



STND 8086

0.6

ENVIRONMENTAL
PROTECTION

Tesco Marketing Company
2000 Crow Canyon Place, Ste. 400
San Ramon, California 94583
Telephone: 510-277-2305
Facsimile: 510-277-2361

Environmental Compliance
Department

98 SEP 25 PM 3:12

Should HP be done to collect GW downgrad
of dispenser isl. for MTBE/BTEX, TPH₄
analysis.

September 24, 1998

Distribution List

SUBJECT: 76 SS# 6419

6401 Dublin Blvd. @ Dougherty Rd.
Dublin, California

Dear Interested Parties:

This letter is written to provide a summary status of the environmental issues related to the referenced gasoline service station. Several individuals have contacted me with regards to the integrity of the UST system and rising MTBE concentrations detected in groundwater at this site. This letter provides information documenting Tosco's actions conducted to date, and future planned activities that address these concerns.

Background:

The subject location is an operating 76 gasoline service station. The station has been in operation since 1972 and is currently equipped with the following improvements:

- 2 - 12,000 gallon, DW Steel/fiberglass USTs (92 and 87 octane gasoline)
- DWFG product lines
- TLS350 leak detection monitoring system
- Dispenser, turbine and fill sump containment
- Overfill protection
- Fastbreak convenience store
- Car wash facility

In 1993, the underground storage tanks (fuel and septic) and product lines were replaced during a routine tank replacement project. In 1996 a 550-gallon waste oil tank was permanently removed from the site during the reformat project which resulted in the development of the Fastbreak convenience store and adjacent car wash facility. The product piping was upgraded at this time as well.

Petroleum contaminated soil and groundwater were first discovered beneath the sub-pump end of the tank pit on September 7, 1993 during tank removal activities. It is believed the contaminants were due to a possible leaking sub-pump(s) or product piping. Approximately 19,000 gallons of contaminated groundwater were purged from the tank pit and approximately 650 cubic yards of soil were excavated and disposed offsite at an approved landfill.

In February 1994, three groundwater monitoring wells were installed to evaluate and monitor the impact to groundwater. The wells were placed on a routine quarterly monitoring and sampling program. ORC socks were installed in the wells during September 1995 to enhance biodegradation of hydrocarbons in groundwater. The Alameda County Health Department agreed to authorize reduction of the sampling frequency from quarterly to semi-annually in December 1995.

The 1996 and 1997 sampling events showed a reducing trend in the groundwater concentrations in the three site wells. The site was being considered for case closure by Tosco and Alameda County in accordance with the decline in groundwater concentrations.

The Issue:

During the February 2, 1998 sampling event an elevated MTBE concentration of 32,000 ppb was detected in well MW1 located immediately downgradient from the tank complex (this well historically showed MTBE at concentrations ranging between 100 and 1300 ppb). Benzene was also detected at 130 ppb, higher than any historical benzene concentration. MTBE concentrations in the other two monitoring wells (MW2 and MW3) were relatively low but, nonetheless, showed concentrations higher than historically documented for these wells.

The February 1998 results indicate the possibility of a new release. This is particularly puzzling because the facility has been fully upgraded to meet the 1998 operating criteria as required by federal and state regulations.

UST System Integrity Testing:

As a result of the above Tosco has committed to investigate the integrity of the UST system to attempt to identify the source(s) of rising MTBE levels at the site. Actions to date include the following:

- 6/18/98. Site inspection and audit. Gettler Ryan found minor dispenser weeps and one loose riser on the 92 tank. They also removed water from the fill sumps.

- 7/6/98. CNS conducted a Static Pressure Leak Decay Test. Fill gaskets were replaced on the 87 and 92 tanks. Test results passed. Copies of the test results are attached.
- 7/14/98. County and contractor inspection. During a HazMat inspection by Alameda County, Central Petroleum found vapors (but no product) in annular spaces of both tanks. They also found vapors in both turbine sums. Central Petroleum removed a small amount of water from the 92 turbine sump. Tosco's Environmental Compliance department later confirmed vapors in the tank annular spaces with subsequent laboratory analyses.
- 7/20/98. Gettler Ryan performed full sump inspection and conducted an ST-30 test. The test passed after replacing the pressure vacuum vent caps. The fill sump bellows were found to need replacing.
- 7/21/98. Triangle performed full tank and line precision testing. Triangle also performed full monitoring system inspection. All passed. Copies of the testing results are attached.
- 7/23/98. Environmental Resolutions, Inc. completed a four day vapor extraction test from well MW1. The purpose of the test was to evaluate and reduce hydrocarbon (MTBE) concentrations in the subsurface. The data can also be used for remedial design purposes, as needed. Vapor samples from the interstitial spaces of the tanks were also collected for laboratory analyses. Results of the testing are documented in the attached ERI report dated 9/24/98.
- 8/4/98. Gettler-Ryan finished 24 hour lake tests on all fill and turbine sums. Fill sums were found to be tight. The 87 turbine sump leaked to the lowest penetration. The 92 turbine sump leaked.
- 8/24/98. The semi-annual groundwater monitoring and sampling event was performed. Lab results show MW1 currently contains 26,000 ppb MTBE. The monitoring and sampling report is in progress and will be distributed during October 1998. The lab is being instructed to analyze MTBE by method 8260 for the 8/98 samples. Results will be documented in the pending report. Groundwater monitoring and sampling data through 2/2/98 are attached.

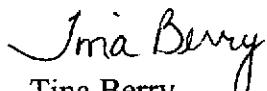
Future Activities:

Tests and investigations conducted to date do not conclusively identify the source(s) of MTBE currently detected at the site. There has been much speculation on the potential for some vapor transport mechanism to occur that would give rise to MTBE concentrations in the subsurface and/or the possibility of contaminant contributions through surface spillage (drive-offs) and leaking sump containment.

To further evaluate these scenarios, Tosco is under discussion and negotiations with Tracer Research Corporation in Tucson, Arizona. Tracer claims to be capable of identifying leaks in an UST system below the typical testing thresholds currently utilized in the tank integrity testing industry. Discussions concerning the costs and site specific scopes of work are being developed. It is anticipated the field work will commence during October 1998 and a report of findings can be issued during late November or early December 1998.

Tesco appreciates your interests in this facility and will continue to strive to work with you to resolve any concerns. Please do not hesitate to contact me if you have any questions or comments regarding this site. I can be reached at 925-277-2321.

Sincerely,

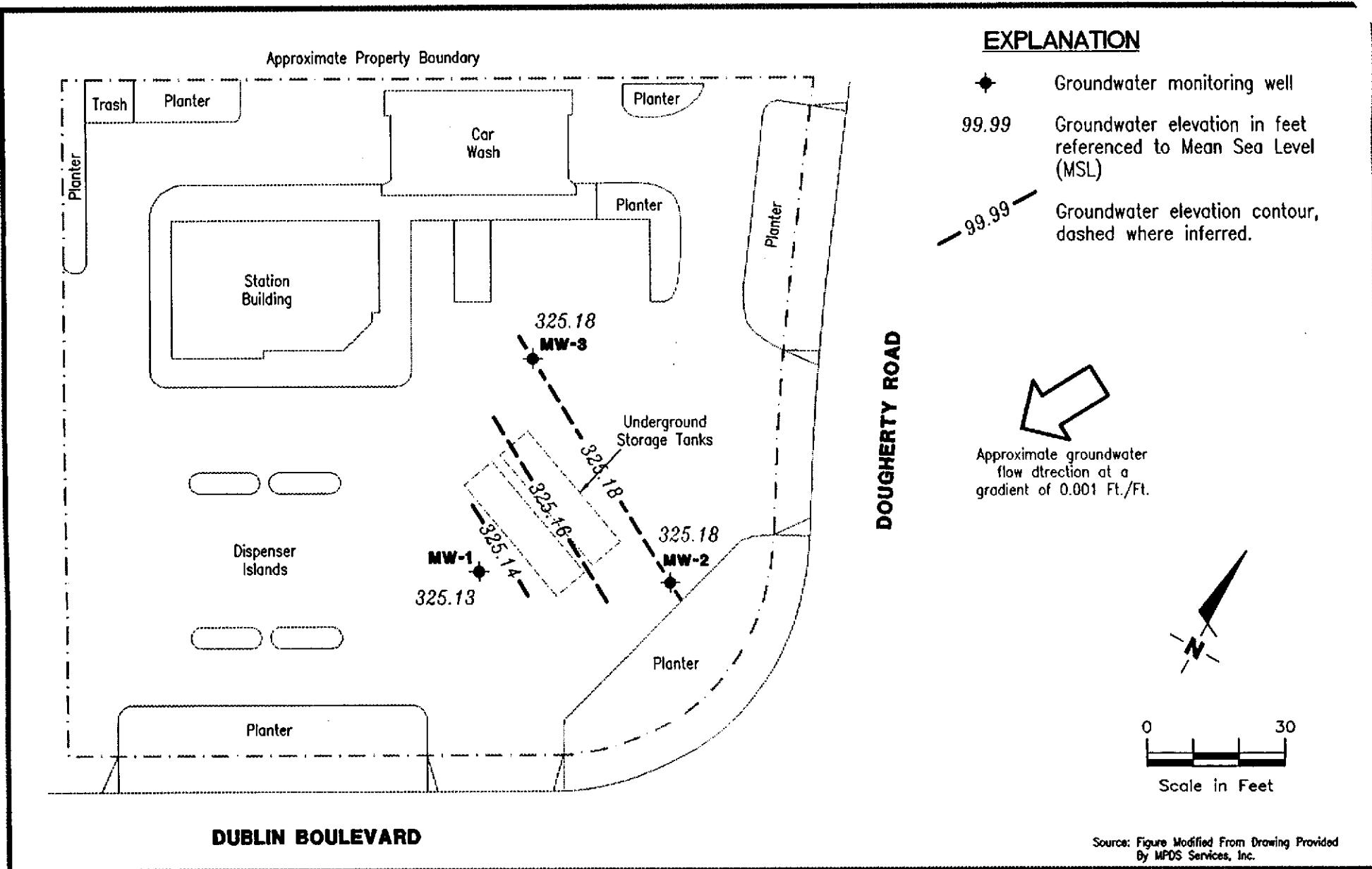


Tina Berry
Project Manager
Tasco Marketing Company

Distribution:

David Camille, Tosco Marketing Company, P.O. Box 5155, San Ramon, CA 94583
Bill Bunch, Tosco Marketing Company, P. O. Box 5155, San Ramon, CA 94583
Doug Lee, Gettler-Ryan, Inc., 6747 Sierra Court, Suite J, Dublin, CA 94568
Keith Romstad, Env'l Resolutions, Inc., 74 Digital Dr., Novato, CA 94949
Eva Chu, Alameda Co. Health, 1131 Harbor Bay Pkwy., Alameda, CA 94502
Robert Weston, Alameda Co. Health, 1131 Harbor Bay Pkwy, Alameda CA 94502
Chris Steck, Mt. View Fire Dept., 1000 Villa Street, Mt. View, CA 94041
Shahla Farahnak, SWRCB, P. O. Box 944212, Sacramento, CA 94244-2120

Camco Pacific



Gettier - Ryan Inc.

6747 Sierra Ct., Suite J (510) 551-7555
Dublin, CA 94568

JOB NUMBER
180021

REVIEWED BY

POTENTIOMETRIC MAP
Unocal Service Station No. 6419
6401 Dublin Boulevard
Dublin, California

DATE
February 2, 1998

REVISED DATE

CNS**A ASSOCIATES, INC.****Static Pressure Leak Decay Test Results****CARB Test Procedure Method TP-201.3**

Station # 05748
Address: 6401 DUBLIN BLVD
City: DUBLIN
County: ALAMEDA
State: CA

Test Date: 7/6/98
Air Agency: Bay Area AQMD
Phase II System Type: Bellows-less
Manifolded?: Yes

Pressure Decay Performance Report

	Tank 1	Tank 2	Tank 3	Tank 4	Total
Number of Nozzles					12
Product Grade	87	92			
Actual Tank Capacity (Gallons)	12,000	12,000			24,000
Gasoline Volume (Gallons)	4,622	6,960			11,682
Ullage (Gallons)	7,378	5,040			12,418
Initial Pressure, inches water (2.0)	2.00	2.00	2.00		2.00
Pressure after 1 min. inches water					2.00
Pressure after 2 min. inches water					1.98
Pressure after 3 min. inches water					1.98
Pressure after 4 min. inches water					1.96
Pressure after 5 min. inches water					1.96
Allowable Final Pressure					1.90
Pressure Decay Test Result					Pass

Labor: REPLACED 3 FILL GASKETS - ONE ON 92, TWO ON 87**Technician:** CNS Associates, Inc.**Test Time:**

12:10 PM

Signature:

white	-env.health
yellow	-facility
pink	-files

**ALAMEDA COUNTY, DEPARTMENT OF
ENVIRONMENTAL HEALTH**
Hazardous Materials Inspection Form

1131 Harbor Bay Pkwy
Alameda CA 94502
510/567-6700

II, III

Site ID # 2096Site Name UNOCAR PROWASHToday's Date 7/13/98Site Address 6401 Dublin BlvdCity DublinZip 94568

Phone _____

 MAX AMT stored > 500 lbs, 55 gal., 200 cft.?**Inspection Categories:**

- I. Haz. Mat/Waste GENERATOR/TRANSPORTER
- II. Hazardous Materials Business Plan, Acutely Hazardous Materials
- III. Under ground Storage Tanks

 Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)**Comments:**

THIS INSPECTION CONDUCTED TO DETERMINE
COMPLIANCE WITH TITLE 23 AND PERMIT
CONDITIONS.

AREAS OF INSPECTION INCLUDE:

- 1. Dispenser Containment - Dry
- 2. Fuel / Vapor overspill containment
- 3. Turbine Sump - Dry
- 4. Annular Space - No liquid present
HOWEVER LOWER EXPLOSIVE LEVEL
EXCEEDS 25% OFF THE SCALE OF
INSTRUMENT

IMMEDIATELY DETERMINE CAUSE AND
CORRECT CONDITION OF THE EXPLOSIVE
ENVIRONMENT IN THE ANNULAR
SPACE OF THE TWO UNDERGROUND TANKS.

REPORT IMMEDIATE FINDINGS TO THIS
INSPECTOR. 510 567 6781.

Contact _____

II, III

Title _____

Inspector _____

Signature _____

MANAGER

Signature _____

Robert Weston
Plant Manager

JULY 14 1998

CENTRAL PETROLEUM MAINTENANCE CO.
P.O. BOX 211 / 176 WYOMING STREET
PLEASANTON, CA 94566
(925) 462-4060 / FAX (925) 462-8352

FAX TRANSMISSION

Date 7/14/98 Time 1725 Number of Pages
(Including Cover Letter) 5

Note: If you did not receive all of the pages please call (925) 462-4060

TO: FROM:

Company Name Tosco Marketing Company	Name Roy Gibson
Attention Bill Bunch	Subject Station #6419, 6401 Dublin Blvd
Fax Number 277-2361	Fax Number 462-8352

During hazardous materials inspection by Alameda County Environmental Health, on 7/13/98, Station #6419, 6401 Dublin Blvd., Dublin was cited for high LEL (lower explosive level) in tank annular space.

Our initial manual inspection on 7/13 showed sensors were dry and no smell of fuel at sensor pipes.

Subsequent inspection on 7/14 showed sensors to be dry but when Gas/Oxygen Analyzer was used to check atmosphere in 87 and 92 annular and turbine spaces we found the LEL to be significantly higher than would be expected.

Copies of the following are attached:

- Hazardous materials inspection form, Alameda County Environmental Health.
- Copies of Maintenance/Repair Order, pages 1 & 2, dated 7/13 & 7/14/98.
- Copy of our Entry Permit form showing results of testing using Gas/Oxygen analyzer on 7/14/98.

This problem was discussed with Robert Weston, Alameda County Inspector and he stated he had seen copies of our Maintenance/Repair Order forms dated 7/13 and 7/14 that he had received from the station. Mr Weston was told that you had been briefed on the problem and would most likely be calling in Denny of Gettler-Ryan to work on a solution and correction of the problem. He was also told we would probably have no further involvement.

Let me know if we can do anything to assist you on this matter.

Central Petroleum Maintenance Co.
P.O. Box 211 • Pleasanton, CA 94568

**SUBJECT: Confined Spaces
Appendix I**

ENTRY PERMIT

Job Site: Unocal 6419 Space to be entered: Testing oxy levels
6401 Dublin Blvd around tank openings
Dublin, Ca

Purpose of entry: Line/leak detector test: _____ Sub-pump repair: _____
Tank alarm/liquid removal: _____ Other: Oxy readings

Entry Supervisor/Attendant: G. Geltz Signature: D. Geltz

Authorized entrants: Greg Colte Darin Terrill

Permit issued by: Grant Date/Time: 1045 Signature: 

Hazards of space to be entered: Gasoline vapors/fumes: _____

Other: (specify) _____

Gasoline/water mixture: _____ Other: (Specify) _____

Equipment to be used: Gas/Oxygen analyzer and ventilation blower.

Actions to be taken before entry to confined space:

Actions to be taken before entry to confined space: _____
Scrubbed by: _____ Time: _____

Requirement: Completed by: Time:

Specific Dealer/Manager purpose of work: GRG 10:45

- | | | |
|--|---------------|-------------------------|
| - Notify Dealer/Manager purpose of work: | <u>GRG</u> | <u>10:50 AM</u> |
| - Lock out submersible pump or pumps: | <u>GRG-OT</u> | <u>10:50 AM</u> |
| - Secure area with cones/barricades: | <u>PT</u> | <u>10:50 AM</u> |
| - Post fire extinguisher: | <u>GRG-OT</u> | <u>10:50 - 11:30 AM</u> |
| - Test atmosphere in space & record results: | <u>GRG-OT</u> | <u>10:50 AM</u> |
| - Ventilate confined space: | <u>GRG-OT</u> | <u>10:50 - 11:30 AM</u> |
| - Test atmosphere in space & record results: | <u>GRG-OT</u> | <u>10:50 - 11:30 AM</u> |

Record continuous monitoring results at beginning and every 30 minutes thereafter:

<u>Test To Be Taken</u>	<u>Permissible Entry Level</u>	<u>Record Time and Monitoring Results every 30 minutes</u>						
% Oxygen	19½ - 23½	10:30 AM	12:1					
LEL	Under 20%	70						
PPM	Under 100							

-Continuation of monitoring results:

Test: Time: 11:15 _____
% Oxygen 6.0 _____
LEL 66 _____
BPM _____

92

87
turbine

11:30 AM

192

174

11:40 AM
PERMIT IS VALID FOR 8 HOURS ONLY AND IS TO REMAIN AT JOB SITE UNTIL JOB IS COMPLETED

92 18.7 TOTOL 2



MAINTENANCE/REPAIR ORDER

PLEASE PRINT. ALL INFORMATION MUST BE LEGIBLE.

BLANKET CONTRACT NO.		
WORK ORDER NO. 12/603		
STATION NO. 449 2076	PAGE 2 OF	
WAS JOB COMPLETED		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	
MATERIAL CHARGES		
QTY.	PRICE	AMOUNT

CONTRACTOR Central Petroleum Maint	SERVICE STATION ADDRESS (640) Dublin Blvd, Dublin
REPORTED PROBLEM High vapor readings - annular	
SERVICES / REPAIRS PERFORMED SHOW MFG. NAMES & SERIAL NOS. IF PUMP TOTALIZER IS CHANGED, SHOW BEFORE & AFTER TOTALIZER READINGS.	
<p>Printout TDS sensor diagnostics All Functions + sensors are normal</p> <p>Open annular 2" risers + pull-out sensors - all sensors dry.</p> <p>Use oxy analyzer + sniff 2" risers. Both 87+92 motor machine go into alarm. Let stand open + re-check levels. Open turbine holes - very high fumes. Oxy machine goes quickly to alarm.</p> <p>Possible probe adapter + cap leak(s). (87+92). Small amount liquid 92 turbine hole (water).</p>	
TOTALIZER READINGS	
DISPENSER SERIAL NO.	TRAVEL TIME NO. OF PERSONS □
BEFORE	VENDOR'S EQUIPMENT
AFTER	ITEM RATE SUB- CONTRACTOR
TOTAL LABOR CHARGE	
CORE CREDIT ()	
MILEAGE TO SITE AND TIME AT SITE	
VEHICLE NUMBER	
ENDING ODOMETER READING	
BEGINNING ODOMETER READING	
TOTAL MILEAGE TO SITE	
TOTAL TRAVEL TIME	
TOTAL MILEAGE	
TOTAL VENDOR'S EQUIP.	
TOTAL EQUIP. RENTAL	
TOTAL SUBCONTRACTOR	
TOTAL ▶	
DATE TIME AM PM ARRIVAL TIME AT SITE DEPARTURE TIME FROM SITE AM PM PERSON CONTACTED AT SITE	
TOTAL TIME AT SITE HRS. MIN. AUTHORIZED PERSON (PRINT NAME) AUTHORIZED PERSON'S SIGNATURE	
SERVICE PERSON (PRINT NAME) Gregg Geltz	SERVICE PERSON (PRINT NAME) Dawn Terrell
SERVICE PERSON'S SIGNATURE Megan Ralls	SERVICE PERSON'S SIGNATURE Dawn Terrell
BEFORE SIGNING FORM, VERIFY ARRIVAL TIME, DEPARTURE TIME, AND SERVICES PERFORMED	
TOTAL DATE 7-14-98	



MAINTENANCE/REPAIR ORDER

PLEASE PRINT. ALL INFORMATION MUST BE LEGIBLE.

BLANKET CONTRACT NO.	
WORK ORDER NO.	
121603	
STATION NO.	6419
PAGE	1 OF
WAS JOB COMPLETED	
<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

CONTRACTOR
CENTRAL PETROLEUM
REPORTED PROBLEM
EXPOSURE OILS FW ANNULAN

SERVICE STATION ADDRESS

16401 Du Bois Blvd / Dubuque.

SERVICES / REPAIRS PERFORMED
SHOW MFG NAMES & SERIAL NOS. IF PUMP TOTALIZER IS CHANGED. SHOW BEFORE & AFTER TOTALIZER READINGS.

CHECKED BOTH ANNULAN SECTIONS
OF TANKS FOR LIQUID AND GAS
VAPORS, THE SENSORS WERE DRY
AND THERE WAS NO SMELL OF
GAS AT SENSOR PIPES

LABOR CHARGES

TIME RATE AMOUNT

1/2 45⁰⁰ 22.501/2 45⁰⁰ 22.50

MATERIAL DESCRIPTION

MATERIAL CHARGES

QTY. PRICE AMOUNT

TOTAL LABOR CHARGE 75⁰⁰

CORE CREDIT

()

TOTALIZER READINGS

TRAVEL TIME NO. OF PERSONS ▶ 2

VENDOR'S EQUIPMENT

ITEM TIME RATE

SUB-TOTAL

MARK UP %

AMOUNT

MILEAGE TO SITE
AND TIME AT SITESUBTOTAL
MATERIALMARK
UP %VEHICLE
NUMBERTOTAL
MATERIAL

ENDING ODOMETER READING

SALES TAX ON
TOTAL MATERIAL

BEGINNING ODOMETER READING

TOTAL
LABOR CHARGETOTAL
MILEAGE TO SITE45⁰⁰TOTAL
TRAVEL TIME

67.50

DISPENSER
SERIAL NO.

BEFORE

AFTER

REMARKS

CONTRACTOR CONFIRMED SERVICE CALL

DATE

TIME

AM

PM

ARRIVAL TIME AT SITE

AM

PM

415

PERSON CONTACTED AT SITE

DEPARTURE TIME FROM SITE

AM

PM

245

PERSON WHO PLACED CALL

TOTAL TIME AT SITE

AM

PM

1/2

HRS. MIN.

1/2

TOTAL SUBCONTRACTOR

SERVICE PERSON (PRINT NAME)

ERIC SCHENK

SERVICE PERSON'S SIGNATURE

SERVICE PERSON (PRINT NAME)

Eric Schenk

SERVICE PERSON'S SIGNATURE

BEFORE SIGNING FORM,
VERIFY ARRIVAL TIME,

DEPARTURE TIME, AND

SERVICES PERFORMED.

AUTHORIZED PERSON (PRINT NAME)

DON PHIBIN

AUTHORIZED PERSON'S SIGNATURE

TOTAL ▶

112.50

DATE

7-13-98

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:

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

Tesco Facility # 05748
Test Date 7/21/98

Facility:

Tesco Facility # 05748
6401 DUBLIN BLVD
DUBLIN, CA 94568

Work #: 460393

County: ALAMEDA

Cross Street:

Tank		Test System		Tank		Line	
#	Product	Capacity	Type	Rate/Results	Ullage Result	Rate/Result	L/D Result
1	Unleaded Regular	12000	System 5000	0.010 PASS	PASS	0.000 PASS	PASS
2	Unleaded Premium	12000	System 5000	0.010 PASS	PASS	0.000 PASS	PASS

Certified By:



Technician: James Bowen

Mfgr's #: TEI-053

State Lic. #s: CA-97-1603

IFCI-98212 AZ-T00033

ID-9634006 CO-0547A

Comments:

EMERGENCY test ALL and monitor certification REQUESTED by Crissy

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 # 05748

Tank #: 1

Test Date: 7/21/98

Product: Unleaded Regular

Work #: 460393

TANK TEST RESULT		LEAK DETECTOR TEST RESULT	
Test Method:	System 5000	Test Method:	R.J. FTA
Capacity:	12000	Manufacturer:	Red Jacket
Diameter (in):	94	L/D Model:	XLD
Product Level (in):	55	L/D Serial #:	30295
Liquid Volume (Gals):	7324	Line Drain Back (ml):	140
Liquid Percent (%):	61.0%	L/D Trip Time (sec):	2
Specific Gravity:	0.750	Holding Pressure (psi):	15
Coef. of Expansion:	0.000650	Metering Pressure (psi):	10
Water On Tank (in):	0	L/D Test Rate (gph):	1.7
Water In Tank (in):	0	L/D Result:	PASS
Product Temp. (F):	80	New Leak Detector?	No
Head Pressure (psi):	1.5	LINE TEST RESULT	
Test Start Time:	10:20 AM	Test Method:	TEI LT-3
Test End Time:	10:45 AM	Pump Brand:	Red Jacket
Test Rate (gph):	0.010	System Type:	Pressure
Test Result:	PASS	Line Pressure (psi):	50
ULLAGE TEST RESULT		Line Start Time:	11:30 AM
Test Method:	ULLAGE	Line End Time:	11:45 AM
Ullage Volume (gals.):	4676	Line Start Level:	20
Ullage Test Time:	10:20 AM	Line End Level:	20
Ullage Vacuum (psi):	1.9	Line Test Rate (gph):	0.000
Ullage Result:	PASS	Line Test Result:	PASS
COMMENTS			

Triangle Environmental, Inc.

SYSTEMS TANK, LINE AND LEAK DETECTOR TEST REPORT

Facility: Tosco Facility # 05748

Tank #: 2

Test Date: 7/21/98

Product: Unleaded Premium

Work #: 460393

TANK TEST RESULT		LEAK DETECTOR TEST RESULT	
Test Method:	System 5000	Test Method:	R.J. FTA
Capacity:	12000	Manufacturer:	Red Jacket
Diameter (in):	94	L/D Model:	XLD
Product Level (in):	51	L/D Serial #:	30295
Liquid Volume (Gals):	6748	Line Drain Back (ml):	140
Liquid Percent (%):	56.2%	L/D Trip Time (sec):	2
Specific Gravity:	0.750	Holding Pressure (psi):	14
Coef. of Expansion:	0.000650	Metering Pressure (psi):	9
Water On Tank (in):	0	L/D Test Rate (gph):	2.0
Water In Tank (in):	0	L/D Result:	PASS
Product Temp. (F):	78	New Leak Detector?	No
Head Pressure (psi):	1.4		
Test Start Time:	10:00 AM		
Test End Time:	10:20 AM		
Test Rate (gph):	0.010		
Test Result:	PASS		
ULLAGE TEST RESULT		LINE TEST RESULT	
Test Method:	ULLAGE	Test Method:	TEI LT-3
Ullage Volume (gals.):	5252	Pump Brand:	Red Jacket
Ullage Test Time:	10:00 AM	System Type:	Pressure
Ullage Vacuum (psi):	1.8	Line Pressure (psi):	50
Ullage Result:	PASS	Line Start Time:	11:30 AM
		Line End Time:	11:45 AM
		Line Start Level:	30
		Line End Level:	30
		Line Test Rate (gph):	0.000
		Line Test Result:	PASS
COMMENTS			

Triangle Environmental, Inc.

UST FACILITY INSPECTION/AUDIT SHEET

Facility:

Tosco Facility # 05748
6401 DUBLIN BLVD
DUBLIN, CA 94568

County: ALAMEDA

Cross Street:

Test Date: 7/21/98

Work #: 460393

Status
N= Not Present or Observed
S= Satisfactory
U= Unsatisfactory
Fill Cover: S
Fill Cap: S
Fill Cap Seal: S
Drop Tube: S
Strike Plate: T
V/R Cover: S
V/R Cap: S
V/R Seal: S
V/R Dry Break: S
Sub Pump: S
Sub Pump Cover: S
Overfill: S
Overfill Mfgr: OPW

Type
C= Coaxial
D= Dual
N= No Stage I
P= Pressure
A= Angle Check
V= Vertical Check
F= Flex
M= Metallic

Fill Type: D
Product Line Type: P
Tank Swing Joint Type: F
Dispenser Swing Joint Type: F

Number of	Disp.	Hoses
Regular:	6	12
Plus:	6	12
Premium:	6	12
Diesel:	0	0
Kerosene:	0	0
Total # of Gas Nozzles:	12	

Status
N= Not Present
S= Satisfactory
U= Unsatisfactory
Impact Valve: S
Vertical Check Valve: N
Fill Spill Containment: S
Fill Spill Mfgr: CNI
Dispenser Containment: S
Sub Pump Containment: S

Stage II
B= Balance
A= Assist
System Type: A
Assist Mfgr: gilbarco

Comments:

Compliance Detail: (List items that need immediate attention.)

Triangle Environmental, Inc.

UST MONITOR CERTIFICATION SUMMARY SHEET

Client:

Tesco Marketing Co.
3550 North Central Avenue
Phoenix, AZ 85012-

Tesco Facility # 05748

Test Date: 7/21/98

Facility:

Tesco Facility # 05748
6401 DUBLIN BLVD
DUBLIN, CA 94568

Work #: 460393

County: ALAMEDA

Cross Street:

Monitor model: VEEDER-ROOT TLS-350

Serial #:

Sensor Type:	Quantity:	Result:	
Tank Annular :	2	PASS	Annular Type: DRY
Waste Oil :	0	N/A	Audible Alarm? Yes
Waste Oil Sump:	0	N/A	Visual Alarm? Yes
Vadose Wells :	0	N/A	Fail Safe? Yes
Line Pressure :	0	N/A	Positive Shut-off? Yes
Turbine Sump :	2	PASS	ATG Result: PASS
LineTrenchQty:	0	N/A	ATG Monthly? No
Fill Sump :	0	N/A	ATG CSLD? Yes

Comments:

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

Inspected By:

James Bowen

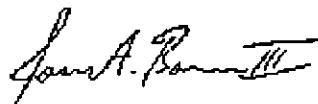
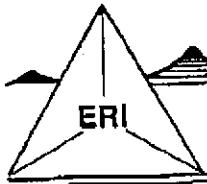


Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #6419
6401 Dublin Boulevard
Dublin, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(D) <-----	TPH(G) -----ppb-----	B	T	E	X	MTBE ----->
MW-1	03/14/94			810 ¹	1,800 ²	17	ND	ND	ND	-
	08/25/94			910 ³	9,200 ²	48	ND	540	ND	-
	11/18/94			910 ³	5,100	33	ND	560	38	-
	02/15/95			660 ¹	3,300	13	ND	180	5.2	-
	05/17/95			200 ³	130	0.75	ND	1.5	ND	-
	08/25/95			-	490	9.1	ND	21	2.0	- ⁵
	11/28/95			-	1,400	18	3.0	98	3.6	- ⁵
330.45	02/26/96	5.77	324.68	--	560	9.3	ND	22	ND	1,300
	08/23/96	7.78	322.67	--	ND	ND	ND	ND	ND	640
330.23	02/17/97	5.73	324.50	--	120 ⁴	1.0	0.95	ND	ND	280
	08/18/97	7.38	322.85	--	ND	ND	ND	ND	ND	100
	02/02/98 ⁶	5.10	325.13	--	ND ⁷	130	ND ⁷	ND ⁷	ND ⁷	32,000
MW-2	03/14/94			-	ND	ND	2.8	1.1	8.0	-
	08/25/94			-	ND	ND	ND	ND	ND	-
	11/18/94			-	ND	ND	ND	ND	ND	-
	02/15/95			-	ND	ND	ND	ND	ND	-
	05/17/95			-	ND	ND	ND	ND	ND	-
	08/25/95			-	ND	ND	ND	ND	ND	-
	11/28/95			-	ND	ND	ND	ND	ND	-
330.40	02/26/96	5.49	324.91	--	ND	ND	ND	ND	ND	-
	08/23/96	7.44	322.96	SAMPLED ANNUALLY	--	--	--	--	--	-
330.27	02/17/97	5.64	324.63	--	ND	ND	ND	ND	ND	ND
	08/18/97	7.40	322.87	--	--	--	--	--	--	-
	02/02/98	5.09	325.18	--	ND	ND	ND	ND	ND	62
MW-3	03/14/94			-	150 ⁴	ND	ND	ND	ND	-
	08/25/94			-	130 ⁴	ND	ND	ND	ND	-
	11/18/94			-	130 ⁴	ND	ND	ND	ND	-
	02/15/95			-	130 ⁴	ND	ND	ND	ND	-
	05/17/95			-	99 ⁴	ND	ND	ND	ND	-

Table 1
Groundwater Monitoring Data and Analytical Results
Tesco (Unocal) Service Station #6419
6401 Dublin Boulevard
Dublin, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(D) <--	TPH(G)	B <i>ppb</i>	T	E	X	MTBE -->
MW-3	08/25/95			--	ND	ND	ND	ND	ND	-- ^s
(cont)	11/28/95			--	ND	ND	ND	ND	ND	--
331.11	02/26/96	6.25	324.86	--	ND	ND	ND	ND	ND	-- ^s
	08/23/96	7.98	323.13	SAMPLED ANNUALLY	--	--	--	--	--	--
330.68	02/17/97	6.07	324.61	--	ND	ND	ND	ND	ND	68
	08/18/97	7.82	322.86	--	--	--	--	--	--	--
	02/02/98	5.50	325.18	--	ND	ND	ND	ND	ND	100
<hr/>										
Trip Blank										
TB-LB	02/02/98	--	--	--	ND	ND	ND	ND	ND	ND

**ENVIRONMENTAL RESOLUTIONS, INC.**

September 24, 1998
ERI 233004.L04

Ms. Tina Berry
Tosco Marketing Company
P.O. Box 5155
San Ramon, California 94583

Subject: Extended Soil Vapor Extraction Test at Tosco 76 Service Station #6419, 6401 Dublin Boulevard, Dublin, California.

Ms. Berry:

At the request of Tosco Marketing Company (Tosco), Environmental Resolutions, Inc. (ERI) conducted a four-day extended soil vapor extraction test at the subject site. ERI used a portable vapor extraction trailer to extract hydrocarbon vapors from the vadose zone and reduce residual hydrocarbon concentrations in soil. The vapor extraction trailer consisted of a 1.5 horsepower Rotron blower, three 200-pound vapor-phase carbon vessels for abatement, and associated instruments for measuring flow, temperature, vacuum, and hydrocarbon concentrations. ERI performed the work from July 20 through July 23, 1998.

ERI used existing onsite monitoring wells MW1, MW2, and MW3 for extraction and observation. The locations of the wells are shown on the attached site plan. ERI utilized well MW1 as the initial extraction well due to its proximity to the fuel underground storage tank (UST) cavity. ERI anticipated rotating the vapor extraction trailer to each well based on photoionization detector (PID) readings and concentrations of MTBE in groundwater. Initial PID readings of 435 parts per million by volume (ppmv), 11 ppmv, and 9 ppmv were recorded in wells MW1, MW3, and MW2, respectively. Based on these concentrations, ERI utilized MW1 as the extraction well throughout the test.

ERI personnel monitored hydrocarbon vapors during the test utilizing a PID and obtained magnehelic readings from observation wells at regular intervals. Operational data are presented in Table 1. Magnehelic readings obtained from observation wells indicate the effective radius of influence is likely less than 40 feet based on the distance to the closest monitoring point. Influent vapor samples were also collected from MW1 during the test and submitted to Sequoia Analytical for analysis of total purgeable petroleum hydrocarbons as gasoline (TPPHg) using EPA method 8015, benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA method 8020, and MTBE using EPA method 8020. Results of analyses of vapor samples collected from well MW1 indicate MTBE concentrations decreased from 1,700 micrograms per liter ($\mu\text{g}/\text{L}$) to 47 $\mu\text{g}/\text{L}$ during the test. Concentrations of TPPHg decreased from 300 $\mu\text{g}/\text{L}$ to 10 $\mu\text{g}/\text{L}$. ERI estimates that approximately 0.53 lbs of TPPHg and 6.5 pounds of MTBE were removed from the vadose zone during the four day vapor extraction test (equivalent to approximately 1 gallon of gasoline). Results of laboratory analyses and cumulative pounds of TPPHg and MTBE removed are shown in Table 2. ERI's standard operating procedures for calculating pounds of hydrocarbon in an air stream are attached.

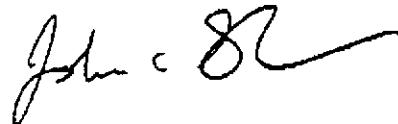
ERI 233004 L04 Tosco 76 Service Station #6419, Dublin, California

September 24, 1998

At the direction of Tosco, ERI also collected vapor samples from the interstitial space in the 87 octane (regular unleaded) and 92 octane (supreme unleaded) USTs. These samples were submitted to Sequoia Analytical for MTBE analysis using EPA method 8020 and 8260. Results of analyses of influent and interstitial air samples are presented in Table 2.

Please call me at (415) 382-5996 if you have questions regarding the data.

Respectfully,
Environmental Resolutions, Inc.



John C. Skance
Staff Scientist



Keith A. Romstad
Branch Manager

Enclosures: Table 1 Vapor Extraction Field Data
Table 2 Air Sample Analytical Results
Graph 1 MTBE Concentration and Removal Over Time

Attachment: Generalized Site Plan
Laboratory Analytical and Chains of Custody
ERI's SOP-25 for Calculating Pounds of Hydrocarbon in an Airstream.

TABLE 1
VAPOR EXTRACTION
FIELD DATA
Tesco 76 Service Station #6419
6401 Dublin Boulevard
Dublin, California

Date 7/20 through 7/23 1998	Time (Min)	PID (ppmv)	Flow (SCFM)	MW1 (EW)	MW2 (40.0')	MW3 (46.2')	Notes:
<.....Vacuum (Inches of H2O).....>							
7/20/98							
	1	335	71.9	22.0	5.60	1.2	
	120	554	70.6	19.5	3.20	0.21	
	180	514	68.5	19.5	1.60	0.15	
	300	426	68.5	19.5	0.65	0.11	
	420	334	70.1	19.0	0.55	0.13	
	660	284	72.6	19.5	0.50	0.09	
7/21/98							
	1	365	79.2	18.0	0.60	0.17	User pressure testing
	120	384	76.2	17.0	0.70	0.14	began 120 minutes
	180	299	76.2	17.0	0.70	0.10	after system start-up.
	300	260	76.2	17.0	0.70	0.11	
	420	297	76.2	17.0	0.70	0.11	
	660	291	77.3	17.0	<0.05	<0.05	Recalibrate gauges.
7/22/98							
	1	222	60.8	18.0	0.00	<0.05	
	120	293	77.4	16.5	0.00	3.30	
	180	226	76.3	17.0	0.00	1.40	
	300	227	76.3	17.0	0.00	<0.05	
	420	207	76.9	16.5	0.00	0.00	
	660	223	77	16.50	0.00	0.00	
7/23/98							
	1	151	80	17.50	0.00	0.00	
	120	165	77	16.50	0.00	<0.05	
	180	129	77	16.50	0.00	<0.05	
	300	132	77	17.00	0.00	0.00	
	420	119	76	16.50	0.00	0.00	
	660	111	76	16.50	0.00	0.00	

Notes:

- (Min) = Minutes
- (ppmv) = Parts per million by volume as recorded in the field using a photoionization detector.
- (SCFM) = Standard cubic feet per minute
- (EW) = Extraction Well
- (MW) = Monitoring Well
- (40') = Distance in feet from extraction well to monitoring well.
- PID = Photoionization device

TABLE 2
SAMPLE RESULTS
SOIL VAPOR EXTRACTION TEST
Tasco 76 Service Station #6419
6401 Dublin Boulevard
Dublin, California

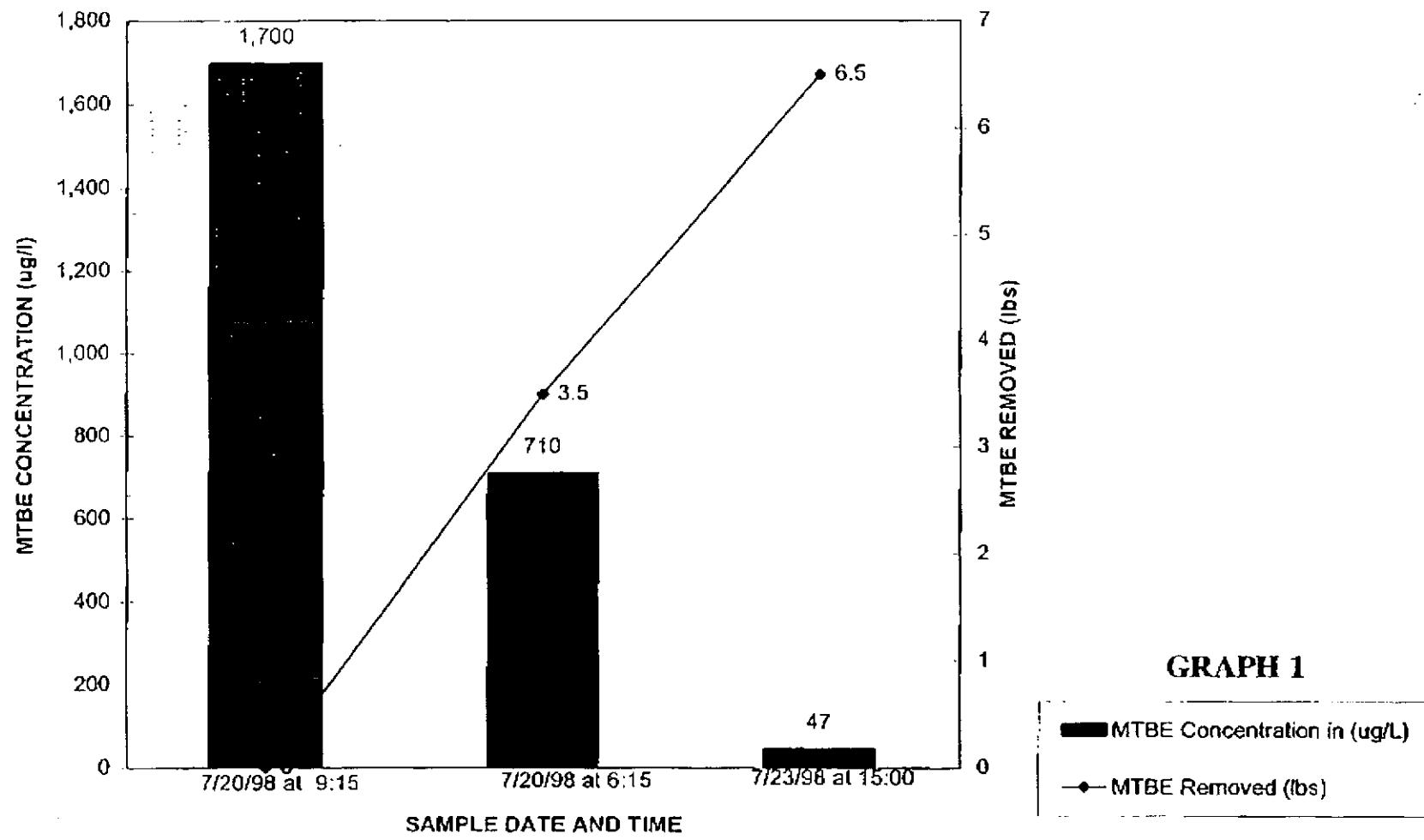
Well No.	Date	Time	Sample ID	B	T	E	X	TPPHg	MTBE	TPPHg removed in lbs.	MTBE removed in lbs.	
micrograms per liter												
MW1	7/20/98	7:15	Start Test									
	7/20/98	9:15	A-INF 1	16	<0.050	<0.050	1.6	300	1,700	0	0	
	7/20/98	6:15	A-INF 2	4.3	<0.050	2.0	2.2	<10	710	0.45	3.5	
	7/23/98	15:00	A-INF 3	0.2	<0.10	<0.10	<0.10	10	47	0.08	3.0	
Total lbs removed each:										0.53	6.5	
Total lbs of TPPHg and MTBE removed:										7.03		
Additional Sampling:												
NA	7/21/98	12:15	A-INT 87	46	4.9	0.90	2.7	650	1,700			
			Additional Analyses by 8260: Carbon tetrachloride 11; MTBE 1,700; Butane 15,000; Pentane 1,700; Butane, 2-methyl 15,000; Pentane, 2-methyl 15,000; Cyclopentane 180; Pentane, 2,4-dimethyl 270; Cyclopentane, methyl 420; Butane, 2,2,3,3,-tetramethyl 370.									
NA	7/21/98	12:15	A-INT 92	110	96	2.6	15	1,300	3,800			
			Additional Analyses by 8260: Benzene 46; MTBE 5,000; Toluene 62; Butane 20,000; Pentane 3,200; 2-Butenal, (E) 410; 2-Butene, 2-methyl 240; Cyclopentane 420; Pentane, 2,4-dimethyl 750; Cyclopentane, methyl 920; Butane, 2,2,3,3-tetramethyl 1,000; Butane, 2,3-dimethyl 6,000; Hexane, 2-methyl 250; Pentane, 2,3,3-trimethyl 310.									

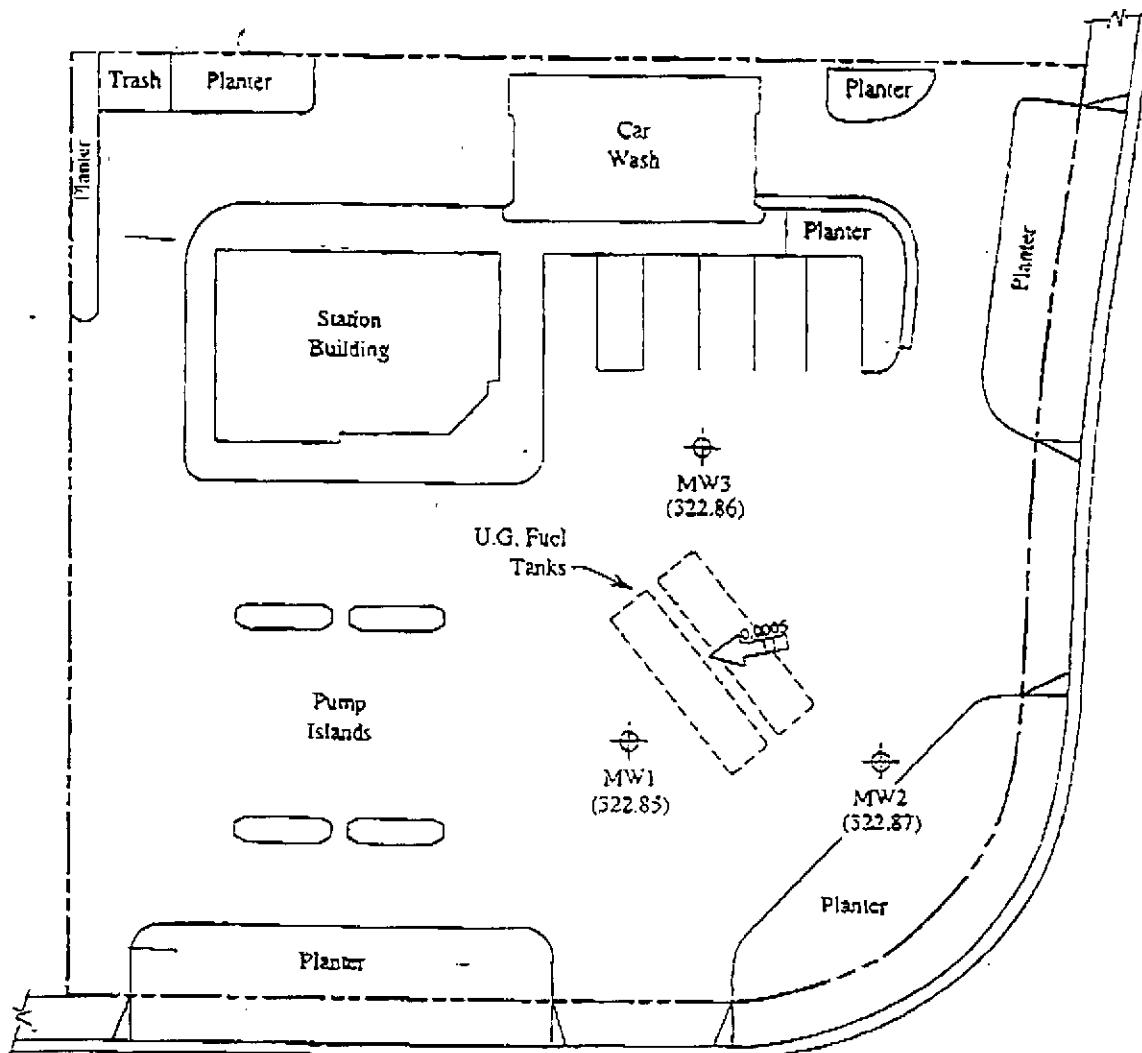
Notes:

- TPPHg = Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 8015.
 BTEX = Benzene, Toluene, Ethylbenzene, and total Xylenes using EPA method 8020
 MTBE = Methyl Tertiary Butyl Ether using EPA method 8020
 < = Less than the stated laboratory detection limit
 A-INF 1 = Air sample collected from MW1 prior to blower and carbon treatment
 A-INF 2 = Air sample collected from MW1 prior to blower and carbon treatment
 A-INF 3 = Air sample collected from MW1 prior to blower and carbon treatment
 A-INT 87 = Air sample collected from the interstitial space between the 87 octane (Regular Unleaded) UST walls using EPA method 8015/8020 and 8260
 A-INT 92 = Air sample collected from the interstitial space between the 92 octane (Super Unleaded) UST walls using EPA method 8015/8020 and 8260

MTBE CONCENTRATION AND REMOVAL OVER TIME

Tosco 76 Service Station #6419



LEGEND

- Monitoring well
- Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow with approximate hydraulic gradient

0 30 60
Approx. scale feet

GROUND WATER FLOW DIRECTION MAP FOR THE AUGUST 18, 1997 MONITORING EVENT

MPDS
SERVICES, INCORPORATED

UNOCAL SERVICE STATION #6419
6401 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

FIGURE
1

**LABORATORY ANALYTICAL
AND
CHAINS OF CUSTODY**



**Sequoia
Analytical**

680 Chesapeake Drive 404 N. Wiger Lane 819 Striker Avenue, Suite 8 1455 McDowell Blvd. North, Ste. D	Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954	(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865	FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342
---	--	--	--

Environmental Resolutions
74 Digital Dr, Ste 6
Novato, CA 94949
Attention: Keith Romstad

Client Project ID: Tosco 76 #6419
Sample Matrix: Air
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 807-1364

Sampled: 7/20 & 21/98
Received: Jul 21, 1998
Reported: Jul 28, 1998

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 807-1364 A-INF 1	Sample I.D. 807-1365 A-INF 2	Sample I.D. 807-1366 A-INT 87	Sample I.D. 807-1367 A-INT 92	
Purgeable Hydrocarbons	10	300	N.D.	650	1,300	REPROVED
Benzene	0.050	16	4.3	46	110	JUL 31 1998
Toluene	0.050	N.D.	N.D.	4.9	96	USE
Ethyl Benzene	0.050	N.D.	2.0	0.90	2.6	
Total Xylenes	0.050	1.6	2.2	2.7	15	
MTBE	0.50	1,700	710	1,700	3,800	

Chromatogram Pattern:

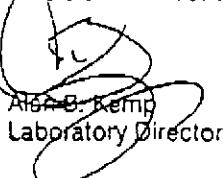
Gasoline & Unidentified Hydrocarbons <C7			
---	---	---	---

Quality Control Data

Report Limit Multiplication Factor:	20	25	10	10
Date Analyzed:	7/23/98	7/23/98	7/23/98	7/23/98
Instrument Identification:	HP-2	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	126	118	231*	278*

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Alisa B. Kemp
Laboratory Director

Please Note:

*Surrogate recovery above control limits due to peak coelution.



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wiger Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd, North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
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Petaluma, CA 94954

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(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

Environmental Resolutions
74 Digital Dr, Ste 6
Novato, CA 94949

Attention: Keith Romstad

Client Project ID: Tosco 76 #6419
Matrix: Vapor

QC Sample Group: 8071364 - 67

Reported: JUL 28, 1998

QUALITY CONTROL DATA REPORT

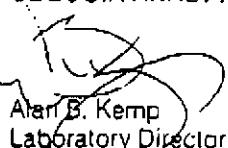
Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BTEX as TPH
QC Batch#:	GC072398	GC072398	GC072398	GC072398	GC072398
	802002B	802002B	802002B	802002B	802002B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	100NG BTEX	100NG BTEX	100NG BTEX	100NG BTEX	100NG BTEX
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/23/98	7/23/98	7/23/98	7/23/98	7/23/98
Analyzed Date:	7/23/98	7/23/98	7/23/98	7/23/98	7/23/98
Instrument I.D. #:	HP-2	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	2.0 µg/L	2.0 µg/L	2.0 µg/L	6.0 µg/L	34 µg/L
Result:	1.8	1.7	1.9	5.5	36
MS % Recovery:	90	85	95	92	105
Dup. Result:	1.8	1.8	1.9	5.7	36
MSD % Recov.:	90	90	95	95	106
RPD:	0.0	5.7	0.0	3.6	0.0
RPD Limit:	0-20	0-20	0-20	0-20	0-50
LCS #:	2LCS072398	2LCS072398	2LCS072398	2LCS072398	2LCS072398
Prepared Date:	7/23/98	7/23/98	7/23/98	7/23/98	7/23/98
Analyzed Date:	7/23/98	7/23/98	7/23/98	7/23/98	7/23/98
Instrument I.D. #:	HP-2	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	340 µg/L
LCS Result:	21	21	20	64	340
LCS % Recov.:	105	105	100	107	100
MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130	50-140

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
Laboratory Director

UNOCAL 76

- 600 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600
 819 Striker Ave., Suite B • Sacramento, CA 95834 • (916) 921-9600
 404 N. Wiget Lane • Walnut Creek, CA 94598 • (510) 988-9600
 10039 120th Ave., N.E., Suite 101 • Bothell, WA 98011 • (206) 461-9200
 East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Consultant Company: Environmental Protection, Inc.					Project Name: Tosco 76 Service Station - 2330 0471				
Address: 14 Digital Dr #6					UNOCAL Project Manager: Tracy Avery 11507330				
City: Novato	State: Ca	Zip Code: 44494	AFE #:						
Telephone: 415-382-9105		FAX #: 415 382-1056	Site #, City, State: Service Stat # 6410						
Report To: Keith Romstad	Sampler: Joann H. Park		QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A						
Turnaround <input checked="" type="checkbox"/> 10 Work Days <input checked="" type="checkbox"/> 5 Work Days <input type="checkbox"/> 3 Work Days	Time: <input type="checkbox"/> 2 Work Days <input type="checkbox"/> 1 Work Day <input type="checkbox"/> 2-8 Hours		<input type="checkbox"/> Drinking Water <input type="checkbox"/> Waste Water <input checked="" type="checkbox"/> Other		Analyses Requested				
CODE: <input checked="" type="checkbox"/> Misc. <input type="checkbox"/> Detect. <input type="checkbox"/> Eval. <input type="checkbox"/> Remed. <input type="checkbox"/> Demol. <input type="checkbox"/> Closure									
Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Comments	Comments	Comments	Comments
1. A-INF 1	7/20/98 9:30AM	Air	1	Bag	8071364 X X				
2. A-INF 2	7/20/98 6:30PM	Air	1	Bag	8071365 X X				
3. A-INF 87	7/21/98	Air	1	Bag	8071366 X X				
4. A-INF 92	7/21/98	Air	1	Bag	8071367 X X				
5.									
6.									
7.									
8.									
9.									
10.									

Relinquished By: <i>John H. Park</i>	Date: 7/21/98	Time: 2:45	Received By: <i>Kurt Pritchett</i>	Date: 7/21/98	Time: 1445
Relinquished By: <i>Kurt Pritchett</i>	Date: 7/21/98	Time: 1525	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <i>T. Kline</i>	Date: 7/21	Time: 1525

Were Samples Received in Good Condition? Yes No

Samples on Ice? Yes No

Method of Shipment _____
Page ___ of ___

To be completed upon receipt of report:

- 1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed?
- 2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time?

Approved by: _____

Signature: _____

Company: _____

Date: _____



**Sequoia
Analytical**

680 Chesapeake Drive 404 N. Wiger Lane 810 Striker Avenue, Suite B 1455 McDowell Blvd. North Ste. D	Redwood City, CA 94063 Walnut Creek, CA 94596 Sacramento, CA 95834 Petaluma, CA 94954	(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865	FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342
--	--	--	--

Environmental Resolutions
74 Digital Dr, Ste 6
Novato, CA 94949
Attention: Keith Romstad

Client Project ID: Tosco 76 #6419
Sample Descript: Vapor, A-INT 92
Analysis Method: EPA 8260
Lab Number: 807-1367

Sampled: Jul 21, 1998
Received: Jul 21, 1998
Analyzed: Jul 29, 1998
Reported: Jul 30, 1998

VOLATILE ORGANIC COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene.....	2.0	46
Bromobenzene.....	2.0	N.D.
Bromo-chloromethane.....	2.0	N.D.
Bromo-dichloromethane.....	2.0	N.D.
Bromoform.....	2.0	N.D.
Bromo-methane.....	2.0	N.D.
n-Butylbenzene.....	2.0	N.D.
sec-Butylbenzene.....	2.0	N.D.
tert-Butylbenzene.....	2.0	N.D.
Carbon tetrachloride.....	2.0	N.D.
Chlorobenzene.....	2.0	N.D.
Chloroethane.....	2.0	N.O.
Chloroform.....	2.0	N.D.
Chloro-methane.....	2.0	N.D.
2-Chlorotoluene.....	2.0	N.D.
4-Chlorotoluene.....	2.0	N.D.
Dibromo-chloro-methane.....	2.0	N.O.
1,2-Dibromo-3-chloropropane.....	2.0	N.D.
1,2-Dibromoethane.....	2.0	N.D.
Dibromo-methane.....	2.0	N.D.
1,2-Dichloro-benzene.....	2.0	N.D.
1,3-Dichloro-benzene.....	2.0	N.O.
1,4-Dichloro-benzene.....	2.0	N.O.
Dichloro-difluoro-methane.....	2.0	N.O.
1,1-Dichloroethane.....	2.0	N.O.
1,2-Dichloroethane.....	2.0	N.D.
1,1-Dichloroethene.....	2.0	N.D.
cis-1,2-Dichloroethene.....	2.0	N.D.
trans-1,2-Dichloroethene.....	2.0	N.D.
1,2-Dichloropropane.....	2.0	N.O.
1,3-Dichloropropane.....	2.0	N.D.
2,2-Dichloropropane.....	2.0	N.D.
1,1-Dichloropropene.....	2.0	N.D.
cis-1,3-Dichloropropene.....	2.0	N.D.
trans-1,3-Dichloropropene.....	2.0	N.D.
Ethyl Benzene.....	2.0	N.D.
Hexachlorobutadiene.....	10	N.O.
Isopropylbenzene.....	2.0	N.D.
MTBE.....	2.0	5000



**Sequoia
Analytical**

Environmental Resolutions
74 Digital Dr, Ste 6
Novato, CA 94949
Attention: Keith Romstad

680 Chesapeake Drive 406 N. Wiget Lane 819 Striker Avenue, Suite 8 1455 McDowell Blvd. North, Ste D	Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954	(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865	FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342
--	--	--	--

Client Project ID: Tosco 76 #5419
Sample Descript: Vapor, A-INT 92
Analysis Method: EPA 8260
Lab Number: 807-1367

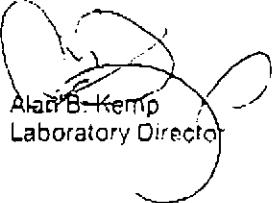
Sampled: Jul 21, 1998
Received: Jul 21, 1998
Analyzed: Jul 29, 1998
Reported: Jul 30, 1998

VOLATILE ORGANIC COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
p-Isopropyltoluene.....	2.0	.....
Methylene chloride.....	10	.....
Naphthalene.....	10	.....
n-Propylbenzene.....	2.0	.....
Styrene.....	2.0	.....
1,1,1,2-Tetrachloroethane.....	2.0	.....
1,1,2,2-Tetrachloroethane.....	5.0	.....
Tetrachloroethene.....	2.0	.....
Toluene.....	2.0	.....
1,2,3-Trichlorobenzene.....	10	.....
1,2,4-Trichlorobenzene.....	10	.....
1,1,1-Trichloroethane.....	2.0	.....
1,1,2-Trichloroethane.....	2.0	.....
Trichloroethene.....	2.0	.....
Trichlorofluoromethane.....	2.0	.....
1,2,3-Trichloropropane.....	5.0	.....
1,2,4-Trimethylbenzene.....	2.0	.....
1,3,5-Trimethylbenzene.....	2.0	.....
Vinyl chloride.....	2.0	.....
Total-Xylene.....	2.0	.....

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
Laboratory Director

Please Note:

*Quality Control was not performed with this data set. Results as reported are for informational purposes only.



**Sequoia
Analytical**

Environmental Resolutions
74 Digital Dr, Ste 6
Novato, CA 94949
Attention: Keith Romstad

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Petaluma, CA 94954

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(916) 221-9600
(707) 722-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 722-0342

Client Project ID: Tosco 76 #6419
Sample Descript: Vapor, A-INT 92
Analysis Method: EPA 8260 & "T.I.C."
Lab Number: 807-1367

Sampled: Jul 21, 1998
Received: Jul 21, 1998
Analyzed: Jul 29, 1998
Reported: Jul 30, 1998

VOLATILE ORGANICS by GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

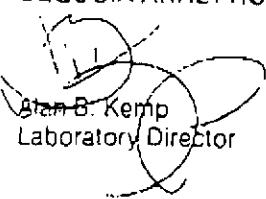
Analyte	Detection Limit µg/L	Sample Results µg/L
---------	-------------------------	------------------------

Butane.....	5.0	20,000
Pentane.....	5.0	3,200
2-Butenal, (E).....	5.0	410
2-Butene, 2-methyl-	5.0	240
Cyclopentane.....	5.0	420
Pentane, 2,4-dimethyl-	5.0	750
Cyclopentane, methyl-	5.0	920
Butane, 2,2,3,3-tetramethyl-	5.0	1,000
Butane, 2,3-dimethyl-	5.0	6,000
Hexane, 2-methyl.....	5.0	250
Pentane, 2,3,3-trimethyl-.....	5.0	310

SEQUOIA ANALYTICAL, #1271

Please Note:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library. Positive identification or specification between isomers cannot be made without retention time standards.


Stan B. Kemp
Laboratory Director



**Sequoia
Analytical**

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(707) 792-1865

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FAX (916) 921-0100
FAX (707) 792-0342

Environmental Resolutions
74 Digital Dr, Ste 6
Novato, CA 94949
Attention: Keith Romstad

Client Project ID: Tosco 76 #5419
Sample Descript: Vapor, A-INT 87
Analysis Method: EPA 8260
Lab Number: 807-1366

Sampled: Jul 21, 1998
Received: Jul 21, 1998
Analyzed: Jul 29, 1998
Reported: Jul 30, 1998

VOLATILE ORGANIC COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene.....	2.0	N.D.
Bromobenzene.....	2.0	N.O.
Bromochloromethane.....	2.0	N.O.
Bromodichloromethane.....	2.0	N.D.
Bromoform.....	2.0	N.D.
Bromomethane.....	2.0	N.D.
n-Butylbenzene.....	2.0	N.D.
sec-Butylbenzene.....	2.0	N.D.
tert-Butylbenzene	2.0	N.O.
Carbon tetrachloride.....	2.0	11
Chlorobenzene.....	2.0	N.O.
Chloroethane.....	2.0	N.O.
Chloroform.....	2.0	N.D.
Chloromethane.....	2.0	N.O.
2-Chlorotoluene.....	2.0	N.O.
4-Chlorotoluene.....	2.0	N.O.
Dibromochloromethane.....	2.0	N.O.
1,2-Dibromo-3-chloropropane	2.0	N.O.
1,2-Dibromoethane.....	2.0	N.O.
Dibromomethane.....	2.0	N.O.
1,2-Dichlorobenzene.....	2.0	N.O.
1,3-Dichlorobenzene.....	2.0	N.O.
1,4-Dichlorobenzene.....	2.0	N.O.
Dichlorodifluoromethane.....	2.0	N.O.
1,1-Dichloroethane.....	2.0	N.O.
1,2-Dichloroethane.....	2.0	N.O.
1,1-Dichloroethene.....	2.0	N.O.
cis-1,2-Dichloroethene.....	2.0	N.O.
trans-1,2-Dichloroethene.....	2.0	N.O.
1,2-Dichloropropane.....	2.0	N.O.
1,3-Dichloropropane.....	2.0	N.O.
2,2-Dichloropropane.....	2.0	N.O.
1,1-Dichloropropene.....	2.0	N.O.
cis-1,3-Dichloropropene.....	2.0	N.O.
trans-1,3-Dichloropropene.....	2.0	N.O.
Ethyl Benzene.....	2.0	N.O.
Hexachlorobutadiene.....	10	N.O.
Isopropylbenzene.....	2.0	N.O.
MTBE.....	2.0	1700

RECEIVED
AUG 3 1998
TUSCO MARKETING



**Sequoia
Analytical**

Environmental Resolutions
74 Digital Dr, Ste 6
Novato, CA 94949
Attention: Keith Romstad

680 Chesapeake Drive
404 N. Wiger Lane
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(707) 792-1865

FAX (650) 364-9233
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FAX (916) 921-0100
FAX (707) 792-0342

Client Project ID: Tosco 76 #6419
Sample Descript: Vapor, A-INT 87
Analysis Method: EPA 8260
Lab Number: 807-1366

Sampled: Jul 21, 1998
Received: Jul 21, 1998
Analyzed: Jul 29, 1998
Reported: Jul 30, 1998

VOLATILE ORGANIC COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
p-Isopropyltoluene.....	2.0	.....
Methylene chloride.....	10	.....
Naphthalene.....	10	.....
n-Propylbenzene.....	2.0	.....
Styrene.....	2.0	.....
1,1,1,2-Tetrachloroethane.....	2.0	.....
1,1,2,2-Tetrachloroethane.....	5.0	.....
Tetrachloroethene.....	2.0	.....
Toluene.....	2.0	.....
1,2,3-Trichlorobenzene.....	10	.....
1,2,4-Trichlorobenzene.....	10	.....
1,1,1-Trichloroethane.....	2.0	.....
1,1,2-Trichloroethane.....	2.0	.....
Trichloroethene.....	2.0	.....
Trichlorofluoromethane.....	2.0	.....
1,2,3-Trichloropropane.....	5.0	.....
1,2,4-Trimethylbenzene.....	2.0	.....
1,3,5-Trimethylbenzene.....	2.0	.....
Vinyl chloride.....	2.0	.....
Total-Xylene.....	2.0	.....

Analyses reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
Laboratory Director

Please Note:

*Quality Control was not performed with this data set. Results as reported are for informational purposes only.



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wigel Lane
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Redwood City, CA 94063	(650) 364-9600	FAX (650) 364-9233
Walnut Creek, CA 94598	(925) 988-9600	FAX (925) 988-9673
Sacramento, CA 95834	(916) 921-9600	FAX (916) 921-9100
Petaluma, CA 94954	(707) 792-1865	FAX (707) 792-0342

Environmental Resolutions
74 Digital Dr, Ste 6
Novato, CA 94949
Attention: Keith Romstad

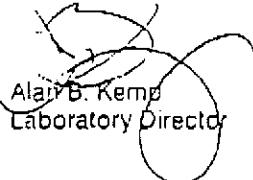
Client Project ID: Tosco 76 #6419
Sample Descript: Vapor, A-INT 87
Analysis Method: EPA 8260 & "T.I.C."
Lab Number: 807-1366

Sampled: Jul 21, 1998
Received: Jul 21, 1998
Analyzed: Jul 29, 1998
Reported: Jul 30, 1998

VOLATILE ORGANICS by GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Detection Limit µg/L	Sample Results µg/L
Butane.....	5.0	15,000
Pentane.....	5.0	1,700
Butane, 2-methyl.....	5.0	15,000
Pentane, 2-methyl.....	5.0	2,800
Cyclopentane.....	5.0	180
Pentane, 2,4-dimethyl-.....	5.0	270
Cyclopentane, methyl-.....	5.0	420
Butane, 2,2,3,3-tetramethyl-.....	5.0	370

SEQUOIA ANALYTICAL, #1271


Alan P.B. Kemp
Laboratory Director

Please Note:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library. Positive identification or specification between isomers cannot be made without retention time standards.

REQUEST TO RELOG SAMPLES

(Please submit to sample control with a copy of the COC)

*ERT*CLIENT: Gettier-Ryan

MATRIX: Vapor

PREVIOUSLY LOGGED SAMPLES

 TAT Change status to: 5d
Change status as of Day: 7/30/98 Time: 4:51 PM CHANGE ANALYSES Add Analyses Cancel Analyses

Sequoia Project ID:	<u>9807330</u>
Sample Number	Analyses
<u>6071365</u>	<u>8260 + TIC</u>
<u>6071367</u>	<u>8260 + TIC</u>
<u>NA</u>	<u>NA</u>

SAMPLES ON HOLD

Sample Description	Analyses
<u>NA</u>	<u>NA</u>

Client Authorization (Person/Date/Time): John Skantz 7/29/98 4:00 PM
for TWA BERRY

Project Manager: Alan Kemp

UNOCAL 76

819 Striker Ave., Suite B • Sacramento, CA 95834 • (916) 921-9600

404 N. Wiget Lane • Walnut Creek, CA 94598 • (510) 988-9600

East 1115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200

15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Consultant Company: Environmental Protection, Inc				Project Name: Tosco 76 Service Station - 2330 0471				
Address: 74 Digital Dr. #6				UNOCAL Project Manager: Tina Berry				
City: Novato	State: CA	Zip Code: 94459		AFE #: 1867330				
Telephone: 415-382-9105		FAX #: 415-382-1856		Site #, City, State: Service Station # 641C				
Report To: Keith Ronstad	Sampler: Joann H. Park			QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A				
Turnaround <input checked="" type="checkbox"/> 10 Work Days <input checked="" type="checkbox"/> 5 Work Days <input type="checkbox"/> 3 Work Days	Time: <input type="checkbox"/> 2 Work Days <input type="checkbox"/> 1 Work Day <input type="checkbox"/> 2-8 Hours			<input type="checkbox"/> Drinking Water <input type="checkbox"/> Waste Water <input checked="" type="checkbox"/> Other				
CODE: <input checked="" type="checkbox"/> Misc. <input type="checkbox"/> Detect. <input type="checkbox"/> Eval. <input type="checkbox"/> Remed. <input type="checkbox"/> Demol. <input type="checkbox"/> Closure								
Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Analyses Requested		Comments
1. A-INT 1	7/20/98 7:50am	Air	1	Bag	8071364	X	X	
2. A- INT 2	7/20/98 6:30pm	Air	1	Bag	8071365	X		
3. A- INT 87	7/21/98	Air	1	Bag	8071366	X	X	
4. A- INT 92	7/21/98	Air	1	Bag	8071367	X	X	
5.								
6.								
7.								
8.								
9.								
10.								

Relinquished By: <u>John H. Park</u>	Date: 7/21/98	Time: 2:45	Received By: <u>Kurt Rutherford</u>	Date: 7/21/98	Time: 1445
Relinquished By: <u>Kurt Rutherford</u>	Date: 7/21/98	Time: 1525	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <u>T. Kuhn</u>	Date: 7/21	Time: 1525

Were Samples Received in Good Condition? Yes No

Samples on Ice? Yes No

Method of Shipment _____

Page ___ of ___

To be completed upon receipt of report:

- 1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____
- 2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____

Approved by:

Signature:

Company:

Date:

**Sequoia
nalytical**

680 Chesapeake Drive 404 N. Wiger Lane 819 Striker Avenue, Suite 6 1455 McDowell Blvd. North, Ste. D	Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954	(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865	FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342	364-9233 988-9673 921-0100 792-0342
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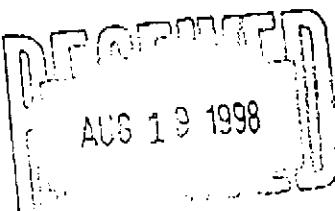
esolutions Suite 6 9	Client Proj. ID: Tosco/233004TI/ #6419 Sample Descript: A-INF3 Matrix: AIR	Sampled: 07/23/98 Received: 07/27/98	17, 1998
Romstad	Analysis Method: 8015Mod/8020 Lab Number: 9807F91-01	Analyzed: 07/31/98 Reported: 08/14/98	
GC073198BTEX03A HP3			

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

	Detection Limit ug/L	Sample Results ug/L
ther	..... 10	..... 10
	..... 0.50	..... 47
	..... 0.10	..... 0.21
	..... 0.10	N.D.
	..... 0.10	N.D.
	..... 0.10	N.D.
Pattern:	.....	C6-C10
	Control Limits % 70 130	% Recovery 97

N.D. were not present above the stated limit of detection.

LYTICAL - ELAP #1210



Page: 1



Sequoia
Analytical

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(707) 792-1865

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FAX (916) 921-0100
FAX (707) 792-0342

Environmental Resolutions
74 Digital Drive, Suite 6
Novato, CA 94949
Attention: Keith Romstad

Client Proj. ID: Tosco/233004TI/ #6419

Received: 07/27/98

Lab Proj. ID: 9807F91

Reported: 08/14/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 1 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

TPGBMA: Sample was received past hold time.

SEQUOIA ANALYTICAL

John Granicher
Project Manager

UNOCAL 76

- 18939 120th Ave., N.E., Suite 101 • Bothell, WA 98011 • (206) 481-9200
 819 Striker Ave., Suite 8 • Sacramento, CA 95831 • (916) 921-9600
 404 N. Wiget Lane • Walnut Creek, CA 94598 • (510) 988-9600
 East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

Consultant Company: <i>Environmental Resolutions, Inc.</i>			Project Name: <i>TOSCO 76 Service Station - 25300471</i>			
Address: <i>74 Digital Dr #6</i>			UNOCAL Project Manager: <i>Tina Berry</i>			
City: <i>Novato</i>	State: <i>CA</i>	Zip Code: <i>94949</i>	AFE #: _____			
Telephone: <i>415-382-9105</i> FAX #: <i>415-382-1856</i>			Site #, City, State: <i>Service Station # 6419</i>			
Report To: <i>Keith Ramstad</i>	Sampler: <i>Josh Park</i>		QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A			
Turnaround <input checked="" type="checkbox"/> 10 Work Days <input type="checkbox"/> 5 Work Days <input type="checkbox"/> 3 Work Days	Time: <input type="checkbox"/> 2 Work Days <input type="checkbox"/> 1 Work Day <input type="checkbox"/> 2-8 Hours		Drinking Water Waste Water <input checked="" type="checkbox"/> Other			
CODE: <input checked="" type="checkbox"/> Misc. <input type="checkbox"/> Detect. <input type="checkbox"/> Eval. <input type="checkbox"/> Remed. <input type="checkbox"/> Demol. <input type="checkbox"/> Closure			Analyses Requested <i>9807-F91</i>			
Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Comments
1. A-INF3	7-23-98	Air	1	<i>Bag</i>	X X	<i>WTBE b1820</i>
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

Relinquished By: <i>Josh Park</i>	Date: <i>7/27/98</i>	Time: <i>1605</i>	Received By: <i>All</i>	Date: <i>7/24/98</i>	Time: <i>1605</i>
Relinquished By: <i>[Signature]</i>	Date: <i>7/27/98</i>	Time: <i></i>	Received By: <i>[Signature]</i>	Date: <i></i>	Time: <i></i>
Relinquished By: <i>[Signature]</i>	Date: <i></i>	Time: <i></i>	Received By: <i>[Signature]</i>	Date: <i>7/27/98</i>	Time: <i>15:53</i>

Were Samples Received in Good Condition? Yes No

Samples on Ice? Yes No

Method of Shipment: _____

Page ____ of ____

To be completed upon receipt of report:

- 1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____
- 2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

**ERI's SOP-25 FOR CALCULATING POUNDS OF HYDROCARBON IN
AN AIRSTREAM**

**HYDROCARBON REMOVED
FROM A VADOSE WELL
SOP-25**

Rev. JOC

Rev. 4/30/97

**POUNDS OF HYDROCARBON IN A VAPOR
STREAM**

INPUT DATA:

- 1) Vapor flow rate acfm (usually by Pitot tube)
- 2) Vapor pressure at the flow measuring device (in inches of H₂O) (use (-) for vacuum)
- 3) Vapor temperature at the flow measuring device.
- 4) Hydrocarbon content of vapor (usually in mg/M³) for ppmv you need molecular weight.
- 5) Length of time (usually hours) over which flow rate occurred

From periodic measurements, a calculation of total pounds of hydrocarbons removed from a well or from a system are calculated. The input data listed above are measured at a point in time. To calculate quantities removed, some assumptions must be made about what was happening between measurements. The following assumptions will be used for the sake of consistency:

ASSUMPTIONS:

- 1) Vapor flow for the period equals the average of the initial and final reading for the period.
- 2) Pressure and temperature for the entire period will be the final reading.
- 3) Hydrocarbon concentration for the period equals the average of the initial and final reading.
- 4) The hours of operation can be taken from an hour meter, an electric meter or will be assumed to be equal to the time between measurements.
- 5) If the unit is found down - try to determine how many hours it did operate and use the data taken for the previous period to make the calculations. Restart the unit and then take data to start the next period.

SAMPLE DATA AND CALCULATIONS

Date	Time	Temp deg F	Press in H ₂ O	HC conc mg/M ³	Vapor flow acf m	Calc. lb. rem.
1/6/95	11:00	70	-46	2000	120	
1/7/95	13:00	55	-50	1350	90	
1/8/95	10:00	80	-13	750	100	7.4

Calculate the pounds of hydrocarbon removed from the system during the basis period from 13:00 (1:00 pm) on the 7th to 10 am on the 8th. Pressure and temperature of the measurements (at the flow meter) must be corrected to the P and T used to report the HC concentration (which are P = 1 atm and T = 70 deg F). 1 atm = 14.7 psia, 760 mm Hg, or 407 in H₂O. T_{corr} = 460 + T deg F

$$\text{Hours of operation} = 21, T = 80, P = -13, \quad \text{HC} = (1350+750)/2 = 1050 \text{ mg/M}^3, \text{ Flow} = 95$$

$$21 \times 60 \times 95 \times \frac{(460+70)}{(460+80)} \times \frac{(407-13)}{407} \times \frac{28.3}{1000} \times \frac{1050}{1000} \times \frac{1}{454} = 7.4 \text{ lb}$$

$$\begin{array}{ccccccccc} \text{hr} & \cdot & \text{min} & \times & \text{cu ft} & \times & \text{T}_{corr} & \times & \text{P}_{corr} \\ \hline \text{-----} & \times & \text{-----} & \times & \text{-----} & \times & \text{-----} & \times & \text{-----} \\ \text{basis} & & \text{hr} & & \text{min} & & & & \end{array} \begin{array}{c} \text{M}^3 \\ \text{cu ft} \end{array} \begin{array}{c} \text{g} \\ \text{M}^3 \end{array} \begin{array}{c} \text{lb} \\ \text{g} \end{array} \begin{array}{c} \text{-----} \\ \text{-----} \end{array} \begin{array}{c} \text{-----} \\ \text{-----} \end{array} = \begin{array}{c} \text{lb} \\ \text{basis} \end{array}$$

$$21 \times 60 \times 95 \times 0.98 \times 0.97 \times 0.0283 \times 1.050 \times 1/454 = 7.4 \text{ lb.}$$

cumulative lbs. (the running total) = the sum of all the previous periods.

Note: If results are given in ppm, an assumption about the molecular weight of the hydrocarbon must be made to get mg/M³. ppmv x molecular wt./24.1 = mg/M³. (Use 102 for gasoline)

DATE: 07/08/98
TIME: 11:02:51CIRCLE K CORPORATION
GASOLINE INVENTORY (GROSS GALLONS) REPORT
AS OF: 06/30/98REPORT: OS0252RF1
PAGE: 1,353

DISTRICT: A2530 STORE: 05748 STORE TYPE: NET

PRODUCT UNLEADED
CAPACITY 12,079

89 OCTANE BLEND

PREMIUM-UNLEAD
12,079

05/31	99 331-						89 OCTANE BLEND						PREMIUM-UNLEAD					
DATE	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	DECV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-			
06/01	6594	3991	6602	179-	179-	1101	1101				1463	1036	4362	18-	18-			
06/02	778-	4500	8184	6860	6681	1297	1297				519-	939	4897	1993	1975			
06/03	6045	3681	3684	6864-	183-	1264	1264				1495	800	3569	2023-	48-			
06/04	6462	4039	5973	134-	317-	1320	1320				1422	1041	3953	3	45-			
06/05	6559	4704	8010	182	135-	1170	1170				1483	907	4520	9-	54-			
06/06	808-	3544	3684	26	109-	1346	1346				538-	919	3081	18	36-			
06/07	6576	3131	7100	29-	138-	1056	1056				1582	595	4050	18-	54-			
		7 DAY AVG		20-			7 DAY AVG					7 DAY AVG		8-				
06/08	862-	4428	8886	7076	6938	1436	1436				574-	771	4698	1993	1939			
06/09	13524	3979	11280	7151-	213-	1389	1389				3365	926	5156	1991-	42-			
06/10	850-	3575	6823	32-	245-	1417	1417				567-	799	3780	10-	52-			
06/11	805-	4702	8415	7099	6854	1341	1341				536-	1082	4146	1984	1932			
06/12	6209	5557	1854	7212-	358-	1525	1525				1390	1170	2362	2004-	7-			
06/13	6149	4005	3992	6-	364-	1420	1420				1234	1288	2310	?	70-			
06/14	11217	4174	11147	112	252-	1304	1304				3183	842	4658	7	63-			
		7 DAY AVG		16-		7 DAY AVG						7 DAY AVG		1-				
06/15	781-	4402	5999	35	217-	1302	1302				521-	1152	2989	4	59-			
06/16	6130	4184	7795	150-	367-	1566	1566				1374	907	3455	1-	60-			
06/17	809-	4722	9035	6771	6404	1349	1349				540-	966	3953	2004	1944			
06/18	5932	5010	3063	6894-	490-	1449	1449				1420	1019	2345	2009-	65-			
06/19	5089	5246	6923	4017	3527	1520	1520				2198	1069	5496	2022	1957			
06/20	5993	3843	5056	4017-	490-	1351	1351				1462	1132	3818	2008-	51-			
06/21	674-	3461	7932	7011	6521	1124	1124				450-	904	4481	2017	1966			
		7 DAY AVG		968		7 DAY AVG						7 DAY AVG		290				
06/22	6251	5206	8923	54-	6467	1258	1258				1500	1249	4698	34-	1932			
06/23	618-	3584	4897	176	6643	1030	1030				412-	964	3342	20	1952			
06/24	13423	4198	6962	7160-	517-	1128	1128				3525	714	4114	2039-	87-			
06/25	6030	4409	8586	3	514-	1327	1327				1371	1046	4461	22	65-			
06/26	6085	4834	9821	16-	530-	1536	1536				1287	1050	4698	65-				
06/27	815-	4021	4897	88-	618-	1359	1359				544-	986	3155	13-	78-			
06/28	6653	3712	7678	160-	778-	913	913				1595	1180	3741	171	93			
		7 DAY AVG		1043-		7 DAY AVG						7 DAY AVG		268-				
06/29	6166	4048	9821	25	753-	1394	1394				1245	934	4050	2-	91			
06/30	646-	4329	4718	128-	881-	1076	1076				430-	774	2807	39-	52			
		2 DAY AVG		52-		2 DAY AVG						2 DAY AVG		21-				

TOTAL 128640 127219 39068 39068 27963 29161
 LEAK CHECK: 1272 + 130 = 1402 OK? YES 391 + 130 = 521 OK? YES 292 + 130 = 422 OK? YES

DATE: 06/05/98
TIME: 10:13:29

CIRCLE K CORPORATION
GASOLINE INVENTORY (GROSS GALLONS) REPORT
AS OF: 05/31/98

REPORT: GS0252RP1
PAGE: 1.352

DISTRICT: A2530 STORE: 05748 STORE TYPE: NET

PRODUCT CAPACITY	UNLEADED						89 OCTANE BLEND						PREMIUM-UNLEAD					
	12.079												12.079					
04/30		46	669-													14	59-	
DATE	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-		DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-		DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	
05/01	504-	4259	3342	79-	79-		840	840					336-	1021	3531	29-	29-	
05/02	5751	3847	5236	10-	89-		1111	1111					2351	658	5256	32	3	
05/03	6671	3199	8756	48	41-		965	965					1564	827	5999	6	9	
05/04	650-	3447	4481	178-	219-		1083	1083					433-	581	4956	29-	20-	
05/05	6761	3368	7873	1-	220-		863	863					1657	662	5979	28	8	
05/06	680-	3561	3684	52	168-		1133	1133					453-	772	4738	16-	8-	
05/07	6292	4330	5637	9-	177-		1264	1264					1493	1056	5176	1	7-	
		7 DAY AVG		25-				7 DAY AVG						7 DAY AVG		1-		
05/08	6504	4273	7873	5	172-		1200	1200					1480	800	5858	2	5-	
05/09	898-	3834	3063	78-	250-		1497	1497					599-	1073	4178	8-	13-	
05/10	6669	3258	6462	12-	262-		976	976					1559	775	4936	26-	39-	
05/11	6582	3735	9417	108	154-		1120	1120					1504	726	5758	44	5	
05/12	567-	3916	4817	117-	271-		945	945					378-	704	4639	37-	32-	
05/13	6632	4048	7441	40	231-		1057	1057					1527	818	5376	28	4-	
05/14	765-	3327	3230	119-	350-		1275	1275					510-	912	3895	59-	63-	
		7 DAY AVG		25-				7 DAY AVG						7 DAY AVG		8-		
05/15	6350	4305	5316	41	309-		1420	1420					1384	943	4362	26	37-	
05/16	6310	3642	8010	26	283-		1152	1152					1539	987	4917	3	34-	
05/17	740-	3718	3474	78-	361-		1234	1234					494-	858	3550	15-	49-	
05/18	6706	2778	7421	19	342-		833	833					1668	652	4599	33	16-	
05/19	5452	3865	9053	45	297-		1081	1081					2419	1005	6040	27	11	
05/20	850-	4033	4082	88-	385-		1417	1417					567-	858	4579	36-	25-	
05/21	6495	3919	6803	145	240-		1265	1265					1470	1056	4996	3	22-	
		7 DAY AVG		16				7 DAY AVG						7 DAY AVG		6		
05/22	6474	4655	8624	2	238-		1224	1224					1511	1241	5256	10-	32-	
05/23	662-	3405	4500	57-	295-		1104	1104					442-	860	3953	1-	33-	
05/24	6579	2963	8126	10	285-		955	955					1618	750	4817	4	37-	
05/25	659-	3278	4178	11-	296-		1099	1099					440-	825	3569	17	20-	
05/26	6645	3911	6482	430-	726-		1011	1011					1546	889	4146	80-	100-	
05/27	4462	4028	7282	366	360-		1147	1147					1991	784	5436	83	17-	
05/28	668-	3805	10059	7250	6890		1113	1113					445-	730	6221	1960	1943	
		7 DAY AVG		1019				7 DAY AVG						7 DAY AVG		281		
05/29	6434	4249	4917	7327-	437-		1369	1369					1403	988	4658	1978-	35-	
05/30	6391	3383	7932	7	430-		1274	1274					1504	1004	5196	38	3	
05/31	666-	3187	4178	99	331-		1110	1110					444-	782	3953	17-	14-	
		3 DAY AVG		2407-				3 DAY AVG						3 DAY AVG		652-		

TOTAL 111851 115526

35137 35137

25647 26597

LEAK CHECK: 1155 + 130 = 1285 OK? YES

351 + 130 = 481 OK? YES

266 + 130 = 396 OK? YES

DATE: 05/07/98
TIME: 06:39:14

CIRCLE K CORPORATION
GASOLINE INVENTORY (GROSS GALLONS) REPORT
AS OF: 04/30/98

REPORT: GS0252RP1
PAGE: 1.355

DISTRICT: A2530 STORE: 05748 STORE TYPE: NET

PRODUCT UNLEADED
CAPACITY 12,079

89 OCTANE BLEND

PREMIUM-UNLEAD
12.079

03/31		101	541-										13	35-	
DATE	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	HTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	HTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	HTD O/S-
04/01	759-	4066	3550	116-	116-	1265	1265				506-	794	2573	41-	41-
04/02	5665	3950	5256	9-	125-	1226	1226				2312	982	3914	11	30-
04/03	5547	3678	7060	65-	190-	1046	1046				2482	857	5557	18	12-
04/04	6291	3583	9717	51-	241-	1348	1348				1411	727	6241		12-
04/05	754-	3188	5999	224	17-	1257	1257				503-	771	4996	29	17
04/06	6641	3967	8357	316-	333-	1027	1027				1598	756	5798	40-	23-
04/07	707-	4215	3324	111-	444-	1179	1179				472-	670	4639	17-	40-
		7 DAY AVG	63-			7 DAY AVG					7 DAY AVG	6-			
04/08	6769	4071	6060	38	406-	1381	1381				549	932	4241	15-	55-
04/09	6531	4300	8319	28	378-	1168	1168				1493	868	4877	11	44-
04/10	773-	4413	3044	89-	467-	1289	1289				516-	947	3399	15-	59-
04/11	6420	3402	6060	2-	469-	979	979				1608	866	4146	5	54-
04/12	6716	2858	10042	124	345-	810	810				1677	665	5176	18	36-
04/13	778-	4065	5056	143-	488-	1297	1297				519-	898	3722	37-	73-
04/14	6630	4285	7441	40	448-	1183	1183				1478	822	4402	24	49-
		7 DAY AVG	1-			7 DAY AVG					7 DAY AVG	1-			
04/15	864-	4549	1969	59-	507-	1440	1440				576-	980	2807	39-	88-
04/16	13440	4526	10775	108-	615-	1421	1421				3393	956	5256	12	76-
04/17	869-	4194	5758	46	569-	1449	1449				580-	1134	3531	11-	87-
04/18	674-	3565	1486	33-	602-	1124	1124				450-	857	2223	1-	88-
04/19	6491	4044	3799	134-	736-	1015	1015				1594	1020	2789	8-	96-
04/20	6461	4173	6140	53	683-	1319	1319				1423	972	3211	29-	125-
04/21	617-	4445	905	173-	856-	1029	1029				412-	941	1887	29	96-
		7 DAY AVG	58-			7 DAY AVG					7 DAY AVG	7-			
04/22	6144	2919	4209	79	777-	930	930				1626	1074	2414	25-	121-
04/23	6522	3879	7021	169	608-	1216	1216				1464	677	3230	29	92-
04/24	5486	4271	8242	6	602-	1526	1526				2194	1097	4355	28	64-
04/25	803-	3934	3342	163-	765-	1338	1338				535-	878	2880	62-	126-
04/26	5658	3441	5637	78	687-	1168	1168				2401	808	4520	47	79-
04/27	6640	3997	8319	39	648-	1032	1032				1553	1044	5036	7	72-
04/28	6173	4065	10452	25	623-	1493	1493				1593	918	5738	27	45-
		7 DAY AVG	33			7 DAY AVG					7 DAY AVG	7			
04/29	737-	4006	5617	92-	715-	1229	1229				492-	856	4362	28-	73-
04/30	6574	4053	8184	46	669-	1157	1157				1496	955	4917	14	59-
		2 DAY AVG	23-			2 DAY AVG					2 DAY AVG	7-			

TOTAL 118464 118102

36341 36341

27784 26722

LEAK CHECK: 1181 + 130 = 1311 OK? YES

363 + 130 = 493 OK? YES

267 + 130 = 397 OK? YES

DATE: 03/06/98
TIME: 12:30:22

CIRCLE K CORPORATION
GASOLINE INVENTORY (GROSS GALLONS) REPORT
AS OF: 02/28/98

REPORT: GS0252RP1
PAGE: 1,358

DISTRICT: A2530 STORE: 05748 STORE TYPE: NET

PRODUCT UNLEADED
CAPACITY 12,079

89 OCTANE BLEND

PREMIUM-UNLEAD
12.079

01/31		23	660-																
DATE	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	17	193		
02/01	472-	2839	5116	32	32	786	786				314-	697	3684	17	17				
02/02	6709	3534	8261	30-	2	910	910				1546	556	4639	35-	18-				
02/03	570-	3339	4273	79-	77-	950	950				380-	752	3512	5	13-				
02/04	6566	3678	7282	121	44	1061	1061				1528	721	4312	7-	20-				
02/05	653-	3952	2537	140-	96-	1089	1089				436-	772	3118	14	6-				
02/06	6450	3104	5858	25-	121-	1250	1250				1451	792	3741	36-	42-				
02/07	6637	3534	8979	18	103-	941	941				1580	904	4421	4	38-				
		7 DAY AVG		15-				7 DAY AVG					7 DAY AVG		5-				
02/08	572-	3181	5316	90	13-	954	954				382-	454	3607	22	16-				
02/09	6567	4184	7776	77	64	1073	1073				1527	1025	4114	5	11-				
02/10	737-	3240	3684	115-	51-	1228	1228				491-	737	2861	25-	36-				
02/11	6586	3850	6382	38-	89-	1040	1040				1585	843	3588	15-	51-				
02/12	6598	3816	9236	72	17-	1018	1018				1547	569	4599	33	18-				
02/13	854-	3829	4341	212-	229-	1423	1423				569-	855	3155	20-	38-				
02/14	6575	2530	8434	48	181-	1052	1052				1531	563	4114	9-	47-				
		7 DAY AVG		11-				7 DAY AVG					7 DAY AVG		1-				
02/15	541-	2792	5096	5-	186-	901	901				360-	806	2953	5	42-				
02/16	5773	3350	7539	20	166-	1189	1189				2125	744	4362	28	14-				
02/17	6514	3406	10685	38	128-	1007	1007				1604	651	5316	1	13-				
02/18	667-	3746	6160	112-	240-	1112	1112				445-	784	4050	3-	50-				
02/19	6535	3474	9363	142	98-	1125	1125				1500	792	4758		50-				
02/20	895-	3175	5096	197-	295-	1491	1491				596-	981	3155	26-	76-				
02/21	6582	2696	9016	34	261-	1079	1079				1532	764	3953	30	46-				
		7 DAY AVG		11-				7 DAY AVG					7 DAY AVG						
02/22	598-	3353	5016	49-	310-	996	996				398-	588	2953	14-	60-				
02/23	5672	3650	7222	184	126-	1156	1156				2393	630	4758	42	18-				
02/24	602-	3798	2662	160-	286-	1003	1003				401-	735	3569	53-	71-				
02/25	6533	3865	5356	26	260-	1123	1123				1503	827	4273	28	43-				
02/26	6480	3940	7893	3-	263-	1220	1220				1495	1101	4678	11	32-				
02/27	719-	4474	2573	127-	390-	1199	1199				480-	915	3249	34-	66-				
02/28	6441	3847	5176	9	381-	1269	1269				1492	1048	3684	9-	75-				
		7 DAY AVG		17-				7 DAY AVG					7 DAY AVG		4-				

TOTAL 95338 98176

30645 30645

20687 21606

LEAK CHECK: 982 + 130 = 1112 OK? YES

306 + 130 = 436 OK? YES

216 + 130 = 346 OK? YES

DATE: 02/06/98
TIME: 14:04:28

CIRCLE K CORPORATION
GASOLINE INVENTORY (GROSS GALLONS) REPORT
AS OF: 01/31/98

REPORT: GS0252RP1
PAGE: 1,358

DISTRICT: A2530 STORE: 05748 STORE TYPE: NET

PRODUCT CAPACITY	UNLEADED					89 OCTANE BLEND					PREMIUM-UNLEAD				
	12.079	12.079	12.079	12.079	12.079	12.079	12.079	12.079	12.079	12.079	12.079	12.079	12.079	12.079	12.079
12/31	128-	367-										43-	84-		
DATE	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTO O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTO O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTO O/S-
01/01	5950	1933	9838	37-	37-	605	605				2612	485	5838	8	8
01/02	456-	2879	6542	39	2	760	760				304-	594	4936	4-	4
01/03	6656	2846	10404	52	54	914	914				1586	675	5858	11	15
01/04	580-	2473	7421	70	124	966	966				386-	501	4996	25	40
01/05	6496	3918	9890	109-	15	1136	1136				1527	846	5778	101	141
01/06	496-	3080	6221	93-	78-	827	827				331-	898	4540	9-	132
01/07	6564	3447	9200	138-	216-	874	874				1676	570	5818	172	304
		7 DAY AVG		31-				7 DAY AVG					7 DAY AVG	43	
01/08	607-	3494	4917	182-	398-	1011	1011				404-	695	4678	41-	263
01/09	5643	3076	7520	36	362-	1136	1136				2301	795	6221	37	300
01/10	5714	3355	9907	28	334-	997	997				2402	766	7854	3-	297
01/11	540-	2631	6783	47	287-	900	900				360-	612	6903	21	318
01/12	6647	3344	10176	90	197-	1115	1115				1505	659	7756	7	325
01/13	754-	3175	6261	14	183-	1257	1257				503-	782	6502	31	356
01/14	552-	3505	1953	251-	434-	920	920				368-	745	5296	93-	263
		7 DAY AVG		31-				7 DAY AVG					7 DAY AVG	6-	
01/15	6598	3214	5436	99	335-	1059	1059				1536	726	6140	34	297
01/16	8311	3658	10025	64-	399-	1168	1168				467-	781	4857	35-	262
01/17	577-	3544	5838	66-	465-	962	962				385-	758	3703	11-	251
01/18	6673	2831	9787	107	358-	882	882				1606	587	4758	36	287
01/19	723-	3837	5116	111-	469-	1205	1205				482-	810	3417	49-	238
01/20	6446	3970	7638	46	423-	1090	1090				1564	636	4348	3	241
01/21	695-	4308	2537	98-	521-	1159	1159				464-	754	2889	241-	
		7 DAY AVG		12-				7 DAY AVG					7 DAY AVG	38-	
01/22	6331	3827	5036	5-	526-	1365	1365				1454	871	3722	250	250
01/23	6274	3790	7480	40-	566-	1460	1460				1416	839	4273	26-	224
01/24	810-	4088	2485	97-	663-	1350	1350				540-	1066	2627	40-	184
01/25	6736	2997	6362	138	525-	789	789				1685	619	3722	29	213
01/26	6652	3430	9612	28	497-	1044	1044				1546	845	4441	18	231
01/27	773-	3809	4917	113-	610-	1289	1289				516-	798	3118	9-	222
01/28	6185	3718	7401	17	593-	1190	1190				1726	699	4146	1	223
		7 DAY AVG		10-				7 DAY AVG					7 DAY AVG	32-	
01/29	6557	3613	10356	11	582-	1196	1196				1482	498	5116	14-	209
01/30	684-	4475	5096	101-	683-	1140	1140				456-	770	3857	33-	176
01/31	6584	3308	8395	23	660-	1030	1030				1539	735	4678	17	193
		3 DAY AVG		22-				3 DAY AVG					3 DAY AVG	10-	
TOTAL	108770	105573				32796	32796				23197	22415			
LEAK CHECK:	1056 + 130 = 1186	OK? YES				328 + 130 = 458	OK? YES				224 + 130 = 354	OK? YES			

DATE: 01/08/98
TIME: 18:46:24CIRCLE K CORPORATION
GASOLINE INVENTORY (GROSS GALLONS) REPORT
AS OF: 12/31/97REPORT: GS0252RP1
PAGE: 1,503

DISTRICT: A2930 STORE: 05748 STORE TYPE: NET

PRODUCT CAPACITY	UNLEADED	89 OCTANE BLEND	PREMIUM-UNLEAD
	12,079		12,079

11/30				43-				292-				7-				71			
DATE	DELV /ADJ	SALES GAL	END STICK	0/S-	MTD 0/S-	DELV /ADJ	SALES GAL	END STICK	0/S-	MTD 0/S-	DELV /ADJ	SALES GAL	END STICK	0/S-	MTD 0/S-				
12/01	6330	4505	E087	61	61	1453	1453				1379	718	9181	29	29				
12/02	775-	3899	3399	14-	47	1292	1292				517-	845	7795	24-	5				
12/03	6646	4100	5959	14	61	1026	1026				1501	810	8491	5	10				
12/04	6448	4261	E126	20-	41	1271	1271				1442	795	9145	7	17				
12/05	782-	4326	2807	211-	170-	1303	1303				521-	972	7618	34-	17-				
12/06	8485	3847	7500	55	115-	1018	1018				407-	846	6341	24-	41-				
12/07	7104	3022	11660	73	42-	406	406				1788	450	7717	38	3				
	7 DAY AVG				6-	7 DAY AVG					7 DAY AVG								
12/08	697-	4801	6201	39	3-	1162	1162				465-	916	6321	15-	18-				
12/09	6506	4115	E556	6-	9-	1330	1330				1370	951	6723	17-	35-				
12/10	889-	4723	2916	58-	67-	1481	1481				592-	1086	5016	29-	64-				
12/11	8300	5249	5959	8-	75-	1549	1549				620-	1042	3361	7	57-				
12/12	6363	4303	1932	87-	162-	1513	1513				1348	1008	3665	36-	93-				
12/13	559-	4045	3249	79-	241-	932	932				373-	1051	2223	18-	111-				
12/14	6596	3307	6723	185	56-	1007	1007				1597	756	3099	35	76-				
	7 DAY AVG				2-	7 DAY AVG					7 DAY AVG								
12/15	6326	4295	8662	92-	148-	1366	1366				1452	1032	3512	7-	83-				
12/16	5602	4228	10025	89	59-	1279	1279				2339	877	4996	22	61-				
12/17	775-	4565	4540	145-	204-	1291	1291				516-	862	3588	30-	91-				
12/18	5545	4479	5617	11	193-	1258	1258				2302	980	4936	26	65-				
12/19	6323	4444	7500	6-	199-	1474	1474				1374	886	5436	12	53-				
12/20	6620	3964	10126	30-	229-	986	986				1557	781	6221	9	44-				
12/21	688-	3887	5577	26	203-	1146	1146				458-	841	4936	14	30-				
	7 DAY AVG				21-	7 DAY AVG					7 DAY AVG								
12/22	6414	4484	1574	67	136-	1304	1304				1428	1005	5336	23-	53-				
12/23	6267	4277	9470	99-	235-	1555	1555				1328	1147	5536	19	34-				
12/24	841-	4298	4305	26-	261-	1402	1402				561-	1048	3895	32-	66-				
12/25	6836	1957	9200	14	247-	681	681				1679	518	5056	66-					
12/26	594-	3463	5056	87-	334-	990	990				396-	942	3684	34-	100-				
12/27	6596	4022	7539	9	325-	1009	1009				1546	662	4579	11	89-				
12/28	6678	2900	11502	105	220-	839	839				1614	766	5476	49	40-				
	7 DAY AVG				2-	7 DAY AVG					7 DAY AVG								
12/29	728-	4478	6019	267-	487-	1230	1230				492-	723	4209	52-	92-				
12/30	6612	3144	9735	248	239-	1011	1011				1554	698	5116	51	41-				
12/31	786-	2963	5858	128-	367-	1310	1310				524-	846	3703	43-	84-				
	3 DAY AVG				49-	3 DAY AVG					3 DAY AVG								

TOTAL 124515 124491

36874 36874

22156 26860

LEAK CHECK: 1245 + 130 = 1375 OK? YES

369 + 130 = 499 OK? YES

269 + 130 = 399 OK? YES

DATE: 12/05/97
TIME: 17:05:39

CIRCLE K CORPORATION
GASOLINE INVENTORY (GROSS GALLONS) REPORT
AS OF: 11/30/97

REPORT: GS0252RP1
PAGE: 1.506

DISTRICT: A2930 STORE: 05748 STORE TYPE: NET

PRODUCT CAPACITY	UNLEADED				89 OCTANE BLEND				PREMIUM-UNLEAD						
	12.079									12.079					
10/31	432-	235-								32-					
DATE	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	HTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	HTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	HTD O/S-
11/01	6371	4310	8472	110	110	1493	1493			1354	960	5396	26	26	
11/02	6579	3814	11293	56	166	1052	1052			1579	732	6261	18	44	
11/03	733-	4158	6402		166	1221	1221			488-	833	4936	4-	40	
11/04	8552	4373	10515	66-	100	1085	1085			434-	638	3818	46-	6-	
11/05	697-	4482	5316	20-	80	1161	1161			464-	638	2698	18-	24-	
11/06	6495	4210	7579	22-	58	1258	1258			1449	673	3474	24-		
11/07	5778	4717	8605	35-	23	1205	1205			2069	971	4619	47	23	
	7 DAY AVG				3	7 DAY AVG				7 DAY AVG				3	
11/08	765-	3762	3934	144-	121-	1275	1275			510-	747	3342	20-	3	
11/09	6568	3201	7041	140	19	1082	1082			1520	892	3973	3	6	
11/10	6607	3371	10669	8-	11	994	994			1653	695	4996	65	71	
11/11	656-	3372	6427	219-	208-	1093	1093			437-	677	3799	83-	12-	
11/12	5486	4250	7776	118	90-	1030	1030			2448	793	5516	62	50	
11/13	718-	3797	3192	69-	159-	1197	1197			479-	781	4241	15-	35	
11/14	6300	4262	5176	54-	213-	1500	1500			1351	730	4837	25-	10	
	7 DAY AVG				34-	7 DAY AVG				7 DAY AVG				2-	
11/15	6714	3574	8338	22	191-	895	895			1594	551	5899	19	29	
11/16	610-	2952	4797	21	170-	1016	1016			406-	684	4777	32-	3-	
11/17	6596	3764	7717	88	82-	1163	1163			1494	912	5456	97	94	
11/18	620-	3902	3174	21-	103-	1034	1034			414-	826	4146	70-	24	
11/19	6661	3597	6100	138-	241-	1044	1044			1533	843	4817	19-	5	
11/20	6101	4620	7737	156	85-	1527	1527			1432	796	5496	43	48	
11/21	6664	4469	9890	102-	187-	987	987			1565	551	6482	28-	20	
	7 DAY AVG				4	7 DAY AVG				7 DAY AVG				1	
11/22	758-	3358	5697	77-	264-	1263	1263			505-	538	5436	3-	17	
11/23	6480	2946	9417	186	78-	1116	1116			1546	915	6120	53	70	
11/24	770-	3783	4758	106-	184-	1284	1284			514-	685	4877	44-	26	
11/25	6303	3960	7141	40	144-	1287	1287			1485	818	5617	73	99	
11/26	6390	4255	9200	76-	220-	1374	1374			1400	906	6060	51-	48	
11/27	4432	2299	11356	23	197-	617	617			4153	477	9787	51	99	
11/28	710-	3825	6683	138-	335-	1184	1184			474-	712	8567	34-	65	
	7 DAY AVG				21-	7 DAY AVG				7 DAY AVG				6	
11/29	6650	3512	9907	86	249-	924	924			1633	778	9435	13	78	
11/30	567-	3096	6201	43-	292-	945	945			378-	559	8491	7-	71	
	2 DAY AVG				22	2 DAY AVG				2 DAY AVG				3	

TOTAL 114123 113931 34306 34306 25755 22311

LEAK CHECK: 1139 + 130 = 1269 OK? YES 343 + 130 = 473 OK? YES 223 + 130 = 353 OK? YES

DATE: 11/07/97
TIME: 14:45:15

CIRCLE K CORPORATION
GASOLINE INVENTORY (GROSS GALLONS) REPORT
AS OF: 10/31/97

REPORT: GS0252RP1
PAGE: 1.509

DISTRICT: A2930 STORE: 05748 STORE TYPE: NET

PRODUCT UNLEADED
CAPACITY 12.079

89 OCTANE BLEND

PREMIUM-UNLEAD
12.079

09/30		155-	775-											9-	142
DATE	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-
10/01	8549	4375	9577	47	47	1089	1089				436-	918	8756	16-	16-
10/02	977-	4959	3588	53-	6-	1629	1629				652-	735	7381	12	4-
10/03	8544	5542	6562	28-	34-	1194	1194				478-	1133	5738	32-	36-
10/04	6367	4337	8643	51	17	1396	1396				1394	928	6201	3-	39-
10/05	647-	3621	4305	70-	53-	1079	1079				432-	723	5016	30-	69-
10/06	6440	4247	6562	64	11	1187	1187				1525	780	5778	17	52-
10/07	5578	4782	7381	23	34	1248	1248				1500	874	6462	58	6
				5				7 DAY AVG					7 DAY AVG	1	
10/08	6509	4393	9435	62-	28-	1155	1155				1489	678	7282	9	15
10/09	4068	3756	9769	22	6-	1223	1223				3911	698	10531	36	51
10/10	6159	3889	11971	68-	74-	1403	1403				1341	839	11064	31	82
10/11	856-	4186	6843	86-	160-	1426	1426				570-	858	9630	6-	76
10/12	6515	3721	9682	45	115-	1145	1145				1496	637	10499	10	86
10/13	793-	4210	4738	59	56-	1321	1321				528-	704	9272	5	91
10/14	6539	4073	7141	63-	119-	1216	1216				1216	848	9647	7	98
				22-				7 DAY AVG					7 DAY AVG	13	
10/15	6454	4389	9236	30	89-	1255	1255				1455	833	10275	6	104
10/16	834-	5308	3007	87-	176-	1390	1390				556-	741	8942	36-	68
10/17	8353	4968	6341	51-	227-	1333	1333				533-	993	7401	15-	53
10/18	6462	3791	9016	4	223-	1329	1329				1420	942	7873	6-	47
10/19	845-	4167	4011	7	216-	1409	1409				564-	809	6502	2	49
10/20	8461	4357	8087	28-	244-	1238	1238				495-	661	5316	30-	19
10/21	6361	4230	10388	170	74-	1419	1419				1383	952	5778	31	50
				6				7 DAY AVG					7 DAY AVG	7-	
10/22	647-	4247	5256	238-	312-	1079	1079				432-	865	4421	60-	10-
10/23	6354	4526	7100	16	296-	1360	1360				1445	608	5276	18	8
10/24	8284	4733	10669	18	278-	1452	1452				581-	871	3818	6-	2
10/25	687-	4134	8624	2776	2498	1145	1145				458-	745	4560	1945	1947
10/26	2044	3765	4114	2789-	291-	1265	1265				1446	754	3305	1947-	
10/27	6219	4019	6362	48	243-	1303	1303				1432	672	4082	17	17
10/28	5693	4135	7893	27-	270-	1194	1194				2324	809	5617	20	37
				28-				7 DAY AVG					7 DAY AVG	2-	
10/29	774-	4231	2880	8-	278-	1290	1290				516-	728	4355	18-	19
10/30	770-	1997	588	475	197	458	458				1768	237	5899	13	32
10/31	8313	2168	6301	432-	235-	811	811				324-	567	4976	32-	
				12				3 DAY AVG					3 DAY AVG	12-	

TOTAL 130436 129256

38441 38441

18990 24140

LEAK CHECK: 1293 + 130 = 1423 OK? YES

384 + 130 = 514 OK? YES

241 + 130 = 371 OK? YES

DATE: 10/07/97
TIME: 16:47:25

CIRCLE K CORPORATION
GASOLINE INVENTORY (GROSS GALLONS) REPORT
AS OF: 09/30/97

REPORT: GS0252RP1
PAGE: 1.508

DISTRICT: A2930 STORE: 05748 STORE TYPE: NET

PRODUCT CAPACITY	UNLEADED					89 OCTANE BLEND					PREMIUM-UNLEAD					
	12.079										12.079					
08/31		62-	1,184										11-	580		
DATE	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	DELV /ADJ	SALES GAL	END STICK	DLY O/S-	MTD O/S-	
09/01	5761	2947	7460	12-	12-	909	909				2487	732	7932	37	37	
09/02	943-	4616	1821	80-	92-	1571	1571				628-	589	6683	32-	5	
09/03	13436	3541	11514	202-	294-	1023	1023				3433	1068	9200	152	157	
09/04	802-	4657	6160	105	189-	1336	1336				534-	938	7776	48	205	
09/05	6579	4840	7873	26-	215-	1158	1158				1489	1075	8165	25-	180	
09/06	6549	4253	10176	7	208-	1170	1170				1482	917	8718	12-	168	
09/07	713-	3893	5316	254-	462-	1188	1188				475-	937	7282	24-	144	
		7 DAY AVG		66-		7 DAY AVG						7 DAY AVG		21		
09/08	6459	4239	7717	181	281-	1258	1258				1449	903	7834	6	150	
09/09	3571	4280	7141	133	148-	1215	1215				1514	677	8681	10	160	
09/10	6707	4339	9254	255-	403-	899	899				1543	707	9506	11-	149	
09/11	749-	4973	3550	18	385-	1248	1248				499-	721	8280	6-	143	
09/12	13554	4998	8010	4096-	4481-	1495	1495				3305	841	10225	519-	376-	
09/13	665-	3735	7658	4048	433-	1109	1109				444-	866	9470	555	179	
09/14	6122	3642	10192	54	379-	1130	1130				452-	817	8184	17-	162	
		7 DAY AVG		12		7 DAY AVG						7 DAY AVG		3		
09/15	858-	4493	4797	44-	423-	1430	1430				572-	894	6723	5	167	
09/16	8365	4132	9127	97	326-	1309	1309				524-	810	5396	7	174	
09/17	6484	4593	10893	125-	451-	1195	1195				1473	781	6060	28-	146	
09/18	808-	4532	5536	17-	468-	1346	1346				538-	730	4797	5	151	
09/19	6363	5125	6683	91-	559-	1240	1240				1406	1178	4976	49-	102	
09/20	1357	3755	4209	76-	635-	1172	1172				2134	833	6281	4	106	
09/21	8266	3965	8567	57	578-	1308	1308				523-	786	4956	16-	90	
		7 DAY AVG		28-		7 DAY AVG						7 DAY AVG		10-		
09/22	569-	4643	10608	7253	6675	949	949				380-	844	5718	1986	2076	
09/23	788-	4408	5276	136-	6539	1313	1313				525-	708	4441	44-	2032	
09/24	13580	4558	7151	7137-	598-	1245	1245				3452	850	5096	1947-	85	
09/25	6384	4727	8793	25-	623-	1359	1359				1358	910	5557	13	98	
09/26	6223	4842	10159	15-	638-	1630	1630				1250	1064	5738	5-	93	
09/27	5440	4218	11368	13-	651-	1269	1269				2393	862	7282	13	106	
09/28	3714	4108	6442	4532-	5183-	1158	1158				1489	796	6019	1956-	1850-	
		7 DAY AVG		658-		7 DAY AVG						7 DAY AVG		277-		
09/29	4052	4480	10577	4563	620-	1259	1259				3895	688	11227	2001	151	
09/30	728-	4338	5356	155-	775-	1214	1214				486-	606	10126	9-	142	
		2 DAY AVG		2204		2 DAY AVG						2 DAY AVG		996		
TOTAL	131343	129870			37105	37105					28972	25128				
LEAK CHECK:	1299 + 130 = 1429	OK? YES			371 + 130 = 501	OK? YES					251 + 130 = 381	OK? YES				