5 ppmv.

As a confirmation of the organic vapor field measurements, air samples were collected on September 15, 1993 and submitted to Pace Incorporated laboratories. Six influent samples and one effluent sample were collected at the influent and effluent sample ports of the vapor phase carbon adsorption system. One influent sample represents a collective sample of vapor wells VR-1, VR-2, VR-3, VR-4, and MW-1, and the remaining five influent samples represent individual vapor wells. The individual samples were collected by closing the valves completely on all wells except one (vapor well VR-1 could not be closed at all). The samples were contained in 1-liter mylar bags and analyzed by Pace Incorporated laboratories of Novato, California for TPHg and BTEX using EPA Methods 5030/8015/8020. The chain of custody record and laboratory analyses sheets are included in Appendix B. The results of the air analyses are summarized in Table 4, Cumulative Results of Influent and Effluent Vapor Samples.

Results of the air analyses were as follows:

- effluent sample: TPHg was less than the laboratory detection limit of 50 micrograms per liter (μ g/l) and BTEX were less than the laboratory detection limit of 0.5 μ g/l, 2.7 μ g/l, 1.0 μ g/l, and 3.1 μ g/L, respectively.
- collective influent sample: TPHg was less than the laboratory detection limit of 50 micrograms per liter (μ g/l) and BTEX were less than the laboratory detection limit of 0.5 μ g/l, 2.3 μ g/l, 1.2 μ g/l, and 3.7 μ g/L, respectively.
- o individual influent samples: TPHg and benzene were less than their laboratory detection limits of 50 and 0.5 μ g/l, respectively. Toluene, ethylbenzene, and total xylenes resulted in following



ranges: 1.3 to 3.8 μ g/l; 0.8 to 1.3 μ g/l; and 2.1 to 4.1 μ g/l, respectively.

The laboratory results indicate the field monitoring measurements collected during this third quarter are representative of the lowered gasoline hydrocarbon concentrations in the soil, and that the vapor extraction system has been effectively removing gasoline hydrocarbons from the soil beneath the site.

Since July 2, 1993, the valves on all the vapor extraction wells have been completely open during operation of the vapor extraction/treatment system to allow the maximum organic vapor concentration loading rates. Operation of the system with the valves on all the vapor extraction wells completely open will continue through the fourth quarter 1993. Field monitoring of the carbon system will continue on a bi-weekly basis. If continued operation of the system results in consistently lower organic vapor concentrations, RESNA will submit a request to BAAQMD to perform field monitoring on a monthly basis.

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.



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

Sincerely,

RESNA Industries Inc.

Jeanne Buckthal Geologic Technician

Dera Chew

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

Dora Chew Project Engineer

Enclosures: References

References

Plate 1: Site Vicinity Map

Plate 2: Generalized Site Plan

Plate 3: Groundwater Gradient Map (July 15, 1993)
Plate 4: Groundwater Gradient Map (August 15, 1993)
Plate 5: Groundwater Gradient Map (September 29, 1993)
Plate 6: TPHg/Benzene Concentrations in Groundwater

Table 1: Cumulative Groundwater Monitoring Data

Table 2: Cumulative Results of Laboratory Analyses of Groundwater

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CERTIFIED ENGINEERING

Samples

Table 3: Cumulative Results of Field Organic Vapor Measurements

Cumulative Results of Influent and Effluent Vapor Samples

Table 4: Cumulative Results of Influent and Effluent Vapor Samples

Appendix A, Well Purge Data Sheets

Appendix B, Laboratory Analysis Reports and Chain of Custody Record



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REFERENCES

- 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. 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 Hopvard Road, Pleasanton, California. Job No. 18034-2A.
- Applied GeoSystems. August 22, 1988. Report, Removal of Underground Gasoline Storage

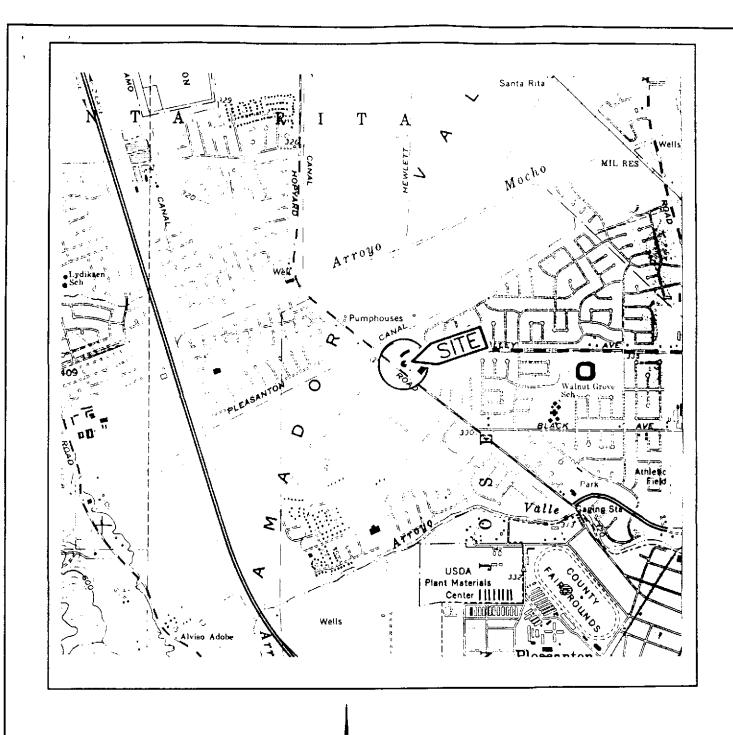
 Tanks and Excavation of Hydrocarbon-Contaminated Soils at Exxon Station No. 73399, 2991 Hopyard Road, Pleasanton, California. Job No. 18034-3.
- Applied GeoSystems. September 23, 1988. <u>Letter Report, Aeration of Excavated Soil at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</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 Hopyard Road, Pleasanton, California</u>. 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.



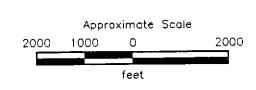
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REFERENCES (Continued)

- RESNA Industries Inc. June 18, 1992. <u>Letter Report, Groundwater Monitoring, First Quarter 1992 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, Groundwater Monitoring, Second Ouarter 1992 at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u> Job No. 18034.15.
- RESNA Industries Inc. December 1, 1992. <u>Letter Report, Groundwater Monitoring, Third Quarter 1992 at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u> Job No. 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, Groundwater Monitoring, Fourth Quarter 1992 at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California</u> Job No. 18034.15.
- RESNA Industries Inc. May 11, 1993. <u>Letter Report, Groundwater Monitoring, First Quarter 1993 at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California Job No. 130009.01.</u>
- 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 Job No. 130009.01.</u>



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

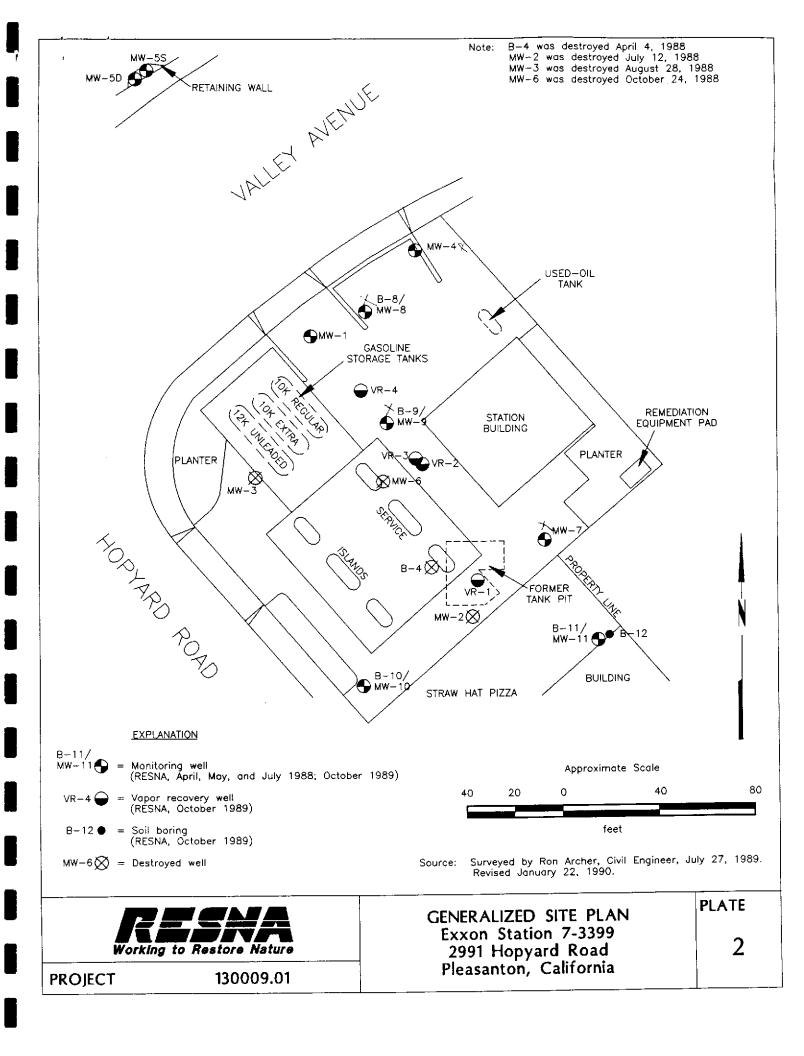


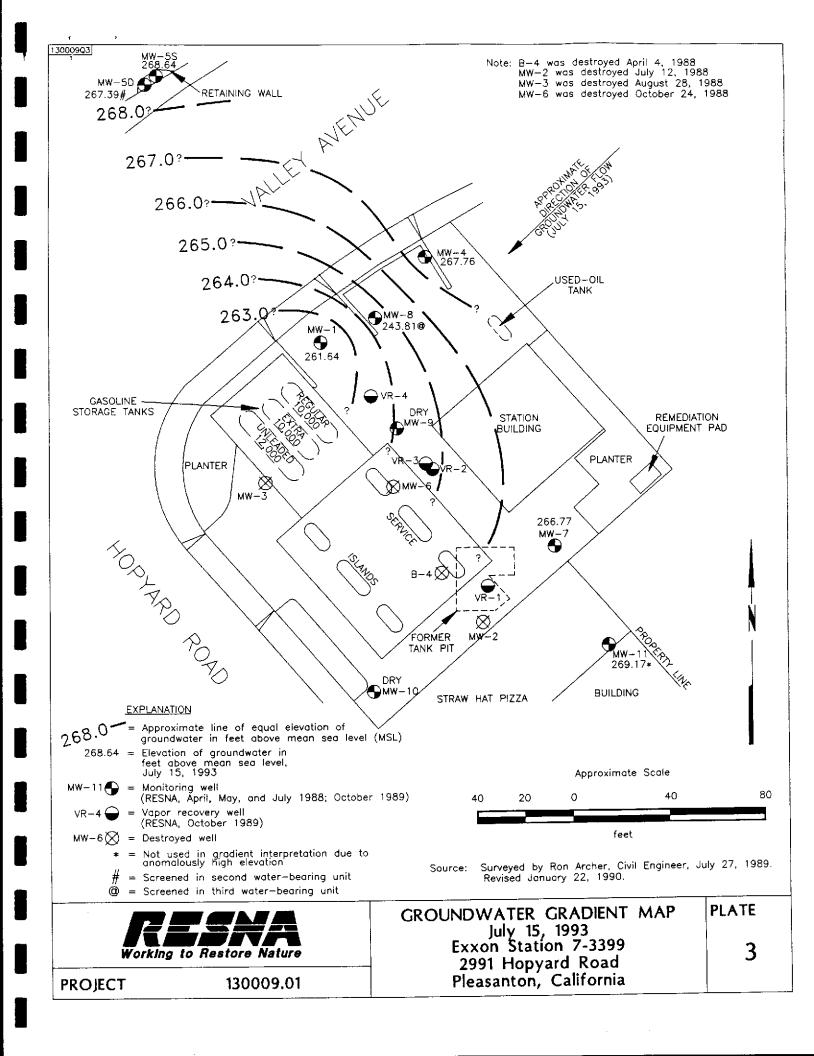
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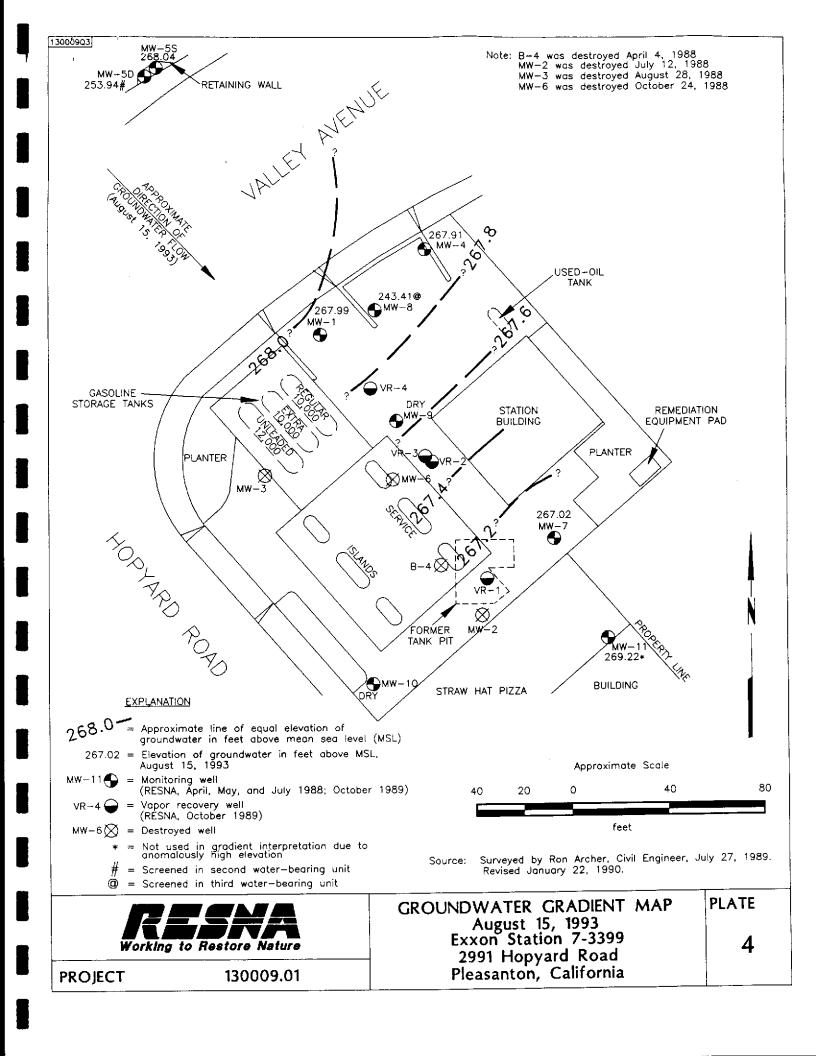
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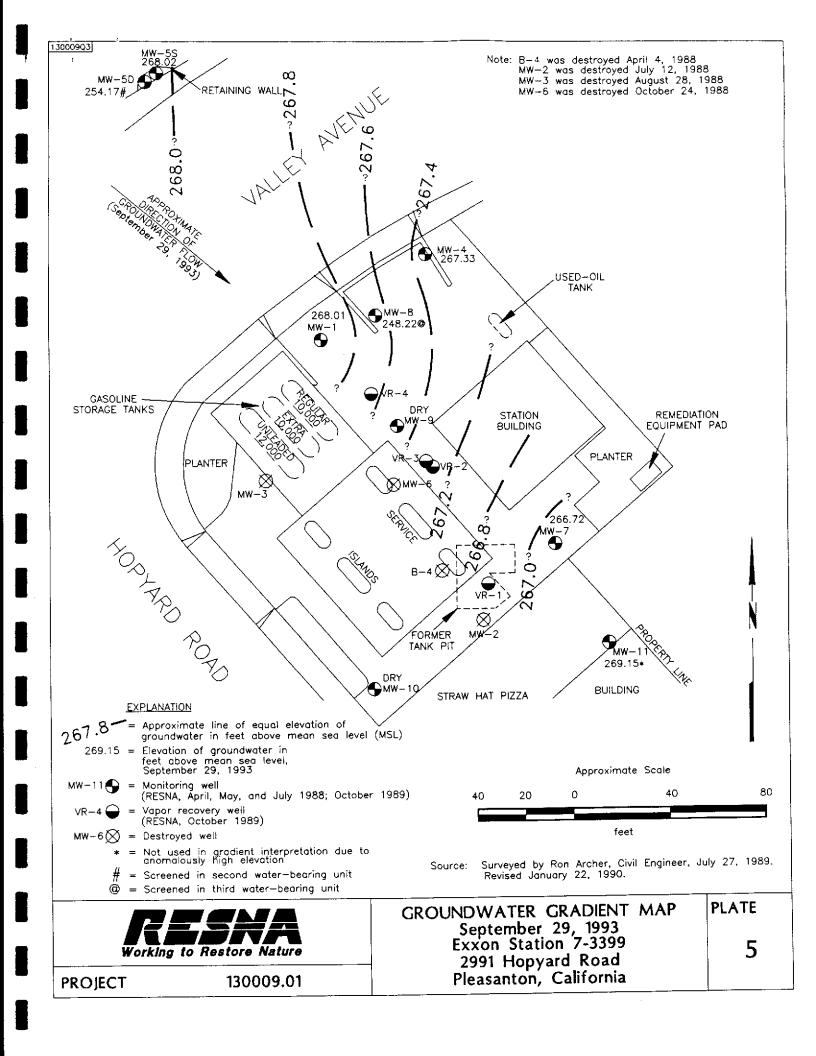
SITE VICINITY MAP Exxon Station 7-3399 2991 Hopyard Road Pleasanton, California PLATE

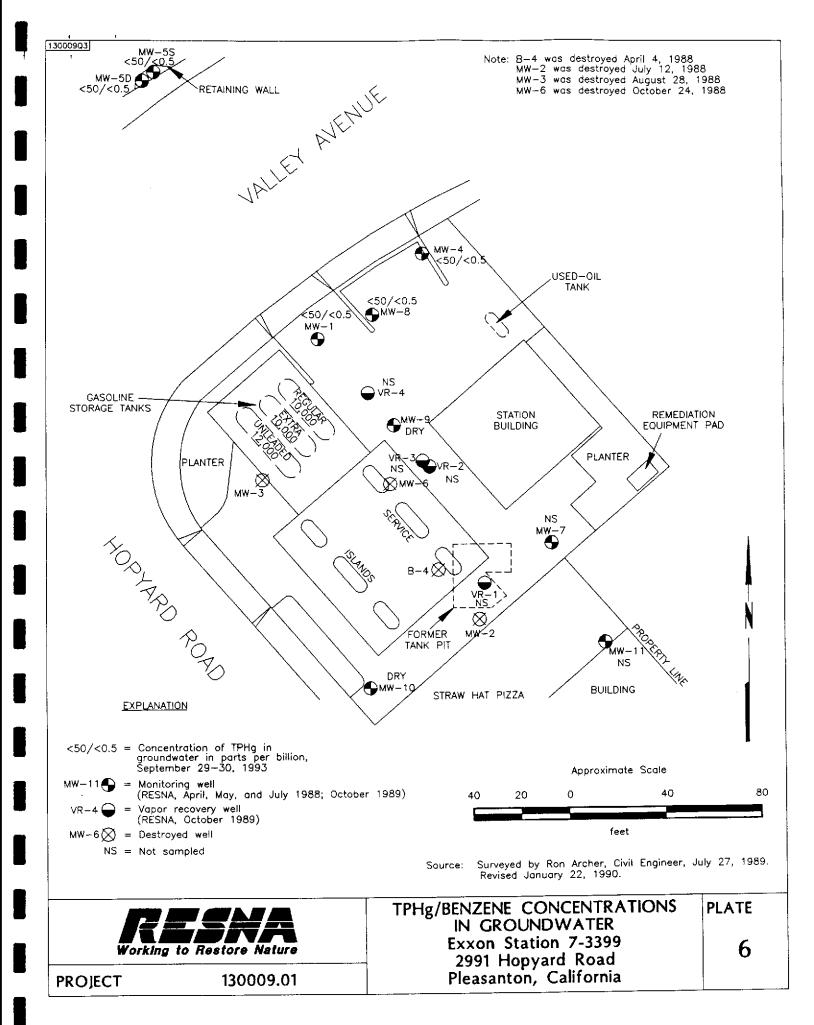
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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

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

	See notes on page 17							
WELL	DATE	WELL	DEPTH TO	GROUNDWATER	FLOATING			
		ELEVATION	WATER	ELEVATION	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			
<u> </u>	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			
1. 1	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	į	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
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See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
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
1	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	ĺ	NA		
	10/07/92		NA		
	11/09/92		DRY		
	12/10/92		NA		
	01/26/93		NA		
	02/16/93		NA		



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

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

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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
MW-2	04/02/88	NA	NA	255.02	3"
	04/04/88		NA		18.0"
	04/05/88		NA		18.0"
	04/06/88		39.31	NA	38.4"
ı	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"
ii.	06/28/88		39.72	NA	NA
ł	07/06/88		40.31	NA NA	Slight
i	07/12/88	'	Well Des		Sugat
MW-3	04/06/88		37.19	NA NA	None
	04/08/88		37.14	NA NA	None
	04/19/88		37.22	NA	None
1	06/06/88		39.02	NA NA	None
	06/23/88		39.58	NA NA	None
	06/28/88	·	40.04	NA NA	None
[07/06/88		40.60	NA NA	None
j	07/13/88	ŀ	41.09	NA NA	None
	08/12/88	İ	NA	IMI	MOTIC
	08/26/88		42.77	NA	None
	08/29/88	1	Well Des	1	140110
MW-4	04/08/88	321.56	36.41	285.15	None
	04/19/88		36.51	285.05	None None
	06/06/88		38.26	283.30	None



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

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See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-4	06/23/88		38.83	282.73	None
cont.	06/28/88	j	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.	201.22	None
	08/26/88		42.01	279.55	None
	09/07/88		NA		1 vone
	12/07/88		NA		
	12/19/88		43.83	277.73	None
1	02/09/89		42.67	278.89	None
	03/08/89		42.11	279.45	None
	04/03/89	İ	41.73	279.83	None
11	04/26/89	1	41.79	279.77	None
i	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
j	07/21/89		45.04	276.52	None
	07/26/89		45.50	276.06	None
-	08/02/89		NA	270,00	None
	08/03/89	1	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
j	01/09/90		49.47	272.09	None
İ	01/26/90		49.36	272.20	None
	02/23/90	İ	#49.18	272.38	None
1	02/23/90		49.15	272.41	None
İ	03/26/90		#48.84	272.72	None
	03/26/90		48.83	272.73	None



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

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TABLE 1 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	FLOATING
MW-4	04/18/90			ELEVATION	PRODUCT
cont.	05/17/90		48.90	272.66	None
Cont.	05/11/90		50.03	271.53	None
			50.98	270.58	None
	07/30/90		53.57	267.99	None
	08/27/90		53.61	267.95	None
	09/28/90		53.57	267.99	None
	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		i
	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	None
	06/08/92		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
	03/11/93		53.54	268.02	None
ļ	04/12/93		53.62	267.94	None
j	06/01/93		53.52	268.04	None
l	07/15/93		53.80	267.76	None
[08/15/93		53.65	267.91	None
	09/29/93		54.23	267.33	None



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TABLE 1 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-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 damaged by construction			
	03/08/89		Casing head cut t	o 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			
	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	



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

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

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
		ELEVATION			
MW-5d	03/26/90		49.77	272.02	None
cont.	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		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		
	10/07/92		DRY		
	11/09/92		DRY		
	12/10/92		DRY		
	01/26/93		DRY	1	
	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
	07/15/93		54.40	267.39	None



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 8 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
NOVEJ	00/15/02	LLL (MION		253.94	None
MW-5d	08/15/93		67.85	253.94 254.17	None
cont.	09/29/93	201.64	67.62		
MW-5s	05/25/88	321.64	38.46	283.18 282.78	None None
	06/06/88		38.86 39.52	282.12	None
	06/23/88			281.80	None
	06/28/88		39.84		None
	07/06/88		40,45	281.19	None
	07/13/88		40.90	280.74	
	07/22/88		41.30	280.34	None None
	08/05/88		▼23.84	297.80	
	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	/88	44.67	276.97	None
	02/09/89		43.19	278.45	None
	03/08/89		Casing head cut t		1
			42.11	279.53	None
	04/26/89		41.84	279.80	None
	06/30/89		43.95	277.69	None
	07/17/89		44.91	276.73	None
	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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 9 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-5s	01/26/90		49.40	272.24	None
cont.	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
	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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 10 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-5s	06/01/93	550000000000000000000000000000000000000	53.56	268.08	None
cont.	07/15/93		53.00	268.64	None
	08/15/93		53.60	268.04	None
	09/29/93		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 NA	None
	09/07/88		42.85	NA	None
	10/24/88	'	Well De	estroyed	
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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 11 of 17 See notes on page 17

WELL	DATE	WELL	DEPTH TO	GROUNDWATER	FLOATING
800 (50) (5.0)		ELEVATION	WATER	ELEVATION	PRODUCT
MW-7	03/26/90		48.60	272.67	None
cont.	04/18/90		#57.55	263.72	None
	05/17/90		<i>#5</i> 7.40	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		
	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
1	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
	06/01/93		54.90	266.37	None
	07/15/93		54.50	266.77	None



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TABLE 1 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-7	08/15/93		54.25	267.02	None
cont.	09/29/93		54.55	266.72	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
	07/30/90		64.33	257.53	None
	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. <i>7</i> 7	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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 13 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-8	01/26/93		78.63	243.23	None
cont.	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
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	ĺ	50.13	271.31	Heavy
	12/13/89	1	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	1	#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		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		



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 14 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-9	12/30/91		NA NA		
cont.	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	ļ.	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		
ĺ	09/29/93		DRY		
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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 15 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW 10	06 /11 /00	LEEVAIRON	51.16	271.83	None
MW-10	06/11/90		55.72	267.27	None
cont.	07/30/90		57.75	265.24	None
	08/27/90		NA	203.24	None
	09/28/90		58.08	264.91	None
	12/27/90		57.80	265.19	None
	03/20/91			264.99	None
	06/20/91	:	58.00	204.99	МОПС
	09/12/91		DRY		
i	12/30/91		NA		
	01/30/92		DRY		
	03/02/92		DRY	251.45	3 .T
	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	,	
	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		



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Exxon Station 7-3399 Pleasanton, California Page 16 of 17 See notes on page 17

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-11	11/10/89	321.77	50.64	272,13	None
141 44 - 11	11/10/89	321.77	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
	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



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

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

WELL	DATE	WELL ELEVATION	DEPTH TO WATER	GROUNDWATER ELEVATION	FLOATING PRODUCT
MW-11	01/26/93		53.67	269.10	None
cont.	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
	08/15/93		53.55	269.22	None
	09/29/93		53.62	269.15	None
VR-1	03/24/92		24.77		None

Well elevati	Well elevation relative to Mean Sea Level (MSL).						
Measureme	nts 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
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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	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
	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

TABLE 2 CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES

Exxon Station 7-3399
Pleasanton, California
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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 Acces	ssible					
]	04/12/93			Not Acces	sible					
	09/30/93	<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	royed					
MW-4	04/11/88	80	1.8	16.3	0.6	7.1	NA			
177.17	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			

TABLE 2 CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES

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Pleasanton, California
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WELL	DATE	TPHg	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**
1	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
1	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
1	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		ı	Not Acces	sible	·	
	02/16/93	600	57	34	11	200	NA
1	04/12/93	360	20	10	22	80	NA
[09/30/93	<50	<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-5d	05/25/88	<20	<0.5	3.1	<0.5	<0.5	NA
111111111111111111111111111111111111111	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
	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
1	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	06/20/91	<50	<0.5	<0.5	<0.5	<0.5	NA
	12/10/92			Not Sam	ļ.		

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Pleasanton, California
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WELL.	DATE	ТРН	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-5d	02/16/93	***************************************		Not Samp	oled		
cont.	04/12/93	<50	1.0	1.0	2.5	7.4	NA
1	09/30/93	<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
	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

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Pleasanton, California
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WELL	DATE	TPHg	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs			
MW-5s	08/01/90	<50	<0.5	<0.5	<0.5	<0.5	NA			
cont.	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			
MW-6	05/17/88	<20	<0.5	<0.5	<0.5	<0.5	NA			
147.11 0	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			
ľ	09/07/88	2920	474	16	262	136	NA			
	10/24/88	Well Destroyed								
MW-7	07/13/88	16700	860	1910	710	4420	NA			
10110-7	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			

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WELL	DATE	ТРН	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				
1	04/12/93	Not Sampled									
1	09/30/93	Not Sampled									
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				
1	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				

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Pleasanton, California
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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
	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
1	08/27/90	<20	<0.5	<0.5	<0.5	0.5	NA
1	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
1	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

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Exxon Station 7-3399 Pleasanton, California Page 9 of 11 See notes on page 11

WELL	DATE	TPHg	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
1	09/30/93	<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
	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		•	Not Acces	ssible		
. 1	02/16/93			Not Sam	pled		9
	04/12/93			Not Sam	pled		9
	09/30/93			Not Sam	pled		
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 NA
	03/26/90	<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-10	08/01/90	<20	<0.5	<0.5	<0.5	<0.5	NA		
cont.	12/10/92			Not Samı	pled	•			
	02/16/93	Not Sampled							
	04/12/93	350	21	11	21	75	NA		
	09/30/93	Not Sampled							
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 Sampled							
	04/12/93	<50	<0.5	<0.5	<0.5	<0.5	NA		
	09/30/93	Not Sampled							
VR-1	03/24/92	<50	1.7	<0.5	<0.5	<0.5	NA		
	12/10/92	Not Sampled							
	04/12/93			Not Sam	pled				
	09/30/93			Not Sam	pled				

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Pleasanton, California
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WELL	DATE	ТРН	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	VOCs
MW-1R	09/30/93	<50	<0.5	0.6	0.7	2.1	NA
	MCLs		1.0		680	1,750	
	DWAL		-	100			

Results	in na	rts ner	billion	(nnb).

: 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

November 16, 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 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	33	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

November 16, 1993 130009.01

TABLE 3 CUMULATIVE RESULTS OF FIELD ORGANIC VAPOR MEASUREMENTS

Exxon Station 7-3399 Pleasanton, California Page 2 of 3 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 Sar	nplesSee Table 4	· · · · · · · · · · · · · · · · · · ·



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

November 16, 1993 130009.01

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

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 November 16, 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

DATE	SAMPLE	TPHg	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 Inoperative								
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

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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

VR-3 : Vapor extraction well 3
VR-4 : Vapor extraction well 4

MW-1 : Groundwater monitoring well 1

APPENDIX A WELL PURGE DATA SHEETS



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

Job No. <u>130009.01</u>

Date: September 29, 1993

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

Well No. MW-1

Time Started _ 1355_

TIME (hr)	GALLONS (cum.)	TEMP. (F)	Нզ	CONDUCT. (micromho)	TURBIDIT	
1355	Start pu	rging MW-1				
1355	0	82.2	6.89	1.21	>200	
1405	1	78.0	6.84	6.84 1.15		
1410	2	76.8	6.79	1.12	>200	
1420	3	79.0	7.02	1.18	>200	
1453	4.5	78.3	6.92	1.21	>200	
1453	Stop pu	rging MW-1				

Notes:

Well Diameter (inches): 4

Depth to Bottom (feet): 55.12

Depth to Water - initial (feet) : 53.43

Depth to Water - final (feet): 53.46

% recovery : 98 Time Sampled : 1230 9/30

Gallons per Well Casing Volume: 1.10

Gallons Purged: 4.5

Well Casing Volume Purged: 4.1

Approximate Pumping Rate (gpm): 0.08

Not Applicable : NA



Project Name: Exxon 7-3399

Job No. <u>130009.01</u>

Date: September 30, 1993

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

Well No. MW-4

Time Started _ 1150_

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pĦ	CONDUCT. (micromho)	TURBIDITY (NTU)	
	Start pu	rging MW-4				
1150	0	77.9	6.95	1.10	140.5	
1158	2	74.6	7.15	1.05	>200	
1249	4	76.1	7.17	1.06	>200	
1407	6	79.7	7.40	1.03	>200	
	DRY					
1445	6.5	75.2	7.44	1.02	>200	
	Stop pu	rging MW-4				
otes:	Den	Depth	to Botto	m (feet):	4 65.82 53.63	

Depth to Water - final (feet): 54.23

% recovery : 95.1

Time Sampled: 1700

Gallons per Well Casing Volume : 7.95

6.5 Gallons Purged:

Well Casing Volume Purged : 0.81

Approximate Pumping Rate (gpm) : 0.03

Not Applicable : NA



Project Name: Exxon 7-3399

Job No. <u>130009.01</u>

Date: September 29, 1993

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

Well No. MW-5d

Time Started 1717

TIME (hr)	GALLONS (cum.)	TEMP. (F)	рН	CONDUCT. (micromho)	TURBIDITY (NTU)
	Start pu	rging MW-56			
1710	0	77.7	6.85	0.59	1.9
1717	6.5	72.9	7.13	0.93	117.4
1724	13	71.9	7.28	0.94	14.0
1730	19.5	70.7	7.22	0.95	6.2
1736	26	70.3	7.13	0.97	4.8
	Stop pu	rging MW-50	1		
otes:	1	Dept	h to Bott	(inches) : om (feet) :	77.58

Depth to Water - initial (feet) : 67.51

Depth to Water - final (feet) : 67.62

% recovery : 98.9

Time Sampled : 1320 9/30

Gallons per Well Casing Volume : 15.43

Gallons Purged : 26

Well Casing Volume Purged : 1.68

Approximate Pumping Rate (gpm) : 1.0

Not Applicable : NÄ



Project Name: Exxon 7-3399

Job No. <u>130009.01</u>

Date: September 29, 1993

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

Well No. MW-5s

Time Started 1545

TIME (hr)	GALLONS (cum.)	TEMP. (F)	рĦ	CONDUCT. (micromho)	TURBIDITY (NTU)
1545	Start pu	rging MW-			
1545	0	74.5	6.93	1.38	6.1
1603	0.7	73.4	6.78	6.78 1.37	
1735	1.4	69.4	6.93	1.34	>200
1742	2.1	69.1	6.83	1.34	>200
1800	2.8	69.3	6.80	1.36	>200
	Stop pu	rging MW-5s	3		

Notes:

Well Diameter (inches) :

Depth to Bottom (feet) : 54.70

53.62

Depth to Water - initial (feet):
Depth to Water - final (feet): 53.62

% recovery : 100

Time Sampled: 1400 9/30

Gallons per Well Casing Volume : 0.7

Gallons Purged: 2.8

Well Casing Volume Purged : 4.0

Approximate Pumping Rate (gpm) : 0.02

Not Applicable : NA



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

Job No. <u>130009.01</u>

Date: <u>September 29, 1993</u>

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

Well No. MW-8

Time Started 1507

TIME (hr)	GALLONS (cum.)	TEMP. (F)	рн	CONDUCT. (micromho)	TURBIDIT (NTU)	
	Start pu	rging MW-				
1507	0	74.9	7.13	0.56	9.2	
1524	40	75.4	6.99	0.55	2.3	
1540	80	74.6	7.03	0.55	1.7	
1556	120	72.4	7.31	0.56	2.0	
1613	160	74.1	7.05	0.57	11.1	
	Stop pu	rging MW-8				

Well Diameter (inches): 4

Depth to Bottom (feet): 135

Depth to Water - initial (feet): 73.64
Depth to Water - final (feet): 75.32

Depth to Water - final (feet): 75.33 % recovery: 97

Time Sampled: 1420 9/30

Gallons per Well Casing Volume: 40.0

Gallons Purged: 160

Well Casing Volume Purged: 4

Approximate Pumping Rate (gpm): 2.4
Not Applicable: NA

APPENDIX B

LABORATORY ANALYSIS REPORTS AND CHAIN OF CUSTODY RECORD



October 11, 1993

RECEIVED

Transport (1993)

RESNA SANJOSE

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

RE: PACE Project No. 431004.503

Client Reference: Exxon 7-3399 (EE)

Dear Mr. Briggs:

Enclosed is the report of laboratory analyses for samples received October 04, 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 Matzer

Stephánie Matzo Project Manager

Enclosures



October 11, 1993

PACE Project Number: 431004503

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: Client Sample ID:

Parameter

70 0165458

09/29/93 10/04/93

Rinsate

Units 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

10/07/93 50 ND 10/07/93

10/07/93 0.5 10/07/93 ND ug/L 10/07/93 ug/L 0.5 ND 10/07/93 0.5 ND ug/L

10/07/93 ND 0.5 ug/L



Mr. Marc Briggs

Page

October 11, 1993

PACE Project Number: 431004503

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID:

70 0165466

09/30/93

10/04/93

MW-1R

<u>Parameter</u>	<u>Units</u>	MDL	<u>DATE ANALYZED</u>

ORGANIC ANALYSIS

Xylenes, Total

PURGEAB	LE F	FUELS	AND	AROMA"	TICS
TOTAL FI	UEL	HYDRO	CARE	ONS.	(LIGH

TOTAL FUEL HYDROCARBONS, (LIGHT):			_	10/07/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/07/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			_	10/07/93
Benzene	ug/L	0.5	ND	10/07/93
Toluene	ug/L	0.5	0.6	10/07/93
Ethylbenzene	ug/L	0.5	0.7	10/07/93
				10/07/00
Xylenes, Total	ug/L	0.5	2.1	10/07/93



Mr. Marc Briggs

Page

October 11, 1993

PACE Project Number: 431004503

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID:

70 0165474

09/30/93 10/04/93

W-53-MW-1

DATE ANALYZED Parameter MDL Units

ug/L

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

10/07/93 ND 10/07/93 50 10/07/93 10/07/93 ND

ND

0.5 ug/L 0.5 ug/L ug/L

0.5

ND 10/07/93 10/07/93 ND

0.5

10/07/93



Mr. Marc Briggs

Page 4

October 11, 1993

PACE Project Number: 431004503

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID:

70 0165490

09/30/93

10/04/93 W-67-MW-5D

Parameter Units MDL DATE ANALYZED

ug/L

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 ug/L

Toluene Ethylbenzene

Xylenes, Total

ug/L 50 ND ug/L 0.5 ND ug/L 0.5 ND

ug/L 0.5 ug/L 0.5

0.5

10/07/93 10/07/93

ND

ND

10/07/93

10/07/93

10/07/93

10/07/93 10/07/93



Mr. Marc Briggs

Page

October 11, 1993

PACE Project Number: 431004503

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID:

Parameter

70 0165512 09/30/93

10/04/93

ND

ND

W-53-MW5S 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 ug/L

Units

ug/L

0.5 0.5

50

ND 10/07/93 10/07/93 ND 10/07/93 ND

0.5

MDL

10/07/93

10/07/93

10/07/93

10/07/93



Mr. Marc Briggs

Page 6

October 11, 1993

PACE Project Number: 431004503

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID:

Parameter

70 0165539 09/30/93 10/04/93 W-75-MW8

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

enzene

ug/L ug/L

ug/L

ug/L

Units

0.5 0.5 0.5

50

MDL

ND ND ND

ND

10/07/93 10/07/93 10/07/93 10/07/93

10/07/93 10/07/93

0.5

ND

10/07/93



Mr. Marc Briggs

Page 7

October 11, 1993

PACE Project Number: 431004503

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID: Parameter

70 0165555

09/30/93

10/04/93 W-54-MW4

MDL DATE ANALYZED

ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

10/08/93 TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015M) ug/L ND 10/08/93 50 PURGEABLE AROMATICS (BTXE BY EPA 8020M): 10/08/93 Benzene 10/08/93 0.5 ND ug/L 10/08/93 0.5 Toluene ND ug/L Ethylbenzene 0.5 ND 10/08/93 ug/L Xylenes, Total ug/L 0.5 ND 10/08/93

Units

These data have been reviewed and are approved for release.

Darrell C. Cain

Regional Director



Mr. Marc Briggs Page

FOOTNOTES for pages 1 through

October 11, 1993 PACE Project Number: 431004503

Client Reference: Exxon 7-3399 (EE)

MDL

Method Detection Limit

Not detected at or above the MDL. ND



Mr. Marc Briggs

QUALITY CONTROL DATA

October 11, 1993

Page

PACE Project Number: 431004503

Client Reference: Exxon 7-3399 (EE)

PURGEABLE FUELS AND AROMATICS

Batch: 70 25320

Samples: 70 0165458, 70 0165466, 70 0165474, 70 0165490, 70 0165512 70 0165539, 70 0165555

METHOD BLANK:

Parameter	Units	MDL	Method 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		Dupl	
Parameter	Units	MDL	Value	Recv	Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	1000	112%	$\overline{11}1\%$	0%
Benzene	ug/L	0.5	100	110%	109%	0%
Toluene	ug/L	0.5	100	113%	113%	0%
Ethylbenzene	ug/L	0.5	100	111%	111%	0%
Xylenes, Total	uq/L	0.5	300	112%	112%	0%



Mr. Marc Briggs

Page 10

FOOTNOTES

for page 9

October 11, 1993

PACE Project Number: 431004503

Client Reference: Exxon 7-3399 (EE)

MDL

Method Detection Limit

ND

Not detected at or above the MDL.

RPD

Relative Percent Difference

M31004.503

INCORPORATED THE ASSURANCE OF QUALITY

EXXON COMPANY, U.S.A.

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

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

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

Consultant's Name: RESNA					Page 1 of 2
Address: 3315 Almadon E		Son Jose	CA 95	Site Location:	1981 Apparo Rd
Project #:	, , ,		130009.01	Consultant Work	Release #:
Project Contact: Jane Buckfiel	GCK Book	Phone #(408)	64-7723 Fax #:20		Release #: 09300140/00#
EXXON Contact: Maria Guarda FEE	E C&M	Phone # (510)	46-877 Part	EXXON RAS #:	<u>'7-3359</u> '
Sampled by (print) Chais Allen		Sampler's Signature	fire	2	/
Shipment Method: Carrier		Air Bill #:	· · · · · · · · · · · · · · · · · · ·	Shipment Date:	10-4-93
TAT: 24 hr 48 hr 72 hr Star	indard (5 day)		ANALYSIS REQU	IRED	Sample Condition as Received Temperature ° C:
		TPH/GAS/BTEX EPA 8015/8020 TPH/Diesel EPA 8015 TRPH EPA 418.1	7		Cooler #:
Date/Time Soil/Water (# of PACE Cont Sample #	TPH/GAS/B EPA 8015/8 TPH/Diesel EPA 8015 TRPH EPA 418.1	No.		COMMENTS
	2 016545.8	\times			
MW1R 9/20	2-016546.6	$X \coprod $			
W-00/2-01/2-384	3 0165474	\times			
465DR 9/30	Q16548.7		\times		
Wy Stores					
les 67-4WSD 1730	3 0115410	X			
MW55-R 4730	2 010550.4		\times		
	3 014551.2	\times			
MW8 R 9/30	2 0145524		\times		
W-75-408 2:20 V	3 101655391	\times			
	Date Time	/ Apolepted	by/Affiliation	Date, Time Addition	nal Comments:
Jasand 11B St	30 86.33	El MUS	1 pa	10/4 (44)	
Edlath Tom (st	4 1703	Janua Mil	WAL PACE	1014 1710	

PACE.

EXXON COMPANY, U.S.A.

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

THE ASSURANCE OF QU	ALITY \	Novato, CA, (415) 883-610		rive, 94	949	., .,] H (7	untingto 14) 892	n Beach 2-2565	, CA, 57	702 Bolsa Avenue, 92649
Consultant's Name:	(SN)	7							- 1						Page of
Address: 33/5	Alma	Qen G	700	ر <u>حسر م</u>	2m	<u> </u>	2	2/	CL	9/	5/18	Site	Location	29	21 Agypsel Kd
Project #:	· · · · · · · · · · · · · · · · · · ·	,	. ,	Consult	tant Pro	ject#:	13	<u> </u>	390	3/				ork Rele	- 0 0
Project Contact:	Bucktho	1/Mark	Baggs	Phone i	#43	8)2	64-	72	2 3 5ax	#:26	1-24	34 Lab	oratory V	ork Rele	case #:09300140/CO FS
EXXON Contact:	do Goersk	EE [C&M	Phone i	1/570	2)2<	169				•				- 3399
	Lois Al	100		Sample	r's Sign	nature:	0	1	10	[_	
Shipment Method:	وعدف			Air Bill					N.C.			Shir	ment Da	te: / 0	-4-93
		Standard	15 day)					ANA	LYSIS I	REQUI	RED				Sample Condition as Received
Sample Description Coll Date	lection Matrix Soil/Water	Prsv # of Cont #CC 2-	PACE Sample #		TPH/Diesel EPA 8015	EPA 418.1	X He CA								Temperature ° C: Cooler #: Inbound Seal Yes No Outbound Seal Yes No COMMENTS
Relinquished Williams	by/Affiliation	Date 9/20	Time 16:33	Ed Van	Ac Ac	ecepted U_	by/Afi	iljetjon Zel	Ace		Date	Tin	2	ditional C	Comments:



September 21, 1993

8202.388

2007 2007 - 1948

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

RE: PACE Project No. 430916.516

Client Reference: Exxon 7-3399 (EE)

Dear Ms. Chew:

Enclosed is the report of laboratory analyses for samples received September 16, 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,

Stacy P. Hoch Project Manager

Stacy P. Hord

Enclosures



September 21, 1993

PACE Project Number: 430916516

RESNA

3315 Almaden Expressway, Suite 34

San Jose, CA 95118

Attn: Ms. Dora Chew

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

70 0154561

09/15/93 09/16/93

Duce Rederred:		INF		
Parameter	<u>Units</u>	MDL_		DATE ANALYZED
ORGANIC ANALYSIS				
GASOLINE AND AROMATICS-AIR (M8015/8020) Non-Methane Hydrocarbons, as n-octane Volatile Aromatic Compounds (EPA M8020) Benzene Toluene Ethylbenzene Xylenes, Total	ug/L ug/L ug/L ug/L ug/L	50 0.5 0.5 0.5 0.5	ND - ND 2.3 1.2 3.7	09/19/93 09/19/93 09/19/93 09/19/93 09/19/93



Ms. Dora Chew Page 2 September 21, 1993

PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID:

70 0154588

09/15/93 09/16/93

EFF

Parameter Units MDL DATE ANALYZED

ORGANIC ANALYSIS

GASOLINE AND AROMATICS-AIR (M8015/8020) Non-Methane Hydrocarbons, as n-octane 50 ND 09/19/93 ug/L Volatile Aromatic Compounds (EPA M8020) 09/19/93 Benzene 0.5 ND 09/19/93 ug/L Toluene 0.5 2.7 09/19/93 ug/L Ethylbenzene 09/19/93 ug/L 0.5 1.0 Xylenes, Total ug/L 0.5 3.1 09/19/93



70 0154596

Ms. Dora Chew

Page 3

September 21, 1993

PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID: Parameter

09/15/93 09/16/93 VR-1

Units MDL DATE ANALYZED

ORGANIC ANALYSIS

GASOLINE AND AROMATICS-AIR (M8015/8020) 09/19/93 Non-Methane Hydrocarbons, as n-octane ug/L 50 ND 09/19/93 Volatile Aromatic Compounds (EPA M8020) Benzene 0.5 ND 09/19/93 ug/L Toluene 0.5 3.8 09/19/93 ug/L 0.5 1.2 09/19/93 Ethylbenzene ug/L Xylenes, Total 0.5 4.0 09/19/93 ug/L



Ms. Dora Chew

Page 4

September 21, 1993

PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number: Date Collected:

Date Received:

Parameter

Client Sample ID:

70 0154600 09/15/93 09/16/93 VR-1+VR-2

Units MDL DATE ANALYZED

ORGANIC ANALYSIS

GASOLINE AND AROMATICS-AIR (M8015/8020) ND 09/19/93 Non-Methane Hydrocarbons, as n-octane 50 ug/L 09/19/93 Volatile Aromatic Compounds (EPA M8020) ND 09/19/93 0.5 Benzene ug/L Toluene 0.5 1.3 09/19/93 ug/L 09/19/93 0.5 1.2 Ethylbenzene ug/L Xylenes, Total ug/L 0.5 4.0 09/19/93



Ms. Dora Chew Page 5 September 21, 1993

rage 5

PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

PACE	Sample Number:	
D - 4 -	C-77-4-4	

70 0154618 09/15/93

Date Collected: Date Received:

09/16/93

Client Sample ID:

VR-1+VR-3

Parameter

Units MDL DATE ANALYZED

ORGANIC ANALYSIS

GASOLINE AND AROMATICS-AIR (M8015/8020)				
Non-Methane Hydrocarbons, as n-octane	uq/L	50	ND	09/19/93
Volatile Aromatic Compounds (EPA M8020)	٥,		-	09/19/93
Benzene	ug/L	0.5	ND	09/19/93
Toluene	ug/L	0.5	2.0	09/19/93
Ethylbenzene	ug/L	0.5	0.8	09/19/93
Xylenes, Total	ug/L	0.5	2.1	09/19/93



Ms. Dora Chew

Page

September 21, 1993

PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID:

70 0154626 09/15/93

09/16/93 VR-1+VR-4

Parameter MDL DATE ANALYZED Units

ORGANIC ANALYSIS

GASOLINE AND AROMATICS-AIR (M8015/8020) Non-Methane Hydrocarbons, as n-octane 50 ND 09/19/93 ug/L Volatile Aromatic Compounds (EPA M8020) 09/19/93 0.5 ND 09/19/93 Benzene ug/L Toluene 0.5 2.1 09/19/93 ug/L 09/19/93 Ethylbenzene 0.5 1.1 ug/L 09/19/93 Xylenes, Total ug/L 0.5 3.3



Ms. Dora Chew

Page 7

September 21, 1993

PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

PACE Sample Number:

Date Collected:

Date Received:

Client Sample ID:

Parameter

70 0154634 09/15/93 09/16/93

MDL

09/16/93 VR-1+MW-1

DATE ANALYZED

ORGANIC ANALYSIS

GASOLINE AND AROMATICS-AIR (M8015/8020) 09/19/93 Non-Methane Hydrocarbons, as n-octane ug/L 50 ND Volatile Aromatic Compounds (EPA M8020) 09/19/93 0.5 ND 09/19/93 Benzene uq/L 0.5 1.6 09/19/93 Toluene ug/L 09/19/93 Ethylbenzene 0.5 1.3 ug/L 0.5 09/19/93 4.1 Xylenes, Total ug/L

Units

These data have been reviewed and are approved for release.

Darrell C. Calri

Regional Director

FAX: 415-883-2673



Ms. Dora Chew

Page

FOOTNOTES

for pages

I through

7

September 21, 1993 PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

MDL

Method Detection Limit

ND

Not detected at or above the MDL.



Ms. Dora Chew

QUALITY CONTROL DATA

September 21, 1993

Page 9

PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

GASOLINE AND AROMATICS-AIR (M8015/8020)

Batch: 70 24344

Samples: 70 0154561, 70 0154588

METHOD BLANK:

Parameter Non-Methane Hydrocarbons, as n-octane Volatile Aromatic Compounds (EPA M8020)	Units ug/L	MDL 50	Method Blank ND -
Benzene	uq/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

			Reference		Dupl	
Parameter	Units	MDL	Value	Recv	Recv	RPD
Non-Methane Hydrocarbons, as n-octane	ug/L	50	483	105%	110%	4%
Benzene	ug/L	0.5	64	106%	97%	8%
Toluene	uq/L	0.5	76	107%	97%	9%
Ethylbenzene	ug/L	0.5	86	106%	97%	8%
Xylenes, Total	ug/L	0.5	254	108%	99%	8%



Ms. Dora Chew

QUALITY CONTROL DATA

September 21, 1993

Page 10 PACE

PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

GASOLINE AND AROMATICS-AIR (M8015/8020)

Batch: 70 24667

Samples: 70 0154596, 70 0154600, 70 0154618, 70 0154626, 70 0154634

METHOD BLANK:

Parameter Non-Methane Hydrocarbons, as n-octane Volatile Aromatic Compounds (EPA M8020)	Units ug/L	MDL 50	Method Blank ND -
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

			Keterence		Dupi	
Parameter	Units	MDL	Value	Recv	Recv	RPD
Non-Methane Hydrocarbons, as n-octane	$\overline{ug/L}$	50	482	120%	117%	2 %
Benzene	ug/L	0.5	64	98%	94%	4%
Toluene	ug/L	0.5	76	99%	95%	4%
	•	0.5	86	100%	95%	5%
-	- /	0.5	254	103%	98%	4%
Ethylbenzene _	ug/L ug/L ug/L	0.5	86	100%	95%	59



Ms. Dora Chew

for pages 9 through 10 Page 11

September 21, 1993 PACE Project Number: 430916516

Client Reference: Exxon 7-3399 (EE)

MDL

Method Detection Limit

ND

Not detected at or above the MDL.

FOOTNOTES

 RPD

Relative Percent Difference

PACE OF QUALITY

EXXON COMPANY, U.S.A.

P.O. Box 4415, Houston, TX 77210-4415 CHAIN OF CUSTODY 430916.516

Novato, CA, 11 Digital Drive, 94949

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

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EXXON Contact:			γ. 🗌	EE [☐ C&M	1								EXXON RAS #: 7-3399				
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