EXXON COMPANY, U.S.A.

P.O. BOX 4032 • CONCORD, CA 94524-4032
MARKETING DEPARTMENT • ENVIRONMENTAL ENGINEERING

DARIN L. ROUSE
SENIOR ENGINEER

(925) 246-8768
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#245

January 12, 2000

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

RE: Exxon RAS #7-0238/2200 East 12th Street, Oakland, California.

Dear Mr. Chan:

Attached for your review and comment is a letter report entitled ***Quarterly Groundwater Monitoring Report, Fourth Quarter 1999,*** dated January 5, 2000, for the above referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Novato, California, and details the results of the quarterly groundwater monitoring and sampling activities at the subject site.

If you have any questions or comments, please contact me at (925) 246-8768.

Sincerely,

Darin L. Rouse
Senior Engineer

Attachment ERI's Quarterly Groundwater Monitoring Report, Fourth Quarter 1999, dated January 5, 2000.

cc: w/ attachment
Mr. Stephen Hill - California Regional Water Quality Control Board-San Francisco Bay Region

w/o attachment
Mr. James F. Chappell - Environmental Resolutions, Inc.

Reports need to be more comprehensive:

- Site history (brief)
- work done past qtr & planned work for next qtr
- Interpretation of results, plots of anc vs gw elevation
  " vs time
  bioparameters
- Include equipotential lines in gradient map

Waiting for SCM / MTBE

Sampling data sheet w/ specifics eg.
Personnel, pH, conductivity - physical observations etc.
temp.

ENVIRONMENTAL RESOLUTIONS, INC.

January 5, 2000
ERI 229313.R07

Mr. Darin L. Rouse
Exxon Company, U.S.A.
P.O. Box 4032
Concord, California 94524-4032

Subject: Quarterly Groundwater Monitoring Report, Fourth Quarter 1999, Exxon Service Station 7-0238, 2200 East 12th Street, Oakland, California.

Mr. Rouse:

At the request of Exxon Company, U.S.A. (Exxon), Environmental Resolutions, Inc. (ERI) is reporting the results of the fourth quarter 1999 groundwater monitoring and sampling event. The location of the site is shown on the Site Vicinity Map (Plate 1). The purpose of quarterly monitoring and sampling is to evaluate concentrations of dissolved hydrocarbons in groundwater and groundwater flow direction and gradient. Blaine Tech Services, Inc. (Blaine Tech) performed the site field activities at the request of Exxon.

GROUNDWATER MONITORING AND SAMPLING

On December 3, 1999, Blaine Tech measured depth to water (DTW) and collected groundwater samples from select monitoring wells for laboratory analysis. Groundwater monitoring and sampling were performed in accordance with Blaine Tech's groundwater sampling protocol (Attachment A).

Calculated groundwater gradient and flow direction are presented on Plate 2. Historical and recent monitoring data are summarized in Table 1.

LABORATORY ANALYSES AND RESULTS

Groundwater samples were submitted to Southern Petroleum Laboratories, Inc. (SPL), a California state-certified laboratory, under Chain of Custody protocol. The samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary butyl ether (MTBE), and total purgeable petroleum hydrocarbons as gasoline (TPPHg), using the methods listed in the notes in Table 1. The laboratory analysis report and Chain of Custody record are attached (Attachment B). Cumulative results of laboratory analyses of groundwater samples are summarized in Table 1. The results of analyses of groundwater samples collected during the recent sampling event are shown on Plate 2.

LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental 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.

ERI recommends forwarding copies of this report to:

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

Mr. Stephen Hill
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Please call Mr. James Chappell, ERI's project manager for this site, at (415) 382-4323, with any questions regarding this project.

Sincerely,
Environmental Resolutions, Inc.

James F. Chappell
Senior Staff Scientist

Mark S. Dockum
R.G. 4412
C.E.G. 1675

Attachments: Table 1: Cumulative Groundwater Monitoring and Sampling Data

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

Attachment A: Groundwater Sampling Protocol
Attachment B: Laboratory Analysis Report and Chain of Custody Record

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Exxon Service Station 7-0238
2200 East 12th Street
Oakland, California

Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPPHg	MTBE	B	T	E	X
		<	feet	>	<		ug/L			>
MW9A	11/2/95	NLPH	7.16	4.30	<50	<10	<0.5	<0.5	<0.5	<0.5
(11.46)	4/26/96	NLPH	6.33	5.13	---	---	---	---	---	---
	8/22/96	NLPH	7.02	4.44	---	---	---	---	---	---
	2/24/97	---	---	---	---	---	---	---	---	---
	3/16/98	NLPH	6.14	5.32	<200	40,000	7.9	<2.0	<2.0	<2.0
	4/21/98	NLPH	6.29	5.17	<50	53,000	3.8	<0.5	<0.5	<0.5
Resurvey (14.53)	7/22/98	NLPH	6.58	7.95	<250	18,000	<2.5	<2.5	<2.5	<2.5
	12/22/98	NLPH	6.47	8.06	<50	5,200	<0.5	<0.5	<0.5	<0.5
	2/26/99	NLPH	6.38	8.15	<100	10,000	<1.0	<1.0	<1.0	<1.0
	5/27/99**	NLPH	6.56	7.97	<5,000	15,300	<50	<50	<50	<50
	8/3/99	NLPH	9.39	5.14	<50	<2.5	<0.5	<0.5	<0.5	<0.5
	12/3/99	**NLPH**	**6.52**	**8.01**	**<50**	**1,400**	**<0.5**	**<0.5**	**<0.5**	**0.67[A]**
MW9B	11/2/95	NLPH	6.14	3.66	130	<10	3.3	<0.5	<0.5	<0.5
(9.80)	4/26/96	NLPH	5.66	4.14	270	70	130	2.8	6.7	<3
	8/22/96	NLPH	6.16	3.64	210	31	5.7	6.8	1.1	9.2
	2/24/97	NLPH	5.58	4.22	1,400	1,300	76	1.4	4.1	1.2
	3/16/98	NLPH	5.32	4.48	860	1,500	140	2.0	11	<2.0
	4/21/98	NLPH	5.49	4.31	1,800	18,000	300	<5.0	7.9	<5.0
Resurvey (12.83)	7/22/98	NLPH	5.79	7.04	<500	26,000	13	<5.0	<5.0	<5.0
	12/22/98	NLPH	5.69	7.14	700	21,000	110	3.1	9.1	14
	2/26/99	NLPH	5.10	7.73	8,800	8,000	2,000	<25	52	38
	5/18/99	NLPH	5.65	7.18	<10,000	42,100	158	<100	<100	<100
	8/3/99	NLPH	6.24	6.59	960	24,900	<5.0	<5.0	<5.0	<5.0
	12/3/99	**NLPH**	**5.66**	**7.17**	**<50**	**1,000**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW9C	11/2/95	---	---	---	---	---	---	---	---	---
(11.14)	4/26/96	---	---	---	---	---	---	---	---	---
	8/22/96	---	---	---	---	---	---	---	---	---
	2/24/97	---	---	---	---	---	---	---	---	---
	3/16/98	NLPH	5.51	5.63	<500	150,000	24	<5.0	<5.0	<5.0
	4/21/98	NLPH	5.83	5.31	150	130,000/150,000*	<0.5	<0.5	<0.5	<0.5
(14.19)	7/22/98	NLPH	6.43	7.76	<500	95,000	<5.0	<5.0	<5.0	<5.0
	12/22/98	NLPH	6.16	8.03	<500	84,000	<5.0	<5.0	<5.0	<5.0
	2/26/99	NLPH	5.46	8.73	<250	55,000	<2.5	<2.5	<2.5	<2.5
	5/18/99	NLPH	6.27	7.92	<25,000	68,900	<250	<250	<250	<250
	8/3/99	NLPH	7.13	7.06	210	69,200	<1.0	1.3	<1.0	<1.0
	12/3/99	**NLPH**	**6.17**	**8.02**	**290**	**50,000**	**<2.5**	**<2.5**	**<2.5**	**<2.5**

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Exxon Service Station 7-0238
2200 East 12th Street
Oakland, California

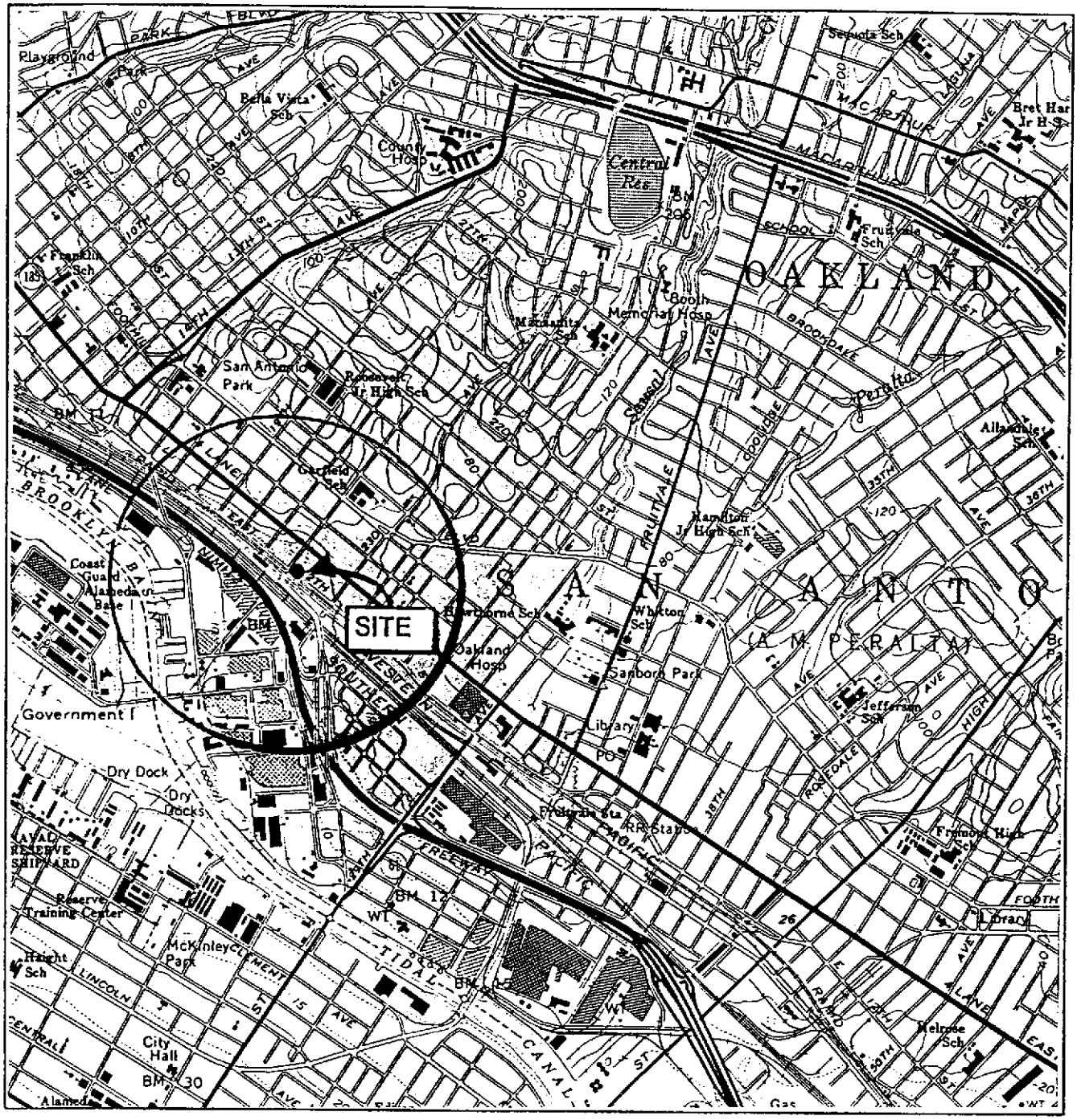
Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPPHg	MTBE	B	T	E	X
		<	feet	>	<		ug/L			>
MW9D	11/2/95	---	---	---	---	---	---	---	---	---
(12.90)	4/26/96	---	--	--	---	---	---	---	---	---
	8/22/96	---	---	---	---	---	---	---	---	---
	2/24/97	---	---	---	---	---	---	---	---	---
	3/16/98	NLPH	6.94	5.96	<50	10	<0.5	<0.5	<0.5	<0.5
	4/21/98	NLPH	7.22	5.68	<50	12	<0.5	<0.5	<0.5	<0.5
(15.98)	7/22/98	NLPH	7.85	8.13	<50	13	<0.5	<0.5	<0.5	<0.5
	12/22/98	NLPH	7.58	8.40	<50	12	<0.5	<0.5	<0.5	<0.5
	2/26/99	NLPH	6.42	9.56	<50	310	<0.5	<0.5	<0.5	<0.5
	5/18/99	NLPH	6.55	9.43	<2,500	13,500 ??	<25	<25	<25	<25
	8/3/99	NLPH	8.34	7.64	<50	<2.5	<0.5	<0.5	<0.5	<0.5
	12/3/99	**NLPH**	**7.56**	**8.42**	**<50**	**<2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW9F	11/2/95	---	---	---	---	---	---	---	---	---
(8.37)	4/26/96	NLPH	---	---	<50	57	<0.5	<0.5	<0.5	<0.5
	8/22/96	NLPH	---	---	<50	5.8	<0.5	<0.5	<0.5	<0.5
	2/24/97	NLPH	---	---	<50	<30	<0.5	<0.5	<0.5	<0.5
	3/16/98	NLPH	---	---	---	---	---	---	---	---
	4/21/98	---	---	---	---	---	---	---	---	---
(11.38)	7/22/98	---	---	---	---	---	---	---	---	---
	12/22/98	NLPH	5.47	5.91	<50	81	<0.5	<0.5	<0.5	<0.5
	2/26/99	NLPH	5.35	6.03	<50	<2.5	<0.5	<0.5	<0.5	<0.5
	5/18/99	NLPH	5.62	5.76	<50	61.6	<0.5	<0.5	<0.5	<0.5
	8/3/99	NLPH	6.32	5.06	<50	3.10	<0.5	<0.5	<0.5	<0.5
	12/3/99	**NLPH**	**5.59**	**5.79**	**<50**	**<2**	**<0.5**	**<0.5**	**0.71**	**<0.5**
MW9G	11/2/95	NLPH	5.92	4.03	<50	<10	<0.5	<0.5	<0.5	<0.5
(9.95)	4/26/96	NLPH	5.28	4.67	<50	18	<0.5	<0.5	<0.5	<0.5
	8/22/96	NLPH	5.57	4.38	<50	18	<0.5	<0.5	<0.5	<0.5
	2/24/97	NLPH	5.30	4.65	<50	240	<0.5	0.57	<0.5	0.62
	3/16/98	---	---	---	---	---	---	---	---	---
	4/21/98	---	---	---	---	---	---	---	---	---
(12.99)	7/22/98	---	---	---	---	---	---	---	---	---
	12/22/98	NLPH	5.28	7.71	<50	1,100	<0.5	<0.5	<0.5	<0.5
	2/26/99	NLPH	5.31	7.68	<50	50	<0.5	<0.5	<0.5	<0.5
	5/18/99	NLPH	5.18	7.81	<1,000	3,990	<10	<10	<10	<10
	8/3/99	NLPH	6.00	6.99	<50	1,340	<0.5	<0.5	<0.5	<0.5
	12/3/99	**NLPH**	**5.27**	**7.72**	**<50**	**<2**	**<0.5**	**<0.5**	**<0.5**	**0.55[A]**

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Exxon Service Station 7-0238
2200 East 12th Street
Oakland, California

Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPPHg	MTBE	B	T	E	X
		<	feet	>	<	ug/L				>
MW9H	11/2/95	NLPH	8.40	0.18	<50	<10	<0.5	<0.5	<0.5	<0.5
(8.58)	4/26/96	NLPH	8.05	0.53	---	---	---	---	---	---
	8/22/96	NLPH	8.17	0.41	---	---	---	---	---	---
	2/24/97	---	---	---	---	---	---	---	---	---
	3/16/98	---	---	---	---	---	---	--	---	---
	4/21/98	---	---	---	---	---	---	---	---	---
(11.61)	7/22/98	---	---	---	---	---	---	---	---	---
	12/22/98	NLPH	7.81	3.80	<50	<2.5	<0.5	<0.5	<0.5	<0.5
	2/26/99	NLPH	7.61	4.00	<50	<2.5	<0.5	<0.5	<0.5	<0.5
	5/18/99	NLPH	8.00	3.61	<50	3.98	<0.5	<0.5	<0.5	<0.5
	8/3/99	NLPH	6.05	5.56	<50	<2.5	<0.5	<0.5	<0.5	<0.5
	12/3/99	**NLPH**	**5.32**	**6.29**	**<50**	**<2**	**<0.5**	**<0.5**	**<0.5**	**0.57[A]**
MW9I	11/2/95	NLPH	6.04	4.07	<50	<10	<0.5	<0.5	<0.5	<0.5
(10.11)	4/26/96	NLPH	5.27	4.84	<50	99	<0.5	<0.5	<0.5	<0.5
	8/22/96	NLPH	5.66	4.45	<50	170	<0.5	<0.5	<0.5	<0.5
	2/24/97	NLPH	5.24	4.87	120	9,100	<0.5	<0.5	<0.5	<0.5
	3/16/98	NLPH	4.91	5.20	<200	59,000	13	<2.0	<2.0	<2.0
	4/21/98	NLPH	5.08	5.03	<500	59,000	<5.0	<5.0	<5.0	<5.0
(13.14)	7/22/98	NLPH	5.44	7.70	<500	62,000	<5.0	<5.0	<5.0	<5.0
	12/22/98	NLPH	5.32	7.82	200	51,000	1.7	<0.5	<0.5	<0.5
	2/26/99	NLPH	4.71	8.43	<500	9,700	<5.0	<5.0	<5.0	<5.0
	5/18/99	NLPH	5.30	7.84	<1,000	3,730	<10	<10	<10	<10
	8/3/99	NLPH	5.98	7.16	<50	21,900	<0.5	0.650	<0.5	<0.5
	12/3/99	**NLPH**	**5.31**	**7.83**	**<250**	**2,000**	**3.9**	**2.9**	**<2.5**	**14**

Notes:

SUBJ	=	Results of subjective evaluation.
NLPH	=	No liquid-phase hydrocarbons present in well.
TOC	=	Elevation of top of well casing; relative to mean sea level.
DTW	=	Depth to water.
Elev.	=	Elevation of groundwater surface; relative to mean sea level.
TPPHg	=	Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 5030/8015 (modified).
MTBE	=	Methyl tertiary butyl ether analyzed using EPA method 8021B.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA method 8021B.
<	=	Less than the indicated detection limit shown by the laboratory.
---	=	Not measured or sampled.
*	=	MTBE confirmed using EPA method 8260.
**	=	Miscalculation in field. Field technician may have inadvertently monitored and sampled the wrong well. Resampled 5/27/99.
[A]	=	Analyte detected in the associated Trip Blank at 0.52 ug/L.



FN: 22930001

EXPLANATION

Source: U.S.G.S. 7.5 minute topographic quadrangle map Oakland East, California (Photorevised 1980)

N

APPROXIMATE SCALE

0 1/2 1

MILE

ERI ENVIRONMENTAL RESOLUTIONS, INC.

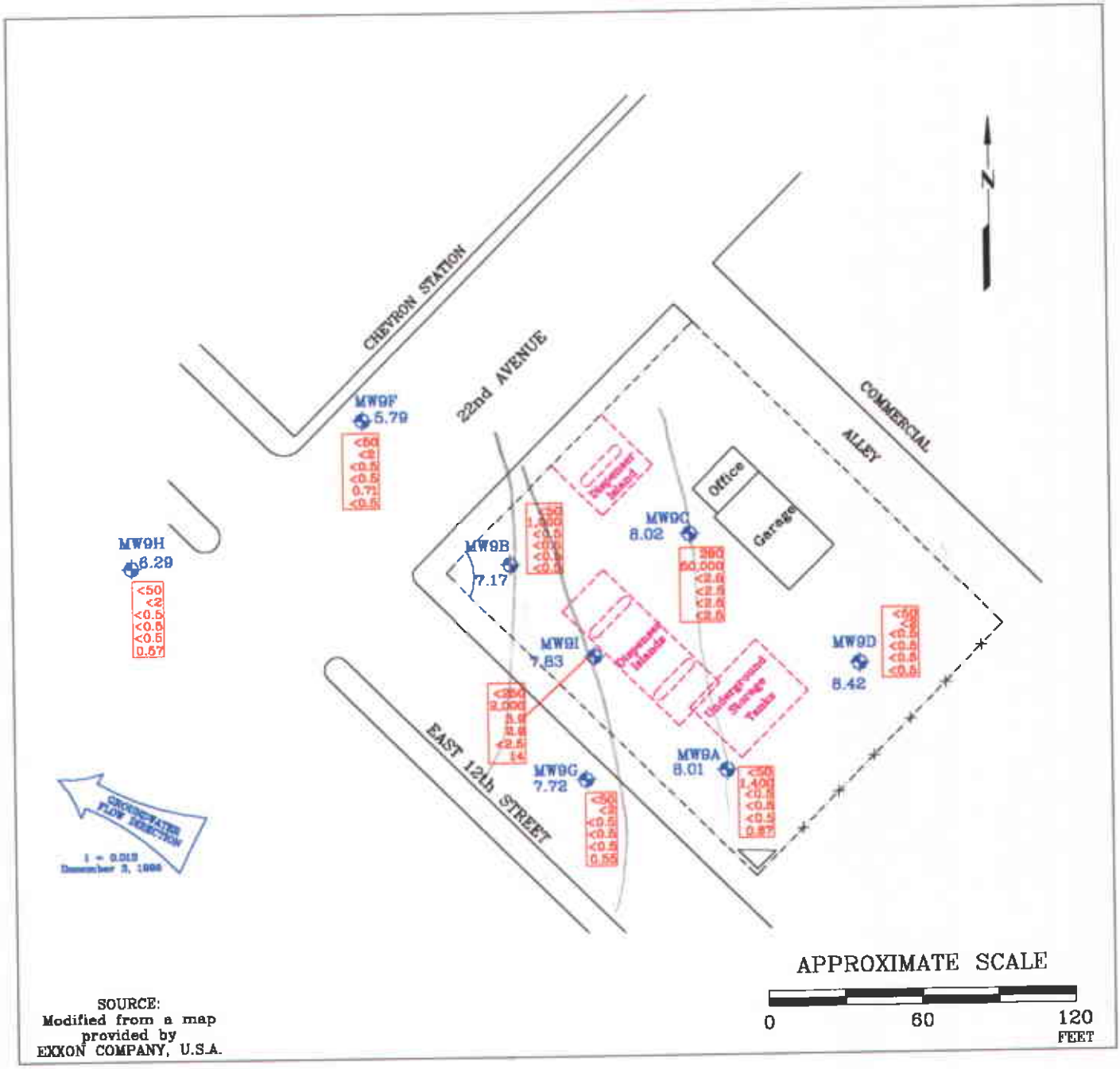
PROJECT ERI 2293

SITE VICINITY MAP

EXXON SERVICE STATION 7-0238
2200 East 12th Street
Oakland, California

PLATE

1



SOURCE:
Modified from a map provided by
EXXON COMPANY, U.S.A.

FN 22930002

EXPLANATION

MW9I — Groundwater Monitoring Well

7.83 — Groundwater elevation in feet above mean sea level

i = — Interpreted Groundwater Gradient

Groundwater Concentrations in ug/L
Sampled December 3, 1999

290	Total Purgeable Petroleum Hydrocarbons as gasoline
60,000	Methyl Tertiary Butyl Ether — 8021
<2.5	Benzene
<2.5	Toluene
<2.5	Ethylbenzene
<2.5	Total Xylenes

ug/L — Micrograms per Liter (ug/L)

< — Less Than the Stated Laboratory Detection Level

ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

EXXON SERVICE STATION 7-0238
2200 East 12th Street
Oakland, California

PROJECT NO. 2293

PLATE 2

December 15, 1999

ATTACHMENT A

GROUNDWATER SAMPLING PROTOCOL

BLAINE TECH SERVICES, INC.
METHODS AND PROCEDURES
FOR THE ROUTINE MONITORING OF
GROUNDWATER WELLS AT EXXON STATIONS

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. We specialize in groundwater monitoring assignments and intentionally limit the scope of our services to those centered on the generation of objective information.

To avoid conflicts of interest, Blaine Tech Services, Inc. personnel do not evaluate or interpret the information we collect. As a state licensed contractor (C-57 well drilling –water – 746684) performing strictly technical services, we do not make any professional recommendations and perform no consulting of any kind.

SAMPLING PROCEDURES OVERVIEW

SAFETY

All groundwater monitoring assignments performed for Exxon comply with Exxon's safety guidelines, 29 CFR 1910.120 and SB-198 Injury and Illness Prevention Program (IIPP). All Field Technicians receive the full 40 hour 29CFR 1910.120 OSHA SARA HAZWOPER course, medical clearance and on-the-job training prior to commencing any work on any Exxon site.

INSPECTION AND GAUGING

Wells are inspected prior to evacuation and sampling. The condition of the wellhead is checked and noted according to a wellhead inspection checklist.

Standard measurements include the depth to water (DTW) and the total well depth (TD) obtained with industry standard electronic sounders which are graduated in increments of hundredths of a foot.

The water in each well is inspected for the presence of Immiscibles or sheen and when free product is suspected, it is confirmed using an electronic interface probe (e.g. MMC). If sheen or product is found in a well, the Project Coordinator notifies the appropriate party (e.g. Exxon employee or consultant).

No samples are collected from a well containing sheen or product.

EVACUATION

Depth to water measurements are collected by our personnel prior to purging and minimum purge volumes are calculated anew for each well based on the height of the water column and the diameter of the well. Expected purge volumes are never less than three case volumes and

are set at no less than four case volumes in some jurisdictions.

Well purging devices are selected on the basis of the well diameter and the total volume to be evacuated. In most cases the well will be purged using an electric submersible pump (i.e. Grundfos) suspended near (but not touching) the bottom of the well. Small volumes of purgewater are often removed by hand bailing with a disposable bailer.

PARAMETER STABILIZATION

Well purging completion standards include minimum purge volumes, but additionally require stabilization of specific groundwater parameters prior to sample collection. Typical groundwater parameters used to measure stability are electrical conductivity, pH, and temperature. Instrument readings are obtained at regular intervals during the evacuation process (no less than once per case volume).

Stabilization standards for routine quarterly monitoring of fuel sites include the following: Temperature is considered to have stabilized when successive readings do not fluctuate more than +/- 1 degree Celsius. Electrical conductivity is considered stable when successive readings are within 10%. pH is considered to be stable when successive readings remain constant or vary no more than 0.2 of a pH unit.

DEWATERED WELLS

Normal evacuation removes no less than three case volumes of water from the well. However, less water may be removed in cases where the well dewaters and does not recharge.

Wells known to dewater are evacuated as early as possible during each site visit in order to allow for the greatest amount of recovering. Any well that does not recharge to 80% of its original volume will be sampled prior to the departure of our personnel from the site in order to eliminate the need of a return visit.

In jurisdictions where a certain percentage of recovery is included in the local completion standard, our personnel follow the regulatory expectation.

PURGEWATER CONTAINMENT

All non-hazardous purgewater evacuated from each groundwater monitoring well is captured and contained in on-board storage tanks on the Sampling Vehicle and/or special water hauling trailers. Effluent from the decontamination of reusable apparatus (sounders, electric pumps and hoses etc.), consisting of groundwater combined with deionized water and non-phosphate soap, is also captured and pumped into effluent tanks.

Non hazardous purgewater is transported under standard Bill of Lading documentation to a Blaine Tech Services, Inc. facility before being transported to an Exxon approved disposal facility (e.g. Romic Environmental Technologies Corporation in East Palo Alto, California).

SAMPLE COLLECTION DEVICES

All samples are collected using a disposable bailer.

SAMPLE CONTAINERS

Sample material is decanted directly from the sampling bailer into sample containers provided by the laboratory which will analyze the samples. The transfer of sample material from the bailer to the sample container conforms to specifications contained in the USEPA T.E.G.D. The type of sample container, material of construction, method of closure and filling requirements are specific to the intended analysis. Chemicals needed to preserve the sample material are commonly placed inside the sample containers by the laboratory or glassware vendor prior to delivery of the bottle to our personnel. The laboratory sets the number of replicate containers.

TRIP BLANKS

A Trip Blank is carried to each site and is kept inside the cooler for the duration of the sampling event. It is turned over to the laboratory for analysis with the samples from that site.

SAMPLE STORAGE

All sample containers are promptly placed in food grade ice chests for storage in the field and transport (direct or via our facility) to the analytical laboratory that will perform the intended analytical procedures. These ice chests contain quantities of restaurant grade ice as a refrigerant material. The samples are maintained in either an ice chest or a refrigerator until relinquished into the custody of the laboratory or laboratory courier.

DOCUMENTATION CONVENTIONS

Each and every sample container has a label affixed to it. In most cases these labels are generated by our office personnel and are partially preprinted. Labels can also be hand written by our field personnel. The site is identified with the station number and site address, as is the particular groundwater well from which the sample is drawn (e.g. MW-1, MW-2, S-1 etc.). The time at which the sample was collected and the initials of the person collecting the sample are handwritten onto the label.

Chain of Custody records are created using client specific preprinted forms following USEPA specifications.

Bill of Lading records are contemporaneous records created in the field at the site where the non-hazardous purgewater is generated. Field Technicians use preprinted Bill of Lading forms.

DECONTAMINATION

All equipment is brought to the site in clean and serviceable condition and is cleaned after use in each well and before subsequent use in any other well. Equipment is decontaminated before

leaving the site.

The primary decontamination device is a commercial steam cleaner. The steam cleaner is de-tuned to function as a hot pressure washer which is then operated with high quality deionized water which is produced at our facility and stored onboard our sampling vehicle. Cleaning is facilitated by the use of proprietary fixtures and devices included in the patented workstation (U.S. Patent 5,535,775) that is incorporated in each sampling vehicle. The steam cleaner is used to decon reels, pumps and bailers.

Any sensitive equipment or parts (i.e. Dissolved Oxygen sensor membrane, sounder etc.) that cannot be washed using the hot high pressure water, will be sprayed with a non-phosphate soap and deionized water solution and rinsed with deionized water.

EXAMPLE: The sounder is cleaned between wells using the non-phosphate soap and deionized water solution followed by deionized water rinses. The sounder is then washed with the steam cleaner between sites or as necessitated by use in a particularly contaminated well.

DISSOLVED OXYGEN READINGS

All Dissolved Oxygen readings are taken using YSI meters (e.g. YSI Model 58 or equivalent YSI meter). These meters are equipped with a YSI stirring device that enables them to collect accurate in-situ readings. The probe/stirring devices are modified to allow downhole measurements to be taken from wells as small as two-inch diameter.

The probe and reel is decontaminated between wells as described above. The meter is calibrated between wells as per the instructions in the operating manual. The probe and stirrer is lowered into the water column allowed to stabilize before use.

OXYIDATON REDUCTION POTENTIAL READINGS

All readings are obtained with either Corning or Myron-L meters (e.g. Corning ORP-65 or a Myron-L Ultrameter GP). The meter is cleaned between wells as described above. The meter is calibrated at the start of each day according to the instruction manual. In use the probe is placed in a cup of freshly obtained monitoring well water and allowed to stabilize.

ATTACHMENT B

LABORATORY ANALYSIS REPORT AND CHAIN OF CUSTODY RECORD

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Case Narrative for:

EXXON Company U.S.A.

Certificate of Analysis Number:

99120161

Report To:		Project Name:	2293	
Environmental Resolution, Inc.		Site:	7-0238,19900938	
Jim Chappell		Site Address:	2200 E. 12th Street	
73 Digital Drive Suite 100			Oakland	CA
Novato		PO Number:		
California		State:	California	
94949-		State Cert. No.:	1903	
ph: (415) 382-9105	fax: (415) 382-1856	Date Reported:		

Any data flags or quality control exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Anna West

12/17/99

for: Wyatt, Neaundra
Project Manager

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

EXXON Company U.S.A.

Certificate of Analysis Number:

99120161

Report To:	Environmental Resolution, Inc. Jim Chappell 73 Digital Drive Suite 100 Novato California 94949- ph: (415) 382-9105 fax: (415) 382-1856	**Project Name:**	2293
		Site:	7-0238,19900938
		Site Address:	2200 E. 12th Street Oakland CA
		PO Number:	
		State:	California
		State Cert. No.:	1903
Fax To:	*Environmental Resolution, Inc.* *Jim Chappell* *fax: (415) 382-1856*	**Date Reported:**	

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW9A	99120161-01	Water	12/3/99 11:54:00 AM	12/7/99 10:00:00 AM	991203-S1	☐
MW9B	99120161-02	Water	12/3/99 1:10:00 PM	12/7/99 10:00:00 AM	991203-S1	☐
MW9C	99120161-03	Water	12/3/99 12:23:00 PM	12/7/99 10:00:00 AM	991203-S1	☐
MW9D	99120161-04	Water	12/3/99 10:52:00 AM	12/7/99 10:00:00 AM	991203-S1	☐
MW9F	99120161-05	Water	12/3/99 10:30:00 AM	12/7/99 10:00:00 AM	991203-S1	☐
MW9G	99120161-06	Water	12/3/99 11:22:00 AM	12/7/99 10:00:00 AM	991203-S1	☐
MW9H	99120161-07	Water	12/3/99 9:52:00 AM	12/7/99 10:00:00 AM	991203-S1	☐
MW9I	99120161-08	Water	12/3/99 12:43:00 PM	12/7/99 10:00:00 AM	991203-S1	☐
TB 12/03/99	99120161-09	Trip Blank	12/3/99	12/7/99 10:00:00 AM	991203-S1	☐

12/17/99

Wyatt, Neaundra
Project Manager

Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: MW9A **Collected:** 12/3/99 11:54:00 **SPL Sample ID:** 99120161-01

Site: 7-0238,19900938

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			**MCL**	**CA_GRO**		**Units: ug/L**		
Gasoline Range Organics	ND		50	1		12/09/99 1:29	D_R	126039
Surr: 1,4-Difluorobenzene	95	%	62-144	1		12/09/99 1:29	D_R	126039
Surr: 4-Bromofluorobenzene	110	%	44-153	1		12/09/99 1:29	D_R	126039
PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		0.5	1		12/09/99 1:29	D_R	125857
Ethylbenzene	ND		0.5	1		12/09/99 1:29	D_R	125857
Methyl tert-butyl ether	1400		20	10		12/10/99 0:49	D_R	127092
Toluene	ND		0.5	1		12/09/99 1:29	D_R	125857
m,p-Xylene	0.67		0.5	1		12/09/99 1:29	D_R	125857
o-Xylene	ND		0.5	1		12/09/99 1:29	D_R	125857
Xylenes,Total	0.67		0.5	1		12/09/99 1:29	D_R	125857
Surr: 1,4-Difluorobenzene	97	%	72-137	10		12/10/99 0:49	D_R	127092
Surr: 1,4-Difluorobenzene	96	%	72-137	1		12/09/99 1:29	D_R	125857
Surr: 4-Bromofluorobenzene	92	%	48-156	10		12/10/99 0:49	D_R	127092
Surr: 4-Bromofluorobenzene	100	%	48-156	1		12/09/99 1:29	D_R	125857

Neaundra Wyatt

Wyatt, Neaundra
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: MW9B **Collected:** 12/3/99 1:10:00 **SPL Sample ID:** 99120161-02

Site: 7-0238,19900938

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			**MCL**	**CA_GRO**		**Units: ug/L**		
Gasoline Range Organics	ND		50	1		12/09/99 1:56	D_R	126040
Surr: 1,4-Difluorobenzene	96	%	62-144	1		12/09/99 1:56	D_R	126040
Surr: 4-Bromofluorobenzene	110	%	44-153	1		12/09/99 1:56	D_R	126040
PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		0.5	1		12/09/99 1:56	D_R	125858
Ethylbenzene	ND		0.5	1		12/09/99 1:56	D_R	125858
Methyl tert-butyl ether	1000		20	10		12/10/99 1:16	D_R	127093
Toluene	ND		0.5	1		12/09/99 1:56	D_R	125858
m,p-Xylene	ND		0.5	1		12/09/99 1:56	D_R	125858
o-Xylene	ND		0.5	1		12/09/99 1:56	D_R	125858
Xylenes,Total	ND		0.5	1		12/09/99 1:56	D_R	125858
Surr: 1,4-Difluorobenzene	96	%	72-137	10		12/10/99 1:16	D_R	127093
Surr: 1,4-Difluorobenzene	97	%	72-137	1		12/09/99 1:56	D_R	125858
Surr: 4-Bromofluorobenzene	100	%	48-156	10		12/10/99 1:16	D_R	127093
Surr: 4-Bromofluorobenzene	98	%	48-156	1		12/09/99 1:56	D_R	125858

Neaundra Wyatt

Wyatt, Neaundra
Project Manager

Qualifiers:
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Client Sample ID: MW9C **Collected:** 12/3/99 12:23:00 **SPL Sample ID:** 99120161-03

Site: 7-0238,19900938

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				**MCL**	**CA_GRO**		**Units: ug/L**		
Gasoline Range Organics	290		250		5		12/09/99 18:52	D_R	127106
Surr: 1,4-Difluorobenzene	110	%	62-144		5		12/09/99 18:52	D_R	127106
Surr: 4-Bromofluorobenzene	110	%	44-153		5		12/09/99 18:52	D_R	127106
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		2.5		5		12/09/99 18:52	D_R	127085
Ethylbenzene	ND		2.5		5		12/09/99 18:52	D_R	127085
Methyl tert-butyl ether	50000		250		250		12/13/99 12:46	D_R	129177
Toluene	ND		2.5		5		12/09/99 18:52	D_R	127085
m,p-Xylene	ND		2.5		5		12/09/99 18:52	D_R	127085
o-Xylene	ND		2.5		5		12/09/99 18:52	D_R	127085
Xylenes,Total	ND		2.5		5		12/09/99 18:52	D_R	127085
Surr: 1,4-Difluorobenzene	93	%	72-137		250		12/13/99 12:46	D_R	129177
Surr: 1,4-Difluorobenzene	96	%	72-137		5		12/09/99 18:52	D_R	127085
Surr: 4-Bromofluorobenzene	97	%	48-156		250		12/13/99 12:46	D_R	129177
Surr: 4-Bromofluorobenzene	100	%	48-156		5		12/09/99 18:52	D_R	127085

Wyatt, Neaundra
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
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>MCL - Result Over Maximum Contamination Limit(MCL)
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8880 INTERCHANGE DRIVE
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Client Sample ID: MW9D **Collected:** 12/3/99 10:52:00 **SPL Sample ID:** 99120161-04

Site: 7-0238,19900938

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			**MCL**	**CA_GRO**		**Units: ug/L**		
Gasoline Range Organics	ND		50	1		12/09/99 23:54	D_R	127123
Surr: 1,4-Difluorobenzene	96	%	62-144	1		12/09/99 23:54	D_R	127123
Surr: 4-Bromofluorobenzene	120	%	44-153	1		12/09/99 23:54	D_R	127123
PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		0.5	1		12/09/99 23:54	D_R	127091
Ethylbenzene	ND		0.5	1		12/09/99 23:54	D_R	127091
Methyl tert-butyl ether	ND		2	1		12/09/99 23:54	D_R	127091
Toluene	ND		0.5	1		12/09/99 23:54	D_R	127091
m,p-Xylene	ND		0.5	1		12/09/99 23:54	D_R	127091
o-Xylene	ND		0.5	1		12/09/99 23:54	D_R	127091
Xylenes,Total	ND		0.5	1		12/09/99 23:54	D_R	127091
Surr: 1,4-Difluorobenzene	93	%	72-137	1		12/09/99 23:54	D_R	127091
Surr: 4-Bromofluorobenzene	98	%	48-156	1		12/09/99 23:54	D_R	127091

Wyatt, Neaundra
Project Manager

Qualifiers:
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D - Surrogate Recovery Unreportable due to Dilution

HOUSTON LABORATORY
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HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: MW9F **Collected:** 12/3/99 10:30:00 **SPL Sample ID:** 99120161-05

Site: 7-0238,19900938

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				**MCL**	**CA_GRO**		**Units: ug/L**		
Gasoline Range Organics	ND		50		1		12/09/99 18:24	D_R	127105
Surr: 1,4-Difluorobenzene	95	%	62-144		1		12/09/99 18:24	D_R	127105
Surr: 4-Bromofluorobenzene	120	%	44-153		1		12/09/99 18:24	D_R	127105
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		0.5		1		12/09/99 18:24	D_R	127084
Ethylbenzene	0.71		0.5		1		12/09/99 18:24	D_R	127084
Methyl tert-butyl ether	ND		2		1		12/09/99 18:24	D_R	127084
Toluene	ND		0.5		1		12/09/99 18:24	D_R	127084
m,p-Xylene	ND		0.5		1		12/09/99 18:24	D_R	127084
o-Xylene	ND		0.5		1		12/09/99 18:24	D_R	127084
Xylenes,Total	ND		0.5		1		12/09/99 18:24	D_R	127084
Surr: 1,4-Difluorobenzene	96	%	72-137		1		12/09/99 18:24	D_R	127084
Surr: 4-Bromofluorobenzene	100	%	48-156		1		12/09/99 18:24	D_R	127084

Wyatt, Neaundra
Project Manager

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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
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Client Sample ID: MW9G **Collected:** 12/3/99 11:22:00 **SPL Sample ID:** 99120161-06

Site: 7-0238,19900938

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			**MCL**	**CA_GRO**		**Units: ug/L**		
Gasoline Range Organics	ND		50	1		12/09/99 19:19	D_R	127113
Surr: 1,4-Difluorobenzene	95	%	62-144	1		12/09/99 19:19	D_R	127113
Surr: 4-Bromofluorobenzene	120	%	44-153	1		12/09/99 19:19	D_R	127113
PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		0.5	1		12/11/99 13:29	D_R	128100
Ethylbenzene	ND		0.5	1		12/11/99 13:29	D_R	128100
Methyl tert-butyl ether	ND		2	1		12/11/99 13:29	D_R	128100
Toluene	ND		0.5	1		12/11/99 13:29	D_R	128100
m,p-Xylene	0.55		0.5	1		12/11/99 13:29	D_R	128100
o-Xylene	ND		0.5	1		12/11/99 13:29	D_R	128100
Xylenes,Total	0.55		0.5	1		12/11/99 13:29	D_R	128100
Surr: 1,4-Difluorobenzene	110	%	72-137	1		12/11/99 13:29	D_R	128100
Surr: 4-Bromofluorobenzene	100	%	48-156	1		12/11/99 13:29	D_R	128100

Wyatt, Neaundra
Project Manager

Qualifiers:
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J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: MW9H **Collected:** 12/3/99 9:52:00 **SPL Sample ID:** 99120161-07

Site: 7-0238,19900938

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			**MCL**	**CA_GRO**		**Units: ug/L**		
Gasoline Range Organics	ND		50	1		12/09/99 19:46	D_R	127120
Surr: 1,4-Difluorobenzene	94	%	62-144	1		12/09/99 19:46	D_R	127120
Surr: 4-Bromofluorobenzene	120	%	44-153	1		12/09/99 19:46	D_R	127120
PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		0.5	1		12/11/99 13:56	D_R	128101
Ethylbenzene	ND		0.5	1		12/11/99 13:56	D_R	128101
Methyl tert-butyl ether	ND		2	1		12/11/99 13:56	D_R	128101
Toluene	ND		0.5	1		12/11/99 13:56	D_R	128101
m,p-Xylene	0.57		0.5	1		12/11/99 13:56	D_R	128101
o-Xylene	ND		0.5	1		12/11/99 13:56	D_R	128101
Xylenes,Total	0.57		0.5	1		12/11/99 13:56	D_R	128101
Surr: 1,4-Difluorobenzene	100	%	72-137	1		12/11/99 13:56	D_R	128101
Surr: 4-Bromofluorobenzene	110	%	48-156	1		12/11/99 13:56	D_R	128101

Wyatt, Neaundra
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
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J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: MW9I **Collected:** 12/3/99 12:43:00 **SPL Sample ID:** 99120161-08

Site: 7-0238,19900938

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS				**MCL**	**CA_GRO**	**Units: ug/L**		
Gasoline Range Organics	ND		250	5		12/09/99 20:14	D_R	127121
Surr: 1,4-Difluorobenzene	95	%	62-144	5		12/09/99 20:14	D_R	127121
Surr: 4-Bromofluorobenzene	110	%	44-153	5		12/09/99 20:14	D_R	127121
PURGEABLE AROMATICS				**MCL**	**SW8021B**	**Units: ug/L**		
Benzene	3.9		2.5	5		12/09/99 20:14	D_R	127086
Ethylbenzene	ND		2.5	5		12/09/99 20:14	D_R	127086
Methyl tert-butyl ether	2000		10	5		12/09/99 20:14	D_R	127086
Toluene	2.9		2.5	5		12/09/99 20:14	D_R	127086
m,p-Xylene	7.3		2.5	5		12/09/99 20:14	D_R	127086
o-Xylene	6.7		2.5	5		12/09/99 20:14	D_R	127086
Xylenes,Total	14		2.5	5		12/09/99 20:14	D_R	127086
Surr: 1,4-Difluorobenzene	97	%	72-137	5		12/09/99 20:14	D_R	127086
Surr: 4-Bromofluorobenzene	91	%	48-156	5		12/09/99 20:14	D_R	127086

Neaundra Wyatt

Wyatt, Neaundra
Project Manager

Qualifiers:
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B - Analyte detected in the associated Method Blank
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J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Client Sample ID: TB 12/03/99 **Collected:** 12/3/99 **SPL Sample ID:** 99120161-09

Site: 7-0238,19900938

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
GASOLINE RANGE ORGANICS			**MCL**	**CA_GRO**		**Units: ug/L**		
Gasoline Range Organics	ND		50	1		12/09/99 17:56	D_R	127104
Surr: 1,4-Difluorobenzene	95	%	62-144	1		12/09/99 17:56	D_R	127104
Surr: 4-Bromofluorobenzene	120	%	44-153	1		12/09/99 17:56	D_R	127104
PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		0.5	1		12/09/99 17:56	D_R	127083
Ethylbenzene	ND		0.5	1		12/09/99 17:56	D_R	127083
Methyl tert-butyl ether	ND		2	1		12/09/99 17:56	D_R	127083
Toluene	ND		0.5	1		12/09/99 17:56	D_R	127083
m,p-Xylene	0.52		0.5	1		12/09/99 17:56	D_R	127083
o-Xylene	ND		0.5	1		12/09/99 17:56	D_R	127083
Xylenes,Total	0.52		0.5	1		12/09/99 17:56	D_R	127083
Surr: 1,4-Difluorobenzene	110	%	72-137	1		12/09/99 17:56	D_R	127083
Surr: 4-Bromofluorobenzene	99	%	48-156	1		12/09/99 17:56	D_R	127083

Neaundra Wyatt

Wyatt, Neaundra
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution

Quality Control Documentation

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

2293

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 99120161
Lab Batch ID: R5900

Method Blank

RunID: VARE_991208C-132235 Units: ug/L
Analysis Date: 12/09/1999 6:03 Analyst: D_R

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
99120161-01A	MW9A
99120161-02A	MW9B

Analyte	Result	Rep Limit
Benzene	ND	0.50
Ethylbenzene	ND	0.50
Toluene	ND	0.50
m,p-Xylene	ND	0.50
o-Xylene	ND	0.50
Xylenes,Total	ND	0.50
Surr: 1,4-Difluorobenzene	104.3	72-137
Surr: 4-Bromofluorobenzene	97.2	48-156

Laboratory Control Sample (LCS)

RunID: VARE_991208C-125852 Units: ug/L
Analysis Date: 12/08/1999 21:49 Analyst: D_R

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	52	103	61	119
Ethylbenzene	50	47	94	70	118
Toluene	50	52	103	65	125
m,p-Xylene	100	92	92	72	116
o-Xylene	50	44	88	72	117
Xylenes,Total	150	136	91	72	117

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120161-01
RunID: VARE_991208C-125854 Units: ug/L
Analysis Date: 12/08/1999 23:11 Analyst: D_R

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	5.4	20	22	81.4	20	22	84.5	3.75	21	32	164
Ethylbenzene	ND	20	18	91.9	20	19	94.0	2.31	19	52	142
Toluene	3.0	20	21	90.4	20	21	89.9	0.577	20	38	159
m,p-Xylene	7.9	40	37	73.9	40	38	75.1	1.62	17	53	144
o-Xylene	ND	20	18	91.2	20	18	91.9	0.766	18	53	143

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

2293

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 99120161
Lab Batch ID: R5900

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120161-01
RunID: VARE_991208C-125854 Units: ug/L
Analysis Date: 12/08/1999 23:11 Analyst: D_R

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Xylenes,Total	7.9	60	55	78.5	60	56	80.2	2.10	18	53	144

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

HOUSTON LABORATORY
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Quality Control Report

EXXON Company U.S.A.

2293

Analysis: Gasoline Range Organics
Method: CA_GRO

WorkOrder: 99120161
Lab Batch ID: R5906

Method Blank

RunID: VARE_991208E-126035 Units: mg/L
Analysis Date: 12/08/1999 22:44 Analyst: D_R

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
99120161-01A	MW9A
99120161-02A	MW9B

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.050
Surr: 1,4-Difluorobenzene	96.3	62-144
Surr: 4-Bromofluorobenzene	122.7	44-153

Laboratory Control Sample (LCS)

RunID: VARE_991208E-126034 Units: mg/L
Analysis Date: 12/08/1999 22:16 Analyst: D_R

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.8	80	64	131

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120161-02
RunID: VARE_991208E-126037 Units: mg/L
Analysis Date: 12/09/1999 0:06 Analyst: D_R

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	0.9	0.74	81.8	0.9	0.69	76.4	6.77	36	36	160

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

HOUSTON LABORATORY
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Quality Control Report

EXXON Company U.S.A.

2293

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 99120161
Lab Batch ID: R5929

Method Blank

RunID: VARE_991209A-126526 Units: ug/L
Analysis Date: 12/09/1999 14:44 Analyst: D_R

Analyte	Result	Rep Limit
Benzene	ND	0.50
Ethylbenzene	ND	0.50
Methyl tert-butyl ether	ND	2.0
Toluene	ND	0.50
m,p-Xylene	ND	0.50
o-Xylene	ND	0.50
Xylenes,Total	ND	0.50
Surr: 1,4-Difluorobenzene	96.7	72-137
Surr: 4-Bromofluorobenzene	100.0	48-156

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
99120161-01A	MW9A
99120161-02A	MW9B
99120161-03A	MW9C
99120161-04A	MW9D
99120161-05A	MW9F
99120161-08A	MW9I
99120161-09A	TB 12/03/99

Laboratory Control Sample (LCS)

RunID: VARE_991209A-126525 Units: ug/L
Analysis Date: 12/09/1999 13:23 Analyst: D_R

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	56	112	61	119
Ethylbenzene	50	53	105	70	118
Methyl tert-butyl ether	50	51	103	72	128
Toluene	50	55	111	65	125
m,p-Xylene	100	110	109	72	116
o-Xylene	50	54	108	72	117
Xylenes,Total	150	164	109	72	117

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120161-04
RunID: VARE_991209A-126527 Units: ug/L
Analysis Date: 12/09/1999 15:11 Analyst: D_R

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	23	113	20	16	78.4	36.1*	21	32	164
Ethylbenzene	ND	20	21	103	20	15	72.7	34.0*	19	52	142
Methyl tert-butyl ether	ND	20	24	122	20	20	97.8	21.8*	20	39	150
Toluene	ND	20	21	106	20	16	77.8	31.0*	20	38	159

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

2293

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 99120161
Lab Batch ID: R5929

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120161-04
RunID: VARE_991209A-126527 Units: ug/L
Analysis Date: 12/09/1999 15:11 Analyst: D_R

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	ND	40	42	105	40	31	76.5	31.1*	17	53	144
o-Xylene	0.50	20	20	99.4	20	15	73.9	29.4*	18	53	143
Xylenes,Total	ND	60	62	103	60	46	76.7	29.6*	18	53	144

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

2293

Analysis: Gasoline Range Organics **WorkOrder:** 99120161
Method: CA_GRO **Lab Batch ID:** R5953

Method Blank

RunID: VARE_991209B-127101 Units: mg/L
Analysis Date: 12/09/1999 14:44 Analyst: D_R

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.050
Surr: 1,4-Difluorobenzene	98.3	62-144
Surr: 4-Bromofluorobenzene	117.1	44-153

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
99120161-03A	MW9C
99120161-04A	MW9D
99120161-05A	MW9F
99120161-06A	MW9G
99120161-07A	MW9H
99120161-08A	MW9I
99120161-09A	TB 12/03/99

Laboratory Control Sample (LCS)

RunID: VARE_991209B-127100 Units: mg/L
Analysis Date: 12/09/1999 14:16 Analyst: D_R

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.78	78	64	131

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120161-05
RunID: VARE_991209B-127102 Units: mg/L
Analysis Date: 12/09/1999 16:06 Analyst: D_R

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	0.9	0.84	93.5	0.9	0.72	79.7	15.9	36	36	160

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

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Quality Control Report

EXXON Company U.S.A.

2293

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 99120161
Lab Batch ID: R6008

Method Blank

RunID: VARE_991211A-128121 Units: ug/L
Analysis Date: 12/11/1999 12:34 Analyst: D_R

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
99120161-06A	MW9G
99120161-07A	MW9H

Analyte	Result	Rep Limit
Benzene	ND	0.50
Ethylbenzene	ND	0.50
Methyl tert-butyl ether	ND	2.0
Toluene	ND	0.50
m,p-Xylene	ND	0.50
o-Xylene	ND	0.50
Xylenes,Total	ND	0.50
Surr: 1,4-Difluorobenzene	98.6	72-137
Surr: 4-Bromofluorobenzene	103.6	48-156

Laboratory Control Sample (LCS)

RunID: VARE_991211A-128099 Units: ug/L
Analysis Date: 12/11/1999 11:38 Analyst: D_R

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	54	108	61	119
Ethylbenzene	50	54	107	70	118
Methyl tert-butyl ether	50	44	87	72	128
Toluene	50	55	110	65	125
m,p-Xylene	100	100	104	72	116
o-Xylene	50	49	98	72	117
Xylenes,Total	150	149	99	72	117

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120268-02
RunID: VARE_991211A-128102 Units: ug/L
Analysis Date: 12/11/1999 15:19 Analyst: D_R

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	21	107	20	20	97.8	8.91	21	32	164
Ethylbenzene	ND	20	19	97.3	20	18	88.4	9.60	19	52	142
Methyl tert-butyl ether	ND	20	21	107	20	21	106	0.672	20	39	150
Toluene	ND	20	22	109	20	19	97.5	11.2	20	38	159

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

2293

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 99120161
Lab Batch ID: R6008

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120268-02
RunID: VARE_991211A-128102 Units: ug/L
Analysis Date: 12/11/1999 15:19 Analyst: D_R

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	0.50	40	41	101	40	36	89.6	11.9	17	53	144
o-Xylene	ND	20	20	96.7	20	18	86.1	11.6	18	53	143
Xylenes,Total	ND	60	61	102	60	54	90.0	12.2	18	53	144

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

HOUSTON LABORATORY
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HOUSTON, TEXAS 77054
(713) 660-0901

Quality Control Report

EXXON Company U.S.A.

2293

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 99120161
Lab Batch ID: R6046

Method Blank

RunID: VARE_991212A-128846 Units: ug/L
Analysis Date: 12/12/1999 4:37 Analyst: D_R

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
99120161-03A	MW9C

Analyte	Result	Rep Limit
Methyl tert-butyl ether	ND	1.0
Surr: 1,4-Difluorobenzene	93.7	72-137
Surr: 4-Bromofluorobenzene	104.4	48-156

Laboratory Control Sample (LCS)

RunID: VARE_991212A-128831 Units: ug/L
Analysis Date: 12/12/1999 3:42 Analyst: D_R

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Methyl tert-butyl ether	50	47	93	72	128

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 99120255-02
RunID: VARE_991212A-128953 Units: ug/L
Analysis Date: 12/12/1999 5:04 Analyst: D_R

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Methyl tert-butyl ether	1.7	20	23	108	20	22	101	6.80	20	39	150

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
* - Recovery Outside Advisable QC Limits
D - Recovery Unreportable due to Dilution

Chain of Custody

And

Sample Receipt Checklist

EXXON COMPANY, USA. 99120161

CHAIN OF CUSTODY RECORD NO. _____ Page ____ of ____

Exxon Engineer: Gene Ortega Phone: (925) 246-8747

Consultant Co. Name: ERI Contact: Jim Chappell

Address: 73 Digital Dr, Suite 100 Phone: (415) 382-4323

Novato, CA 94949 Fax: (415) 382-1856

RAS #: 7-0238 Facility/State ID # (TN Only): _____

AFE # (Terminal Only): _____ Consultant Project #: 2293

Location: 2200 E. 12th St. (City): Oakland (State): CA

☐ EE ☐ C & M ☐ SDT

Consultant Work Release #: 19900938 BTS# 991203-S1

Sampled By: Blaine Tech Services, Inc./ Print Name: Kevin Sullivan

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX H_2O	MATRIX SOIL	MATRIX AIR	OTHER	PRESERVATIVE	NO. OF CONTAINERS	CONTAINER SIZE	BTEX 8020 ☐ WITH MTBE ☐ 602 ☐	PURGEABLE HALOCARBON 8010 ☐ 601 ☐	TPH/IR 418.1 ☐	O & G IR 413.1 ☐ GRAV. 413.2 ☐	TPH / GC 8015 GRO ☐ 8015 DRO ☐	VOL 8240 ☐ 624 ☐	SEMI-VOL 8270 ☐ 625 ☐	PNA/PAH 8100 ☐ 8310 ☐ 8270 ☐	PCB / PEST 8080 ☐ PCB ONLY ☐	TCLP FULL ☐ VOA ☐ SEMI-VOA ☐ PEST ☐ HERB ☐	METALS, TOTAL ☐ METALS, TCLP ☐	LEAD, TOTAL 239.1 ☐ 7421 ☐ LEAD, TCLP ☐	TOX/TOH ☐	REACTIVITY ☐ CORROSIVITY ☐ IGNITABILITY ☐	OTHER: STATE
MW9A	12/3/99	11:54			X				HCl	3		X				X										CA
MW9B		13:10																								
MW9C		12:23																								
MW9D		10:52																								
MW9F		10:30																								
MW9G		11:22																								
MW9H		9:52																								
MW9I		12:43																								
TB		—								2																

TAT
24 HR. ____ * 72 HR. ____ *
48 HR. ____ * 96 HR. ____ *
Standard X * Contact US Prior
Other ____ to Sending Sample

EXXON UST CONTRACT NO. S02317M01

SPECIAL DETECTION LIMITS (Specify)

REMARKS: 5

SPECIAL REPORTING REQUIREMENTS (Specify)

QA/QC Level
Standard ☐ CLP ☐ Other ☐ _____

FAX ☐ ☐ FAX C-O-C W / REPORT

LAB USE ONLY LOT # NW 250 Storage Location

WORK ORDER #: 99120161 LAB WORK RELEASE #:

CUSTODY RECORD

	Date	Time	
Relinquished By Sampler:	12/6/99	9:10	Received By: FEDEX 4:20
Relinquished By Sampler:			Received By:
Relinquished By Sampler:			Received By Laboratory: 12/7/99 10

Way Bill #: _____ Cooler Temp: 5c

SHIP SAMPLES BACK TO: SPL INCORPORATED, 8880 Interchange Drive, Houston, TX 77054 Ph: (713) 660-0901 Fax: (713) 660-8975 Ph: 1-800-969-6775

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	99120161	Received by:	Estrada, Ruben
Date and Time Received:	12/7/99 10:00:00 AM	Carrier name:	FedEx
Temperature:	5		

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	Yes ☑	No ☐	Not Present ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	