TEXACO ENVIRONMENTAL SERVICES 108 Cutting Boulevard

92 Jan 34 Cillo: 30

Richmond, CA 94804

EXON COMPANY, U.S.A.

POST OFFICE BOX 4032 . CONCORD, CA 94524-2032

REAL ESTATE & ENGINEERING
G.DeMARZO
CONSTRUCTION & MAINTENANCE ENGINEER(510) 246-8726

30 January, 1992

Mr. Barney Chan Alameda County Health Agency Department of Environmental Health 80 Swan Way, room 200 Oakland, CA 94621

RE: Tank Replacement Assessment Report Exxon RAS #7-0238 2200 East 12th St Oakland, CA

Dear Mr. Chan:

Enclosed for your review and comment please find a report entitled Tank Excavation Assessment Report for the above referenced station. This report, prepared by Woodward-Clyde Environmental Consultants, details environmental activities performed during the replacement of underground tanks in September-October, 1991 at the referenced site.

It is Exxon's understanding that Texaco Refining & Marketing, Inc. is currently handling subsurface investigation and/or remediation related to the discovery of Petroleum Hydrocarbom Impacted Soils and Groundwater at the site in 1988. Please do not hesitate to contact me at (510) 246-8770 should you have any questions or require additional information regarding work performed during the replacement of the underground tanks. Please contact Marla Guensler of Exxon for information regarding the status of current environmental activities at the site.

Sincerely,

Ly Do May

2140E Attachment

c - w/attachment:

R. Hiett, San Francisco Bay Regional Water Quality Control Board

J. P. Roemer, City of Oakland Fire Prevention Bureau

M. Guensler

c - w/o attachment:

R. Zielinski, Texaco Refining & Marketing, Inc.

A. Yan, Woodward-Clyde Consultants

TANK EXCAVATION ASSESSMENT REPORT EXXON RAS 7-0238 2200 EAST 12TH STREET OAKLAND, CALIFORNIA

January 28, 1992

Prepared for

Exxon Company, U.S.A. P.O. Box 4032 Concord, California 94524-2032

Prepared by

Woodward-Clyde Consultants 500 12th Street, Suite 100 Oakland, CA 94607-4014

CERTIFICATION

Tank Excavation Assessment Report Exxon RAS 7-0238 2200 East 12th Street Oakland, California

> January 28, 1992 91C0350A-5000

This report has been prepared by the staff of Woodward-Clyde Consultants and has been reviewed and approved by the professionals whose signatures appear below.

The findings, recommendations, specifications, or professional opinions are presented, within the limits prescribed by the client, after being prepared in accordance with generally accepted engineering practice in Northern California at the time this investigation was performed. No other warranty is either expressed or implied.

WOODWARD-CLYDE CONSULTANTS

Anita Yan

Project Manager

Robert G. Aaserude, P.E. Senior Project Engineer

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TANK EXCAVATION ASSESSMENT REPORT EXXON RAS 7-0238 2200 EAST 12TH STREET OAKLAND, CALIFORNIA

INTRODUCTION

Scope of Work

Three underground storage tanks (USTs) and their associated product lines were excavated and removed from Exxon retail automotive station (RAS) 7-0238 on 4 September 1991. The tanks were removed and replaced as part of the capacity increase and renovation plans for the site. The excavated tankhole was subsequently enlarged; the tanks were replaced with larger double-walled fiberglass tanks; the product lines were replaced with new double-walled fiberglass lines; and the excavated subsurface material was transported off-site for disposal on 24, 25, and 26 September 1991. This report presents the observations and analytical results of soil samples collected by Woodward-Clyde Consultants (WCC) on behalf of Exxon Company, U.S.A. (Exxon) in support of tank and product line closure and soil disposal activities at the site.

Site Location

Exxon RAS 7-0238 is located at 2200 East 12th Street in Oakland, California. The site sits on the east corner of the intersection of East 12th Street and 22nd Avenue (Figure 1). The site is located in a multiple land use area with heavy vehicular traffic along East 12th Street and low pedestrian traffic. There is a Shell Service Station at the intersection located to the northwest, across 22nd Avenue on the northern corner (Figure 2). To the north and east of the site are some residences and light commercial businesses. Interstate 880 and multiple train tracks (Western Pacific, Southern Pacific, and BART) pass the site to the south and to the west.

Site Description

The site was formerly owned by Texaco Refining and Marketing, Incorporated (Texaco). The site property was transferred in 1988 to Exxon Company, U.S.A., the current owner. The former site plan is presented in Figure 3. As shown in Figure 3, there currently are seven groundwater monitoring wells associated with the site and are currently monitored by Harding Lawson Associates for Texaco. Measured depth to groundwater at the wells associated with this site ranges from approximately 5.5 feet to 8.5 feet below grade (HLA 1991a). Three USTs stored leaded and unleaded gasoline pending retail sale as a motor fuel while a fourth UST stored used oil pending offsite disposal and/or reclamation. The three USTs which stored gasoline were excavated and removed on 4 September 1991. The excavated tank hole was enlarged and three 12,000-gallon double-walled fiberglass USTs were subsequently installed to replace the former tanks. The 550-gallon used oil tank, which was not removed, is located behind the station building, to the east.

FIELD OPERATIONS

Excavation Process

Prior to removal, each of the three USTs had been emptied, triple-rinsed, and purged of flammable vapors using dry ice. Representatives from the Alameda County Department of Environmental Health (ACDEH), the City of Oakland Fire Prevention Bureau, Exxon, Harding Lawson Associates (HLA, environmental consultants to Texaco), and WCC were present during the tank removal process. Table 1 is a list of site contacts and includes each representative with their respective addresses and telephone numbers. The 7,500-gallon extra unleaded tank was first removed, followed by the 10,000-gallon regular unleaded and leaded tanks, respectively. The tanks were numbered, loaded, and strapped to flatbed trucks provided by Trident Trucklines for delivery to Erickson Incorporated in Richmond. The Uniform Hazardous Waste Manifests for the tank rinsate (#90573946) and the removed USTs (#90792585 and #90792586) are included in Appendix A.

UST History and Condition

The three single-walled USTs that were removed stored gasoline and were constructed of steel. These tanks had initially been installed in 1967 (HLA 1991b). One 7500-gallon UST stored extra unleaded gasoline while two 10,000-gallon USTs each stored regular leaded and unleaded gasoline. Each of the three tanks was excavated, pulled from the tank pit, and was subjected to an above-ground inspection prior to removal from the site. No apparent holes or breaches were observed in the excavated tanks during the above-ground visual inspection. Photographs of the tanks during the visual inspection are included in Appendix B. The 550-gallon used oil tank, which was not removed, was installed five years ago in 1986 (HLA 1991b) and is constructed of double-walled fiberglass. The installation of an interstitial monitor at the used oil tank is included in the plans for the site renovation. Diesel has not been stored at this site.

Observations at the Tank Hole

Generally, the native soil at the sidewalls of the pit consisted of heavy clay and appeared dark brown from beneath the asphalt pavement to 6 feet below grade and became medium brown from approximately 6 feet to 12 feet, at the bottom of the pit. Some water was observed at the bottom of the pit beneath each tank at approximately 11 feet below grade (see photographs in Appendix B). The water had a foamy brown film at the surface. No hydrocarbon sheen was observed. The water level in the pit remained at approximately 11 feet below grade, despite measurements of depth to water ranging from 5.5 feet to 8.5 feet below grade by Harding Lawson Associates (HLA 1991a). Shoring was later installed to ensure slope stability and safety around the tank hole, which was enlarged to accommodate three 12,000-gallon double-walled fiberglass USTs. The excavation was enlarged at the west corner and additional soils were removed. Confirmation samples were collected, and the the excavation was shored. The excavated fill material and native soil was stockpiled in the locations shown in Figure 4. Approximately 700 cubic yards of fill material and native soil were stockpiled at the site.

SOIL AND GROUNDWATER SAMPLE COLLECTION PROCESS

Sample Handling Procedures

A sample of the water from beneath the extra unleaded tank was collected by first lowering the excavator bucket into the tank hole. After the bucket was partially filled with the water, the bucket was raised to the surface and the sample containers were slowly submerged and filled. This sample, although submitted to the laboratory, was not analyzed because the sample was not expected to be representative of the groundwater beneath the site. Thus the water in the pit was not expected to be representative of the shallow groundwater beneath the site.

Soil samples were collected in 2-inch diameter by 4-inch long clean brass split-spoon liners. Samples from depths beyond 4-feet below grade were first excavated into a backhoe or excavator bucket. The bucket was then lifted to the ground surface and the brass liners were driven into the soil with a rubber mallet. Samples from surface to 4-feet below grade were generally driven directly into the sidewall or bottom of the trench using a rubber mallet or clean manual sample driver. The filled brass liner was removed, the ends were immediately covered with a sheet of teflon and the ends were capped with a polyethylene endcap. The brass liners were labeled with pertinent information including site, sample location, sample depth, date and time of collection, and the initials of the sampler.

All samples were transported in sealed, chilled ice chests to Pace Laboratories in Novato by a Pace courier following chain-of-custody procedures. Copies of the chain-of-custody records are provided in Appendix C at the end of the respective Laboratory Report.

Tank Pit Soil Sample Collection and Analysis

On 4 September 1991, six soil samples were collected from the base of the sidewalls of the excavated tank pit after the USTs were removed. The sample locations and depths were selected in consultation with the representatives from the ACDEH. The sample locations are shown in Figure 3. In accordance with the Regional Water Quality Control Board Tri-Regional Recommendations (RWQCB 1990), these samples were analyzed for total petroleum hydrocarbons quantified as gasoline (TPH-gas) with benzene, toluene, ethylbenzene, and xylene (BTEX) distinction by modified EPA method 8015 and EPA method 8020. Samples which were found to contain detectable concentrations of TPH-gas were also analyzed for the presence of organic lead by DHS method 338. The sample that contained the highest concentration of TPH-gas (sample TP2)was also analyzed for TPH quantified as diesel (TPH-d). The laboratory reported that the appearance of the chromatogram suggested that the petroleum hydrocarbons detected in the TPH-d analysis may be from the heavier end of the gasoline constituents, rather than diesel (Pace, 1991). Table 2 presents a summary of the analytical results. Concentrations of TPH-g greater than the 100 mg/kg priority level were detected in the 11-foot samples, TP1 (190 mg/kg) and TP2 (1,100 mg/kg), from the west and southwest sidewall of the original excavation. Low (to 0.78 mg/kg TPH-g) and nondetectable concentrations of analytes were reported in the remaining closure samples.

The analytical results of the closure samples suggested that concentrations above 100 mg/kg TPH-gas existed in the soil at the ends of the former extra unleaded gasoline tank, located at the west end of the tank pit. Therefore on the day following the tank excavation, on 5 September 1991, six confirmation samples were collected by excavating beyond the edges of the original tank pit. The confirmation samples were collected from the south and west sides of the tank pit (Figure 3). Confirmation sample locations TC2 and TC3 were collected at two depths in order to vertically characterize the presence of petroleum hydrocarbons in the soil. The confirmation samples were subjected to the same suite of analyses as the closure samples and the analytical results of the confirmation samples are presented in Table 2, with the closure samples. The analytical results for the confirmation samples ranged from nondetectable to 2.5 mg/kg TPH-g (at TC1, 12 feet below grade).

Product Line Trench Soil Sample Collection and Analysis

The product line trench samples were also collected on 4 September 1991. A total of seven product line closure samples were collected from six location in native material from within the product line trench which totaled in length approximately 115 feet. The sample locations, which were selected in consultation with the representatives from the ACDEH were located along bends and joints of the former product lines (Figure 3) at depths ranging from 3 to 6 feet below grade. An access vault with a deep bottom relative to the original product line trenches was formerly located at location P2. Therefore fill material was encountered until approximately six feet below grade. As a result, sample P2 was collected at 6 feet rather than 3 or 4 feet, the depths of the other product line closure samples. The samples were submitted to Pace Laboratories for analysis by modified EPA method 8015 for TPH-gas and BTEX by EPA method 8020. One sample (P1 at 2 feet below grade) was not analyzed because it was collected at what appeared to be the interface of native soil and fill material and may have included some fill material. As with the tank pit samples, samples at the product line trench which were found to contain detectable concentrations of TPH-gas were also analyzed for the presence of organic lead by DHS method 338. The analytical results are summarized in Table 3. The analytical results of the product line trench samples range from 1.9 mg/kg to 1,200 mg/kg TPH-g. Concentrations of TPH-g greater than the 100 mg/kg prioritization level were detected in the shallow samples from sample locations P2 (1,200 mg/kg TPH-g), P3 (190 mg/kg TPH-g), and P6 (240 mg/kg TPH-g). The concentrations of TPH-g detected at the other product line trench sample locations were well below the 100 mg/kg prioritization level. Organic lead was not detected in any of the product line closure samples.

The analytical results of the product line closure samples suggest that concentrations of TPH-gas greater than 100 mg/kg exist in the shallow (3 and 6 feet below grade) soil at sample locations P2, P3, and P6. Therefore, on 11 September 1991, confirmation soil samples were collected from each of the three locations from 11 to 13 feet below grade to determine the vertical presence of petroleum hydrocarbons in the subsurface soils. The product line trenches were excavated vertically at the three locations and the soil samples were collected from soil in the backhoe bucket. The lateral presence of petroleum hydrocarbons in the soil surrounding the product lines was not investigated at this time due to the proximity of the canopy footings. Additional lateral excavation would have risked undermining the canopy footings. The confirmation samples were analyzed for TPH-g by

EPA method 8015 and for BTEX by EPA method 8020. The analytical results of the confirmation samples at the product line trenches are presented in Table 3. The analytical results of the confirmation samples from the product line trench ranged from 0.25 mg/kg TPH-g (13 feet below grade at P2) to 1.5 mg/kg TPH-g (12 feet below grade at P3).

Quality Assurance/Quality Control Assessment

All samples were delivered to Pace Laboratories in Novato, California for analysis. Evaluation of the quality of the analytical data included examination of sample holding times, review of quality control data, and detection limits. Sample preservation techniques and transportation conditions were satisfactorily accomplished for the samples. All samples were extracted and analyzed within the specified holding times from their date of collection for the various methods. The review of the analytical data suggests that the analytical results are valid and representative of the collected soil samples.

The laboratory precision and accuracy data were within laboratory established control limits and suggest that the chemical analyses of the samples were conducted under acceptable analytical conditions. The percent recoveries for the matrix spike (MS) and matrix spike duplicate (MSD) for TPH-gas and BTEX in the samples ranged from 85 to 109 percent, with relative percent differences from 0 to 6 percent. The percent recoveries of the spike and spike duplicate for organic lead samples ranged from 92 to 98 percent with RPDs from 0 to 3 percent, while that for TPH-diesel sample ranged from 75 to 81 percent with an RPD of 7 percent.

Some detection limits were raised due to matrix interference and/or high concentrations of detected compounds. The raised detection limits, however, did not affect the results of the analytes for closure and confirmation samples.

Confirmation sample P3 at 12 feet below grade had a high concentration of benzene to TPH-gas ratio relative to other samples from this site. Pace Laboratories, however, had confirmed that the analytical result is valid by analyzing the sample on two separate instruments with comparable results.

DISPOSAL PROCEDURES

The relatively small amount of water that had been initially observed beneath the tanks was absorbed by the surrounding fill material and soil during excavation of the pit. On September 9, 1991, approximately 3,000 gallons of accumulated water was pumped from the excavation, prior to installation of the new tanks. The Uniform Hazardous Waste Manifest for the water (#90640144) has been included in Appendix A.

Excavated soil was stockpiled onsite and covered with visqueen pending characterization for disposal. The stockpiles where conceptually divided into approximately 50 cubic yard sections (Figure 4) and sampled for disposal. Discrete samples were collected from the stockpiled soil which were sent to Pace Laboratories for compositing and analysis. The samples were analyzed at Pace for TPH-gas by modified EPA method 8015 and for BTEX by EPA method 8020 and for soluble lead by CAM WET. One sample (SP1) was analyzed

for reactivity, corrosivity, and ignitability (RCI). The analytical results are presented in Table 4. Stockpile sections SP1 through SP9 and SP11 were accepted and transported to BFI Vasco Road in Livermore, California on 25 and 26 September 1991. The remaining sections, SP10, SP12, and SP13 were accepted and transported to the Chem Waste Management facility at Kettleman City, California on 24 September 1991. All soil transportation was provided by Dillard Trucking of Byron, California. Transportation documentation of the soils is included in Appendix A.

CONCLUSION

The native soil beneath this site generally consisted of heavy clay. The coloration varied from dark brown at the shallow soils to medium brown from 6 to 12 feet below grade. Water was observed at the bottom of the excavation at approximately 11 feet below grade.

In the vicinity of the tank field, the lateral presence of petroleum hydrocarbons in the soil beneath the site appears to be limited to the edges of the tank excavation. Except for the samples from the base of the original tank excavation (TP1 and TP2), the closure samples had low (less than 1 mg/kg TPH-g) to nondetectable concentrations of petroleum hydrocarbons. At the southwest corner, closure samples contained up to Confirmation samples collected after overexcavation from five to seven feet beyond the edges of the original excavation at the southwest corners and western sides contained low (to 2.5 mg/kg TPH-g at TC1, see Figure 3) to nondetectable concentrations of petroleum hydrocarbons.

At confirmation sample locations TC2 and TC3, samples were collected at five feet below grade as well as at 11 or 12 feet below grade. The five-foot soil samples contained low (to 2.0 mg/kg TPH-g) concentrations of petroleum hydrocarbons while the deeper samples did not contain detectable concentrations of petroleum hydrocarbons. The analytical results of the confirmation samples (TC1 - TC4), collected after additional excavation at the tankhole, suggest that the soils impacted by hydrocarbons (as identified by the analytical results of closure samples) were removed in the course of overexcavation and expansion of the tankhole.

At the product line trench, relatively high concentrations (to 1,200 mg/kg) of TPH-g were detected in closure samples from the access box (P2), the west end of the central pump island, and at the east end of the pump island along 22nd Avenue. All closure samples were collected between three to six feet below grade. Confirmation samples collected 11 to 13 feet below grade, however, contained relatively low concentrations (to 1.5 mg/kg TPH-g) of petroleum hydrocarbons.

The lateral presence of petroleum hydrocarbons in the soil around the product line trench was not further investigated due to the proximity of the canopy supports and the limited space.

DISCLAIMER

This report has been prepared solely for the use of Exxon Company, U.S.A. and any reliance on this report by third parties shall be at such party's sole risk. Furthermore, the discussions contained herein are based on the results of the field exploration and laboratory test program described above and the assumption that the site subsurface conditions do not deviate substantially from those disclosed in the soil samples. If subsequent events indicate deviations from the conditions disclosed by this assessment, Woodward-Clyde Consultants reserves the right to modify any or all of the above conclusions.

REFERENCES

Harding Lawson Associates, 1991a. Quarterly Technical Report, Fourth Quarter of 1990. Former Texaco Station, 2200 East 12th Street, Oakland, California. 6 March 1991.

Harding Lawson Associates, 1991b. Letter of Transmittal and enclosure from Michael Sides (HLA) to Anita Yan (WCC). 1 May 1991.

Pace Laboratories, 1991. Telephone Conversation between Carol Posthuma (Pace) and Anita Yan (WCC). 10 September 1991.

Regional Water Quality Control Board, 1990. Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tank Sites. Prepared by North Coast RWQCB, San Francisco Bay RWQCB, and Central Valley RWQCB. 10 August 1990.

United States Geological Survey, 1980. Oakland East Quadrangle, California. 7.5 Minute Series (topographic). Photorevised 1980.

Table 1

LIST OF SITE CONTACTS REGARDING THE TANK EXCAVATION AT EXXON RAS 7-0238 2200 EAST 12TH STREET, OAKLAND, CALIFORNIA 4 SEPTEMBER 1991

Current Property Owner:

Exxon Company, U.S.A. 2300 Clayton Road, Suite 1250 P.O. Box 4032 Concord, CA 94524-2032

Site Representative:

Greg DeMarzo

Construction and Maintenance Engineer

(510) 246-8726

Environmental Consultant to Exxon:

Woodward-Clyde Consultants 500 - 12th Street, Suite 100 Oakland, CA 94607-4014

Site Representative:

Anita Yan

Senior Staff Engineer

(510) 874-3081

Former Property Owner (not present at site):

Texaco Refining and Marketing Incorporated 100 Cutting Boulevard Richmond, CA 94804

Site Contact:

Ron Zielinski

Environmental Supervisor

(510) 236-1770

Table 1

LIST OF SITE CONTACTS REGARDING THE TANK EXCAVATION AT EXXON RAS 7-0238 2200 EAST 12TH STREET, OAKLAND, CALIFORNIA 4 SEPTEMBER 1991 (Concluded)

Environmental Consultant to Texaco:

Harding Lawson Associates 1355 Willow Way, Suite 109 Concord, CA 94520

Site Representative:

Doreen Myer

Environmental Specialist

(510) 687-9660

Health Department:

Alameda County Health Agency Department of Environmental Health 80 Swan Way, Room 200 Oakland, CA 94621

Site Inspectors:

Barney Chan and Brian P. Oliva Hazardous Materials Specialists

(510) 271-4320

Fire Department:

City of Oakland Fire Prevention Bureau 1330 Broadway Oakland, CA 94612

Site Inspector:

John P. Roemer

Inspector

(510) 273-3853

TABLE 2. ANALYTICAL RESULTS (IN MG/KG, OR PPM) FOR SAMPLES COLLECTED AT THE TANK HOLE IN SUPPORT OF THE TANK EXCAVATION ASSESSMENT AT EXXON RAS 7-0238, 2200 EAST 12TH STREET, OAKLAND, CALIFORNIA.

			Modified	EPA 8015		EPA	8020		CA DHS # 338
Sample Location	Sample Depth (feet)	Date of Collection	TPH (gas)	TPH (diesel)	Benzene	Toluene	Ethyl Benzene	Xylenes	Organic Lead
				Tank	Hole Sampl	es			
TP1	11	4 Sep 91	190	22	0.22	0.26	0.32	0.65	< 0.2
TP2	- 11	4 Sep 91	1,100	340	0.88	1.6	14	7.7	< 0.2
TP3	11	4 Sep 91	< 0.2		< 0.001	< 0.001	< 0.001	< 0.001	••
TP4	11	4 Sep 91	< 0.2	222	< 0.001	< 0.001	< 0.001	< 0.001	
TP5	11	4 Sep 91	0.78		0.0014	< 0.001	0.0092	0.025	< 0.2
TP6	11	4 Sep 91	0.47	5. 5	0.0033	< 0.001	0.0012	0.0017	< 0.2
			Tank Ho	ole Overexc	avation Conf	irmation Sa	mples		
TC1	12	5 Sep 91	2.5		0.005	0.012	0.078	0.12	<0.2
TC2	5	5 Sep 91	2.0		0.078	0.022	0.009	0.013	<0.2
TC2	11	5 Sep 91	<0.2	**	< 0.001	< 0.001	< 0.001	< 0.001	ale value
TC3	5	5 Sep 91	1.6		0.026	0.017	0.0043	0.011	<0.2
TC3	12	5 Sep 91	<0.2	ē	< 0.001	< 0.001	< 0.001	< 0.001	
TC4	11	5 Sep 91	<0.2		< 0.001	< 0.001	< 0.001	0.0018	

⁻⁻ denotes that sample was not analyzed for the analyte or parameter

TABLE 3
ANALYTICAL RESULTS (IN MG/KG, OR PPM) FOR SOIL SAMPLES COLLECTED AT THE
PRODUCT LINE TRENCHES AT EXXON RAS 7-0238, 2200 EAST 12TH STREET, OAKLAND, CALIFORNIA

	Sample		Modified	EPA 8015	-	EPA	CA DHS # 338		
Sample Location	Depth (feet)	Date of Collection	TPH (gas)	TPH (diesel)	Ethyl Benzene Toluene Benzene Xylenes		Organic Lead		
				Product L	ine Trench S	amples			
P1	3	4 Sep 91	27	122	0.44	0.13	0.89	0.29	< 0.2
P2	6	4 Sep 91	1,200	***	10	55	16	88	< 0.2
P3	3	4 Sep 91	190	77.0	0.41	2.2	0.93	5.4	< 0.2
P4	4	4 Sep 91	1.9		0.007	0.013	0.024	0.034	< 0.2
P5	3	4 Sep 91	35		0.41	0.26	0.34	1.4	< 0.2
P6	3	4 Sep 91	240	***	0.18	0.67	1.7	2.7	< 0.2
		Pr	oduct Line	Trench Ove	erexcavation	Confirmation	on Samples		
P2	13	11 Sep 91	0.25		0.014	0.0077	0.007	0.023	(
Р3	12	11 Sep 91	1.5		0.68	< 0.005	< 0.005	0.009	,
P6	11	11 Sep 91	1.3	==	0.005	< 0.005	0.081	0.37	

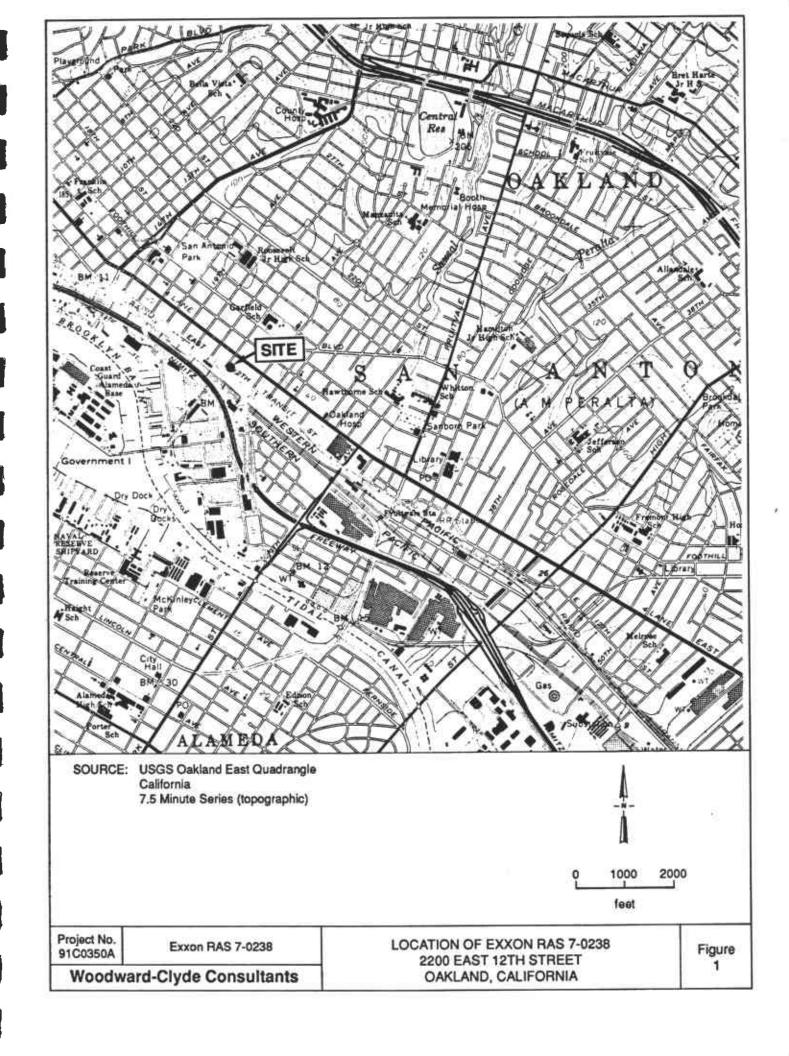
⁻⁻ denotes that sample was not analyzed for the analyte or parameter

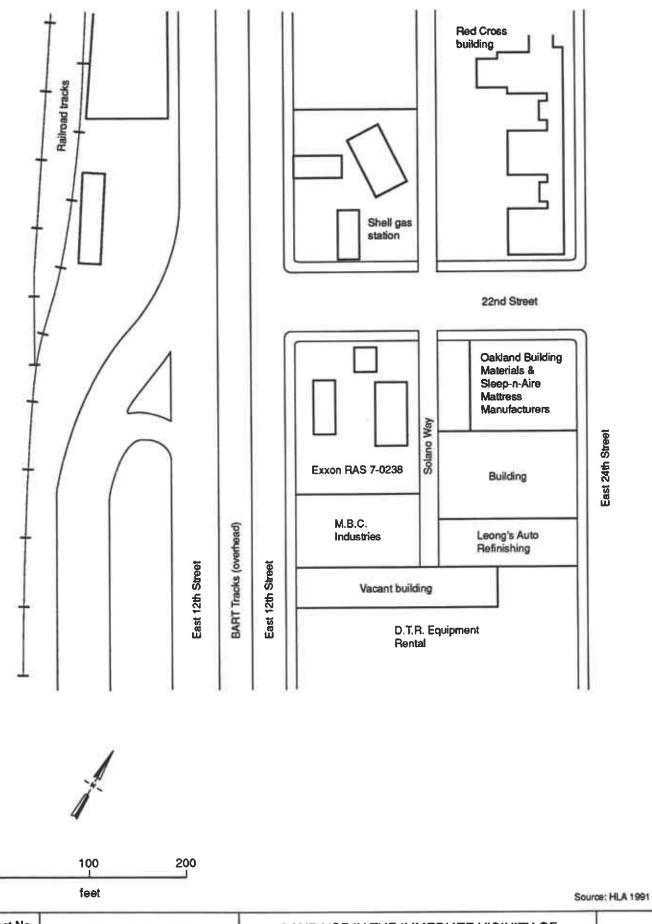
ANALYTICAL RESULTS (IN MG/KG, OR PPM) FOR COMPOSITE SOIL SAMPLES COLLECTED FROM THE STOCKPILED SOILS RESULTING FROM THE TANK AND PRODUCT LINE EXCAVATION AT EXXON RAS 7-0238, 2200 EAST 12TH STREET, OAKLAND, CALIFORNIA.

11 SEPTEMBER 91.

	Modified EPA 8015		EP.	A 8020		EPA 6010/200.7	Reac	tivity	Corrosivity	Ignitability
Sample Identification	TPH (gas)	Benzene	Toluene	Ethylbenzene	Xylenes	Soluble Lead (mg/L)	Reactive Cyanide	Reactive Sulfides	pH (pH Units)	Flash Point, Closed Cup (°C)
SP1	3.0	<0.001	<0.001	0.0053	0.0059	<0.1	<0.5	<1.0	8.0	>60
SP2	<0.2	< 0.001	< 0.001	< 0.001	< 0.001	<0.1				
SP3	0.36	< 0.001	0.001	< 0.001	0.0014	<0.1				
SP4	0.82	< 0.001	0.0058	0.0017	0.011	<0.1				
SP5	72	<0.01	0.67	0.60	0.71	<0.1				
SP6	1.1	< 0.001	0.0096	0.0018	0.0049	<0.1				
SP7	32	< 0.025	0.18	0.1	0.34	<0.1		 T		***
SP8	2.9	0.0023	0.0012	0.01	0.06	<0.1				
SP9	25	< 0.02	< 0.02	0.036	0.27	<0.1				
SP10	320	<0.2	< 0.2	0.28	1.5	<0.1	**			
SP11	16	<0.01	0.065	0.052	0.25	<0.1			-	
SP12	13	0.005	0.010	0.062	0.18	1.0				
SP13	35	0.036	0.077	0.13	0.46	0.78				

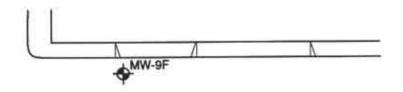
⁻⁻ Denotes that sample was not analyzed for the analyte or parameter.



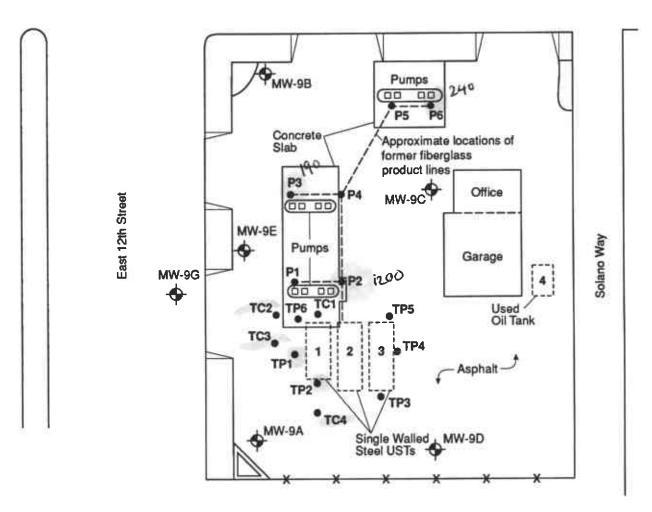


Project No. 91C0350A	Exxon RAS 7-0238	LAND USE IN THE IMMEDIATE VICINITY OF EXXON RAS 7-0238	Figure
Woodw	vard-Clyde Consultants	2200 EAST 12TH STREET, OAKLAND, CALIFORNIA	2





22nd Avenue



LEGEND

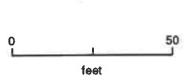
Monitoring Well Location with Number

 Approximate Soil Sample Location with Number 1 7500 gallon Extra Unleaded Gasoline Tank

10,000 gallon Regular Unleaded Gasoline Tank

3 10,000 gallon Regular Leaded Gasoline Tank

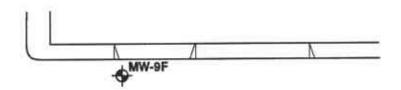
4 550 gallon Used Oil Tank



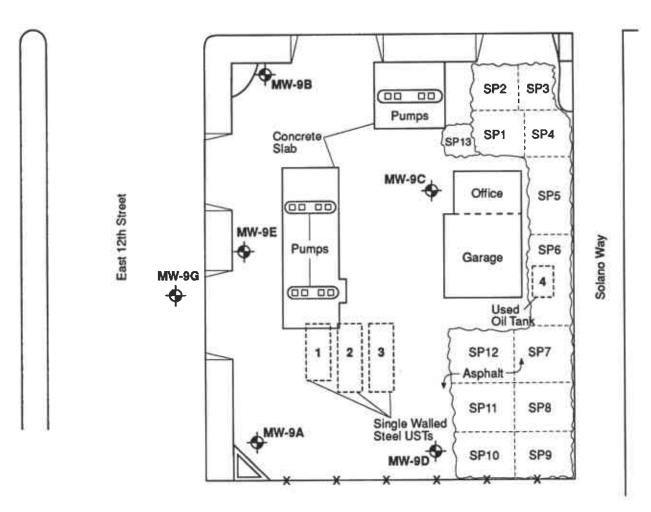
Source: HLA 1991

Project No. 91C0350A	I EXXOD BAS 7-0238	LOCATIONS OF TANK AND LINE CLOSURE SOIL SAMPLE LOCATIONS	Figure
Woody	ward-Clyde Consultants	EXXON RAS 7-0238 2200 EAST 12TH STREET, OAKLAND CALIFORNIA	3





22nd Avenue



LEGEND

Monitoring Well Location with Number

- 1 7500 gallon Extra Unleaded Gasoline Tank
- 2 10,000 gallon Regular Unleaded Gasoline Tank
- 3 10,000 gallon Regular Leaded Gasoline Tank
- 4 550 gallon Used Oil Tank

0 50 feet

Source: HLA 1991

Project No. 91C0350A	Exxon RAS 7-0238	LOCATIONS OF STOCKPILED SOIL AND SOIL SECTIONS	Figure
Woodw	/ard-Clyde Consultants	7-0238 2200 EAST 12TH STREET, OAKLAND, CALIFORNIA	4

APPENDIX A TRANSPORTATION DOCUMENTATION

DHS 8022 A

Do Not Write Below This Line

Printed/Typed Name

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. Transporter 1 Company Name	8. US EPA ID Number		140.000	e Transporter's ID	20	4341
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Transposer 2 Company Name	B. US EPA ID Number		E. Stat	e Transporter's ID	-	
NIA		111		sporter's Phone		
Designated Facility Name and Site Address	10. US EPA ID Number		1200 2123	e Facility's ID	noveces	A state of about the state of
ERICKSON LICORPORATED					9 4	6 6 13 19 12
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7. Transporter 2 Company Name	C P D D D 9 466 8. US EPA ID Number	13 14 15		Serie Country	porter's II		1-230
7. Henry Co.		1.1.1	140		's Phone		
9 Designated Facility Name and Site Address	10. US EPA ID Number		G. St	ste Facil	ity'a ID		
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15. Special Handling Instructions and Additional Information (2) 16. GENERATOR'S CERTIFICATION: I hereby declare that the and are classified, pecked, marked, and labeled, and are in national government regulations. If I am a large quantity generator, I certify that I have a progreto be economically practicable and that I have selected the present and future threat to human health and the environme generation and select the best waste management method to Printed/Typed Name 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name 19. 11. 49 18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	contents of this consignment are all respects in proper condition for ram in place to reduce the volume practicable method of freatment, ont; OR, if I am a small quantity ghat is available to me and that I described to the second sec	e fully and a or transport e and toxicit storage, or enerator, i h	c c c c c c c c c c c c c c c c c c c	y describing describin	SU:	b. d. by propipplicable to me	er shipping ne internations e i have dete which minimiz nimize my we Month L
15. Special Handling Instructions and Additional Information (2) 16. GENERATOR'S CERTIFICATION: I hereby declare that the and are classified, pecked, marked, and labeled, and are in national government regulations. If I am a large quantity generator, I certify that I have a progreto be economically practicable and that I have selected the present and future threat to human health and the environme generation and select the best waste management method to Printed/Typed Name 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name 19. 11. 49 18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	contents of this consignment are all respects in proper condition to ram in place to reduce the volume practicable method of freatment, ant; OR, if I am a small quantity ghat is available to me and that I described by the second of the seco	e fully and a or transport e and toxicit storage, or enerator, I h can afford.	c couratel by highway of was disposa seve man	y describ way accounte general de a goo	Scotland above profing to a rated to the day available of faith eff	b. d. by propipplicable to me	er shipping ne internations e i have dete which minimiz nimize my we Month L

DHS 8022 A EPA 8700—22

Toxic Substances Control Division

ŀ	UNIFORM HAZARDOUS ADVISOR	1663927	Manifest Document No.	2. P	MITORIT		the shaded area by Federal taw
	3. Generator's Name and Mailing Address		200	A. Stat	e Manifest Docu		
	Exxon U.S.A.	Station # 7	-0230			90	57394
	P.O. Box 4415 Houston, Tx: 77310-	4415		B. Stat	e Generator's ID		
	4. Generator's Phone (415 246-8785			1	HAHG	36.	0198
	Transporter 1 Company Name 6.	US EPA ID Numb			e Transporter's aporter's Phose		5138
	- Particular Control of the Control	A) DI OI OI 9 4 6		1	Transporter's 1		5) 235-1
	7. Transporter 2 Company Name 8.	1 1 1 1 1 1			sporter's Please		
	Designated Facility Name and Site Address 10.	US EPA ID Numb	er .	-	Facility's ID	_	
Н	Gibson Oil / Pilot Petroleum			CI	AID101413	1191/	1012100
П	475 Sea Port Blvd-		12	H. Facil	By's Phone	CLOSE	101101
		N D 0 4 3 2 6	10702			415)	368-5511
	11. US DOT Description (Including Proper Shipping Name, Hazard Cla	CONTROL OF THE CONTRO	12. Cont		13. Total Quantity	14. Unit	Waste
-	The bod bott by training the straining the s	no, and an industry	No.	Type		WI/VO	2.0
- 1	* RQ Hazardous Waste Liquid N.O.S.		4			1	Scata 222
			1		1 534		EPA/Other
٠	ORM_F NA 9189 DO18	-	dal	T T	IPDIE	G	Staja
-			1				11
1			111	1	1111		EPA/Other
Ì	٩.						State
1				1			EPA/Other
Ţ			_111	1	$\Pi\Pi$		750
1	4.						State
١			1				EPA/Other
ŀ	J. Additional Descriptions for Materials Listed Above	N-1-1-1-1	\perp	لياب	Sing Codes for V	Vanta 23	ated shout
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1	Water 99%	1075 42	0. 4		0/	1	25-
1	Gas 0-5%		9.	-			
1	Diesel 0-5% (572	ne56199		.6%	4 24	基本	4 3 4
Ī	15. Special Handling Instructions and Additional Information			11	177		75
1	Gloves ERG 31 24Hr. Contact Na	me -		20	Q. /3	File	RT2-033
1		0-992-3647					
L							
ľ	Id. GENERATOR'S CERTIFICATION: I hereby declare that the context					h., name	r shinning nama
I	and are classified, packed, marked, and labeled, and are in all ren	pects in proper condition	for transport b	y highway	according to as	policable	international an
I	antional government regulations. If I am a large quantity generator, I certify that I have a program in	place to reduce the volu	me and toxicity	of waste	generated to the	e degree	I have determin
ı	to be economically practicable and that I have selected the practic present and future threat to human health and the environment; OR	able method of treatmen	t, storage, or d	inponal cu	greatly available	to me w	hich minimizes
L	generation and select the best waste menagement method that is			O-TAMERANA.			
P	risted Typed Name	Signature		539	20001 20		Month Day
L	DAVE E. DYESS	LABLE E.	Nexes	Sis	A R. EX	NON	109108
_	7. Transporter 1 Acknowledgement of Receipt of Materials	2					
P	riolad Cyped Name	7120	(L_{J})		4		Month Day
1	B. Transporter 2 Acknowledgement of Receipt of Materials	Modern C	A LOCA	wis	/	-	12/10/14
L.	rinted/Typod Name	Signature				-	Month Day
IP	A STATE OF THE STA						1111
P	8. Discrepancy indication Space						A., Lade, la.
L	The same of the sa						
L							
L							
ľ							
20	Facility Owner or Operator Certification of receipt of hazardous materialed/Typeg-Mains	orials covered by this m	anifest except	as rioted	in Rem 19.		Month Day

EXXON INDUSTRIAL WASTE SUMMARY

HEN COMPLETE HAIL TO: ALDA POOL, EXXON CO. U.S.A. P.O. BOX 4415, HOUSTON, TX 77210 WASTE ANALYSIS SHOULD BE ATTACHED.

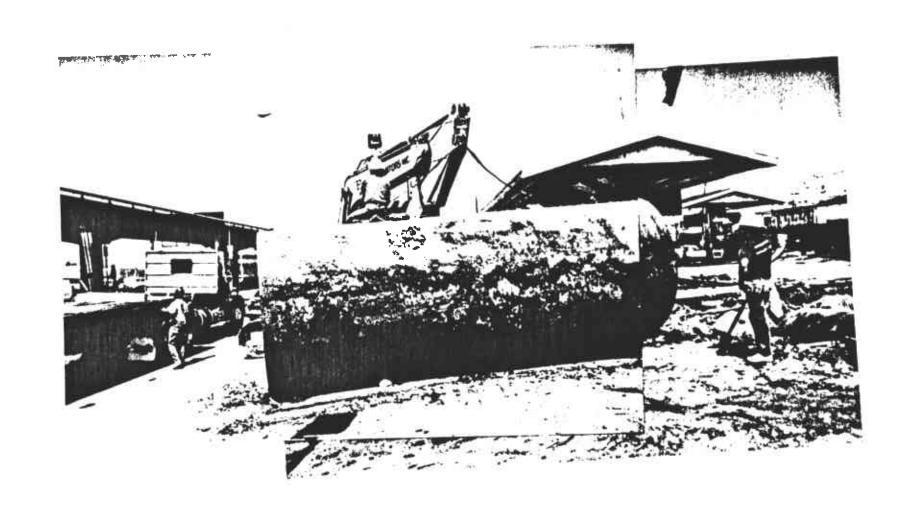
LOCATION: 7-0238		
ADDRESS: 2200 E 1246 St.	city: Oakland	ST: Ca.
REASON GENERATED: Tank Replace	ment	
SOURCE CODE: 489	FORM CODE: <u>B30/</u>	
1200/	CONTAINERS ON TYPE DATE GENERATED:	TS CLE ONE) P Y T
TRA	NSPORTER	**************************************
NAME: DILLARD TRUCKING, INC.	state: _Ca.	
PHONE # 510-634-6850 DA	TE TRANSPORTED: 9/24/9	/
TSD	FACILITY	
NAME: Chemical Waste Management,	Inc.	
ADDRESS: 35251 Old Skyline Road		
CITY: Kettleman City		_
STATE: Ca. ZIP CODE: 93239	PHONE - 800-222-2	964
DATE AT TSD FACILITY: 9/24/91		

EXXON INDUSTRIAL WASTE SUMMARY

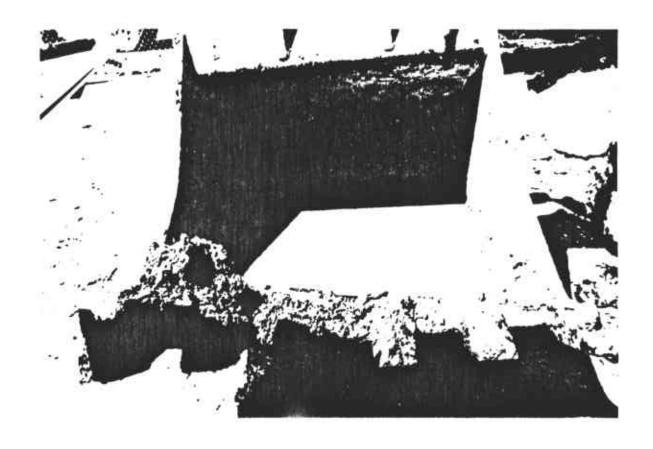
WHEN COMPLETE HAIL TO: ALDA POOL, EXXON CO. U.S.A.
P.O. BOX 4415, HOUSTON, TX 77210
WASTE ANALYSIS SHOULD BE ATTACHED.

OCATION: 17-0238
ADDRESS: 2200 E. 12th St. CITY: CAKLAND ST.CH.
REASON GENERATED:
SOURCE CODE: A89 FORH CODE: B301
QUANTITY: 738 OUANTITY: 738 NO. 4/ TYPE OF GREATED: PREPARED BY: Aucua VIII DATE GENERATED:
TRANSPORTER
NAME: DILLARD TRUCKING, INC. CITY: Byron PHONE # 510-634-6850 DATE TRANSPORTED: 9/25/91 + 9/26/91
TSD FACILITY
NAME: Browning Ferris Industries ADDRESS: 4001 North Vasco Road CITY: Livermore STATE: Ca. ZIP CODE: 94550 PHONE # 510-447-0491 DATE AT TSD FACILITY: 9/25/6/ + 9/21/9/

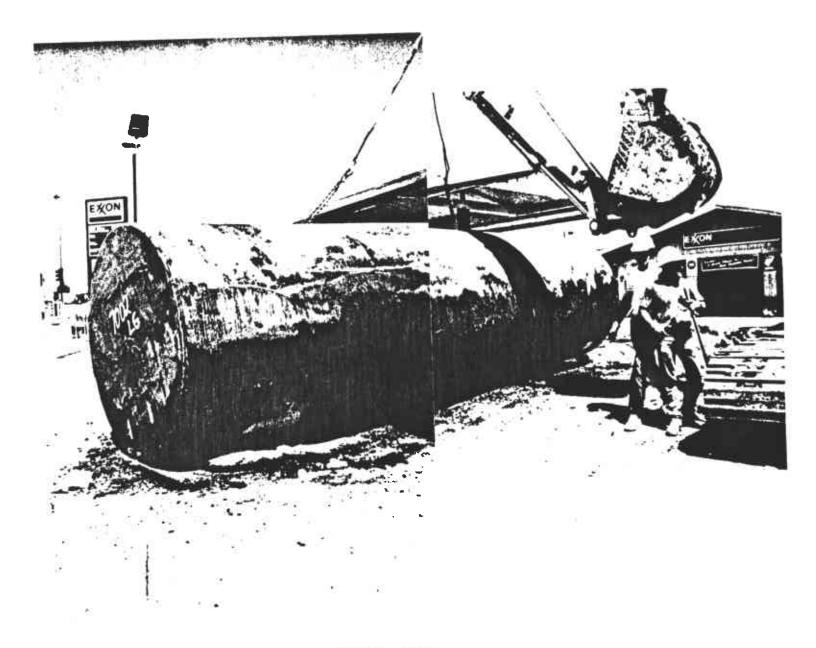
APPENDIX B PHOTODOCUMENTATION OF UST REMOVAL



Exxon RAS 7-0238 Underground Storage Tank Removal : 4 September 1991 2200 East 12th Street Oakland, California
7,500 gallon Single-walled Steel Extra Unleaded Gasoline Tank

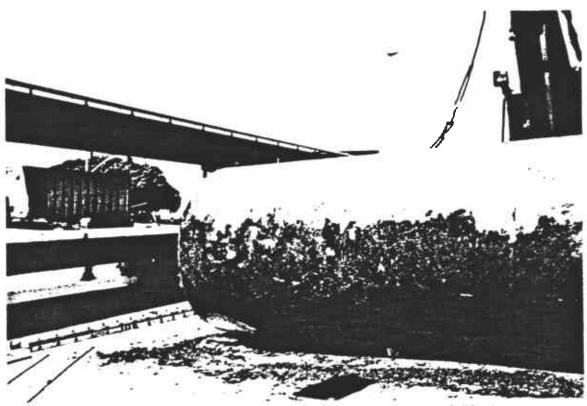


Exxon RAS 7-0238 Underground Storage Tank Removal : 4 September 1991 2200 East 12th Street Oakland, California
Water in backhoe bucket from beneath the Extra Unleaded
Gasoline Tank



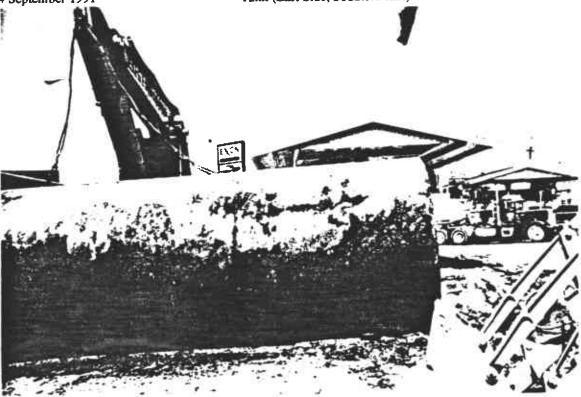
Exxon RAS 7-0238 Underground Storage Tank Removal : 4 September 1991

2200 East 12th Street Oakland, California 10,000 gallon Single-walled Steel Regular Leaded Gasoline Tank (West Side)



Exxon RAS 7-0238 Underground Storage Tank Removal : 4 September 1991

2200 East 12th Street Oakland, California 10,000 gallon Single-walled Steel Regular Unleaded Gasoline Tank (East Side, Southern half)



Exxon RAS 7-0238 Underground Storage Tank Removal: 4 September 1991

2200 East 12th Street Oakland, California 10,000 gallon Single-walled Steel Regular Unleaded Gasoline Tank (East Side, Northern half)



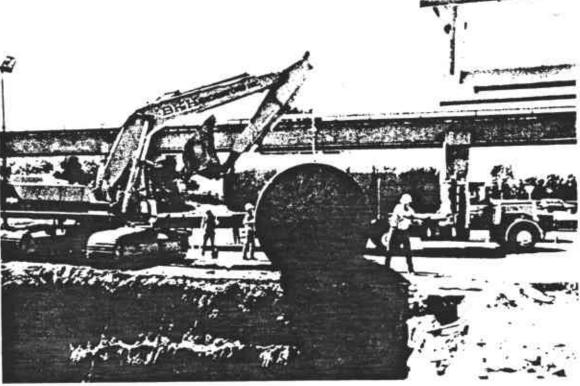
Exxon RAS 7-0238 Underground Storage Tank Removal : 4 September 1991

2200 East 12th Street Oakland, California
Tank bottom and sidewalls after removal of Extra Unleaded and
Regular Unleaded Gasoline Tanks



Exxon RAS 7-0238 Underground Storage Tank Removal : 4 September 1991

2200 East 12th Street Oakland, California 10,000 gallon Single-walled Steel Regular Leaded Gasoline Tank (East Side)



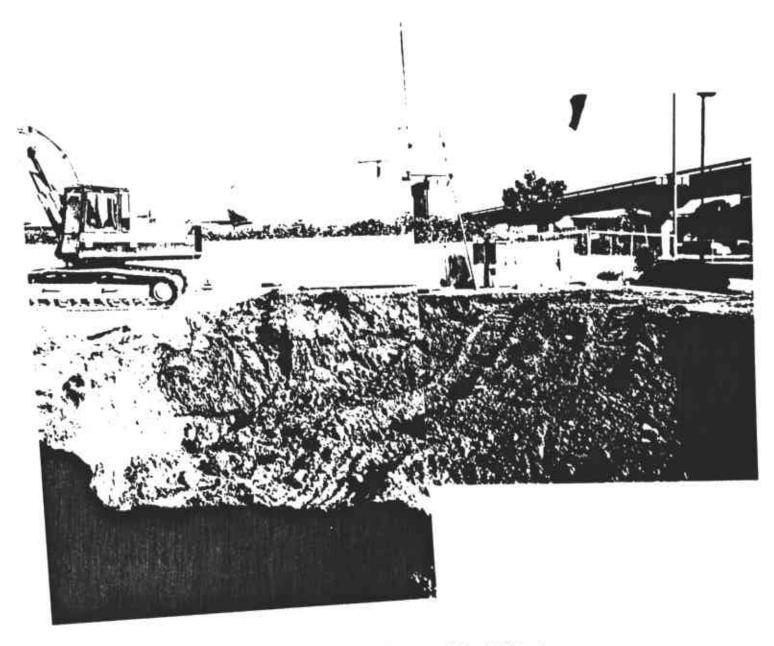
Exxon RAS 7-0238 Underground Storage Tank Removal: 4 September 1991

2200 East 12th Street Oakland, California 10,000 gallon Single-walled Steel Regular Leaded Gasoline Tank (South End)



Exxon RAS 7-0238 Underground Storage Tank Removal : 4 September 1991

2200 East 12th Street Oakland, California
Tank field bottom and sidewalls after removal of 10,000 gallon
Regular Leaded Gasoline Tank



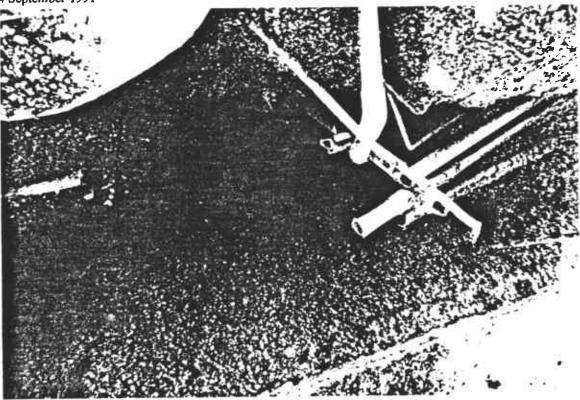
Exxon RAS 7-0238 Underground Storage Tank Removal : 4 September 1991

2200 East 12th Street Oakland, California
Tank field sidewall (south side) after removal of 10,000 gallon
Regular Leaded Gasoline Tank (left hand side)



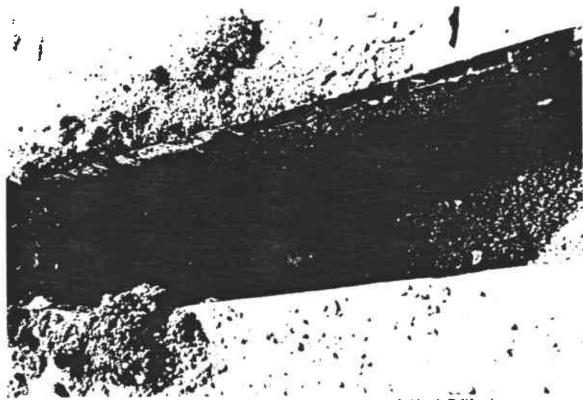
Exxon RAS 7-0238 Product Line Trench Sampling: 4 September 1991

2200 East 12th Street Oakland, California Soil Sample Location P1



Exxon RAS 7-0238
Product Line Trench Sampling:
4 September 1991

2200 East 12th Street Oakland, California Soil Sample Location P2



Exxon RAS 7-0238 Product Line Trench Sampling: 4 September 1991

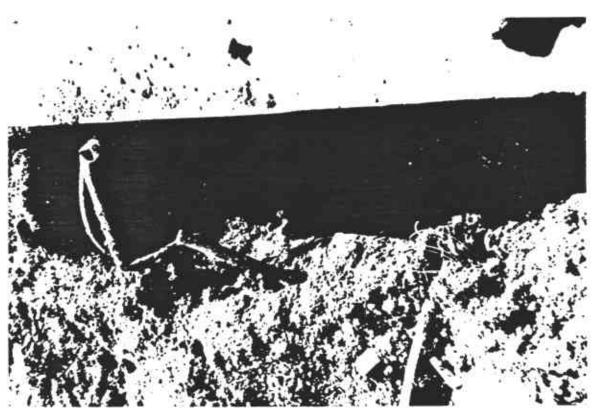
2200 East 12th Street Oakland, California Soil Sample Location P3



Exxon RAS 7-0238 Product Line Trench Sampling : 4 September 1991

2200 East 12th Street Soil Sample Location P4

Oakland, California



Exxon RAS 7-0238 Product Line Trench Sampling : 4 September 1991

2200 East 12th Street Soil Sample Location P5

Oakland, California



Exxon RAS 7-0238 Product Line Trench Sampling: 4 September 1991

2200 East 12th Street Soil Sample Location P6

Oakland, California

APPENDIX C

LABORATORY-GENERATED ANALYTICAL REPORTS INCLUDING CHAINS OF CUSTODY

THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

September 06, 1991

Ms. Anita Yan Woodward-Clyde Consultants 500 12th Street , Suite 100 Oakland, CA 94607

RE: PACE Project No. 410904.503 Exxon 7-0238

Dear Ms. Yan:

Enclosed is the report of laboratory analyses for samples received September 04, 1991.

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

Sincerely,

Carol Posthuma Project Manager

Enclosures



Woodward-Clyde Consultants 500 12th Street , Suite 100 Oakland, CA 94607 September 06, 1991 PACE Project Number: 410904503

Attn: Ms. Anita Yan

Exxon 7-0238

	PACE Sample Number: Date Collected: Date Received: Parameter	<u>Units</u>	MDL_	70 0083796 09/04/91 09/04/91 <u>TP1-11ft.</u>	DATE ANALYZED
	INORGANIC ANALYSIS				
	ORGANIC LEAD IN SOIL; CA DHS METHOD #338 Organic Lead, as Pb Date of Extraction	mg/kg wet n/a	0.2	ND ND	09/05/91 09/05/91
}	ORGANIC ANALYSIS				
	TPH GASOLINE/BTEX TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015) PURGEABLE AROMATICS (BTXE BY EPA 8020): Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet ug/kg wet	20	190000 220 260 320	09/04/91 09/04/91 09/04/91 09/04/91 09/04/91 09/04/91
	Xylenes, Total	ug/kg wet	20	650	09/04/91

MDL ND Method Detection Limit

Not detected at or above the MDL.



Ms. Anita Yan Page / 2 September 06, 1991

PACE Project Number: 410904503

Exxon 7-0238

PACE Sample Number:	70 0083800
Date Collected:	09/04/91
Date Received:	09/04/91

Parameter Units MDL TP2-11ft. DATE ANALYZED

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338
Organic Lead, as Pb mg/kg wet 0.2 ND 09/05/91
Date of Extraction n/a ND 09/05/91

ORGANIC ANALYSIS

TPH GASOLINE/BTEX 09/04/91 TOTAL FUEL HYDROCARBONS, (LIGHT): 09/04/91 1100000 40000 Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 09/04/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): 880 09/04/91 200 uq/kg wet Benzene 09/04/91 200 1600 ug/kg wet Toluene 14000 09/04/91 200 ug/kg wet Ethylbenzene 09/04/91 7700 200 Xylenes, Total ug/kg wet TPH DIESEL, BY EPA METHOD 8015 340 09/05/91 25 mq/kg Extractable Fuels, as Diesel

Extractable Fuels, as Diesel mg/kg 25 340 09/05/91 Sonication Extraction, Date Started 9/5/91 09/05/91

MDL Method Detection Limit

ND Not detected at or above the MDL.



Ms. Anita Yan Page , 3 September 06, 1991

PACE Project Number: 410904503

Exxon 7-0238

PACE Sample Number: 70 0083818
Date Collected: 09/04/91
Date Received: 09/04/91

Parameter Units MDL TP3-11ft. DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX 09/04/91 TOTAL FUEL HYDROCARBONS, (LIGHT): 09/04/91 Purgeable Fuels, as Gasoline (EPA 8015) ND ug/kg wet 200 09/04/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): ND 09/04/91 1.0 ug/kg wet 09/04/91 ND ug/kg wet 1.0 Toluene 09/04/91 ND Ethylbenzene ug/kg wet 1.0 09/04/91 ug/kg wet 1.0 ND Xylenes, Total

MDL Method Detection Limit

ND Not detected at or above the MDL.



Ms. Anita Yan Page 4

September 06, 1991

PACE Project Number: 410904503

Exxon 7-0238

PACE Sample Number:

Date Collected:

Date Received:

Parameter

70 0083826 09/04/91

09/04/91

DATE ANALYZED MDL TP4-11ft. Units

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

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

Benzene

Toluene

Ethylbenzene

Xylenes, Total

09/04/91 09/04/91 ND ug/kg wet 200

09/04/91

ND 09/04/91 09/04/91 ND

ND 09/04/91

ug/kg wet 1.0 ND

1.0

1.0

1.0

ug/kg wet

ug/kg wet

ug/kg wet

09/04/91

MDL ND

Method Detection Limit

Not detected at or above the MDL.



Ms. Anita Yan Page 🛂 5 September 06, 1991

PACE Project Number: 410904503

Exxon 7-0238

PACE Sample Number:			70 0083834
Date Collected:			09/04/91
Date Received:			09/04/91
Davamatan	Unite	MDI	TD5_11f+

Parameter Units MDL TP5-11ft. DATE ANALYZED

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #3 Organic Lead, as Pb Date of Extraction	88 mg/kg wet 0.2 n/a	•	05/91 05/91
ORGANIC ANALYSIS			

TPH GASOLINE/BTEX
TOTAL FUEL HYDROCARBONS, (LIGHT):
Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 200 780 09/04/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):
- 09/04/91

Xylenes, Total ug/kg wet 1.0 25 09/04/91

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

Los Angeles, California



Ms. Anita Yan Page , 6

September 06, 1991

PACE Project Number: 410904503

Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received:

Parameter

70 0083842 09/04/91

09/04/91

TP6-11ft. DATE ANALYZED

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338

Organic Lead, as Pb Date of Extraction

mg/kg wet 0.2 n/a

Units

MDL

ND ND

09/05/91 09/05/91

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

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

Toluene Ethylbenzene ug/kg wet 1.0 ug/kg wet 1.0

ug/kg wet

1.0 ug/kg wet

200

3.3 ND 1.2

470

09/04/91 09/04/91 09/04/91

09/04/91 09/04/91

09/04/91

Xylenes, Total

ug/kg wet 1.0 1.7 09/04/91

MDL ND

Method Detection Limit

Not detected at or above the MDL.

These data have been reviewed and are approved for release.

Mark! A. Valentini, Ph.D.

Regional Director



Ms. Anita Yan Page 7 QUALITY CONTROL DATA

September 06, 1991

PACE Project Number: 410904503

Spike

Exxon 7-0238

Organic Lead, as Pb Batch: 70 05969

Samples: 70 0083796, 70 0083800, 70 0083834, 70 0083842

METHOD BLANK AND SAMPLE DUPLICATE:

Duplicate

Method 70 0083796 of

SPIKE AND SPIKE DUPLICATE:

LABORATORY CONTROL SAMPLE:

MDL Method Detection Limit

RPD Relative Percent Difference

NC No calculation due to value below detection limit.



Ms. Anita Yan Pagé 🜛 8 QUALITY CONTROL DATA

September 06, 1991

Reference

PACE Project Number: 410904503

Dupl

Exxon 7-0238

TPH DIESEL, BY EPA METHOD 8015

Batch: 70 05970 Samples: 70 0083800

METHOD BLANK:

method rameter Units MDL Blank

Parameter Units MDL Blank Extractable Fuels, as Diesel mg/kg 5.0 ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter Units MDL Value Recv RPD mg/kg m

MDL Method Detection Limit
RPD Relative Percent Difference



Ms. Anita Yan Page 9 QUALITY CONTROL DATA

September 06, 1991

PACE Project Number: 410904503

D...-1

Exxon 7-0238

TPH GASOLINE/BTEX

Batch: 70 05943

Samples: 70 0083796, 70 0083800, 70 0083818, 70 0083826, 70 0083834

70 0083842

METHOD BLANK:

Parameter TOTAL FUEL HYDROCARBONS, (LIGHT):	<u>Units</u>	MDL	Method Blank
Purgeable Fuels, as Gasoline (EPA 801 PURGEABLE AROMATICS (BTXE BY EPA 8020	ug/kg wet	200	ND -
Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet	1.0	ND ND ND
Xylenes, Total	ug/kg wet	1.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

	Keterence		Dupi	
Parameter Units M	MDL Value_		Recv RPD	
Purgeable Fuels, as Gasoline (EPA 801 ug/kg wet 2	200 385	103%	105% 1%	
Benzene ug/kg wet 1		89%	91% 2%	
Toluene ug/kg wet 1		92%	95% 3%	
Xylenes, Total ug/kg wet 1	1.0	96%	98% 2%	

MDL Method Detection Limit
RPD Relative Percent Difference



EXXON COMPANY, U.S.A. P.O. Box 4415, Houston, TX 77210-4415 CHAIN OF CUSTODY

THE ASSURANCE O	F QUALITY			_	_			1.40	~~	1.1	~_		. /	ميد	1	V1			1
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Sampler Signature	IMM		Date Sa	mpled	ŭε			2 EX		Ĭ		9889	İ						
		4	SER	# of Cont.	15/80	5 C	Lead	TPH/GAS/BTEX EPA 8015/602	15	Organic Lead OHS Method	1.0	Total Oil & Gream SM 5520							
Sample Description	Collection Date/Time	Matrix	Prsv.	# of	15 8 8	TPH/Diesel EPA 8015	TS K	7¥.00	TPH/Diesel EPA 8015	Ž Ž	PA 4	M 552			l		Re	emarks	
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September 09, 1991

Ms. Anita Yan Woodward-Clyde Consultants 500 12th Street, Suite 100 Oakland, CA 94607

PACE Project No. 410905.500 Exxon 7-0238

Dear Ms. Yan:

Enclosed is the report of laboratory analyses for samples received September 05, 1991.

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

Sincerely,

Caron & Sontage

Carol Posthuma
Project Manager

Enclosures

Kansas City, Missouri Los Angeles, California



Woodward-Clyde Consultants 500 12th Street, Suite 100 Oakland, CA 94607

September 09, 1991

PACE Project Number: 410905500

Attn: Ms. Anita Yan

Exxon 7-0238

70 0083966 PACE Sample Number: 09/04/91 Date Collected:

09/05/91 Date Received:

DATE ANALYZED MDL P1-3ft Units Parameter

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338 ND 09/06/91 mg/kg wet 0.2 Organic Lead, as Pb

ORGANIC ANALYSIS

Xylenes, Total

TPH GASOLINE/BTEX TOTAL FUEL HYDROCARBONS, (LIGHT): 09/05/91 4000 27000 09/05/91 Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 09/05/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): 09/05/91 440 20 Benzene ug/kg wet 09/05/91 ug/kg wet 20 130 Toluene 09/05/91 20 890

ug/kg wet Ethylbenzene 09/05/91

ug/kg wet

20

Method Detection Limit MDL ND Not detected at or above the MDL. 290



Ms. Anita Yan Page 2 September 09, 1991

PACE Project Number: 410905500

Exxon 7-0238

PACE Sample Number:

Date Collected:

Date Received:

Parameter

70 0083974 09/04/91

09/05/91

P2-6ft DATE ANALYZED

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338

Organic Lead, as Pb

mg/kg wet 0.2 ND

MDL

09/06/91

09/05/91

09/05/91

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT):

Purgeable Fuels, as Gasoline (EPA 8015) PURGEABLE AROMATICS (BTXE BY EPA 8020):

Benzene

Benzene

Benzene

Toluene

Ethylbenzene

mg/kg wet mg/kg wet

Units

et 0.5 et 0.5

100

.5 10 .5 55 09/05/91 09/05/91 09/05/91

mg/kg wet 0.5 55 mg/kg wet 0.5 16

09/05/91

Xylenes, Total

mg/kg wet 0.5

88

(PPM)

1200

(PPM)

09/05/91

MDL

Method Detection Limit

ND

Not detected at or above the MDL.



Ms. Anita Yan Page 3

September 09, 1991

PACE Project Number: 410905500

Exxon 7-0238

70 0083982 PACE Sample Number: 09/04/91 Date Collected: 09/05/91

Date Received:

P3-3ft DATE ANALYZED MDL Units Parameter

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338 09/06/91 ND 0.2

mg/kg wet Organic Lead, as Pb

ORGANIC ANALYSIS

TPH GASOLINE/BTEX 09/05/91 TOTAL FUEL HYDROCARBONS, (LIGHT):

Purgeable Fuels, as Gasoline (EPA 8015) 4000 190000 09/05/91 ug/kg wet 09/05/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): 09/05/91 410 20

ug/kg wet Benzene 20 2200 09/05/91 ug/kg wet Toluene 09/05/91 20 930 ug/kg wet Ethylbenzene

09/05/91 5400 Xylenes, Total uq/kg wet 20

MDL Method Detection Limit

Not detected at or above the MDL. ND.



Ms. Anita Yan Page 4 September 09, 1991

PACE Project Number: 410905500

Exxon 7-0238

PACE Sample Number:

Date Collected:

Date Received: Parameter 70 0083990 09/04/91

09/05/91

P4-4ft

DATE ANALYZED

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338

Organic Lead, as Pb

mg/kg wet 0.2

ug/kg wet

ug/kg wet

Units

MDL

ND

09/06/91

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT):
Purgeable Fuels, as Gasoline (EPA 8015)

PURGEABLE AROMATICS (BTXE BY EPA 8020):
Benzene

Toluene Ethylbenzene

Xylenes, Total

- 09/05/91 ug/kg wet 1000 1900 09/05/91

- 09/05/91 ug/kg wet 5.0 7.0 09/05/91

5.0 7.0 5.0 13 5.0 24

09/05/91 09/05/91

ug/kg wet 5.0 34 09/05/91

MDL ND

Method Detection Limit

Not detected at or above the MDL.



Ms. Anita Yan Page 5 September 09, 1991

PACE Project Number: 410905500

Exxon 7-0238

 PACE Sample Number:
 70 0084008

 Date Collected:
 09/04/91

 Date Received:
 09/05/91

Parameter Units MDL P5-3ft DATE ANALYZED

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338
Organic Lead, as Pb mg/kg wet 0.2 ND 09/06/91

ORGANIC ANALYSIS

TPH GASOLINE/BTEX 09/05/91 TOTAL FUEL HYDROCARBONS, (LIGHT): 35000 09/05/91 2000 Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet PURGEABLE AROMATICS (BTXE BY EPA 8020): 09/05/91 09/05/91 410 10 ug/kg wet Benzene 260 09/05/91 10 ug/kg wet Toluene

Ethylbenzene ug/kg wet 10 340 09/05/91

Xylenes, Total ug/kg wet 10 1400 09/05/91

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



Ms. Anita Yan Page

September 09, 1991

PACE Project Number: 410905500

Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received:

Parameter

70 0084016 09/04/91

09/05/91 P6-3ft

DATE ANALYZED

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338

Organic Lead, as Pb

mg/kg wet 0.2

Units

ND

MDL

4000

09/06/91

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

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

Ethylbenzene Xylenes, Total 20

180 670 09/05/91 09/05/91

09/05/91

09/05/91

20 09/05/91 09/05/91 20 1700 ug/kg wet

ug/kg wet 20 2700

240000

09/05/91

MDL ND

Method Detection Limit

Not detected at or above the MDL.

These data have been reviewed and are approved for release.

Mark A. Valentini, Ph.D.

Regional Director

Los Angeles, California



Ms. Anita Yan Page

QUALITY CONTROL DATA

September 09, 1991

PACE Project Number: 410905500

Exxon 7-0238

Organic Lead, as Pb

Batch: 70 05987

Samples: 70 0083966, 70 0083974, 70 0083982, 70 0083990, 70 0084008

70 0084016

METHOD BLANK AND SAMPLE DUPLICATE:

Duplicate

70 0083966 of

Parameter Organic Lead, as Pb Units mg/kg wet MDL

Method Blank $\overline{\mathsf{ND}}$

P1-3ft \overline{ND}

70 0083966 ND

RPD NC

SPIKE AND SPIKE DUPLICATE:

Spike

Dupl

Parameter

Organic Lead, as Pb

MDL Units $\overline{0.2}$ mq/kg wet

70 0083966 P1-3ft Spike 1.25 ND

Spike Recv Recv 93%

RPD 96% 3%

LABORATORY CONTROL SAMPLE:

Parameter

Organic Lead, as Pb

Units MDL $\overline{0.2}$ mg/kg wet

Reference Value 1.25

Recv 98%

MDL

Method Detection Limit

RPD

Relative Percent Difference

No calculation due to value below detection limit.



Ms. Anita Yan Page

QUALITY CONTROL DATA

September 09, 1991

PACE Project Number: 410905500

Exxon 7-0238

TPH GASOLINE/BTEX

Batch: 70 05981

Samples: 70 0083966, 70 0083974, 70 0083982, 70 0083990, 70 0084008

70 0084016

METHOD BLANK:

Parameter TOTAL FUEL HYDROCARBONS, (LIGHT):	<u>Units</u>	MDL	Method Blank
Purgeable Fuels, as Gasoline (EPA 801 PURGEABLE AROMATICS (BTXE BY EPA 8020	ug/kg wet	200	ND -
Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet	1.0	ND ND ND
Xylenes, Total	ug/kg wet	1.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

ENDORATORY CONTINCE SAME EL MAD CONTINCE CHANGE		Reference		Dupl	
Parameter Units	MDL	Value	Recv	Recv F	
Purgeable Fuels, as Gasoline (EPA 801 ug/kg w	et 200	350	104%	102%	1%
	et 1.0	40	95%	91%	4%
5, 5	et 1.0	40	98%	94%	4%
	et 1.0	120	107%	102%	4%

Method Detection Limit MDL RPD

Relative Percent Difference



EXXON COMPANY, U.S.A.

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September 11, 1991

Ms. Anita Yan Woodward-Clyde Consultants 500 12th Street , Suite 100 Oakland, CA 94607

RE: PACE Project No. 410906.501 Exxon 7-0238

Dear Ms. Yan:

Enclosed is the report of laboratory analyses for samples received September 06, 1991.

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

Sincerely,

Carol Posthuma Project Manager

Enclosures



Woodward-Clyde Consultants 500 12th Street , Suite 100 Oakland, CA 94607 September 11, 1991

PACE Project Number: 410906501

Attn: Ms. Anita Yan

Exxon 7-0238

PACE Sample Number: 70 0084776
Date Collected: 09/05/91

Date Received: 09/06/91

Parameter Units MDL TC1-12ft DATE ANALYZED

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338

Organic Lead, as Pb mg/kg wet 0.2 ND 09/09/91

ORGANIC ANALYSIS

TPH GASOLINE/BTEX
TOTAL FUEL HYDROCARBONS, (LIGHT): - 09/06/91

Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 200 2500 09/06/91
PURGEABLE AROMATICS (BTXE BY EPA 8020): - 09/06/91
Panzone ug/kg wet 1 0 5.0 09/06/91

 Benzene
 ug/kg wet 1.0
 5.0
 09/06/91

 Toluene
 ug/kg wet 1.0
 12
 09/06/91

 Ethylbenzene
 ug/kg wet 1.0
 78
 09/06/91

Xylenes, Total ug/kg wet 1.0 120 09/06/91

MDL Method Detection Limit

ND Not detected at or above the MDL.



Ms. Anita Yan Page 2 September 11, 1991

PACE Project Number: 410906501

Exxon 7-0238

PACE Sample Number: 70 0084784
Date Collected: 09/05/91
Date Received: 09/06/91

Parameter Units MDL TC2-11ft DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX 09/06/91 TOTAL FUEL HYDROCARBONS, (LIGHT): ND 09/06/91 Purgeable Fuels, as Gasoline (EPA 8015) 200 ug/kg wet 09/06/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): 09/06/91 ND ug/kg wet 1.0 Benzene 1.0 ND 09/06/91 ug/kg wet Toluene 09/06/91 ND uq/kg wet 1.0 Ethylbenzene 09/06/91 ND ug/kg wet 1.0 Xylenes, Total

MDL Method Detection Limit

ND Not detected at or above the MDL.



Ms. Anita Yan Page 3 September 11, 1991

PACE Project Number: 410906501

Exxon 7-0238

PACE Sample Number: Date Collected:

Date Collected: Data Pasaiyad:

Date Received: Parameter 70 0084792 09/05/91 09/06/91

TC2- 5ft DATE ANALYZED

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338

Organic Lead, as Pb

mg/kg wet 0.2 ND 09/09/91

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT):
Purgeable Fuels, as Gasoline (EPA 8015)

PURGEABLE AROMATICS (BTXE BY EPA 8020): Benzene

Toluene Ethylbenzene

Xylenes, Total

ug/kg wet 200 2000 09/06/91 - 09/06/91

ug/kg wet 1.0 78 ug/kg wet 1.0 22

MDL

Units

ug/kg wet 1.0 2 ug/kg wet 1.0 9

9.0 09/06/91

ug/kg wet 1.0

13

09/06/91

09/06/91

09/06/91

MDL ND

Method Detection Limit

Not detected at or above the MDL.



Ms. Anita Yan Page

September 11, 1991

PACE Project Number: 410906501

Exxon 7-0238

70 0084806 PACE Sample Number: Date Collected: 09/05/91 Date Received: 09/06/91

TC3- 5ft MDL DATE ANALYZED Units Parameter

INORGANIC ANALYSIS

ORGANIC LEAD IN SOIL; CA DHS METHOD #338

09/09/91 ND 0.2 Organic Lead, as Pb mg/kg wet

ORGANIC ANALYSIS

TPH GASOLINE/BTEX TOTAL FUEL HYDROCARBONS, (LIGHT): 09/06/91 1600 09/06/91 Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 200 09/06/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): 26 09/06/91

Benzene ug/kg wet 1.0 17 09/06/91 Toluene ug/kg wet 1.0 4.3 09/06/91 Ethylbenzene ug/kg wet 1.0

11 09/06/91 Xylenes, Total ug/kg wet 1.0

MDL Method Detection Limit

ND Not detected at or above the MDL.



Ms. Anita Yan 5 Page

September 11, 1991 PACE Project Number: 410906501

Exxon 7-0238

PACE Sample Number:	70 0084814
Date Collected:	09/05/91
Date Received:	09/06/91

Units MDL TC3-12ft DATE ANALYZED Parameter

ORGANIC ANALYSIS

TPH GASOLINE/BTEX TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015) PURGEABLE AROMATICS (BTXE BY EPA 8020): Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet ug/kg wet	1.0	- ND - ND ND ND	09/06/91 09/06/91 09/06/91 09/06/91 09/06/91
Xylenes, Total	ug/kg wet	1.0	ND	09/06/91

MDL Method Detection Limit

Not detected at or above the MDL. ND



Ms. Anita Yan Page 6 September 11, 1991

PACE Project Number: 410906501

Exxon 7-0238

PACE Sample Number:	70 0084822
Date Collected:	09/05/91
Date Received:	09/06/91

Parameter Units MDL TC4-11ft DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015) PURGEABLE AROMATICS (BTXE BY EPA 8020): Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet ug/kg wet	1.0	- ND - ND ND ND	09/06/91 09/06/91 09/06/91 09/06/91 09/06/91
Xylenes, Total	ug/kg wet	1.0	1.8(CM)	09/06/91

MDL Method Detection Limit

ND Not detected at or above the MDL.

(CM) This analyte was present on the confirmation run but was below the MDL.

These data have been reviewed and are approved for release.

Mark A. Valentini, Ph.D.

Regional Director



Ms. Anita Yan Page 7 QUALITY CONTROL DATA

September 11, 1991

PACE Project Number: 410906501

Spike

Exxon 7-0238

Organic Lead, as Pb Batch: 70 06034

Samples: 70 0084776, 70 0084792, 70 0084806

METHOD BLANK AND SAMPLE DUPLICATE:

Duplicate

Method 70 0084806 of

Method 70 0084806 of

 $\frac{\text{Parameter}}{\text{Organic Lead, as Pb}} \qquad \frac{\text{Units}}{\text{mg/kg}} \quad \frac{\text{MDL}}{\text{wet}} \quad \frac{\text{Blank}}{\text{ND}} \quad \frac{\text{TC3- 5ft}}{\text{ND}} \quad \frac{70\ 0084806}{\text{ND}} \quad \frac{\text{RPD}}{\text{NC}}$

SPIKE AND SPIKE DUPLICATE:

Spike Dupl 70 0084806 **RPD** TC3- 5ft Recv Recv MDL Spike Units Parameter 98% 95% 3% 0.2 ND mg/kg wet Organic Lead, as Pb

LABORATORY CONTROL SAMPLE:

MDL Method Detection Limit

RPD Relative Percent Difference

NC No calculation due to value below detection limit.



Ms. Anita Yan Page 8 QUALITY CONTROL DATA

September 11, 1991

PACE Project Number: 410906501

Exxon 7-0238

TPH GASOLINE/BTEX

Batch: 70 05988

Samples: 70 0084776, 70 0084784, 70 0084792, 70 0084806, 70 0084814

70 0084822

METHOD BLANK:

Parameter (IV)	<u>Units</u>	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 801 PURGEABLE AROMATICS (BTXE BY EPA 8020	ug/kg wet	200	ND -
Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet	1.0	ND ND ND
Xylenes, Total	ug/kg wet	1.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

ENDORATOR! CONTINUE SAME EL PARE CONTINUE SAME EL BOT ELO, MEL	Reference		Dupl
Parameter Units MDL			Recv RPD
Purgeable Fuels, as Gasoline (EPA 801 ug/kg wet 200	$\frac{350}{1}$	105%	107% 1%
Benzene ug/kg wet 1.0	40	92%	89% 3%
Toluene ug/kg wet 1.0	40	94%	91% 3%
Xylenes. Total ug/kg wet 1.0	120 1	103%	99% 3%

MDL Method Detection Limit
RPD Relative Percent Difference



EXXON COMPANY, U.S.A. P.O. Box 4415, Houston, TX 77210-4415 CHAIN OF CUSTODY

THE ASSURANCE OF QUALITY			an andrew	Carren make	~						
•	Consultant Name		RD-CLYDE								
Novato, CA	Address: 500 1204 ST Ste 100 Oakland, CA										
11 Digital Drive, 94949	Project Contact: ANTO YAN Project #: 91 CO350A										
(415) 883-6100	Phone #: (5(0) 874 3081 Fax #: 510 874 3268										
7	Consultant Work Release #: 91045252										
Irvine, CA											
Alton Business Park 30 Hughes St., Suite 206, 92718											
(714) 380-9559	Suite 250, 327 10										
(114)000 0000	Site Location:	17th Chat	22nd Ave, Oak	and ICA							
			or AND I CAN	100							
	Laboratory Work	K Helease #.									
Sampled by (please print)	SOIL	WATER									
ANITA YAN			8								
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Sample Collection Description Date/Time Matrix Prs	TPH/GAS/81	Organic Lead DHS Method TPH/CAS/BTEX EPA 8015/802 TPH/Diesel EPA 8015 Organic Lead OHS Method	TRPH EPA 418.1 Total Oil 8 SM 5520								
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<u></u>					- -						

September 12, 1991

Ms. Anita Yan Woodward-Clyde Consultants 500 12th Street , Suite 100 Oakland, CA 94607

RE: PACE Project No. 410911.506 Exxon 7-0238

Dear Ms. Yan:

Enclosed is the report of laboratory analyses for samples received September 11, 1991.

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

Sincerely,

Carol Posthuma Project Manager

Enclosures

Los Angeles, California



Woodward-Clyde Consultants 500 12th Street , Suite 100 Oakland, CA 94607 September 12, 1991

PACE Project Number: 410911506

Attn: Ms. Anita Yan

Exxon 7-0238

PACE Sample Number: 70 0087201
Date Collected: 09/11/91
Date Received: 09/11/91

Parameter Units MDL P3-12ft DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX 09/11/91 TOTAL FUEL HYDROCARBONS, (LIGHT): 09/11/91 1500 Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 1000 09/11/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): 09/11/91 680 ug/kg wet 5.0 Benzene 09/11/91 5.0 ND ug/kg wet Toluene 09/11/91 ug/kg wet 5.0 ND Ethylbenzene 09/11/91 9.0 ug/kg wet 5.0 Xylenes, Total

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

San Francisco, California

Kansas City, Missouri

Los Angeles, California



Ms. Anita Yan Page 2 September 12, 1991

PACE Project Number: 410911506

Exxon 7-0238

PACE Sample Number: 70 0087210
Date Collected: 09/11/91
Date Received: 09/11/91

Parameter Units MDL P2-13ft DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX 09/11/91 TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015) 250 09/11/91 200 ug/kg wet 09/11/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): 09/11/91 14 1.0 ug/kg wet Benzene 09/11/91 7.7 ug/kg wet 1.0 Toluene 1.0 7.0 09/11/91 ug/kg wet Ethylbenzene

Xylenes, Total ug/kg wet 1.0 23 09/11/91

MDL Method Detection Limit



Ms. Anita Yan Page 3 September 12, 1991

PACE Project Number: 410911506

Exxon 7-0238

Parameter

PACE Sample Number: Date Collected: Date Received: 70 0087228 09/11/91

09/11/91 P6-11ft

MDL

DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015) PURGEABLE AROMATICS (BTXE BY EPA 8020): Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet ug/kg wet	5.0 5.0	- 1300 - ND ND 81	09/11/91 09/11/91 09/11/91 09/11/91 09/11/91 09/11/91
Xylenes, Total	ug/kg wet	5.0	370	09/11/91

Units

MDL ND Method Detection Limit

Not detected at or above the MDL.

These data have been reviewed and are approved for release.

Dauell Coein for Mark A. Valentini, Ph.D.

Regional Director



Ms. Anita Yan Page 4 QUALITY CONTROL DATA

September 12, 1991

Reference

Dunl

PACE Project Number: 410911506

Exxon 7-0238

TPH GASOLINE/BTEX Batch: 70 06092

Samples: 70 0087210, 70 0087228

METHOD BLANK:

Parameter	<u>Units</u>	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 801 PURGEABLE AROMATICS (BTXE BY EPA 8020	ug/kg wet	200	ND -
Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet	1.0	ND ND ND
Xylenes, Total	ug/kg wet		ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Purgeable Fuels, as Gasoline (EPA 801 ug/kg wet 2 Benzene ug/kg wet 1	1 Y	
Toluene $\frac{\text{ug/kg wet } 1}{\text{ug/kg wet } 1}$		
Xylenes, Total ug/kg wet 1	.0 120 9	8% 98% 0 %

MDL Method Detection Limit
RPD Relative Percent Difference



Ms. Anita Yan Page 5 QUALITY CONTROL DATA

September 12, 1991

Deference

PACE Project Number: 410911506

Dun I

Exxon 7-0238

TPH GASOLINE/BTEX Batch: 70 06093 Samples: 70 0087201

METHOD BLANK:

Parameter TOTAL FUEL HYDROCARBONS, (LIGHT):	<u>Units</u>	MDL	Method Blank
Purgeable Fuels, as Gasoline (EPA 801 PURGEABLE AROMATICS (BTXE BY EPA 8020	ug/kg wet	200	ND -
Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet	1.0	ND ND ND
Xylenes, Total	ug/kg wet		ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter Purgeable Fuels, as Gasoline (EPA 801 ug/kg wet ug/kg wet Toluene Parameter Units ug/kg wet ug/kg wet	MDL V 200 3 1.0 4 1.0 4	85 100% 0 85% 0 88%	Recv RPD 101% 0% 87% 2% 90% 2%
Xylenes, Total ug/kg wet		20 92%	94% 2%

MDL Method Detection Limit
RPD Relative Percent Difference



EXXON COMPANY, U.S.A.
P.O. Box 4415, Houston, TX 77210-4415
CHAIN OF CUSTODY

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(415) 883-6100																															
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30 Hughes St.,		2718		Exxo	n Co	ntact:	G	REG	W	MAF	₹Z <i>O</i>				Phone	e #:	(510)2	46 8726													
(714) 380-9559			_	Exxon Contact: GREG TEMARZO Phone #: (510) 246 E																											
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ANITA YAN	nıy					SOIL		1	VATE			١.																			
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September 19, 1991

Ms. Anita Yan Woodward-Clyde Consultants 500 12th Street , Suite 100 Oakland, CA 94607

ard fasthuma

RE: PACE Project No. 410912.503 Client Reference: Exxon 7-0238

Dear Ms. Yan:

Enclosed is the report of laboratory analyses for samples received September 12, 1991.

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

Sincerely,

Carol Posthuma Project Manager

Enclosures

Los Angeles, California



Woodward-Clyde Consultants 500 12th Street , Suite 100 Oakland, CA 94607 September 19, 1991

PACE Project Number: 410912503

Attn: Ms. Anita Yan

Client Reference: Exxon 7-0238

PACE Sample Number:
Date Collected:
Date Received:
Client Sample ID:

70 0087961 09/11/91 09/12/91 SP1A+B+C+D

Parameter Units MDL Composite DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX 09/13/91 TOTAL FUEL HYDROCARBONS, (LIGHT): 3000 09/13/91 200 Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet PURGEABLE AROMATICS (BTXE BY EPA 8020): 09/13/91 ND 09/13/91 1.0 Benzene ug/kg wet ND 09/13/91 ug/kg wet 1.0 Toluene 09/13/91 ug/kg wet 1.0 5.3 Ethylbenzene ug/kg wet 1.0 5.9 09/13/91 Xylenes, Total

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



Ms. Anita Yan Page

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID:

Parameter

70 0087970

09/11/91 09/12/91

MDL

SP2A+B+C+D

Composite DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015) PURGEABLE AROMATICS (BTXE BY EPA 8020): Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet ug/kg wet	1.0	ND - ND ND ND	09/13/91 09/13/91 09/13/91 09/13/91 09/13/91 09/13/91
Xylenes, Total	ug/kg wet		ND	09/13/91

Units

MDL ND

Method Detection Limit



Ms. Anita Yan Page 3 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received: Client Sample ID:

Parameter

Units

09/11/91 09/12/91 SP3A+B+C+D

70 0087988

Composite DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

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

Ethylbenzene

09/13/91 360 200 09/13/91 ND 09/13/91 ug/kg wet 1.0 09/13/91 ug/kg wet ND 1.0 ND 09/13/91 1.0 ug/kg wet

Xylenes, Total

ug/kg wet 1.0 1.4

MDL

09/13/91

09/13/91

MDL ND Method Detection Limit



Ms. Anita Yan Page 4 September 19, 1991

PACE Project Number: 410912503

09/16/91

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID:

<u>Parameter</u> <u>U</u>

70 0087996

09/11/91

09/12/91 SP4A+B+C+D

Units MDL Composite DATE ANALYZED

11

1.0

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

09/16/91 TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015) 820 09/16/91 200 ug/kg wet 09/16/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): ND 09/16/91 1.0 ug/kg wet Benzene 09/16/91 ug/kg wet 1.0 5.8 Toluene 1.7 09/16/91 1.0 ug/kg wet Ethylbenzene

ug/kg wet

Xylenes, Total

MDL

ND

Method Detection Limit



Ms. Anita Yan

Page 5 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID: Parameter

70 0088003 09/11/91

09/12/91 SP5A+B+C+D

MDL Composite DATE ANALYZED Units

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015)

Benzene

Ethylbenzene

Toluene

PURGEABLE AROMATICS (BTXE BY EPA 8020):

Xylenes, Total

09/16/91 72000 09/16/91 2000 ug/kg wet 09/16/91 ND 09/16/91

10 ug/kg wet 10 ug/kg wet 10 ug/kg wet

ug/kg wet

10

670 600

710

09/16/91 09/16/91

09/16/91

MDL ND

Method Detection Limit



Ms. Anita Yan Page 6 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID: Parameter

70 0088011 09/11/91 09/12/91 SP6A+B+C+D

Composite DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX
TOTAL FUEL HYDROCARBONS, (LIGHT):

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

Toluene Ethylbenzene

Xylenes, Total

Agrenes, room,

Units

ug/kg wet

ug/kg wet

ug/kg wet

ug/kg wet

ug/kg wet

1.0

200

1.0

1.0

1.0

MDL

1.8 4.9

1100

ND

9.6

09/16/91

09/16/91

09/16/91

09/16/91

09/16/91

09/16/91

09/16/91

MDL ND Method Detection Limit



Ms. Anita Yan Page 7 September 19, 1991

PACE Project Number: 410912503

09/16/91

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID: Parameter

70 0088020 09/11/91

340

MDL

25

09/12/91 SP7A+B+C+D

Composite DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

09/16/91 TOTAL FUEL HYDROCARBONS, (LIGHT): 32000 09/16/91 Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 5000 PURGEABLE AROMATICS (BTXE BY EPA 8020): 09/16/91 ND 09/16/91 Benzene ug/kg wet 25 25 180 09/16/91 ug/kg wet Toluene 09/16/91 25 100 Ethylbenzene ug/kg wet

ug/kg wet

Units

Xylenes, Total

Method Detection Limit

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



Ms. Anita Yan Page 8 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

70 0088038 09/11/91 09/12/91

SP8A+B+C+D

Parameter Units MDL Composite DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

09/17/91 TOTAL FUEL HYDROCARBONS, (LIGHT): 200 2900 09/17/91 Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 09/17/91 PURGEABLE AROMATICS (BTXE BY EPA 8020): 2.3 09/17/91 ug/kg wet 1.0 Benzene 1.2 09/17/91 1.0 ug/kg wet Toluene 09/17/91 10 ug/kg wet 1.0 Ethylbenzene

Xylenes, Total ug/kg wet 1.0 60 09/17/91

MDL

Method Detection Limit



Ms. Anita Yan

Page

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

Parameter

70 0088046 09/11/91 09/12/91 SP9A+B+C+D

Composite DATE ANALYZED MDL Units

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

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

Benzene Toluene

Ethylbenzene

Xylenes, Total

09/13/91 25000 09/13/91 4000 ug/kg wet

ND 20 ug/kg wet ND 20 ug/kg wet

uq/kg wet

ug/kg wet

20

20

36

09/13/91 09/13/91 09/13/91

09/13/91

270 09/13/91

MDL

Method Detection Limit



Ms. Anita Yan

Page 10

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected: Date Received:

Client Sample ID:

70 0088054 09/11/91 09/12/91 SP10 A+B+

C+D

Parameter Units MDL Composite DATE ANALYZED

ug/kg wet

ug/kg wet

ug/kg wet

ug/kg wet

200

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

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

Toluene Ethylbenzene

Xylenes, Total

- 09/13/91

40000 320000 09/13/91 - 09/13/91 200 ND 09/13/91 200 ND 09/13/91

ND 09/13/91 280 09/13/91

ug/kg wet 200 1500 09/13/91

MDL ND Method Detection Limit



Ms. Anita Yan Page 11 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

70 0088062 09/11/91

Date Collected: Date Received: Client Sample ID:

09/12/91 SP11 A+B+

C+D MDL Com

10

Units

ug/kg wet

Composite DATE ANALYZED

09/16/91

09/16/91

ORGANIC ANALYSIS

Parameter

TPH GASOLINE/BTEX

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

 ug/kg wet
 2000
 16000
 09/16/91

 ug/kg wet
 10
 ND
 09/16/91

 ug/kg wet
 10
 65
 09/16/91

Ethylbenzene Xylenes, Total

Benzene

Toluene

ug/kg wet 10 250 09/16/91

52

MDL ND Method Detection Limit



Ms. Anita Yan Page 12 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID:

70 0088070

09/11/91 09/12/91

SP12 A+B+ C+D

Parameter Units MDL Composite DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT): - 09/13/91
Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 1000 13000 09/13/91
PURGEABLE AROMATICS (BTXE BY EPA 8020): - 09/13/91

 Benzene
 ug/kg wet 5.0
 5.0
 09/13/91

 Toluene
 ug/kg wet 5.0
 10
 09/13/91

 Ethylbenzene
 ug/kg wet 5.0
 62
 09/13/91

Xylenes, Total ug/kg wet 5.0 180 09/13/91

MDL Method Detection Limit



Ms. Anita Yan

Page 13

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected: Date Received: Client Sample ID: 70 0088089 09/11/91 09/12/91 SP13 A+B+

Parameter

C+D Units MDL Composite

Composite DATE ANALYZED

ORGANIC ANALYSIS

TPH GASOLINE/BTEX

TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015) 09/13/91 09/13/91 35000 ug/kg wet 2000 PURGEABLE AROMATICS (BTXE BY EPA 8020): 09/13/91 36 09/13/91 Benzene ug/kg wet 10 09/13/91 Toluene ug/kg wet 10 77 Ethylbenzene 10 130 09/13/91 ug/kg wet Xylenes, Total 460 09/13/91 ug/kg wet 10

MDL

Method Detection Limit



Ms. Anita Yan Page 14

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

70 0088097 09/11/91 09/12/91

SPIA+B+C+D

WetSoluble DATE ANALYZED MDL Units Parameter

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

0.1

ND

09/18/91

MDL ND

Method Detection Limit



Ms. Anita Yan

Page 15 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received: Client Sample ID:

Parameter

70 0088100 09/11/91 09/12/91 SP2A+B+C+D

WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

Units

0.1

MDL

ND

09/18/91

MDL

Method Detection Limit



Ms. Anita Yan Page 16 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID: Parameter

70 0088119 09/11/91 09/12/91

SP3A+B+C+D

MDL WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

Units

0.1

ND

09/18/91

MDL ND Method Detection Limit

Not detected at or above the MDL.

Los Angeles, California



Ms. Anita Yan

Page 17

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

Parameter

70 0088127 09/11/91 09/12/91

SP4A+B+C+D

WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

Units

0.1

MDL

ND

09/18/91

MDL

Method Detection Limit

ND Not detected at or above the MDL.

Los Angeles, California



Ms. Anita Yan Page 18 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

Parame<u>ter</u>

70 0088135 09/11/91 09/12/91

SP5A+B+C+D

Units MDL WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

0.1

ND

09/18/91

MDL ND Method Detection Limit



Ms. Anita Yan

Page 19

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

<u>Parameter</u>

70 0088143 09/11/91 09/12/91

SP6A+B+C+D

MDL WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

Units

0.1

ND

09/18/91

MDL

Method Detection Limit

ND Not detected at or above the MDL.

Los Angeles, California



Ms. Anita Yan

Page 20

Parameter

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

09/11/91 09/12/91 SP7A+B+C+D

70 0088151

WetSoluble DATE ANALYZED MDL Units

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

0.1

ND

09/18/91

MDL

Method Detection Limit



Ms. Anita Yan

21 Page

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

Parameter

70 0088160 09/11/91

09/12/91 SP8A+B+C+D

MDL Units

WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

0.1

ND

09/18/91

MDL

Method Detection Limit



Ms. Anita Yan

Page 22

Parameter

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected:

Date Received: Client Sample ID: 70 0088178

09/11/91 09/12/91

SP9A+B+C+D

Units MDL WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

0.1

ND

09/18/91

MDL

Method Detection Limit

ND:



Ms. Anita Yan Page 23 September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received: Client Sample ID: 70 0088186 09/11/91 09/12/91

SP10 A+B+

C+D

Parameter Units MDL WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS
Lead (EPA Method 6010/200.7, ICP)

mg/L

0.1 ND

09/18/91

MDL ND Method Detection Limit



70 0088194

09/11/91

Ms. Anita Yan

Page 24

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number:

Date Collected: Date Received:

Client Sample ID:

.

09/12/91 SP11 A+B+

C+D WetSoluble DATE ANALYZED

Parameter

Units

MDL

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS Lead (EPA Method 6010/200.7, ICP)

mg/L

0.1

ND

09/18/91

MDL ND Method Detection Limit



Ms. Anita Yan

Page 25

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected: Date Received:

Client Sample ID:

70 0088208 09/11/91 09/12/91 SP12 A+B+

C+D

Parameter

Units

MDL

WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS
Lead (EPA Method 6010/200.7, ICP)

mg/L

0.1

1.0

09/18/91

MDL

Method Detection Limit



Ms. Anita Yan

Page 26

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected:

Date Received:

Client Sample ID:

llmita

70 0088216 09/11/91 09/12/91

SP13 A+B+

C+D

Parameter

Units

MDL

WetSoluble DATE ANALYZED

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Lead (EPA Method 6010/200.7, ICP)

mg/L

0.1

0.78

09/18/91

MDL

Method Detection Limit

These data have been reviewed and are approved for release.

Mark A. Valentini, Ph.D.

Regional Director



Ms. Anita Yan Page 27

QUALITY CONTROL DATA

Units

mg/L

Units

mg/L

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

Lead (EPA Method 6010/200.7, ICP)

Batch: 70 06201

Samples: 70 0088097, 70 0088100, 70 0088119, 70 0088127, 70 0088135

70 0088143, 70 0088151, 70 0088160, 70 0088178, 70 0088186

70 0088194, 70 0088208, 70 0088216

METHOD BLANK AND SAMPLE DUPLICATE:

70 0088100 Duplicate Method

SP2A+B+C+D of

Parameter Lead (EPA Method 6010/200.7, ICP)

Blank MDL $\overline{0.1}$ $\overline{\mathsf{ND}}$

WetSoluble 70 0088100 $\overline{\mathsf{ND}}$ ND

RPD NC

SPIKE:

70 0088100

SP2A+B+C+D

Spike

Parameter Lead (EPA Method 6010/200.7, ICP) Units MDL $\overline{0.1}$ mq/L

WetSoluble Spike 2.00 ND

Recv 97%

LABORATORY CONTROL SAMPLE:

Parameter

Lead (EPA Method 6010/200.7, ICP)

MDL $\overline{0.1}$ Reference

Value Recv 111% 1.00

MDL

Method Detection Limit

RPD

Relative Percent Difference

NC

No calculation due to value below detection limit.



Method

Ms. Anita Yan Page 28

QUALITY CONTROL DATA

September 19, 1991

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

TPH GASOLINE/BTEX Batch: 70 06173

Samples: 70 0087961, 70 0087970, 70 0087988, 70 0088046, 70 0088054 70 0088070, 70 0088089

METHOD BLANK:

Parameter	Units	MDL	<u>Blank</u>
TOTAL FUEL HYDROCARBONS, (LIGHT): Purgeable Fuels, as Gasoline (EPA 8015)	ua/ka wet	200	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-
Benzene Toluene	ug/kg wet ug/kg wet		ND ND
Ethylbenzene	ug/kg wet		ND
Xylenes, Total	ug/kg wet	1.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

EMBORATORY CONTINUE C	22 23, 23		Reference		Dupl	
Parameter	Units	MDL	Value	Recv	Recv	
Purgeable Fuels, as Gasoline (EPA 8015)	ug/kg wet	200	385	104%	104%	0%
Benzene	ug/kg wet		40	91%	92%	1%
Toluene	ug/kg wet	1.0	40	93%	93%	0%
Xylenes, Total	ug/kg wet	1.0	120	9 8%	98%	0%

MDL **RPD** Method Detection Limit



Ms. Anita Yan Page 29 QUALITY CONTROL DATA

September 19, 1991

Reference

Land

PACE Project Number: 410912503

Client Reference: Exxon 7-0238

TPH GASOLINE/BTEX Batch: 70 06178

Samples: 70 0087996, 70 0088003, 70 0088011, 70 0088020, 70 0088062

METHOD BLANK:

Parameter TOTAL FUEL HYDROCARBONS, (LIGHT):	Units	MDL	Method Blank
Purgeable Fuels, as Gasoline (EPA 8015) PURGEABLE AROMATICS (BTXE BY EPA 8020): Benzene	ug/kg wet		ND - ND
Toluene Ethylbenzene	ug/kg wet ug/kg wet	1.0	ND ND
Xylenes, Total	ug/kg wet	1.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Benzene ug/kg wet 1.0 Toluene ug/kg wet 1.0		92% 3% 92% 2%
---	--	------------------

MDL Method RPD Relati

Method Detection Limit



Ms. Anita Yan Page 30 QUALITY CONTROL DATA

September 19, 1991

Reference

PACE Project Number: 410912503

Dupl

Client Reference: Exxon 7-0238

TPH GASOLINE/BTEX Batch: 70 06190 Samples: 70 0088038

METHOD BLANK:

Parameter TOTAL FUEL HYDROCARBONS, (LIGHT):	Units	MDL	Method Blank
Purgeable Fuels, as Gasoline (EPA 8015) PURGEABLE AROMATICS (BTXE BY EPA 8020):	ug/kg wet	200	ND -
Benzene Toluene Ethylbenzene	ug/kg wet ug/kg wet ug/kg wet	1.0	ND ND ND
Xylenes, Total	ug/kg wet		ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter Purgeable Fuels, as Gasoline (EPA 8015) ug/kg wet 200 Benzene ug/kg wet 1.0 Toluene ug/kg wet 1.0 Xylenes, Total ug/kg wet 1.0	385	103%	103% 0%
	40	95%	95% 0%
	40	96%	97% 1%
	120	101%	102% 0%

MDL RPD Method Detection Limit

Relative Percent Difference

Goldenrod - Consultant Field Staff



Distribution:

White - Original

Yellow - Exxon

Pink - Lab

EXXON COMPANY, U.S.A. P.O. Box 4415, Houston, TX 77210-4415 CHAIN OF CUSTODY

THE ASSURANCE OF	OBALITY			Cons	ultan	t Nan	ne: '	NAA	NASA	20	- C	-Yn	e 10	01/2	uit	Άλζ	3			
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White - Original

EXXON COMPANY, U.S.A. P.O. Box 4415, Houston, TX 77210-4415

INCORPORA																					
THE ASSURANCE OF	QUALITY			Cons	ultan	t Nam	ne:	W	Ð∂1	N/A	w2D	- C	K	DE	Q.	NEU	LIAN	Ts			
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September 24, 1991

Ms. Anita Yan Woodward-Clyde Consultants 500 12th Street , Suite 100 Oakland, CA 94607

RE: PACE Project No. 410919.505

Client Reference: Exxon 7-0238

Dear Ms. Yan:

Enclosed is the report of laboratory analyses for samples received September 19, 1991.

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

Sincerely,

Carol Ruch
Carol Reid

Project Manager

Enclosures



70 0091268

Woodward-Clyde Consultants 500 12th Street, Suite 100 Oakland, CA 94607

September 24, 1991

PACE Project Number: 410919505

Attn: Ms. Anita Yan

Client Reference: Exxon 7-0238

PACE Sample Number: Date Collected: Date Received:

Client Sample ID:

09/11/91 09/19/91 SP 1 A,B,C,D

Composite DATE ANALYZED MDL Units Parameter

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS 8.0 09/23/91 Units Corrosivity (pH) 0.5 09/23/91 ND Cyanide, Reactive mq/kq 09/23/91 > 60 Flash Point, Closed Cup Degrees C 25 09/23/91 mg/kg 1.0 ND Sulfides, Reactive

MDL Method Detection Limit Not detected at or above the MDL. ND Greater than reported value.

These data have been reviewed and are approved for release.

Mark A. Valentini, Ph.D.

Regional Director



Ms. Anita Yan 2 Page

QUALITY CONTROL DATA

September 24, 1991 PACE Project Number: 410919505

Client Reference: Exxon 7-0238

Corrosivity (pH) Batch: 70 06299 Samples: 70 0091268

SAMPLE DUPLICATE:

70 0091268

SP 1 Duplicate

A,B,C,Dof

70 0091268 **RPD** Composite 8.0 8.0 0%

Parameter Corrosivity (pH) Units Units MDL

MDL **RPD** Method Detection Limit Relative Percent Difference



Ms. Anita Yan Page

QUALITY CONTROL DATA

September 24, 1991

PACE Project Number: 410919505

Client Reference: Exxon 7-0238

Cyanide, Reactive Batch: 70 06301 Samples: 70 0091268

METHOD BLANK AND SAMPLE DUPLICATE:

70 0091268

SP 1 Duplicate

A,B,C,D Method of

Blank 70 0091268 RPD Units Composite MDL Parameter ND NC $\overline{0.5}$ ND Cyanide, Reactive mg/kg

SPIKE:

70 0091268

SP 1

A,B,C,D

Spike

Recv MDL Composite Parameter Units 44% $\overline{0.5}$ Cyanide, Reactive mg/kg

LABORATORY CONTROL SAMPLE:

Reference Value MDL Parameter Units

Recv $\overline{0.5}$ 630 64% Cyanide, Reactive mg/kg

Method Detection Limit MDL

Relative Percent Difference RPD

No calculation due to value below detection limit. NC



Ms. Anita Yan Page

QUALITY CONTROL DATA

September 24, 1991

PACE Project Number: 410919505

Client Reference: Exxon 7-0238

Flash Point, Closed Cup Batch: 70 06300

Samples: 70 0091268

SAMPLE DUPLICATE:

70 0091268

SP 1 Duplicate

A,B,C,D of

70 0091268 Composite

> 60 > 60

Parameter

Flash Point, Closed Cup

MDL Units Degrees C

Reference

Value

Recv

RPD

LABORATORY CONTROL SAMPLE:

Parameter Flash Point, Closed Cup

Units MDL Degrees C

30

100%

MDL **RPD**

Method Detection Limit



Ms. Anita Yan Page

QUALITY CONTROL DATA

September 24, 1991

PACE Project Number: 410919505

Client Reference: Exxon 7-0238

Sulfides, Reactive Batch: 70 06302 Samples: 70 0091268

SAMPLE DUPLICATE:

70 0091268

Duplicate SP 1

of A,B,C,D

70 0091268 Composite

RPD

ND

Parameter

Sulfides, Reactive

Units mg/kg MDL 1.0

MDL RPD Method Detection Limit



EXXON COMPANY, U.S.A.
P.O. Box 4415, Houston, TX 77210-4415
CHAIN OF CUSTODY

Novato, CA 11 Digital Drive, (415) 883-6100 Irvine, CA Alton Business 30 Hughes St., (714) 380-9559	Park		Address: 500 - 12th Other Aut. 100, Oakland Project Contact: Anita yan Project #: 910350A Phone #: (510) 874-308 Fax #: (510) 874-3268 Consultant Work Release #: 91045252 Exxon Contact: G. De Maryo Phone #: (510) 246-8726 Site RAS #: 7-0238 Site Location: 2200 E. 12th St. Oakland Laboratory Work Release #: 91134886														550A 4-3268	
Sampled by (please pring American y Sampler Signature	1t) 2 Y	Ē	ate Sa	mpled	1	SOIL		1	VATE			rease.						:
Sample Description	Collection Date/Time	Matrix	9 11 Prsv.	mpled 역 # of Cont.	TPH/CAS/B' EPA 8015/80	TPH/Diesel EPA 8015	Organic Leav DHS Method	TPH/GAS/8' EPA 8015/80	TPH/Diesel EPA 8015	Organic Lead DHS Method	TRPH EPA 418.1	Total Oil & Gre SM 5520	KCT				Re	emarks
SPI A-D	9/11/1300			4									√	912	5.0)	Comp#	9126.8
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I/2								-									· · · · ·	
Cooler No.	Relin	quishe	d by/	Affiliat	іоп				Acce	epte	d by	/Affil	iatio	n			Date	Time
Cooler Seal Intact Yes No							1	in	a7	Ne	ger	امد	I Pa	u	-	91	119/91	
Turnaround Time (circle choice) 24 hr.																		
48 hr 72 hr. 96 hr. 5 workday (standard)				_	_													
Shipment Method Shipment Date	Addition Sampa Compo- furthe	nal Co lip p siti	omme Viv #8	nts: una 196. Lysi	h,	hon	n is	Pro	Juc BC	t i	#4 ne Cer	10°	912 tid	.50 ! 1 te)3 to a	so ir	imple+ omoda	*8783.0 ti
Distribution:	White - Origin				ow - E				<i>'</i>	Pink							d - Consultar	