



Associated Environmental Systems, Inc.

TO APPROPRIATE COUNTY REGULATORY AGENCY:

Alameda County Health  
80 Swan Way, Room 200  
Oakland, Ca 94621  
Attn: Rajat Shahid

IN THE ENCLOSED PACKAGE YOU WILL FIND THE RESULTS FROM THE UNDERGROUND TANK TEST FOR TANKS LOCATED AT:

Unocal # 4186  
1771 First Street  
Livermore, Ca

THE ORIGINAL OF ALL DOCUMENTS HAVE BEEN FORWARDED TO THE TANK OWNER. IF YOU HAVE ANY QUESTIONS, PLEASE CALL US AT 805-393-2212 AND ASK FOR THE OPERATIONS DEPARTMENT.

ASSOCIATED ENVIRONMENTAL SYSTEMS, INC. HAS ADVISED OUR CUSTOMER THAT PRECISION TEST RESULTS WERE SENT TO YOU FOR THIS LOCATION.



Associated Environmental Systems, Inc.

Dear Customer:

In the enclosed package you will find your Billing Order (invoice), Precision Tank & Line Test Results Sheet, site plan and test graphs. Copies of this entire package, except the Billing Order, have been submitted by A.E.S. to the governing agency in the specified county.

*Alameda*

Each county in California, as well as some cities, have their own tank testing program. Regulations vary from county to county. If you have any questions, please call us. We are always glad to help our customers in any way we can.

Thank you for letting us serve your tank testing needs. Please keep in mind A.E.S. offers other services in the Environmental field.

Thanks again,

Employess of A.E.S.

Associated Environmental Systems, Inc.

P.O. Box 80427  
Bakersfield, CA 933  
(805) 393-2212

PRECISION TANK & LINE TEST RESULTS

Invoice Address:

Tank Location:

W.O.#: 14068

UNOCAL CORP.  
2000 CROW CANYON RD. 400  
SAN RAMON, CA. 94583

UNOCAL  
1771 FIRST ST.  
LIVERMORE, CA.

I.D. Number: 4168  
Technician: BWH  
Tech.#: 88142 Van#: 6125

Date: 4-10-91 Time Start: 09:00 End: 10:30 County: AL  
Facility Phone#: (415) 455-0121 Groundwater Depth: 12'+ Blue Prints: N/A  
Contact: MGR. Date; Time system was filled: 4-10-91 09:00

Tank	Tank Capacity	Product	Tank	Fill/Vent Vapor Lines	Product Line	Type Of Vapor Recovery	Inches of Water/Tank	Pump Type	Tank Material
1	10K	R/UL	PASS	PASS	PASS	II	0"	TURB.	SWF
2	10K	S/UL	PASS	PASS	PASS	II	0"	TURB.	SWF

Additional Information:

SITE LOG

TIME

Set Up Equip: 13:00  
 Bled Product Lines: 09:10  
 Bled Vapor Lines: 08:55  
 Bled Vent lines: N/A  
 Bled Turbines: 08:57  
 Bled Suction Pump: N/A  
 Risers Installed: 13:00

- a) This system and method meets the criteria set forth in NFPA #329.
- b) Any failure listed above may require further action, check with all regulatory agencies.

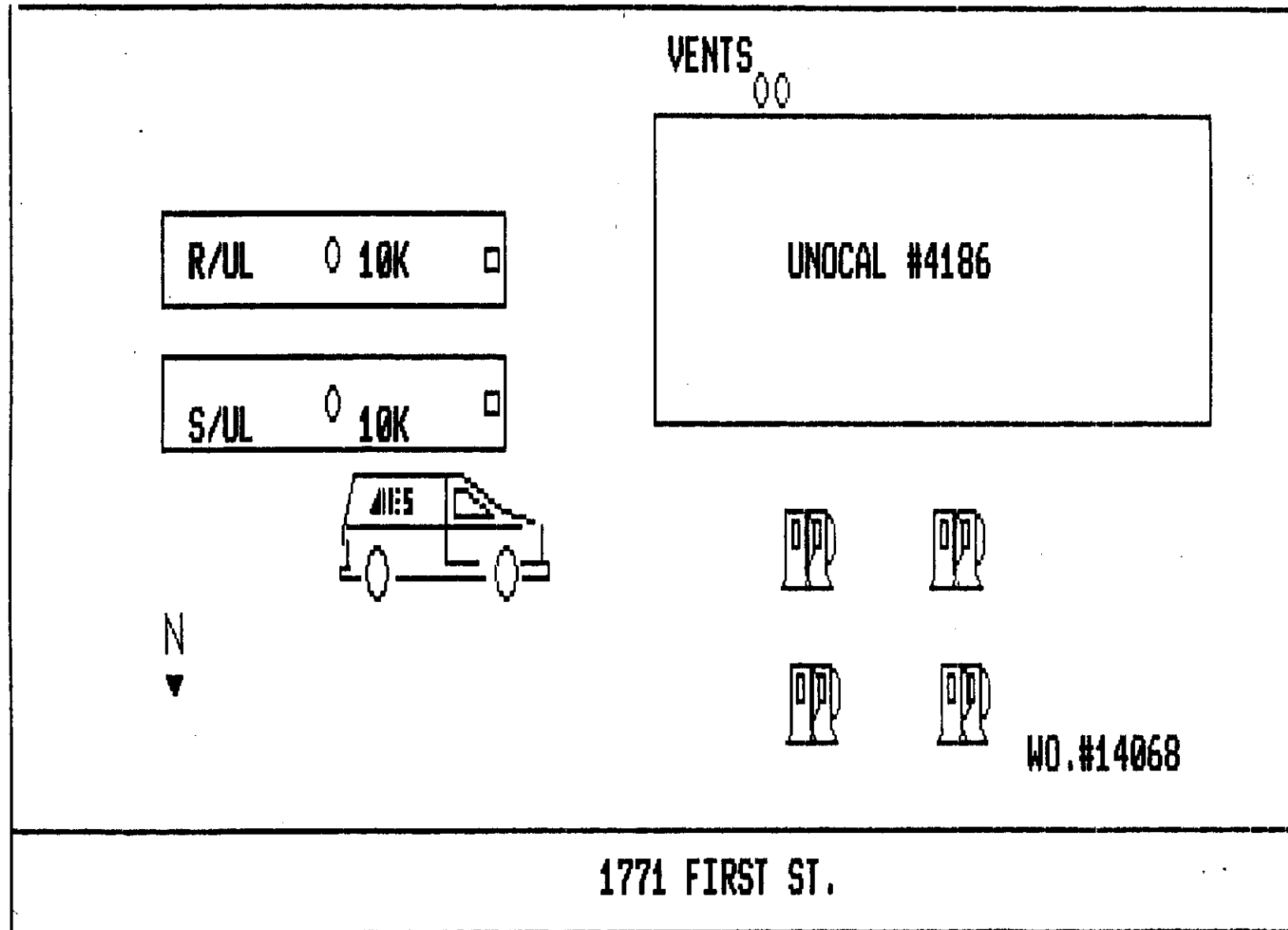
California O.T.T.L. Number : 91-1069

Certified Technician Signature :



Date : 4-10-91

ASSOCIATED ENVIRONMENTAL SYSTEMS



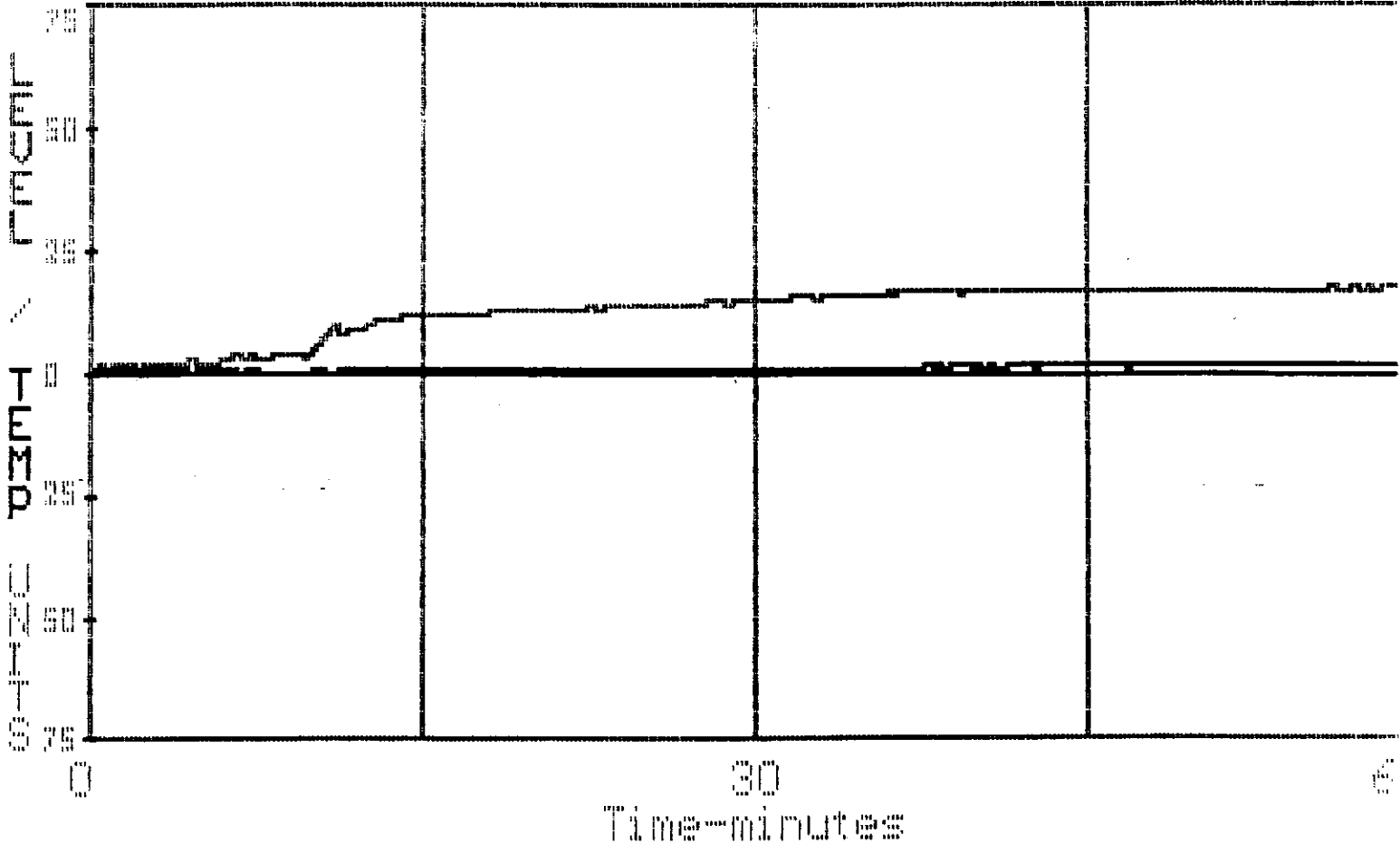
Site Layout For : UNOCAL LIVERMORE, CA.

# AES/System II Precision Leak Test

P.O. Box 80427 Berkeley, CA 94780 (805) 393-2212

Invoice No.: 14068	Date: 04/10/91	Time: 15:10:24
Technician: BWH	Tank: 1	Tank Diameter(in): 90
Volume(gal): 10000	Grade Level(in): 122	Product Level(in): 135
Water Level On Tank(in): 0		
Specific Gravity: 0.74	Coefficient Of Expansion: 0.0006791	
Calibration Value(ml): 378	Channel: 1	
Level Segment From: 125 To 300	Temp Segment From: 100 To 300	

## Product Roll



Change In Calibration Zone = 32  
 Starting Temperature (F): 64.130  
 Surface Area(sq. in): 71.9

Calibration Unit(gal/unit) = 0.00307  
 Head Pressure(col/in (Btm)): 99.9  
 Temp. Change(F/h) : 0.010

Level volume(gph): 0.08  
 Temp. volume(gph): 0.06  
 Net change(gph) : 0.02

Product Line(gph): -.002

**Result --> PASS**

**P/L --> PASS**

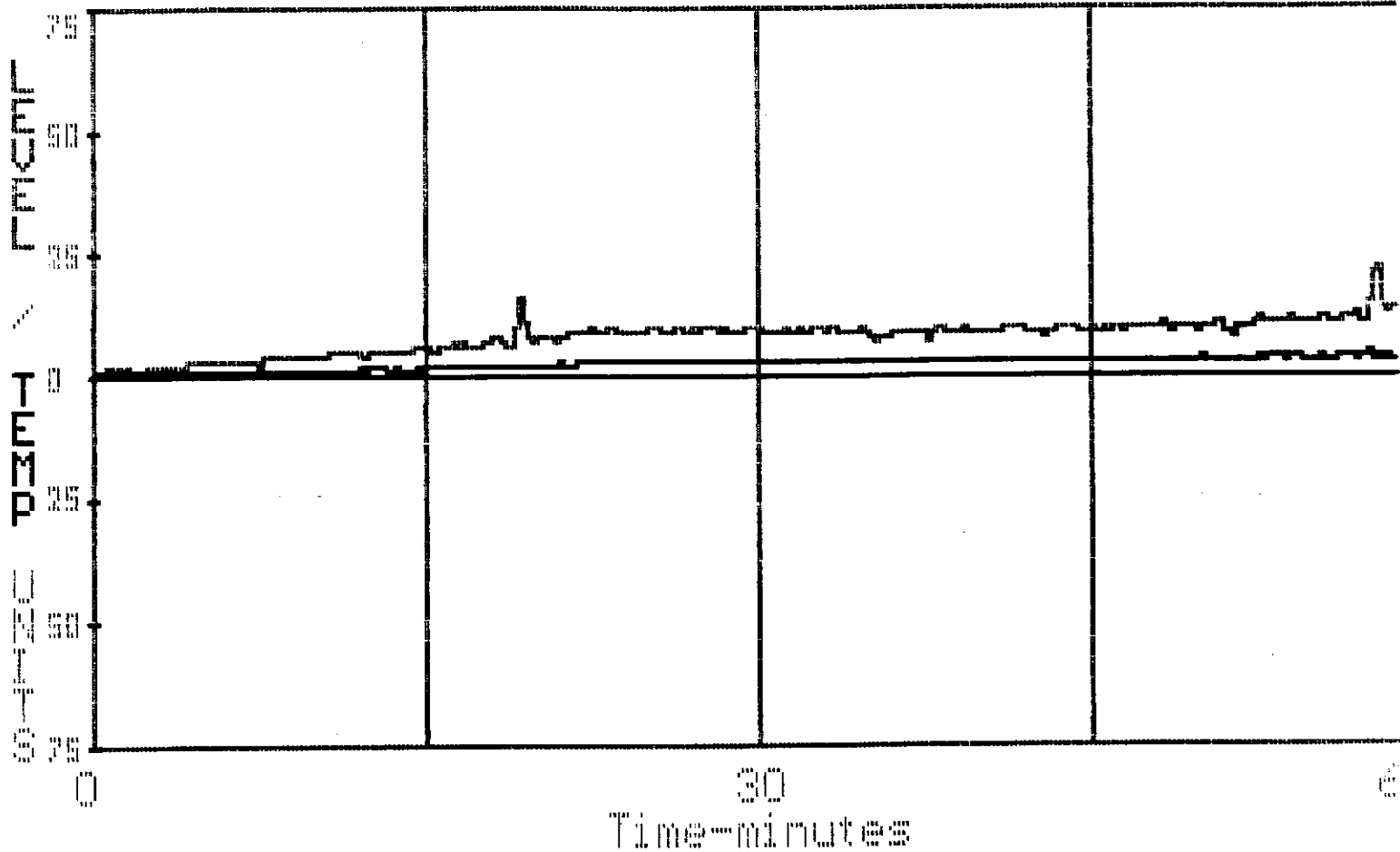
**\*\* Notes \*\***

UNOCAL #4186 1771 FIRST ST. LIVERMORE, CA.  
 THIS IS A HIGH LEVEL TEST WITH A EX-CAL. 1ST HR.

**AES/System II Precision Leak Test**  
 P.O. Box 82427 Bakersfield, CA 93380 (805) 393-2212

Invoice No.: 14068A	Date: 04/10/91	Time: 16:24:37
Technician: BWH	Tank: 1	Tank Diameter(in): 90
Volume(gal): 10000	Grade Level(in): 122	Product Level(in): 137
Water Level On Tank(in): 0		
Specific Gravity: 0.74	Coefficient Of Expansion: 0.0006791	
Calibration Value(ml): 378	Channel: 1	
Level Segment From: 100 To 250	Temp Segment From: 100 To 300	

Product P/L



Change In Calibration Zone = 10  
 Starting Temperature (F): 64.199  
 Surface Area(sq. in): 230.1

Calibration Unit(gal/unit) = 0.00983  
 Head Pressure(col/in (Btu)): 101.4  
 Temp. Change(F/h) : 0.006

Level volume(gph): 0.04  
 Temp. volume(gph): 0.04  
 Net change(gph) : 0.00

Product Line(gph): -.002

**Result --> PASS**

**P/L --> PASS**

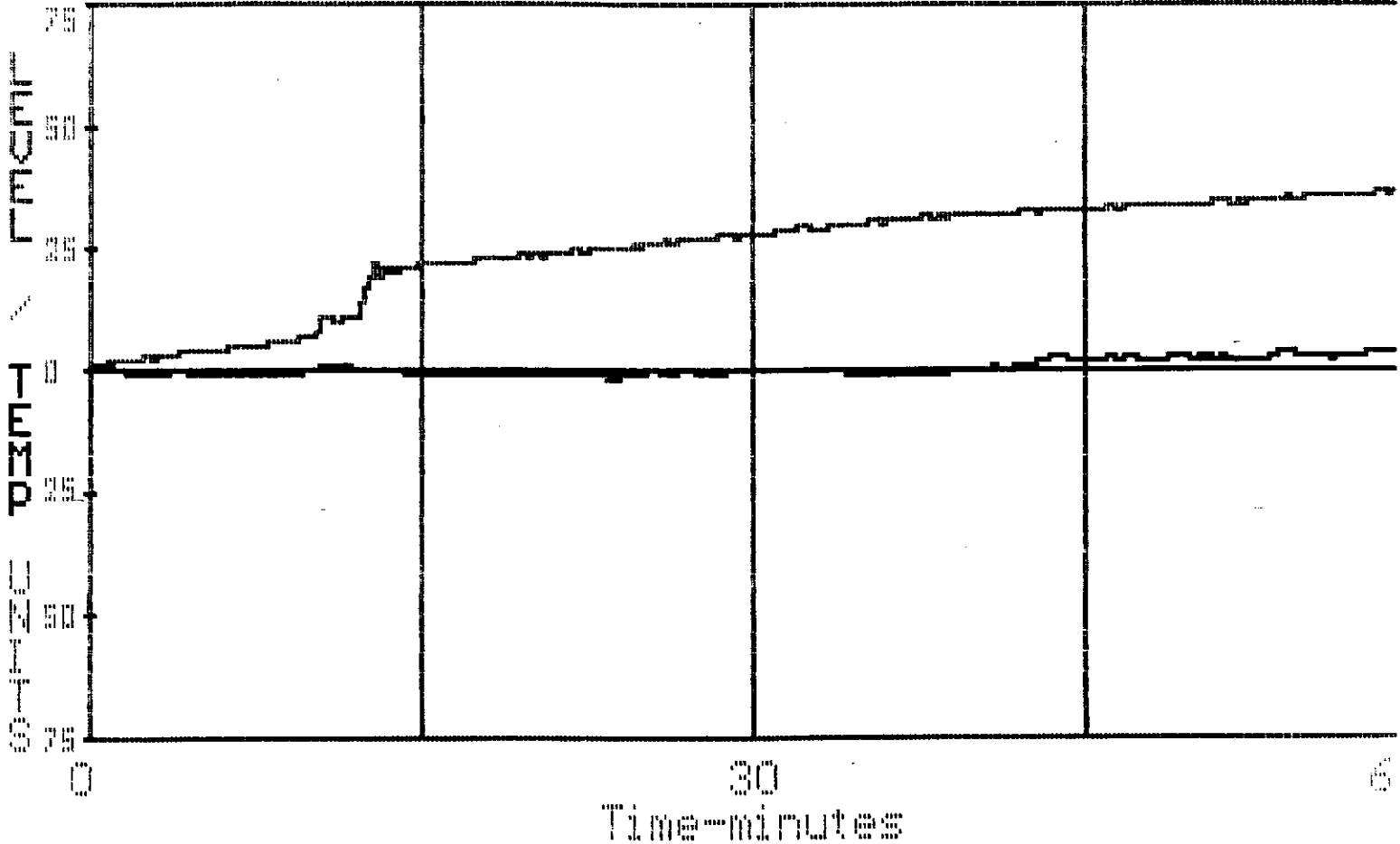
**\*\* Notes \*\***

UNOCAL #4186 1771 FIRST ST. LIVERMORE, CA.  
 THIS IS A HIGH LEVEL TEST WITH A 2X-CAL. AND A 3X-CAL. 2ND HR.

**AES/System II Precision Leak Test**  
P.O. Box 8042 Bakersfield, CA 93380 (805) 393-2212

Invoice No.: 14068      Date: 04/10/91      Time: 15:10:24  
Technician: BWH      Tank: 2      Tank Diameter(in): 91  
Volume(gal): 10000      Grade Level(in): 122      Product Level(in): 135  
Water Level On Tank(in): 0  
Specific Gravity: 0.74      Coefficient Of Expansion: 0.0006960  
Calibration Value(ml): 378      Channel: 2  
Level Segment From: 75 To 300      Temp Segment From: 25 To 300

Product S/UL



Change In Calibration Zone = 54  
Starting Temperature (F): 39.352  
Surface Area(sq. in): 42.6

Calibration Unit(gal/unit) = 0.00182  
Head Pressure(col/in (Btu)): 99.9  
Temp. Change(F/h) : 0.024

Level volume(gph): 0.18  
Temp. volume(gph): 0.16  
Net change(gph) : 0.02

Product Line(gph): -.004

Result --> PASS

P/L --> PASS

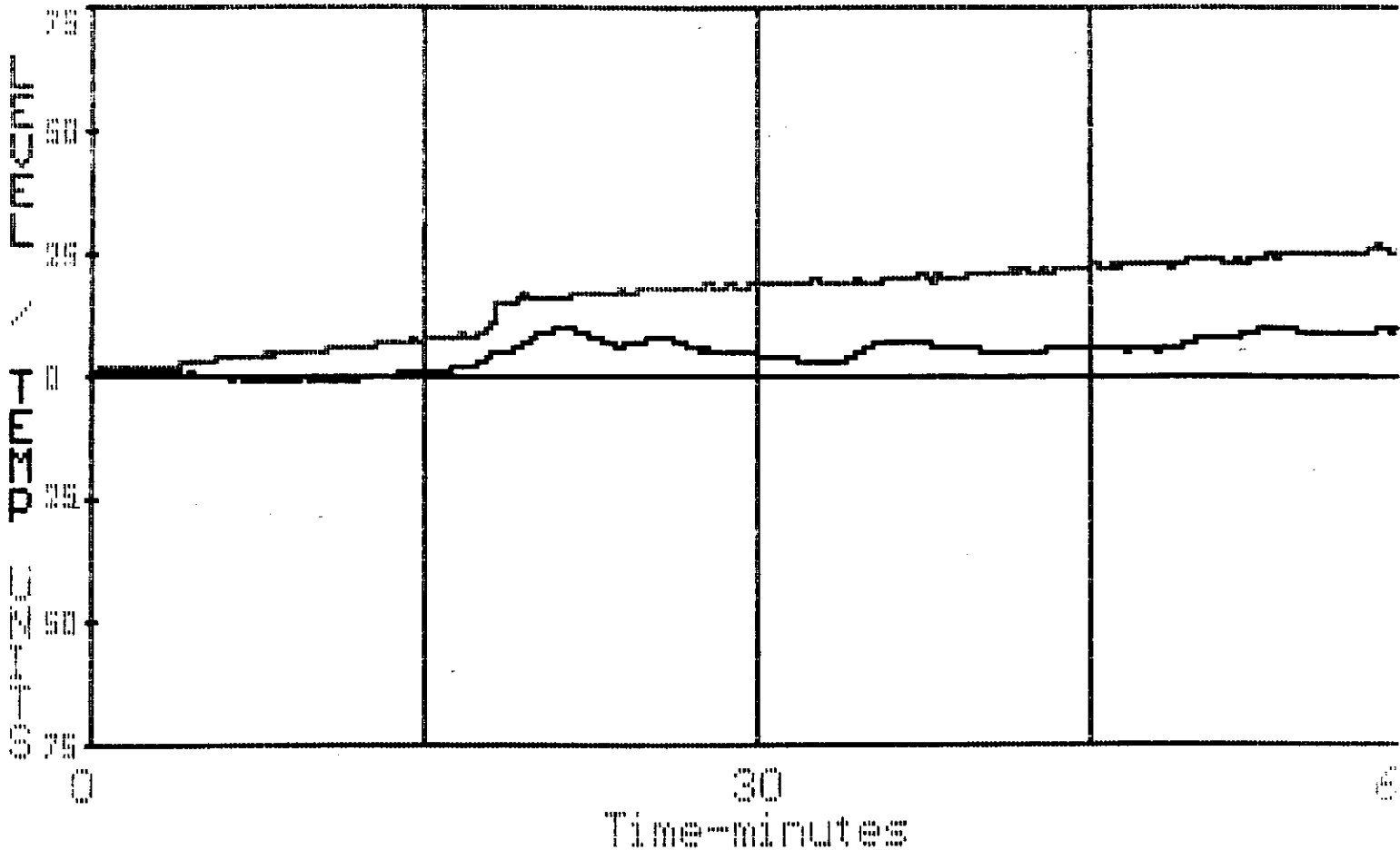
\*\* Notes \*\*

UNOCAL #4186 1771 FIRST ST. LIVERMORE, CA.  
THIS IS A HIGH LEVEL TEST WITH 2X-CAL. 1ST HR.

**AES/Systems II Precision Leak Test**  
 P.O. Box 2042, Bakerfield, CA 93300 (805) 393-2212

Invoice No.: 14068A      Date: 04/10/91      Time: 16:24:37  
 Technicians: BWH      Tank: 2      Tank Diameter(in): 91  
 Volume(gal): 10000      Grade Level(in): 122      Product Level(in): 137  
 Water Level On Tank(in): 0  
 Specific Gravity: 0.74      Coefficient Of Expansion: 0.0006960  
 Calibration Value(ml): 378      Channel: 2  
 Level Segment From: 100 To 300      Temp Segment From: 75 To 300

Product S/UL



Change In Calibration Zone = 35  
 Starting Temperature (F): 39.421  
 Surface Area(sq. in): 65.7

Calibration Unit(gal/unit) = 0.00281  
 Head Pressure(col/in (Btm)): 101.4  
 Temp. Change(F/h) : 0.028

Level volume(gph): 0.20  
 Temp. volume(gph): 0.19  
 Net change(gph) : 0.01

Product Line(gph): -.004

Result --> **PASS**

P/L --> **PASS**

\*\* Notes \*\*

UNOCAL #4186 1771 FIRST ST. LIVERMORE, CA.  
 THIS IS A HIGH LEVEL TEST WITH A 2X-CAL. 2ND HR.



Invoice Number 14068

LEAK DETECTOR TEST DATA

TEST LOCATION:  
Unocal  
1771 FIRST ST.  
Livermore, Ca.

FACILITY # : 4186  
CONTACT: BOB MGR  
PHONE # : (415) 455-0121  
TEST DATE: 4-10-91

PRODUCT	DOES LEAK DET EXIST	TEST #1	TEST #2	RESULTS	RESULTS P/L TEST
REG	YES _____ NO _____	SERIAL # _____ GAL _____	_____ GAL	PASS _____ FAIL _____	PASS _____ FAIL _____
R/UL	YES <input checked="" type="checkbox"/> NO _____	SERIAL # <u>21796</u> <u>9385</u> GAL	<u>3</u> GAL	PASS <input checked="" type="checkbox"/> FAIL _____	PASS <input checked="" type="checkbox"/> FAIL _____
S/UL	YES <input checked="" type="checkbox"/> NO _____	SERIAL # <u>21796</u> <u>9385</u> GAL	<u>3</u> GAL	PASS <input checked="" type="checkbox"/> FAIL _____	PASS <input checked="" type="checkbox"/> FAIL _____
DSL	YES _____ NO _____	SERIAL # _____ GAL _____	_____ GAL	PASS _____ FAIL _____	PASS _____ FAIL _____

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TEST PROCEDURE

Test #1: perform for 30 seconds with nozzle in full open position  
Test #2: perform for 30 seconds after nozzle closed for 10 seconds

EXAMPLE OF POSSIBLE RESULTS

Test #1	Test #2	Results	Test #1	Test #2	Results
1 Gal	3 Gal	Pass	3 Gal	3 Gal	Fail

TECHNICIAN Bruce Hmsley DATE 4-10-91

Associated Environmental Systems, Inc.  
 P.O. Box 80427  
 Bakersfield, CA 93380  
 (805)-393-2212

Invoice Number 14068

AES HYDROSTATIC PRODUCT LINE TEST WORK SHEET

TEST NO.	PRODUCT	START TIME	END TIME	START VOL. (ML)	END VOL. (ML)	TEST VOL. DIFF. (ML)
1	R/UL	13:05	13:20	172	175	-0.002
1	S/UL	14:10	14:25	214	210	-0.004

Divide the volume differential by the test time ( 15 minutes) and multiply by 0.0158311, which will convert the volume differential from milliliters per minute to gallons per hour.

The conversion constant is found by :

$$(60 \text{ min/hr}) / (3790 \text{ ml/gal}) = 0.0158311 \text{ (min/hr) (gal/ml)}$$

The conversion constant causes the milliliters and minutes to cancel out.

Ex. If the level dropped 3ml in 15 minutes then:

$$3/15 \text{ ml./min.} \times 0.0158311 \text{ (min/hr) (gal/ml)} = 0.003 \text{ gal/hr.}$$

RESULTS OF THIS WORK SHEET TO BE COMPILED ON A.E.S. RESULTS SHEET.

CHECKLIST OF SERVICES  
UNOCAL NORTH

- Full System Tank test
- Close All Impact Valves
- AES Hydrostatic Product Line Test
- AES Leak Detector Test
- Check Drop Tubes For Striker Plates  
(install a new one if necessary and record the tank in the space below)  
Invoice Customer @ \$30.00 ea/Plate
- INSTALLING STRIKER PLATE IN R/L* Disconnect All V/R Lines Where Cross Contamination Could Occur
- Conduct A Visual Inspection For Leaks In Dispenser Cabinet
- Complete AES Results Sheets
- Complete Site Plot
- Complete Site Information Sheet Including Coefficient of Expansion, Specific Gravity And Temperature

	YES	NO	
A new Striker Plate was Installed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	U/L-87 TANK #1
	<input type="checkbox"/>	<input type="checkbox"/>	U/L-87 TANK #2
	<input type="checkbox"/>	<input type="checkbox"/>	U/L-92 TANK #1
	<input type="checkbox"/>	<input type="checkbox"/>	U/L-93 TANK #2



Associated Environmental Systems, Inc.

H.S. FILE

P.O. Box 80427  
Bakersfield, CA 93388  
(805) 393-2212

**PRECISION TANK & LINE TEST RESULTS**

Invoice Address:	Tank Location:	W.O.#: 11293
UNOCAL CORP. P.O. BOX 8175 WALNUT CREEK, CA. 94596	UNOCAL SS # 4186 1771 FIRST ST. LIVERMORE, CA.	I.D. Number: 4186 Technician: KEM Tech.#: 87129 Van#: 6106

Date: 04-12-90    Time Start: 09:45    End: 14:30    County: AL  
 Facility Phone#: 415-455-0121    Groundwater Depth: 15 FT+    Blue Prints: N/A  
 Contact: MGR    Date; Time system was filled: 04-12 08:00

Tank	Tank Capacity	Product	Tank	Product Line	Type Of Recovery	Vapor	Inches of Water/Tank	Pump Type	Tank Material
1	10K	S/UL	PASS	PASS	II		0	TUR	SWF
2	10K	R/UL	PASS	PASS	II		0	TUR	SWF

Additional Information: CLEAR 70 DEGREES

SITE LOG	TIME
Set Up Equip:	10:20
Bled Product Lines:	10:15
Bled Vapor Lines:	10:10
Bled Vent lines:	10:05
Bled Turbine:	10:00
Bled Suction Pump:	N/A
Risers Installed:	N/A

- a) This system and method meets the criteria set forth in NFPA #329.
- b) Any failure listed above may require further action, check with all regulatory agencies.

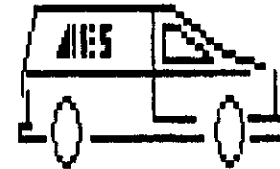
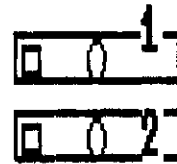
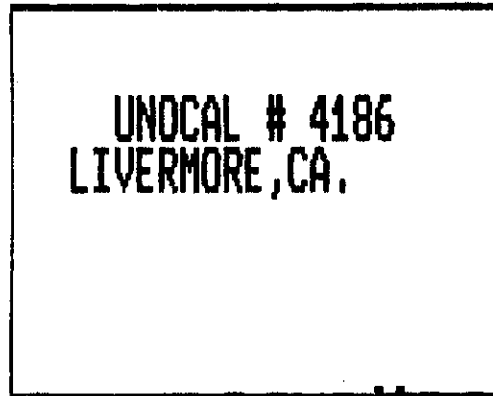
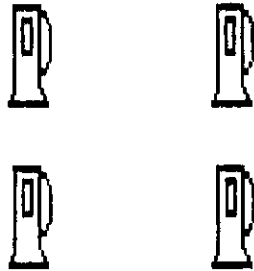
California O.T.T.L. Number : 91-1075

Certified Technician Signature :

Date : 04-12-90

ASSOCIATED ENVIRONMENTAL SYSTEMS

1771 FIRST STREET



#1 10K S/UL  
#2 10K R/UL

00 VENTS

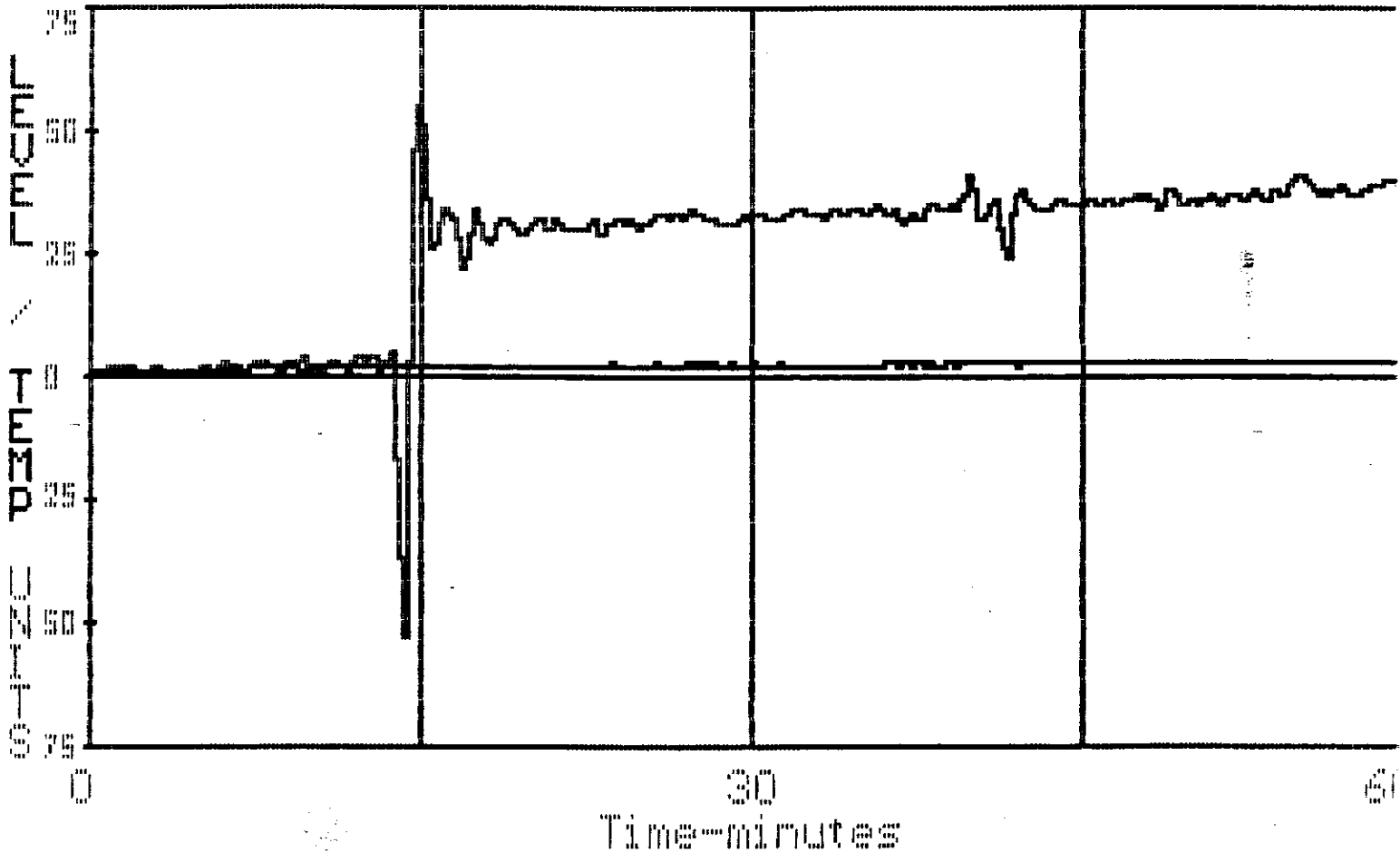
Site Layout For : 11293

# AES/System II Precision Leak Test

P.O. Box 80427 Bakersfield, CA 93380 (805) 393-2212

Invoice No.: 11293a      Date: 04/12/90      Time : 11:59:15  
Technician: KEM      Tank: 1      Tank Diameter(in): 92  
Volume(gal): 9728      Grade Level(in): 132      Product Level(in): 122  
Water Level On Tank(in): 0  
Specific Gravity: .752      Coefficient Of Expansion: 0.0005844  
Calibration Value(ml): 567      Channel: 1  
Level Segment From: 100 To 300      Temp Segment From: 10 To 300

Product S/L



Change In Calibration Zone = 29  
Starting Temperature (F): 66.529  
Surface Area(sq. in): 117.1

Calibration Unit(gal/unit) = 0.00508  
Head Pressure(col/in (Btm)): 91.7  
Temp. Change(F/h) : 0.010

Level volume(gph): 0.06  
Temp. volume(gph): 0.05  
Net change(gph) : 0.01

Product Line(gph): +.000

Result --> PASS

F/L --> PASS

\*\* Notes \*\*

UNOCAL # 4186 1771 FIRST ST. LIVERMORE, CA.

HIGH LEVEL TEST CALIB. = 3X

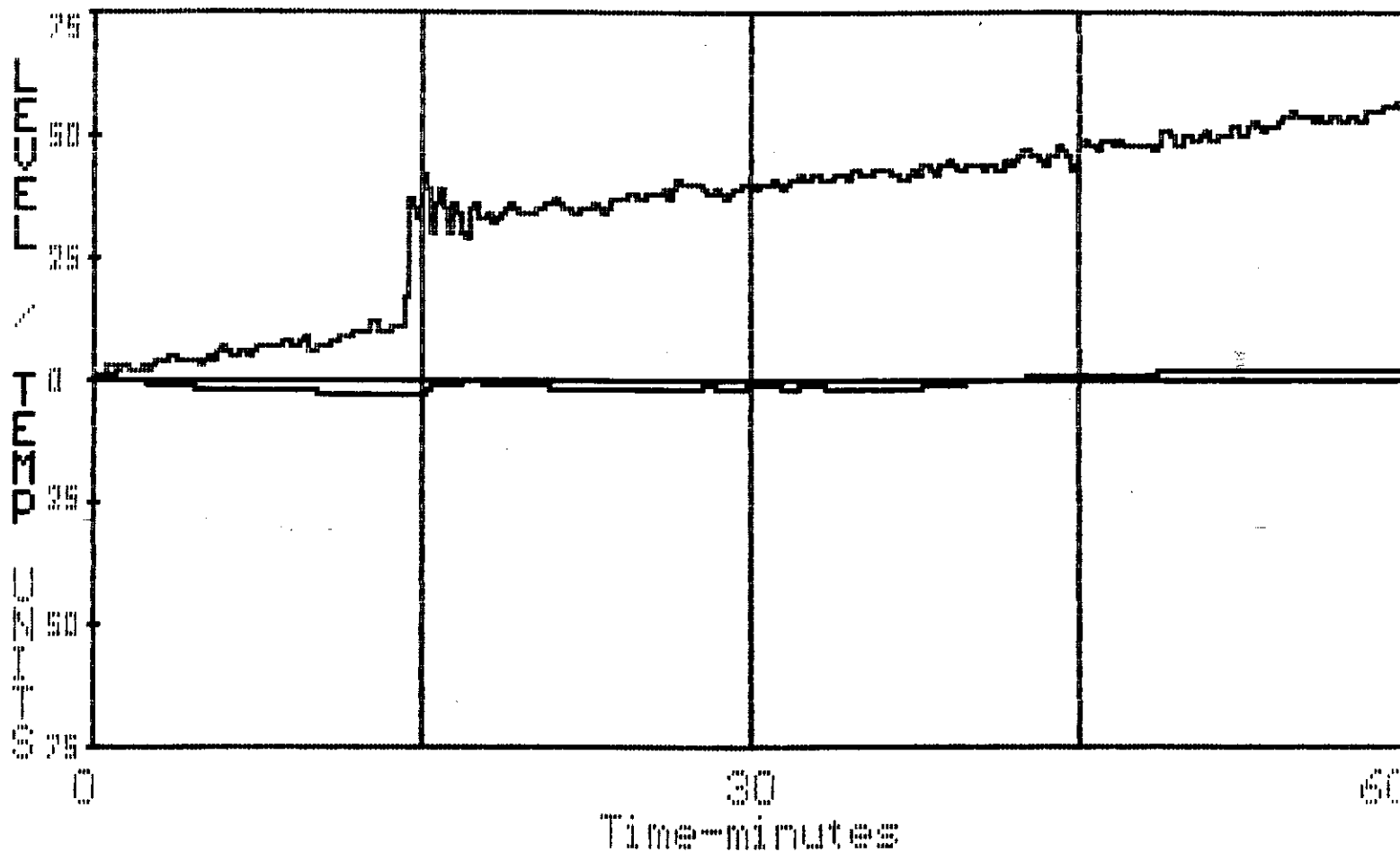
CLEAR TO ACCEPT

# AES/System II Precision Leak Test

P.O. Box 80427 Bakersfield, CA 93380 (805) 393-2212

Invoice No.: 11293A	Date: 04/12/90	Time : 11:59:15
Technician: KEM	Tank: 2	Tank Diameter(in): 92
Volume(gal): 9728	Grade Level(in): 132	Product Level(in): 122
Water Level On Tank(in): 0		
Specific Gravity: .747	Coefficient Of Expansion: 0.0005944	
Calibration Value(ml): 567	Channel: 2	
Level Segment From: 90 To 300	Temp Segment From: 1 To 230	

## Product R/VL



Change In Calibration Zone = 23  
 Starting Temperature (F): 65.943  
 Surface Area(sq. in): 148.7

Calibration Unit(gal/unit) = 0.00641  
 Head Pressure(col/in (Btm)): 91.1  
 Temp. Change(F/h) : 0.033

Level volume(gph): 0.19  
 Temp. volume(gph): 0.19  
 Net change(gph) : 0.00

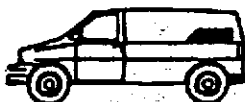
Product Line(gph): -.001

**Result --> PASS**

**P/L --> PASS**

**\*\* Notes \*\***

UNOCAL # 4186 1771 FIRST ST. LIVERMORE, CA.  
 HIGH LEVEL TEST CALIB. = 3X  
 CLEAR 70 DEGREES



ASSOCIATED ENVIRONMENTAL SYSTEMS, INC.  
 P.O. BOX 80427  
 BAKERSFIELD, CA 93380  
 (805) 393-2212

INVOICE NUMBER 11293

AES HYDROSTATIC PRODUCT LINE TEST WORK SHEET

TEST NO.	PRODUCT	START TIME	END TIME	START VOL. (ml)	END VOL. (ml)	TEST VOL. DIFF. (ml)
1	SPAL	11:35	11:50	184	90	
2	SPAL	11:55	12:10	240	240	e + 000
1	R/L	13:22	13:37	110	118	-2 - .001

Divide the volume differential by the test time (15 minutes) and multiple by 0.0158311, which will convert the volume differential from milliliters per minute to gallons per hour.

The conversion constant is found by:  

$$(60 \text{ min/hr}) / (3790 \text{ ml/gal}) = 0.0158311 (\text{min/hr}) (\text{gal/ml})$$

The conversion constant causes the milliliters and minutes to cancel out.

Ex. If the level dropped 3ml in 15 minutes then:  

$$3/15 \text{ ml./min.} \times 0.0158311 (\text{min/hr}) (\text{gal/ml}) = 0.003 \text{ gal/hr.}$$



SAN FRANCISCO, CA  
(415) 372-3637

Philadelphia, PA  
(215) 941-9700

DATE 3-1-90

CONTACT: Tony Yap (415) 945-7676

BAY SITE # 4186

LOCATION: UNOCAL SERVICE STATION

CUSTOMER: UNOCAL - R&M DIVISION

LL: 37 1771 First Street  
SP Livermore, CA

2175 N. Calif. Blvd \$650  
Walnut Creek, CA 94596

SYSTEM# PRODUCT	TANK SIZE		WATER LEVEL (IN.)	LEAK LOKATOR RESULTS*			CONCLUSION PASS/FAIL	COMMENTS
	GALLON	DIAM. (IN.)		GRADE (IN.)	TEST LEVEL (IN.)	GPH		

ADDITIONAL COMMENTS All Leak Detectors PASS

\* GRADE - INCHES FROM BOTTOM OF TANK  
TEST LEVEL - INCHES FROM BOTTOM OF TANK  
GPH - ABSOLUTE LEAK RATE (MEASURED LEAK RATE - TEMPERATURE COMPENSATION) IN GALLONS PER HOUR  
CONCLUSION IS BASED ON NFPA 329 STANDARD OF ±0.05 GPH

### ADDITIONAL SERVICES

#### PRODUCT LINES — HYDROSTATIC PRESSURE TEST RESULTS

SYSTEM	TYPE OF PUMP		# APPLIED	MINUTES APPLIED	PRODUCT LOSS CC'S	PRODUCT LOSS GPH	CONCLUSION		COMMENTS
SUP	RR	Remote <input checked="" type="checkbox"/> Suction Submersible <input type="checkbox"/>	50	15	-----	-----	PASS <input checked="" type="checkbox"/>	FAIL <input type="checkbox"/>	
U/L	RR	Remote <input checked="" type="checkbox"/> Suction Submersible <input type="checkbox"/>	50	15	-----	-----	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>	
		Remote <input type="checkbox"/> Suction Submersible <input type="checkbox"/>					PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>	
		Remote <input type="checkbox"/> Suction Submersible <input type="checkbox"/>					PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>	

QTY	PART #	DESCRIPTION	PRICE EA.	QTY	PART #	DESCRIPTION	PRICE EA.



