EXXON COMPANY, U.S.A.

POST OFFICE BOX 4032 . CONCORD, CA 94524-2032

ENVIRONMENTAL ENGINEERING

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

November 16, 1992

Ms. Katherine Chesick
Alameda County Health Agency
Division of Hazardous Materials
80 Swan Way, Suite 200
Oakland, California 94621

RE: Exxon RAS 7-0104
1725 Park Street
Alameda, California

Dear Ms. Chesick:

Attached for your review and comment is a letter report entitled **Offsite Groundwater Survey** for the above referenced Exxon station in Alameda. This report, prepared by Harding Lawson Associates of Novato, California, presents the results of the ground water survey performed in September 1992.

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

Sincerely,

Marla D. Guensler

Attachment

c - w/attachment:
Mr. Richard Hiett - San Francisco Bay RWQCB

w/o attachment:
Mr. G. A. Lieberman - Harding Lawson Associates

MDG/pdp
0559E/70104LTR.9

October 30, 1992

10495 579

Exxon Company, U.S.A.
P.O. Box 4032
2300 Clayton Road
Concord, California 94524

Offsite Groundwater Survey
Exxon Station 7-0104
Alameda, California

Dear Ms. Guensler:

This report presents the results of Harding Lawson Associates' offsite groundwater survey at Exxon Station 7-0104, 1725 Park Street, Alameda, California (Plate 1). The investigation was performed on behalf of Exxon in response to a letter from the Alameda County Health Care Services Agency (County) dated May 11, 1992, requesting installation of offsite monitoring wells. The groundwater survey was performed to evaluate potential offsite sources of petroleum hydrocarbons and to assist in selecting optimum locations for offsite monitoring wells, if appropriate. The work was performed in accordance with HLA's July 2, 1992, Work Plan, which was approved by the County prior to the beginning of field work.

BACKGROUND

HLA conducted three previous phases of site characterization and presented the results to Exxon in reports dated June 24, 1988, March 21, 1989, and May 1, 1990. HLA has also conducted monthly water-level monitoring and quarterly groundwater sampling programs at the site since June 1989. A February 1992 file review and offsite reconnaissance identified several potential offsite sources of petroleum hydrocarbons in the vicinity that could impact subsurface conditions at the site.

SCOPE OF WORK

This investigation was performed to evaluate the horizontal extent of petroleum hydrocarbons in the subsurface that are related to an onsite source and whether potential offsite sources contributed to the presence of petroleum hydrocarbons in the subsurface in the site vicinity. The following tasks were completed under this scope of work:

- Task 1 Locating underground utilities and obtaining appropriate permits from local agencies
- Task 2 Completing a groundwater survey that included collecting and analyzing groundwater samples
- Task 3 Preparing this report

FIELD INVESTIGATION

Utility Clearance and Permitting

All appropriate permits were obtained from city and county agencies before beginning field activities. To avoid encountering underground utilities during sampling activities, HLA contacted Underground Service Alert (USA) to obtain utility location information from all USA member agencies or companies. In addition, HLA completed a geophysical survey to identify the location of utilities or obstructions in potential sampling areas. Geophysical methods included ground-penetrating radar, electromagnetic, and radio-frequency location techniques.

Groundwater Sampling

On September 15, 16, and 24, 1992, HLA supervised the collection of 2 groundwater samples from the probe locations shown on Plate 2. Sampling probes were installed by Powercore Soil Sampling, Martinez, California. The sampling procedure consisted of hydraulically driving a 1.5-inch-outside-diameter stainless steel probe to a depth of approximately 12 feet. Groundwater was encountered at an average depth of 10 feet. After the desired sample depth had been reached, each probe was removed and replaced with 1.25-inch-diameter slotted PVC well screen to keep the holes open during sampling.

Each casing was purged of approximately three volumes of water prior to sampling. Groundwater samples were collected in a disposable Teflon bailer and decanted into appropriate containers. Two equipment blanks were also collected during sampling as a quality control measure to evaluate the effectiveness of decontamination procedures. The sample containers were sealed, labeled, refrigerated, and transferred under chain of custody to the analytical laboratory. After the completion of sampling, the probe holes were backfilled with a cement/bentonite grout and covered with a 3-inch cap of "cold patch" asphalt to match surface features.

Laboratory Analysis

All samples were analyzed for the presence of total petroleum hydrocarbons (TPH) calibrated as gasoline using EPA Test Method 8015 (modified) and for benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Test Method 8020. In addition, samples from probe locations P-3 and P-8 were analyzed for TPH as diesel using EPA Test Method 8015. Analyses of samples for TPH as gasoline and BTEX from probe locations P-1 through P-17 were performed in an onsite mobile laboratory provided by National Environmental Testing (NET), Pleasanton, California. All other analyses were performed by Pace Laboratories, Novato, California. Pace and NET are State-certified laboratories for the analyses requested.

A summary of laboratory analytical results is presented in Table 1. Copies of laboratory reports and chain of custody documents are attached. An isoconcentration map for TPH as gasoline based on the results of laboratory analyses is presented on Plate 3.

Decontamination and Wastewater Containment

To minimize the possibility of cross contamination, all downhole probe and sampling equipment was decontaminated prior to use. The probes were steam-cleaned prior to transport to the site and between each sampling. Water sampling equipment was washed in a low-phosphorous soap solution and double rinsed using deionized water before each sampling. Equipment blank samples were collected by pouring deionized water over the sampling equipment after decontamination and collecting the water in appropriate sample containers. All soil cuttings generated during the investigation and rinsate from decontamination were contained in 55-gallon drums which were sealed, labeled, and stored onsite pending receipt of laboratory analytical results.

DISCUSSION

Distribution of Petroleum Hydrocarbons in Groundwater

Petroleum hydrocarbons were detected in groundwater samples from 8 of the 20 probes. No petroleum hydrocarbons were detected in any samples from locations northeast of the center of Eagle Avenue or in equipment blank samples. The highest concentrations of TPH as gasoline, TPH as diesel, and benzene were detected in the sample from P-3 at 220, 1.5, and 11 milligrams per liter (mg/l), respectively. Review of data collected to date indicates that P-3 is in a crossgradient location relative to former onsite source areas. Diesel was also detected in the sample from P-8 at a concentration of 0.23 mg/l. No diesel is known to have been stored at the site.

Review of the isoconcentration map (Plate 3) indicates that migration of petroleum hydrocarbons from onsite sources appears to be limited to the site and the immediate surrounding area. The distribution of petroleum hydrocarbons indicates the probability that at least two additional source areas are present to the southeast and southwest of the site. Concentrations of TPH as gasoline detected in samples from P-3 and P-8 were notably higher than in samples collected closer to the site. During the field investigation, groundwater monitoring wells were observed at the former service station across Park Street southeast of the site, indicating that a groundwater investigation appears to be in progress. A release of petroleum hydrocarbons has also reportedly occurred at the Shell service station on Park Street southwest of the site. The presence of diesel and relatively higher concentrations of gasoline in samples from P-3 and P-8 are likely the result of releases from these offsite sources.

Ramifications of Onsite Groundwater Extraction

Because the migration of petroleum hydrocarbons from onsite sources appears to be limited to the site and the immediate surrounding area, the capture area of the existing groundwater extraction wells should be adequate to recover petroleum hydrocarbons originating from the site. However, the indications of offsite sources of petroleum hydrocarbons and apparent mingling of petroleum hydrocarbon plumes from onsite and offsite sources may present additional concerns in regard to the implementation of the groundwater remediation program. Onsite groundwater extraction could potentially alter the migration path of offsite plumes and make differentiation of plume boundaries difficult. The potential contribution of petroleum hydrocarbons from offsite sources could impact the duration of remediation unless measures are taken by other responsible parties to prevent the migration of petroleum hydrocarbons onto the site.

SUMMARY

On the basis of data collected to date, the migration of petroleum hydrocarbons from former onsite sources appears to be limited to the site and the immediate vicinity. The potential capture area provided by existing groundwater extraction wells should be adequate to recover petroleum hydrocarbons from these former onsite sources.

The distribution pattern of petroleum hydrocarbons indicates the presence of two probable offsite sources of petroleum hydrocarbons which include diesel fuel. Groundwater extraction could potentially alter the migration paths of plumes from these sources with a resulting impact to onsite groundwater remediation.

HLA was pleased to provide services for this investigation. If you have any questions or if we can be of additional assistance, please call us at 415/892-0821.

Very Truly Yours,

HARDING LAWSON ASSOCIATES

Larry D. Friend
Project Geologist

S. Michelle Watson, R.G. 5353
Senior Geologist

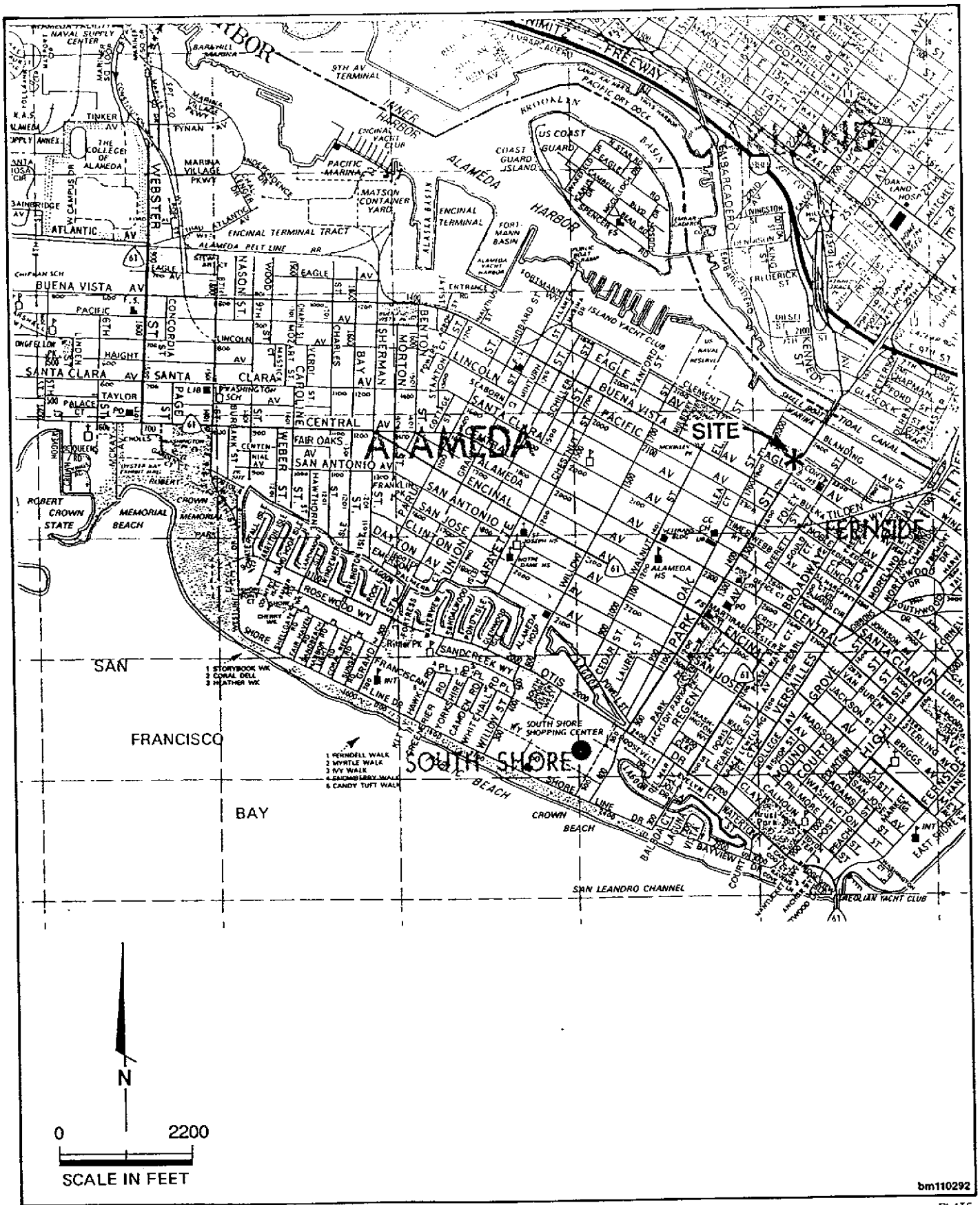
Attachments: Table 1 Summary of Laboratory Analytical Results
Plate 1 Area Map
Plate 2 Site Map
Plate 3 Isoconcentration Map for TPH as Gasoline
Laboratory Analytical Reports

LDF/SMW/at/N26641-H

TABLE 1
LABORATORY ANALYTICAL RESULTS
OFFSITE GROUNDWATER SURVEY
[redacted]
EXXON STATION 7-0104

PROBE NUMBER	SAMPLE NUMBER	SAMPLE DATE	TPH GASOLINE (mg/l)	BENZENE (ug/l)	ETHYL BENZENE (ug/l)	TOLUENE (ug/l)	XYLENES (ug/l)	TPH DIESEL (mg/l)
Equipment Blank	92091501	15-Sep-92	ND	ND	ND	ND	ND	NA
P-1	92091502	15-Sep-92	41	2,400	840	1,600	3,500	NA
P-2	92091503	15-Sep-92	[redacted]	[redacted]	[redacted]	560	190	NA
P-3	92091504	15-Sep-92	220	11,000	2,800	6,800	20,000	[redacted]
P-4	92091505	15-Sep-92	ND	ND	ND	ND	ND	NA
P-5	92091618	16-Sep-92	ND	[redacted]	ND	ND	ND	NA
P-6	92091617	16-Sep-92	ND	ND	ND	ND	1.0	NA
P-7	92091616	16-Sep-92	ND	ND	ND	ND	ND	NA
P-8	92091615	16-Sep-92	[redacted]					
P-9	92091507	15-Sep-92	ND	ND	ND	ND	ND	NA
P-10	92091508	15-Sep-92	ND	ND	ND	ND	ND	NA
P-11	92091610	16-Sep-92	ND	ND	ND	ND	ND	NA
P-12	92091509	15-Sep-92	ND	ND	ND	ND	ND	NA
Equipment Blank	92091611	16-Sep-92	ND	ND	ND	ND	ND	NA
P-13	92091612	16-Sep-92	ND	ND	ND	ND	ND	NA
P-15	92091613	16-Sep-92	ND	ND	ND	ND	ND	NA
P-16	92091614	16-Sep-92	ND	ND	ND	1.2	1.0	NA
P-17	92091506	15-Sep-92	ND	ND	ND	ND	ND	NA
P-18	92092410	24-Sep-92	5.1	13	21	140	130	NA
P-19	92092411	24-Sep-92	ND	ND	ND	ND	ND	NA
P-20	92092408	24-Sep-92	110	6,700	18,000	4,000	19,000	NA
P-21	92092409	24-Sep-92	5.6	110	7.3	120	140	NA

NOTES: ND = NOT DETECTED AT LABORATORY REPORTING LIMIT, REFER TO LABORATORY REPORTS FOR REPORTING VALUES
NA = NOT ANALYZED
mg/l = CONCENTRATIONS IN MILLIGRAMS PER LITER, EQUIVALENT TO PARTS PER MILLION
ug/l = CONCENTRATIONS IN MICROGRAMS PER LITER, EQUIVALENT TO PARTS PER BILLION



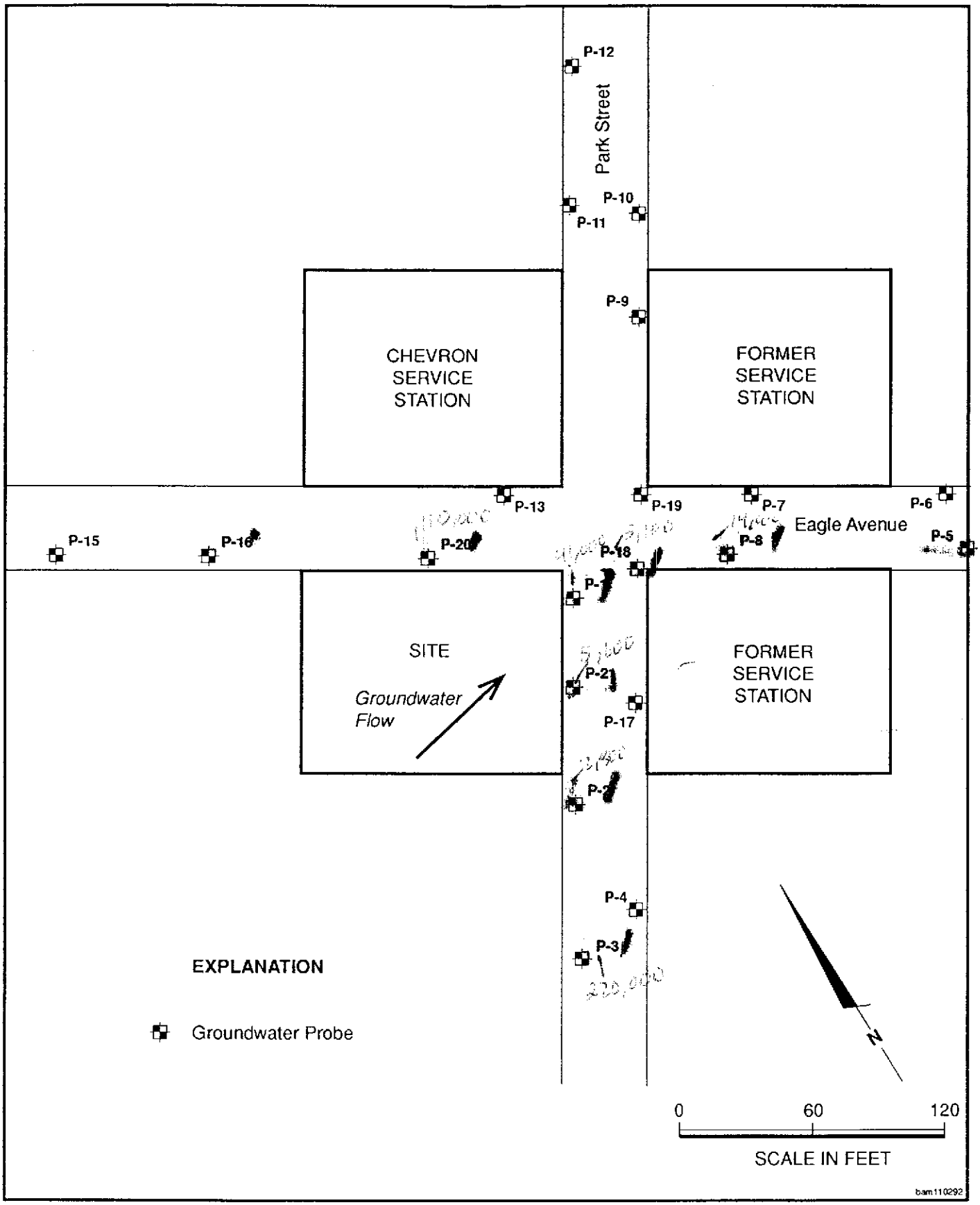
bm110292

Harding Lawson Associates
Engineering and Environmental Services

Area Map
Offsite Groundwater Survey
Exxon Station #7-0104
Alameda, California

PLATE **1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
BAM	10495 579		11/92		

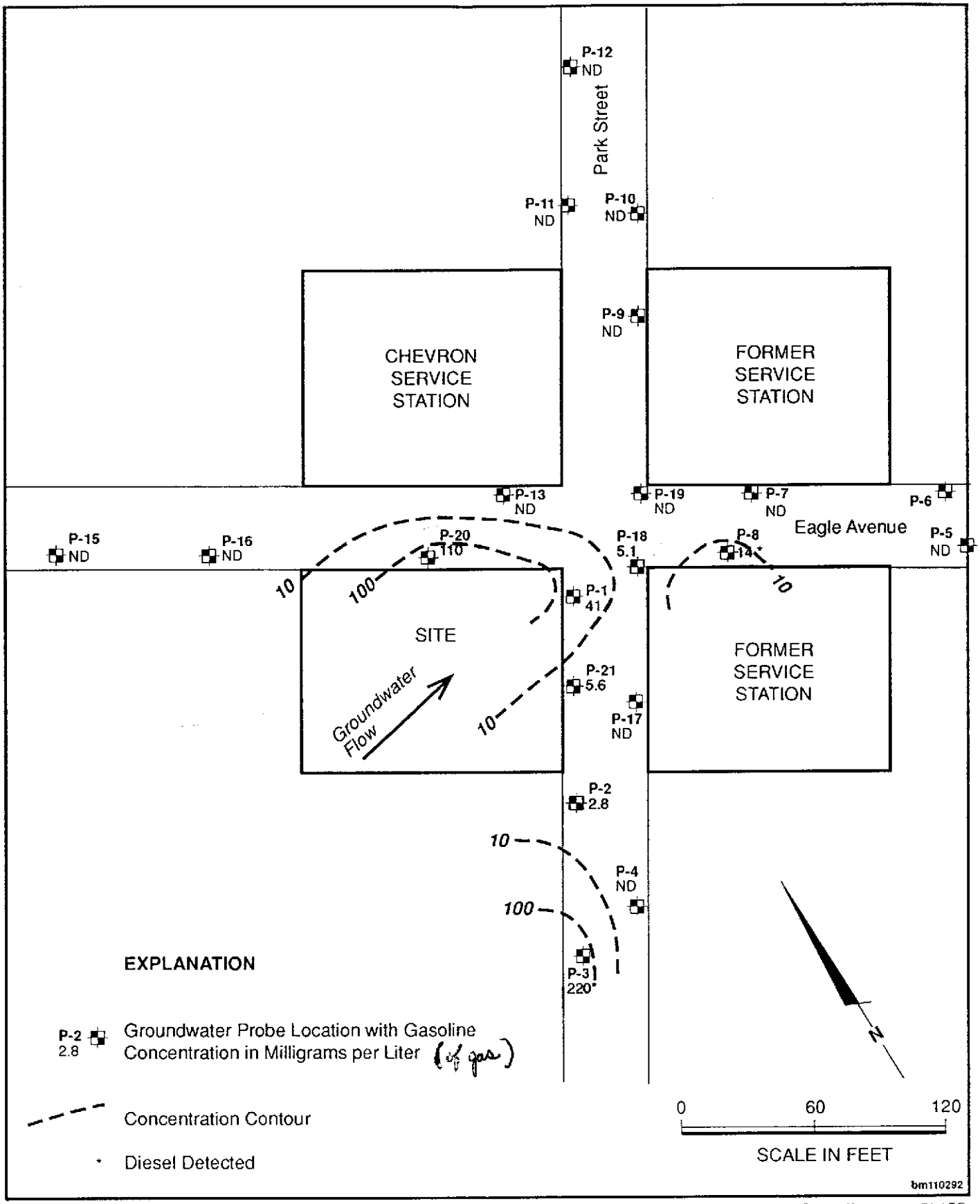


Harding Lawson Associates
Engineering and
Environmental Services

Site Map
Offsite Groundwater Survey
Exxon Station 7-0104
Alameda, California

PLATE
2

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
PMc	10495 579		11/92	



Harding Lawson Associates
Engineering and
Environmental Services

Isoconcentration Map for TPH as Gasoline
Offsite Groundwater Survey
Exxon Station 7-0104
Alameda, California

PLATE
3

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
PMc	10495 579	SMW	11/92	

NET ®
NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
1072 Serpentine Lane
Suite D
Pleasanton, CA 94566
Tel: (510) 462-4004
Fax: (510) 462-4357

Mr. Larry Friend
Harding Lawson Associates
7655 Redwood Blvd.
Novato, CA 94948

Date: October 7, 1992
Client #: 281
NET Log No: M2091592

Site Address: Exxon Station
1725 Park Street
Alameda, CA

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have any questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

NET, Inc.

Troy K. Mikell
Mobile Laboratory
Division Manager

TKM/lb
Enclosure(s)

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
1072 Serpentine Lane
Suite D
Pleasanton, CA 94566
Tel: (510) 462-4004
Fax: (510) 462-4357

Mobile Field Services Lab # II

HARDING LAWSON ASSOCIATES
7655 REDWOOD BLVD.
NOVATO, CA 94948

Date Analyzed : 09/15/92
Report Date : 10/07/92
Matrix : **WATER**
Instrument # : IO

Project Name : **10495579**

Project Manager : **Larry Friend**

			8015-M Units mg/L Rpt. Limit=.05	8020 Units µg/L Rpt. Limit=0.5	8020 Units µg/L Rpt. Limit=0.5	8020 Units µg/L Rpt. Limit=0.5	8020 Units µg/L Rpt. Limit=1.0
Sample Name	Date Sampled	Dilution Factor	TPH as GASOLINE	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENE
92091501	09/15/92	1	ND	ND	ND	ND	ND
92091502	09/15/92	20	41	2400	1600	840	3500
92091503	09/15/92	1	2.8	760	560	200	1900
92091504	09/15/92	100	220	11000	680	2800	20000
92091505	09/15/92	1	ND	ND	ND	ND	ND
92091506	09/15/92	1	ND	ND	ND	ND	ND
92091507	09/15/92	1	ND	ND	ND	ND	ND
92091508	09/15/92	1	ND	ND	ND	ND	ND
92091509	09/15/92	1	ND	ND	ND	ND	ND

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
1072 Serpentine Lane
Suite D
Pleasanton, CA 94566
Tel: (510) 462-4004
Fax: (510) 462-4357

Mobile Field Services Lab # II

HARDING LAWSON ASSOCIATES
7655 REDWOOD BLVD.
NOVATO, CA 94948

Date Analyzed : 09/16/92
Report Date : 10/07/92
Matrix : **WATER**
Instrument # : IO

Project Name : **10495579**
Project Manager : **Larry Friend**

			8015-M Units mg/L Rpt. Limit=.05	8020 Units µg/L Rpt. Limit=0.5	8020 Units µg/L Rpt. Limit=0.5	8020 Units µg/L Rpt. Limit=0.5	8020 Units µg/L Rpt. Limit=1.0
Sample Name	Date Sampled	Dilution Factor	TPH as GASOLINE	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENE
92091610	09/16/92	1	ND	ND	ND	ND	ND
92091611	09/16/92	1	ND	ND	ND	ND	ND
92091612	09/16/92	1	ND	ND	ND	ND	ND
92091613	09/16/92	1	ND	ND	ND	ND	ND
92091614	09/16/92	1	ND	ND	1.2	ND	1.0
92091615	09/16/92	100	14	350	730	740	3800
92091616	09/16/92	1	ND	ND	ND	ND	ND
92091617	09/16/92	1	ND	ND	ND	ND	1.0
92091618	09/16/92	1	ND	1.3	ND	ND	ND

NET Pacific, Inc

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	: Less than; When appearing in results column indicates analyte not detected at the value following. This datum supersedes the listed Reporting Limit.
*	: Reporting Limits are a function of the dilution factor for any given sample. To obtain actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	: Initial Calibration Verification Standard (External Standard).
mean	: Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	: Concentration in units of milligrams of analyte per kilogram of sample, (parts per million).
mg/L	: Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	: Milliliters per liter per hour.
MPH/100 mL	: Most probable number of bacteria per one hundred milliliters of sample.
N/A	: Not applicable.
NA	: Not analyzed.
ND	: Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	: Nephelometric turbidity units.
RPD	: Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	: Standard not available.
ug/Kg (ppb)	: Concentration in units of micrograms of analyte per kilogram of sample, (parts per billion).
ug/L	: Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	: Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

HLA
[redacted] Associates
200 Rush Landing Road
P.O. Box 6107
Novato, California 94948
415/892-0821
Telecopy: 415/892-1586

FAX

CHAIN OF CUSTODY FORM

Lab: NET (Mobile)

Samplers: Robert L. Nelson

Job Number:

Name/Location: Exxon Alameda

Project Manager: L. Friend

Recorder: Robert L. Nelson (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	1/2 gl	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	8010	8020	Hold - 1 1/2 gl
10	X				3				92	09	150	92	09	15	0900								X	X	
10	X				3				92	09	150	92	09	15	0830								X	X	
10	X				3				92	09	150	92	09	15	1010								X	X	
10	X				3			1	92	09	150	92	09	15	1050	IVOA BROKE #04 SEND AMBER FOR DIESEL							X	X	X
10	X				3				92	09	150	92	09	15	1200								X	X	
10	X				3				92	09	150	92	09	15	1340								X	X	
10	X				3				92	07	150	92	09	15	1445								X	X	
10	X				3				92	07	150	92	09	15	1550								X	X	
10	X				3				92	07	150	92	09	15	1645								X	X	

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Robert L. Nelson	RECEIVED BY: (Signature) Maggie Herten	DATE/TIME 09-15-92 0915
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
METHOD OF SHIPMENT: Mobile Lab on site		

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

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Return all 3 copies to L. Friend

[redacted]
HLA
7655 Redwood Blvd.
P.O. Box 578
Novato, CA 94948
(415) 892-0821

CHAIN OF CUSTODY FORM

NET (Mobile)

Job Number: 10495
Name/Location: Exxon Alameda
Project Manager: L. Fueid

Samplers: Robert L. Nelson
Recorder: Robert L. Nelson (Signature Required)

Source Code	Matrix: Water	Sediment	Soil	Oil	#Containers & Preserv.: Unpres.	H_2SO_4	HNO_3	Ultragl	Sample Number or Lab Number: Yr	Wk	Seq	Date: Yr	Mo	Dy	Time	Station Description/Notes	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	8020	Hold (AMBER)
10	X				3				92	09	1610	92	09	16	0950									X	
10	X				3				92	09	1611	92	09	16	1030									X	
10	X				3				92	09	1612	92	09	16	1050									X	
10	X				3				92	09	1613	92	09	16	1245	SEND AMBER FOR DIESEL								X	
10	X				3		[illegible]		92	09	1614	92	09	16	1315	↓								X	
10	X				3		1		92	09	1615	92	09	16	1430									X	X
10	X				3				92	09	1616	92	09	16	1530									X	X
10	X				3				92	09	1617	92	09	16	1630									X	
10	X				3				92	09	1618	92	09	16	1745									X	

Lab Number: Yr	Wk	Seq	Depth in Feet	Col Mtd CD	QA Code	Miscellaneous

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Robert L. Nelson	M Herten	09-16-92 0950
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME

DISPATCHED BY: (Signature) DATE/TIME RECEIVED FOR LAB BY: (Signature) DATE/TIME

METHOD OF SHIPMENT: Mobile lab on site

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

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pace®
INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

September 24, 1992

SEP 92 9:47

Ms. S.Michelle Watson
Harding Lawson Associates
P.O. Box 578
Novato, CA 94948

RE: PACE Project No. 420918.511
Client Reference: Exxon 7-0104 (EE)

Dear Ms. Watson:

Enclosed is the report of laboratory analyses for samples received September 18, 1992.

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

Sincerely,

Carol Reid

Carol Reid
Project Manager

Enclosures

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Harding Lawson Associates
P.O. Box 578
Novato, CA 94948

September 24, 1992
PACE Project Number: 42091851l

Attn: Ms. S.Michelle Watson

Client Reference: Exxon 7-0104 (EE)

PACE Sample Number:			70 0209935	
Date Collected:			09/15/92	
Date Received:			09/18/92	
Client Sample ID:			92091504	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
TPH DIESEL, BY EPA METHOD 8015				
Extractable Fuels, as Diesel	mg/L	0.060	1.5	09/22/92
Date Extracted			09/21/92	

MDL Method Detection Limit

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Ms. S.Michelle Watson
Page 2

September 24, 1992
PACE Project Number: 420918511

Client Reference: Exxon 7-0104 (EE)

PACE Sample Number:			70 0209943	
Date Collected:			09/16/92	
Date Received:			09/18/92	
Client Sample ID:			92091615	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
TPH DIESEL, BY EPA METHOD 8015				
Extractable Fuels, as Diesel	mg/L	0.060	0.23	09/22/92
Date Extracted			09/21/92	

MDL Method Detection Limit

These data have been reviewed and are approved for release.

Darrell Cain for
Mark A. Valentini, Ph.D.
Regional Director

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

REPORT OF LABORATORY ANALYSIS

Ms. S.Michelle Watson
Page 3

QUALITY CONTROL DATA

September 24, 1992
PACE Project Number: 420918511

Client Reference: Exxon 7-0104 (EE)

TPH DIESEL, BY EPA METHOD 8015
Batch: 70 15663
Samples: 70 0209935, 70 0209943

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Extractable Fuels, as Diesel	mg/L	0.050	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Extractable Fuels, as Diesel	mg/L	0.050	1.00	76%	64%	17%

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

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

[redacted]

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Report to HLA in Novato
Michelle Watson.

CHAIN OF CUSTODY RECORD

COMPANY Pace
ADDRESS
PHONE 415-883-6100 FAX
PROJECT NAME/LOCATION Exxon - Alameda
PROJECT NUMBER 10495
PROJECT MANAGER Larry Friend w/ HLA 415-892-0821

MOBILE LAB DIVISION, 1072 SERPENTINE LANE, SUITE D, PLEASANTON, CA 94566
(510) 462-4004 PHONE (510) 462-4357 FAX

~~Robert 2 Nelson~~

SAMPLED BY
Robert 2 Nelson
(PRINT NAME) SIGNATURE

(PRINT NAME) SIGNATURE

collected

ANALYSES

TURNAROUND TIME 5 DAY (S)

DATE	TIME	SAMPLE ID/DESCRIPTION	GRAB	COMP	# OF CONTAINERS	MATRIX	PRESERVED Y/N	Diesel										COMMENTS
9-15-92	1050	92091504			1	Water		✓			20993.5							
9-16-92	1430	92091615			1	water		✓			94.3							Exxon Site# 7-0104 Marla Guensler
		G/1																

RESULTS TO:

INVOICE TO:

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
MHeitin	09-17 1330	Lana M. Bennett	Lana M. Bennett	9-18-92 10:22am	[signature] 9-18 10:22 am

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR LABORATORY BY:
[signature]	9/18 15:00	→		9/18/92 1800	Lea Jostae PACE

METHOD OF SHIPMENT

REMARKS:

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

October 01, 1992

Mr. Larry Friend
Harding Lawson Associates
200 Rush Landing
Novato, CA 94948

RE: PACE Project No. 420924.502
Client Reference: Exxon 7-0104 (EE)

Dear Mr. Friend:

Enclosed is the report of laboratory analyses for samples received September 24, 1992.

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

Sincerely,

Caron E Sonzog

for Carol Reid
Project Manager

Enclosures

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Harding Lawson Associates
200 Rush Landing
Novato, CA 94948

October 01, 1992
PACE Project Number: 420924502

Attn: Mr. Larry Friend

Client Reference: Exxon 7-0104 (EE)

PACE Sample Number:			70 0212804	
Date Collected:			09/24/92	
Date Received:			09/24/92	
Client Sample ID:			92092408	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/01/92
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50000	110000	10/01/92
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	10/01/92
Benzene	ug/L	500	6700	10/01/92
Toluene	ug/L	500	18000	10/01/92
Ethylbenzene	ug/L	500	4000	10/01/92
Xylenes, Total	ug/L	500	19000	10/01/92

MDL Method Detection Limit

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Larry Friend
Page 2

October 01, 1992
PACE Project Number: 420924502

Client Reference: Exxon 7-0104 (EE)

PACE Sample Number:			70 0212812	
Date Collected:			09/24/92	
Date Received:			09/24/92	
Client Sample ID:			92092409	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/01/92
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	500	5600	10/01/92
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	10/01/92
Benzene	ug/L	5.0	110	10/01/92
Toluene	ug/L	5.0	7.3	10/01/92
Ethylbenzene	ug/L	5.0	120	10/01/92
Xylenes, Total	ug/L	5.0	140	10/01/92

MDL Method Detection Limit

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

REPORT OF LABORATORY ANALYSIS

October 01, 1992
PACE Project Number: 420924502

Client Reference: Exxon 7-0104 (EE)

PACE Sample Number:			70 0212820	
Date Collected:			09/24/92	
Date Received:			09/24/92	
Client Sample ID:			92092410	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/01/92
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	1000	5100	10/01/92
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	10/01/92
Benzene	ug/L	10	13	10/01/92
Toluene	ug/L	10	21	10/01/92
Ethylbenzene	ug/L	10	140	10/01/92
Xylenes, Total	ug/L	10	130	10/01/92

MDL Method Detection Limit

11 Digital Drive
Novato, CA 94949
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pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Larry Friend
Page 4

October 01, 1992
PACE Project Number: 420924502

Client Reference: Exxon 7-0104 (EE)

PACE Sample Number:			70 0212839	
Date Collected:			09/24/92	
Date Received:			09/24/92	
Client Sample ID:			92092411	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/01/92
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND	10/01/92
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	10/01/92
Benzene	ug/L	0.5	ND	10/01/92
Toluene	ug/L	0.5	ND	10/01/92
Ethylbenzene	ug/L	0.5	ND	10/01/92
Xylenes, Total	ug/L	0.5	ND	10/01/92

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

These data have been reviewed and are approved for release.

Darrell Cain for

Mark A. Valentini, Ph.D.
Regional Director

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

Client Reference: Exxon 7-0104 (EE)

TPH GASOLINE/BTEX
Batch: 70 15884
Samples: 70 0212804, 70 0212812, 70 0212820, 70 0212839

METHOD BLANK:

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

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	297	102%	96%	6%
Benzene	ug/L	0.5	40.0	83%	89%	6%
Toluene	ug/L	0.5	40.0	91%	97%	6%
Ethylbenzene	ug/L	0.5	40.0	94%	98%	4%
Xylenes, Total	ug/L	0.5	80.0	93%	102%	9%

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

EXXON COMPANY, U.S.A.

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

420924.502

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: Harding Lawson Associates — Page 1 of 1

Address: 200 Rush Landing, Novato CA 94948 — Site Location: Exxon Alameda

Project #: 10495, 579 — Consultant Project #: 10495-579 — Consultant Work Release #: 9206054 (900605A)

Project Contact: Larry Friend — Phone #: 415 892 0821 Fax #: 892 1580 — Laboratory Work Release #:

EXXON Contact: Marla Guenslen ☒ EE ☐ C&M — Phone #: — Fax #: — EXXON RAS #: 7084

Sampled by (print): Robert L. Nelson — Sampler's Signature: Robert L. Nelson

Shipment Method: Hand Delivered — Air Bill #: — Shipment Date: 9-24-92

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

Sample Condition as Received
Temperature ° C: ____
Cooler #: ____
Inbound Seal Yes No (Client Courier)
Outbound Seal Yes No

Sample Description	Collection Date/Time	Matrix Soil/Water	Prsv	# of Cont	PACE Sample #	TPH/GAS/BTEX EPA 8015/8020	TPH/Diesel EPA 8015	TRPH EPA 418.1									COMMENTS
92092408	9/24/92 0915	W	NO	3	21280.4	X											
92092409	9/24/92 1025	W		3	81.2	X											
92092410	9/24/92 1145	W		3	82.0	X											
92092411	9/24/92 12:15	W		3	83.9	X											
10/2																	

Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Date	Time	Additional Comments:
Robert L. Nelson HLA	9/24/92		Jim Dep / Pace	9/24/92	1410	

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