ST 10108

ERI
ENVIRONMENTAL RESOLUTIONS, INC.

July 11, 1998
ERI 229803.W01

Ms. Pamela J. Evans
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Work Plan for Environmental Work at Tosco BP Service Station #11102, 100 MacArthur Boulevard, Oakland, California.

Dear Ms. Evans:

At the request of Tosco Marketing Company (Tosco) and pursuant to the Alameda County Health Care Services Agency (ACHCS) letter (dated December 19, 1997) and Tosco response (dated March 30, 1998), Environmental Resolutions, Inc. (ERI) is submitting this work plan documenting work completed and outlining a plan for further environmental work to be completed. The location of the site is shown on the attached Site Vicinity Map (Plate 1). The locations of pertinent site features are shown on the attached Generalized Site Plan (Plate 2).

BACKGROUND

BP Oil Company (BP Oil) is performing an ongoing environmental investigation at the site in accordance with the purchase agreement between Tosco and BP Oil. Mobil Oil Company (Mobil) removed one used-oil underground storage tank (UST) from the site in September 1988 prior to purchase of the site by BP Oil. Upon tank removal, an Alameda County Department of Environmental Health representative observed a hole in the tank and observed petroleum product "dripping" from the west sidewall (ACDEH, 1988). Analyses of soil samples detected concentrations of residual diesel fuel and total oil and grease (Kaprealean Engineering, 1988). BP Oil installed three groundwater monitoring wells at the site in 1989 and has been performing ongoing semi-annual monitoring and sampling. Dissolved hydrocarbons have generally been noted and concentrations of hydrocarbons fluctuated in wells MW1 and MW2 until June 1997 when dissolved hydrocarbons were not detected in analyses of water samples collected from well MW2 (Alisto Engineering, August 5, 1997).

COMPLIANCE INVESTIGATION

ERI on behalf of Tosco performed a compliance survey of the facility to evaluate whether upgrades may be necessary to meet 1998 criteria. Based on the site survey, it appears one 6,000-gallon UST, one 10,000-gallon UST, and one 12,000-gallon tank utilized to store gasoline exist at the site. The results of the survey are attached as ERI's Retrofit Compliance Survey. Tosco has further been performing ongoing Precision Underground Storage Tank System Leak Testing. Recent test results are attached. The data indicate the system continues to pass precision tests.

PROPOSED WORK

Based on the site inspection and review of pertinent files, Tosco is considering the following work to upgrade the product-delivery system at the site. Tosco anticipates implementing the work during the third quarter 1998.

- Install a TLS350 monitoring system
- Install Bravo overfill protection boxes
- Install secondary containment under dispensers
- Install new dispensers
- Install turbine sump containment with monitoring
- Remove remote fill from building to former used-oil tank
- Install steel stricker plates in underground fuel storage tanks (if not present)

Specific environmental work includes collecting appropriate samples beneath the dispensers and lines upon removal for analyses, limited excavation (if applicable), and preparing a report documenting our findings. The purpose of the proposed work is to further evaluate potential sources of MTBE. ERI does not anticipate encountering groundwater during the investigation. ERI will complete the work in accordance with the attached Standard Field Procedures.

ERI will perform the following work during upgrading of the system:

Task 1: FIELD WORK

- An ERI representative will collect soil samples beneath dispensers and remote drain line upon removal and at bends or every 20 linear feet within piping trenches (if applicable). Soil samples will be collected from native soil approximately 2 to 3 below the pipelines and dispensers.

    - Soil samples collected from beneath dispensers and lines will be submitted to Sequoia Analytical laboratory for analysis of total petroleum hydrocarbons as gasoline (TPHg) using Environmental Protection Agency (EPA) Method 8015 (modified), benzene, toluene, ethylbenzene, and total xylene isomers (BTEX), and methyl tertiary butyl ether (MTBE) using EPA Method 8020. The sample exhibiting the highest MTBE concentration will be confirmed using EPA Method 8260. Soil samples collected from beneath the former drain line will be analyzed for TPHg and diesel fuel (TPHd) using Environmental Protection Agency (EPA) Method 8015 (modified), BTEX and MTBE using EPA Method 8020, total recoverable petroleum hydrocarbons (TRPH) using Standard Method 5520, halogenated volatile organic compounds (HVOCs) using EPA Method 8010, semivolatile organic compounds using EPA Method 8270 and soluble cadmium, chromium, lead, nickel, and zinc using EPA Methods 6010/200.7 ICP.

- ERI will collect one composite soil sample (4 brass sleeves) for every 100 cubic yards of soil stockpiled at the site. Soil generated from work related to the fuel product delivery system will be segregated from soil generated near the former drain line.

- Composite soil samples collected from soil removed near the dispensers and lines will be analyzed for TPHg, BTEX, and total lead. Composite soil samples collected from the soil excavated from the drain line will be submitted for analyses for TPHg, BTEX, TEPHd, TRPH, STLCs of the 17 CAM metals using EPA Method 6010/200.7, for VOCs using EPA Method 8240 and SVOCs using EPA Method 8270. One composite of four samples collected from soil stockpiles generated during this investigation will be analyzed for reactivity using EPA Solid Waste Method SW846.7.3.4.1, corrosivity using EPA Method 9040, and ignitability using EPA method 1010.

If hydrocarbon-impacted soil is noted after dispenser removal, Tosco may elect to remove obviously impacted soil by excavation. The excavation (if applicable) will be limited by on-site structures, the limits of on-site equipment, and the assessment of appropriate responsible party liabilities (e.g. Tosco or BP Oil).

Task 2: REPORT

- ERI will prepare a report that will include a summary of the field procedures, tank condition, sample locations, and results of laboratory analyses for compliance testing. ERI will also coordinate removal and acceptance of stockpiled soil to an appropriate landfill approved by Tosco. The soil will be characterized for disposal at either BFI Vasco Road landfill or Forward landfill in Manteca, California.

Please call (415) 382-5990 with any questions regarding this work plan.

Sincerely,
Environmental Resolutions, Inc.

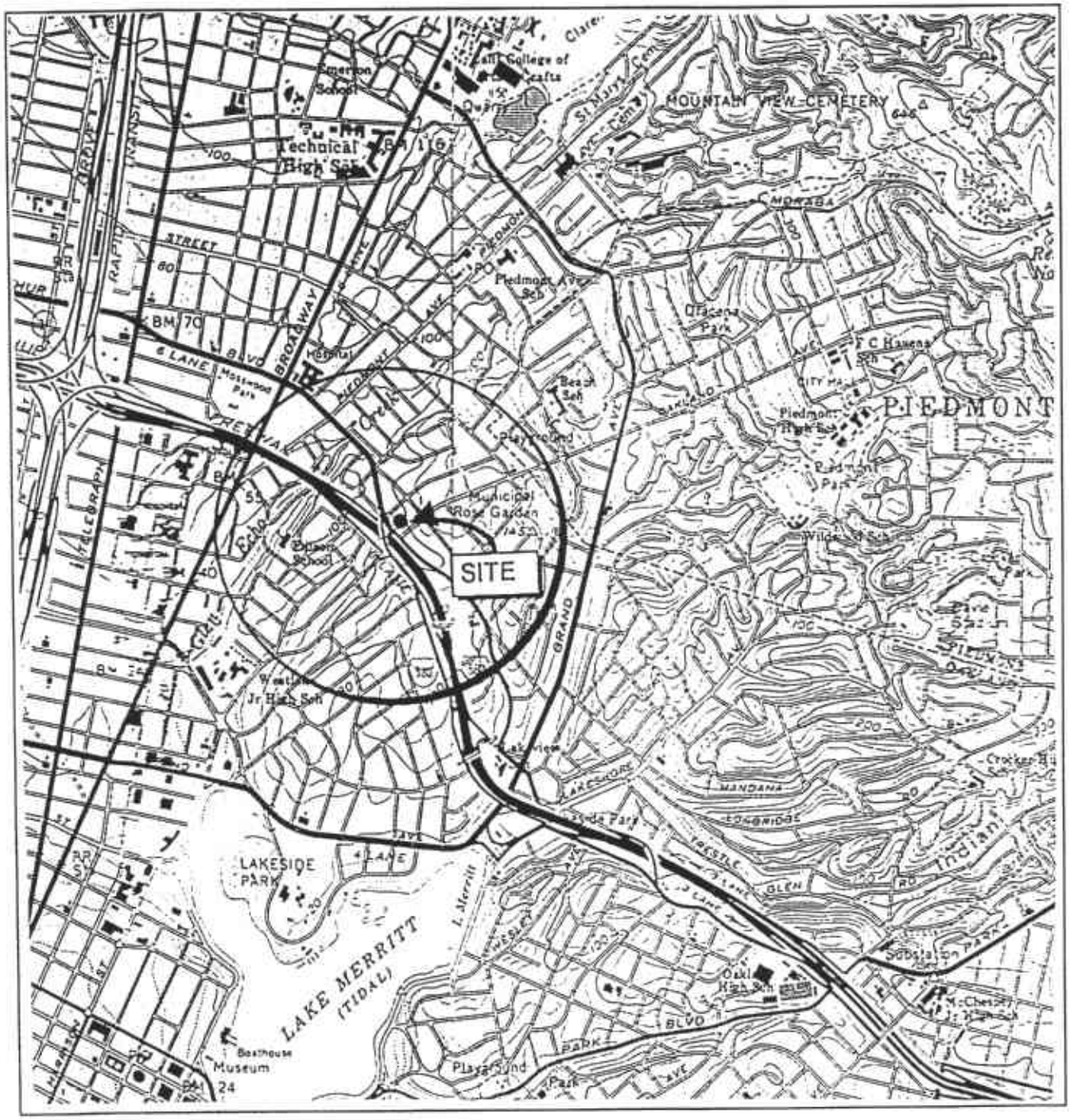
Keith A. Romstad
Sr. Project Manager

Steve M. Zigan
R.G. 4333
H.G. 133

REGISTERED GEOLOGIST
STEVE M. ZIGAN
R.G. 4333
Exp. 3/00
STATE OF CALIFORNIA

Attachments: Site Vicinity Map (Plate 1)
Generalized Site Plan (Plate 2)
EPA Retrofit Compliance Survey
Precision Underground Storage Tank System Leak Tests
Standard Field Procedures

cc: Tina Berry, Tosco



22980001

EXPLANATION

N

APPROXIMATE SCALE

0 1/2 1

MILE

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

ENVIRONMENTAL RESOLUTIONS, INC.

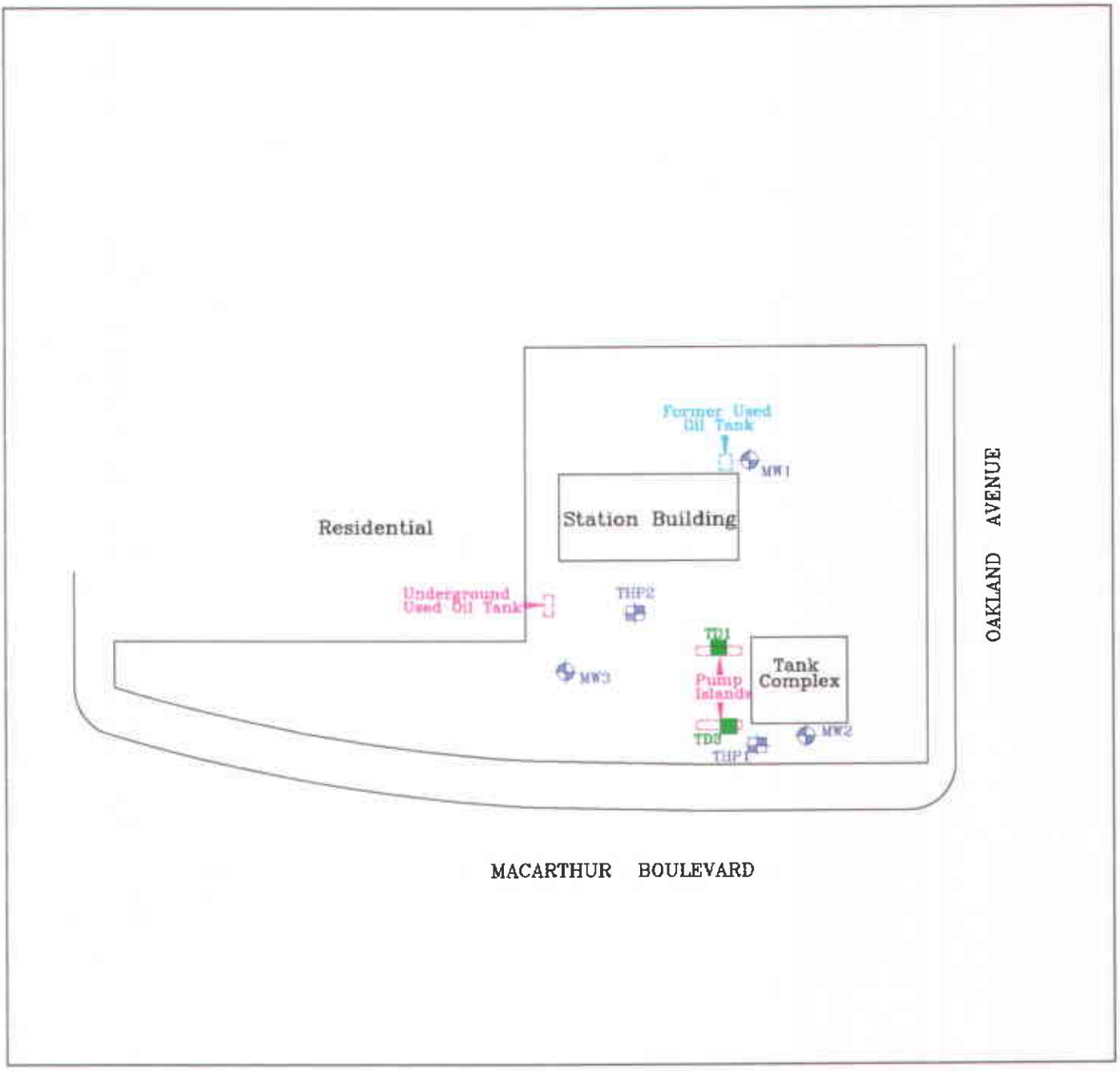
PROJECT ERI 2298

SITE VICINITY MAP

TOSCO (BP) SERVICE STATION 11102
100 MacArthur Boulevard
Oakland, California

PLATE

1



FN 22980002

EXPLANATION

MW3 — Groundwater Monitoring Well

THP2 — Hydropunch Location

TD3 — Grab Sample Location

APPROXIMATE SCALE

0 50 100 FEET

SOURCE: Modified from a map provided by TOSCO

ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

TOSCO (BP) SERVICE STATION 11102
100 MacArthur Boulevard
Oakland, California

PROJECT NO. 2298

PLATE 2

July 1, 1998

EPA RETROFIT COMPLIANCE SURVEY

ADDRESS: Tosco BP # 11102 — 100 MacArthur Blvd.
CITY: Oakland
RETAILER:
DATE OF SURVEY: 6/29/98
STATE: CA.
ZIP:

I. UNDERGROUND TANKS	TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TANK 6	VAP REC	TANK 8
PRODUCT GRADE (REG / PLUS / SUPR / DIES):	REG	PLUS	SUPR	DIES				WST OIL
TYPE OF EXISTING TANKS (FROM STORE TANK CHARTS)	12K	10K	6K					
SIZE OF EXISTING TANKS (FROM STORE TANK CHARTS)	SINGLE WALLED FIBERGLASS							1K
TYPE OF PRODUCT PIPING (PRIMARY)								
TYPE OF PRODUCT PIPING (SECONDARY)								
EXISTENCE OF STRIKER PLATES X UNABLE TO VERIFY	UNABLE TO REMOVE FLAPPER VALVE.							
BASED ON STORE RECORDS OR ON SITE READINGS FROM THE EECO:	Y N	Y N	Y N	Y N	Y N	Y N		Y N
-PASSING TANK TEST RESULTS (0.1 GPH) < 1 YR PRESENT:	(Y) N	(Y) N	(Y) N	Y N	Y N	Y N		Y N
-PASSING LINE TEST RESULTS (0.1 GPH) < 1 YR PRESENT:	(Y) N	(Y) N	(Y) N	Y N				
MONITORING SYSTEM TYPE AND MODEL:	EMCO:		VR ROOT: TLS 250			OTHER:		
STP SUMPS INSTALLED:	Y (N)	Y (N)	Y (N)	Y N	Y N	Y N	Y N	Y N
-TYPE / COLOR								
-WATER OR PRODUCT IN SUMPS:	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
-IF YES, EXPLAIN:								
-SUMP PROBES INSTALLED/MONITORED:	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
-IF NO, EXPLAIN:								
LINE LEAK DETECTOR TYPE: E=ELECTRONIC M=MECHANICAL	E (M)	E (M)	E (M)	E M	E M	E M	E M	
- TYPE AND MODEL: RER JACKET								
IS TANK SINGLE OR DOUBLE WALLED:	(S) D	(S) D	(S) D	S D	S D	S D	S D	S (D)
-IF DOUB., ANNULAR PROBE INSTALLED/MONITORED:	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
TANK LEVEL MONITORS INSTALLED/MONITORED:	(Y) N	(Y) N	(Y) N	Y N	Y N	Y N	Y N	Y N
-IF NO, EXPLAIN:								
BALL FLOATS INSTALLED/OPERATING PROPERLY:	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
-IF NO, EXPLAIN:								
-FLAPPER VALVES IN THE FILLS INSTALLED/OPERATING PROPERL	(Y) N	(Y) N	(Y) N	Y N	Y N	Y N	Y N	Y N
-30 MINUTE OR 90%:	30 90	30 90	30 90	30 90	30 90	30 90		30 90
SPILL CONTAINMENT MANHOLES INSTALLED:	(Y) N	(Y) N	(Y) N	Y N	Y N	Y N	Y N	(Y) N
-COMPOSITE OR METAL:	(C) M	(C) M	(C) M	C M	C M	C M	C M	C (M)
-IF METAL, ARE THEY CORROS. PROTECTED:	(Y) N	Y N	(Y) N	Y N	Y N	Y N	Y N	Y N
METAL COMPONENTS CORROSION PROTECTED:	(Y) N	(Y) N	(Y) N	Y N	Y N	Y N	Y N	Y N
-IF NO, EXPLAIN WHAT IS NOT PROTECTED:								

II. LINES AND ISLANDS	ISL 1	ISL 2	ISL 3	ISL 4	ISL 5	ISL 6	ISL 7	ISL 9
DISPENSER TYPE: M=MPD D=DIESEL T=TRIMLINE	(M) D T	(M) D T	(M) D T	M D T	M D T	M D T	M D T	M D T
DISPENSER PANS INSTALLED:	Y (N)	Y (N)	Y (N)	Y N	Y N	Y N	Y N	Y N
-TYPE / COLOR								
-WATER OR PRODUCT IN PANS:	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
-IF YES, EXPLAIN:								
- PAN PROBES INSTALLED/MONITORED:	Y (N)	Y (N)	Y (N)	Y N	Y N	Y N	Y N	Y N
-IF NO, EXPLAIN: NOT INSTALLED								
-IF NO, CAN YOU TELL WHAT KIND OF JOINT IS MADE UNDER THE DISPENSER S.S. FLEX LINE								
METAL COMPONENTS CORROSION PROTECTED:	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
-IF NO, EXPLAIN WHAT IS NOT PROTECTED:								

III. STATE/LOCAL SPECIFIC								
ALL FILLS, SUMP TOPS, VENT PIPES, ETC PAINTED GRAY	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
-IF NO, EXPLAIN								

IV. SUMMARY/CERTIFICATION

IS THE ABOVE SITE IN EPA COMPLIANCE? Y N
IF NO, WHY: LAST SERVICE: 5/13/98 LINE & TANK TEST FOR REG TANK
WASTE OIL TANK HAS BRAND BOX CONTAINMENT, COULD NOT FIND MONITORING SYSTEM.

SURVEYED BY: _____ (Name (print)) _____ (Signature) _____ (Date)
CERTIFIED BY: _____ (Name (print)) _____ (Signature) _____ (Date)

Triangle Environmental, Inc.

2525 West Burbank Blvd., Burbank, CA 91505-2302
(818) 840-7020 (818) 840-6929

ST TESTING SYSTEMS SUMMARY SHEET

Precision Underground Storage Tank System Leak Test

Client:
Tosco Marketing Co.
3550 North Central Avenue
Phoenix, AZ 85012-
Carmen Tucker
(602) 200-4530

Tosco Facility # 30162
Test Date 3/22/98

Facility:
Tosco Facility # 30162
100 MACARTHUR BLVD
OAKLAND, CA 94610

Work #: 30647
County: ALAMEDA
Cross Street: OAKLAND

Tank #	Product	Capacity	Test System Type	Tank Rate/Results	Ullage Result	Line Rate/Result	L/D Result
1	Unleaded Regular	11627		N/A	N/A	-0.005 PASS	PASS
2	Unleaded Plus	9728		N/A	N/A	-0.005 PASS	PASS
3	Unleaded Premium	5929		N/A	N/A	-0.005 PASS	PASS

Certified By:

Technician: Oscar Duran
Mfgr's #: TEI-019

State Lic. #s: CA-1205
IFCI-1039424- AZ-T00014
OR-2066

Comments:
Compliance test P-L/TST and Monitor certification

This precision tank testing system has been third party evaluated according to the guidelines of the EPA procedures for annual leak detection systems and found to exceed the criteria of detecting a leak of 0.10 gph with a Pd >95% and Pfa <5% as required by Local, State and Federal EPA UST Technical Standards Part 280 for precision testing systems.

Triangle Environmental, Inc.

SYSTEMS TANK, LINE AND LEAK DETECTOR TEST REPORT

Facility: Tosco Facility # 30162

Tank #: 1

Test Date: 3/22/98

Product: Unleaded Regular

Work #: 30647

TANK TEST RESULT	
Test Method:	
Capacity:	11627
Diameter (in):	
Product Level (in):	
Liquid Volume (Gals):	
Liquid Percent (%):	
Specific Gravity:	
Coef. of Expansion:	
Water On Tank (in):	
Water In Tank (in):	
Product Temp. (F):	
Head Pressure (psi):	
Test Start Time:	
Test End Time:	
Test Rate (gph):	
Test Result:	N/A

ULLAGE TEST RESULT	
Test Method:	ULLAGE
UllageVolume (gals.):	
Ullage Test Time:	
Ullage Vacuum (psi):	
Ullage Result:	N/A

LEAK DETECTOR TEST RESULT	
Test Method:	R.J. FTA
Manufacturer:	Red Jacket
L/D Model:	FX-1
L/D Serial #:	09294-8327
Line Drain Back (ml):	75
L/D Trip Time (sec):	2
Holding Pressure (psi):	12
Metering Pressure (psi):	11
L/D Test Rate (gph):	1.0
L/D Result:	PASS
New Leak Detector?	No

LINE TEST RESULT	
Test Method:	TEI LT-3
Pump Brand:	Red Jacket
System Type:	Pressure
Line Pressure (psi):	50
Line Start Time:	10:00 PM
Line End Time:	10:15 PM
Line Start Level:	210
Line End Level:	205
Line Test Rate (gph):	-0.005
Line Test Result:	PASS

COMMENTS

Triangle Environmental, Inc.

SYSTEMS TANK, LINE AND LEAK DETECTOR TEST REPORT

Facility: Tosco Facility # 30162

Tank #: 2

Test Date: 3/22/98

Product: Unleaded Plus

Work #: 30647

TANK TEST RESULT

Test Method:	
Capacity:	9728
Diameter (in):	
Product Level (in):	
Liquid Volume (Gals):	
Liquid Percent (%):	
Specific Gravity:	
Coef. of Expansion:	
Water On Tank (in):	
Water In Tank (in):	
Product Temp. (F):	
Head Pressure (psi):	
Test Start Time:	
Test End Time:	
Test Rate (gph):	
Test Result:	N/A

ULLAGE TEST RESULT

Test Method:	ULLAGE
UllageVolume (gals.):	
Ullage Test Time:	
Ullage Vacuum (psi):	
Ullage Result:	N/A

LEAK DETECTOR TEST RESULT

Test Method:	R.J. FTA
Manufacturer:	Red Jacket
L/D Model:	XLD
L/D Serial #:	09294-8327
Line Drain Back (ml):	125
L/D Trip Time (sec):	2
Holding Pressure (psi):	11
Metering Pressure (psi):	10
L/D Test Rate (gph):	1.8
L/D Result:	PASS
New Leak Detector?	No

LINE TEST RESULT

Test Method:	TEI LT-3
Pump Brand:	Red Jacket
System Type:	Pressure
Line Pressure (psi):	50
Line Start Time:	9:35 PM
Line End Time:	9:50 PM
Line Start Level:	190
Line End Level:	185
Line Test Rate (gph):	-0.005
Line Test Result:	PASS

COMMENTS

Triangle Environmental, Inc.

SYSTEMS TANK, LINE AND LEAK DETECTOR TEST REPORT

Facility: Tosco Facility # 30162

Tank #: 3

Test Date: 3/22/98

Product: Unleaded Premium

Work #: 30647

TANK TEST RESULT	
Test Method:	
Capacity:	5929
Diameter (in):	
Product Level (in):	
Liquid Volume (Gals):	
Liquid Percent (%):	
Specific Gravity:	
Coef. of Expansion:	
Water On Tank (in):	
Water In Tank (in):	
Product Temp. (F):	
Head Pressure (psi):	
Test Start Time:	
Test End Time:	
Test Rate (gph):	
Test Result:	N/A

ULLAGE TEST RESULT	
Test Method:	ULLAGE
UllageVolume (gals.):	
Ullage Test Time:	
Ullage Vacuum (psi):	
Ullage Result:	N/A

LEAK DETECTOR TEST RESULT	
Test Method:	R.J. FTA
Manufacturer:	Red Jacket
L/D Model:	XLD
L/D Serial #:	31193-8286
Line Drain Back (ml):	130
L/D Trip Time (sec):	2
Holding Pressure (psi):	12
Metering Pressure (psi):	10
L/D Test Rate (gph):	1.8
L/D Result:	PASS
New Leak Detector?	No

LINE TEST RESULT	
Test Method:	TEI LT-3
Pump Brand:	Red Jacket
System Type:	Pressure
Line Pressure (psi):	50
Line Start Time:	9:35 PM
Line End Time:	9:50 PM
Line Start Level:	300
Line End Level:	295
Line Test Rate (gph):	-0.005
Line Test Result:	PASS

COMMENTS

Triangle Environmental, Inc.

UST MONITOR CERTIFICATION SUMMARY SHEET

Client:
Tosco Marketing Co.
3550 North Central Avenue
Phoenix, AZ 85012-

Facility:
Tosco Facility # 30162
100 MACARTHUR BLVD
OAKLAND, CA 94610

Tosco Facility # 30162
Test Date: 3/22/98

Work #: 30647
County: ALAMEDA
Cross Street: OAKLAND

Monitor model: VEEDER-ROOT TLS-250
Serial #:

Sensor Type:	Quantity:	Result:	Annular Type:	
Tank Annular :				
Waste Oil :			Audible Alarm?	Yes
Waste Oil Sump:	0		Visual Alarm?	Yes
Vadose Wells :			Fail Safe?	No
Line Pressure :			Positive Shut-off?	No
Turbine Sump :			ATG Result:	PASS
LineTrenchQty:			ATG Monthly?	No
Fill Sump :			ATG CSLD?	No

Comments:

This certifies that the monitor and sensors, as listed above, are operational and calibrated per the manufacturer's specification.

Inspected By:
Oscar Duran

Triangle Environmental, Inc.

UST MONITOR CERTIFICATION SUMMARY SHEET

Client:
Tosco Marketing Co.
3550 North Central Avenue
Phoenix, AZ 85012-

Tosco Facility # 30162
Test Date: 3/22/98

Facility:
Tosco Facility # 30162
100 MACARTHUR BLVD
OAKLAND, CA 94610

Work #: 30647
County: ALAMEDA
Cross Street: OAKLAND

Monitor model: LEAKALERT 02
Serial #:

Sensor Type:	Quantity:	Result:
Tank Annular :	0	N/A
Waste Oil :	1	PASS
Waste Oil Sump:	0	N/A
Vadose Wells :	0	N/A
Line Pressure :	0	N/A
Turbine Sump :	0	N/A
LineTrenchQty:	0	N/A
Fill Sump :	0	N/A

Annular Type: N/A
Audible Alarm? Yes
Visual Alarm? Yes
Fail Safe? No
Positive Shut-off? No
ATG Result:
ATG Monthly? No
ATG CSLD? No

Comments:

This certifies that the monitor and sensors, as listed above, are operational and calibrated per the manufacturer's specification.

Inspected By:
Oscar Duran

FIELD PROCEDURES

Safety Plan

The plan describes the basic safety requirements for the subsurface environmental investigation related to monitoring the removal of lines and excavation of soil at the site. The Site Safety Plan is applicable to personnel of ERI and to subcontractors of ERI. Personnel scheduled to work at the site were briefed on the contents of the Site Safety Plan before work began. A copy of the Site Safety Plan will kept at the work site and be available for reference by appropriate parties during work at the site. The geologist from ERI will act as the Site Safety Officer on site.

Sampling Under Dispensers and Lines

Soil samples will be collected from beneath the lines by driving a hand-operated percussion sampler fitted with a clean brass sleeve into the soil after soil is brought up in a backhoe bucket. The sleeve will be removed from the sampler and sealed promptly with Teflon tape and plastic caps.

A photoionization detector (PID) will be used to evaluate the presence of hydrocarbon vapors in soil samples. Field instruments such as the PID are useful for indicating relative levels of hydrocarbon vapors, but do not detect the concentration of hydrocarbons present with the same precision as laboratory analyses.

Sampling of Stockpiled Soil

These samples are collected and analyzed to characterize the soil for disposal. A PID is used to assist in selecting samples representative of the stockpile. Each of these soil samples are collected by driving a hand-operated percussion soil-sampling device lined with a clean brass sleeve into the soil after approximately 1 foot of soil is removed from the stockpile. Each sample sleeve is removed from the sampler and promptly sealed with Teflon® tape and plastic caps. The sample is then labeled and placed in iced storage. Four samples are collected for approximately every 100 cubic yards of stockpiled soil; each group of four samples is composited into one soil sample by the analytical laboratory.

Sample Labeling and Handling

The soil samples selected for possible laboratory analysis will be removed from the sampler and quickly sealed in their brass sleeves with Teflon tape and plastic caps. The respective sample containers will be labeled in the field with the job number, sample location and depth, and date, and promptly placed in iced storage for transport to the laboratory. Chain of Custody Records will be initiated in the field by the geologist and accompanied the samples to a laboratory certified by the State of California to perform the analyses requested.