

ARCO Products Company

17315 Studebaker Road
Cerritos, California 90701-1488
Telephone 310 404 5300

Mailing Address: Box 6411
Artesia, California 90702-6411



6-19-92

Alameda County Health Dept.
Env. Health Dept.
80 Swan Way Room 200
Alameda, Ca 94621

Re: Tank Test Results
ARCO #2152
22141 Center St.
Alameda, Ca.

Dear Sirs:

This letter is to notify you that the tank and lines passed the tank intergrity system test, as noted in the attached test results for the underground storage tank and line system.

ARCO is committed to the compliance of all environmental laws that govern the safe operation of underground storage tanks. Feel free to call me at 310-407-2610.

Sincerely,

ARCO Products Company
a division of Atlantic Richfield Company

 (Resent 7/1/92)

C. A. Holman
Env. Compl. Engineer

Data Chart for Tank System Tightness Test

JEB
1546

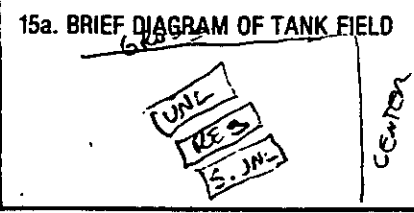
PLEASE PRINT

1. OWNER Property <input type="checkbox"/> Tank(s) <input type="checkbox"/>	ARCO SS #2152 22141 CENTER ST / GROVE WAY Name Address Representative Telephone 581-1206					
2. OPERATOR	Name Address Telephone					
3. REASON FOR TEST (Explain Fully)	NEW TANKS					
4. WHO REQUESTED TEST AND WHEN	COURTLAND HOLMAN ARCO 10/9/89 Name Title Company or Affiliation Date Address Telephone					
5. TANK INVOLVED Use additional lines for manifolded tanks	Identify by Direction CENTER TANK	Capacity 12000	Brand/Supplier ARCO	Grade REGULAR	Approx. Age 7	Steel/Fiberglass DOUBLE WALL FIBERGLASS
6. INSTALLATION DATA	Location NORTHEAST OF BUILDING <small>North inside driveway, Rear of station, etc.</small>	Cover FULL SLAB <small>Concrete, Black Top, Earth, etc.</small>	Fills 4" <small>Size, Titefill make, Drop tubes, Remote Fills</small>	Vents 2" <small>Size, Manifolded</small>	Siphones NONE <small>Which tanks?</small>	Pumps REMOTE <small>Suction, Remote, Make if known</small>
7. UNDERGROUND WATER	Depth to the Water table _____			Is the water over the tank? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
8. FILL-UP ARRANGEMENTS	Tanks to be filled 630 hr. 10/17/89 Date Arranged by COURTLAND HOLMAN Name Telephone Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead.					
9. CONTRACTOR, MECHANICS, any other contractor involved	GERTLER - PUMPS INC. JIM REED SCOTT MARLE					
10. OTHER INFORMATION OR REMARKS	1) TESTED WITH Common VENT & VAPOR LINES					
11. TEST RESULTS	Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:					
	Tank Identification 12000 GALLON REGULAR	Tight YES	Leakage Indicated	Date Tested 10/17/89		

12. SENSOR CERTIFICATION 10/17/89 Date Serial No. of Thermal Sensor	13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 328.		
	Technicians 1. JIM REED Certification # 414313017 2. SCOTT MARLE Certification # _____		
	GERTLER PUMPS INC. [Signature] Testing Contractor or Company. By: Signature 1992 NATIONAL FIRE PROTECTION ASSOCIATION Address		

OK

15. TANK TO TEST
Middle Tank
 Identify by position
ARCO - Regular
 Brand and Grade



16. CAPACITY
 Nominal Capacity 12,000 Gallons
 By most accurate capacity chart available 11630 Gallons

From
 Station Chart
 Tank Manufacturer's Chart
 Company Engineering Data
 Charts supplied with
 Other

17. FILL-UP FOR TEST

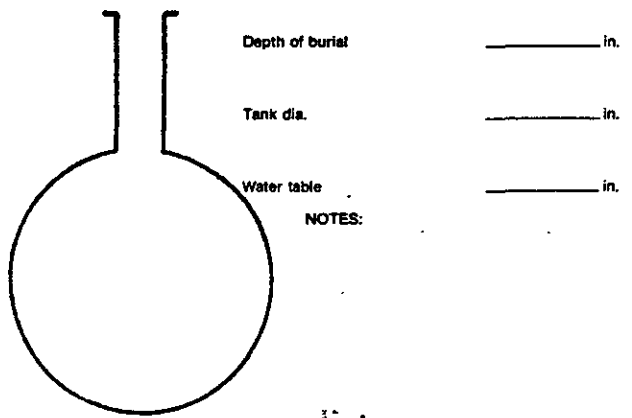
Stick Water Bottom before Fill-up	Gallons	Tank Diameter	Inventory	Total Gallons as Reading
<u>0</u> in.		<u>92"</u> in.	<u>11630</u>	
			<u>TOP OFF - 25</u>	
				<u>11655</u>

Transfer total to line 25a

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
 Water in tank Line(s) being tested with LVLLT
 High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27).
 Use maximum allowable test pressure for all tests. Four pound rule does not apply to doublewalled tanks.
 Complete section below:

1. Is four pound rule required? Yes No
2. Height to 12" mark from bottom of tank _____ in.
3. Pressure at bottom of tank _____ P.S.I.
4. Pressure at top of tank _____ P.S.I.



19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
 Bottom of tank to grade* 173" in.
 Add 30" for "T" probeassy. 30 in.
 Total tubing to assemble - approximate 203 in.

20. EXTENSION HOSE SETTING
 Tank top to grade* 81" in.
 Extend hose on suction tube 6" or more below tank top 91' in.
 *If fill pipe extends above grade, use top of fill.

22. Thermal-Sensor reading after circulation 13220 digits
62.163 °F
 Between 324 digits

23. Digits per °F in range of expected change

COEFFICIENT OF EXPANSION (Complete after circulation)
 24a. Corrected A.P.I. Gravity
 Observed A.P.I. Gravity 56.0
 Hydrometer employed 6 H
 Observed Sample Temperature 63 °F
 Corrected A.P.I. Gravity @ 60°F, From Table A 55.6
 Coefficient of Expansion for Involved Product From Table B 0.00059236
 Transfer COE to Line 25b.

21. VAPOR RECOVERY SYSTEM Stage I Stage II

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD
 Type of Product _____
 Hydrometer Employed _____ H
 Temperature in Tank After Circulation _____ °F
 Temperature of Sample _____ °F
 Difference (+/-) _____ °F
 Observed A.P.I. Gravity _____
 Reciprocal _____ Page # _____
 Total quantity in full tank (16 or 17) _____ Reciprocal _____ Volume change in this tank per °F _____
 Transfer to Line 25a.

24c. FOR TESTING WITH WATER see Table C & D
 Water Temperature after Circulation Table C _____ °F
 Coefficient of Water Table D _____
 Added Surfactant? Yes No Transfer COE to Line 25b.

The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.
 Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

25. (a) 11655 × (b) 0.00059236 = (c) 6.7874053 gallons
 Total quantity in full tank (16 or 17) Coefficient of expansion for involved product Volume change in this tank per °F

26. (a) 6.7874053 ÷ 324 = .0209
 Volume change per °F (25 or 24b) Digits per °F in test Range (23) Volume change per digit Compute to 4 decimal places. This is test factor (a)

27. Sensor Calibration _____ / _____		30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGING EACH READING	39. ACCUMULATED CHANGE	
LOG OF TEST PROCEDURES												
28. DATE	Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	30. Standpipe Level in Inches		32. Product in Graduate		33. Product Replaced (-)	35.	36.	37.	Temperature Adjustment	At Low Level compute Change per Hour (NPPA criteria)
			Beginning of Reading	Level to which Restored	Before Reading	After Reading	Product Recovered (+)	Thermal Sensor Reading	Change Higher + Lower - (c)	Computation (c) x (a) = Expansion - Contraction -	Volume Minus Expansion (+) or Contraction (-) K3(V) - #37(T)	
920	TANKER TOPPED OFF											
930	SET UP TESTER											
945	FILLED TESTER & INFO OFF	2.1										
915	RAISED TO 42"									.0209		
1045	READING AT 42"	1		42		.690		13220				
1100		2	41.9	42	.690	.670	-020	13228	+8	+167	-187	
1115		3	42.1	42	.670	.690	+020	13233	+5	+105	-085	
1130		4	42.4	42	.690	.740	+050	13240	+7	+146	-096	
1145		5	42.8	42	.740	.820	+080	13246	+6	+126	-046	
1200		6	42.9	42	.820	.920	+100	13254	+8	+167	-067	
1215		7	42.9	42	.190	.280	+090	13260	+6	+126	-036	
1230		8	43.1	42	.280	.400	+120	13266	+6	+126	-006	
1232	LOWERED TO 12"											
1245	READING AT 12"	9	13.3	12	.400	.560	+160	13272	+6	+126	+034	
1300		10	13.2	12	.560	.690	+130	13279	+7	+146	-016	
1305		11	12.1	12	.690	.760	+070	13282	+3	+063	+007	
1310		12	12.3	12	.760	.810	+050	13284	+2	+042	+008	
1315		13	12.4	12	.140	.200	+060	13288	+4	+084	+024	
1320		14	12.5	12	.200	.250	+050	13289	+1	+021	+029	
1325		15	12.3	12	.250	.280	+030	13291	+2	+042	-012	
1330		16	12.3	12	.280	.320	+040	13292	+1	+021	+019	
1335		17	12.3	12	.320	.370	+050	13295	+3	+063	-013	
1340		18	12.3	12	.370	.420	+050	13297	+2	+042	+008	
1345		19	12.3	12	.420	.470	+050	13299	+2	+042	+008	
1350		20	12.3	12	.470	.510	+040	13302	+3	+063	-023	
355		21	12.3	12	.510	.550	+040	13305	+3	+063	-023	
400		22	12.4	12	.550	.600	+050	13307	+2	+042	+002	
405		23	12.3	12	.600	.640	+040	13308	+1	+021	+019	

②

2.)

	20	12.3	=	.640	.680	+0.040	13310	+2	+0.042	-0.002	
	25	12.3	=	.720	.760	+0.040	13312	+2	+0.042	-0.002	
	30	12.3	=	.800	.840	+0.040	13314	+2	+0.042	-0.002	
20	35	12.3	=	.880	.920	+0.040	13316	+2	+0.042	-0.012	
25	40	12.3	=	.960	1.000	+0.040	13318	+2	+0.042	-0.003	
30	45	12.3	=	1.040	1.080	+0.040	13320	+2	+0.042	-0.002	
40	50	12.4	=	1.120	1.160	+0.040	13323	+3	+0.063	-0.003	
50	55	12.4	=	1.200	1.240	+0.040	13326	+3	+0.063	-0.013	
60	60	12.4	=	1.280	1.320	+0.040	13328	+2	+0.042	+0.009	
70	65	12.4	=	1.360	1.400	+0.040	13330	+2	+0.042	+0.008	
80	70	12.4	=	1.440	1.480	+0.040	13333	+3	+0.063	-0.023	-0.0100
90	75	12.3	=	1.520	1.560	+0.040	13335	+2	+0.042	-0.002	-0.0145
100											
105											
* TANK TIGHT *											
LAST HOUR READING = .0145											

**P-T Tank Test Data Chart
Additional Info**

1. Net Volume Change at Conclusion of Precision Test .0145 gph
 Signature of Tester: James P. Reed
 Date: 10/17/89

2. Statement:

Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak.

OR

Tank and product handling system has failed the tank tightness test according to the Precision Test-Criteria as established by N.F.P.A. publication 329.

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Heath Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator _____
 Date _____

Data Chart for Tank System Tightness Test

PLEASE PRINT

Job # 1546

1. OWNER Property Tank(s)

ARCO Center St. / Grove WY. Castro Valley
 Name Address Representative Telephone

2. OPERATOR

Name Address Telephone

3. REASON FOR TEST (Explain Fully)

New installation Tanks, lines, etc.

4. WHO REQUESTED TEST AND WHEN

Name Title Company or Affiliation Date Address Telephone

5. TANK INVOLVED

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
Tank closest to Parcel 40 Grove way	12,000	ARCO	Unbonded Clear	NEW	Double wall Fiberglass

Use additional lines for manifolded tanks

6. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
North end of lot - North inside driveway. Rear of station, etc.	Concrete Asphalt Concrete, Black Top, Earth, etc.	4" Size, Titefill make, Drop tubes, Remote Fills	2" Size, Manifolded	NONE Which tanks?	Remote - Prod Jackets Suction, Remote. Make if known

7. UNDERGROUND WATER

Depth to the Water table N/A Is the water over the tank? Yes No

8. FILL-UP ARRANGEMENTS

Tanks to be filled 6:30 AM on 10-17-89 Date Arranged by Paridesio Name Telephone

Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead.

Terminal or other contact for notice or inquiry _____ Company Name Telephone

9. CONTRACTOR, MECHANICS, any other contractor involved

BETTER RYAN INC.
S. MOORE
J. REED

10. OTHER INFORMATION OR REMARKS

Full Systems Test - excluding product line.

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.

11. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
#1 Unbonded Clear	10216		10-17-89

12. SENSOR CERTIFICATION

10-17-89 Date

Serial No. of Thermal Sensor _____

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 328.

Technicians

1. S. MOORE

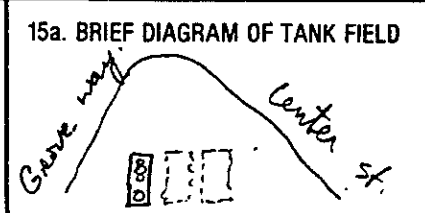
Certification # 414812279

2. _____

Certification # _____

BETTER RYAN INC. S. MOORE
 Testing Contractor or Company, By: Signature
 1492 NATIONAL AVE. HAYWARD, CA. Address

15. TANK TO TEST
Closest to Grove Way
 Identity by position
#RED - Unvented Clear
 Brand and Grade



16. CAPACITY
 Nominal Capacity 12,000 Gallons
 By most accurate capacity chart available _____ Gallons

From
 Station Chart
 Tank Manufacturer's Chart
 Company Engineering Data
 Charts supplied with
 Other _____

17. FILL-UP FOR TEST
 Stick Water Bottom before Fill-up 0 in. to 92" in. Tank Diameter
 Gallons _____

	Gallons	Total Gallons ea. Reading
Inventory <u>92"</u>	<u>11,627</u>	<u>11,627</u>
<u>Top off</u>	<u>23</u>	<u>+ 23</u>
		<u>11,650</u>

Transfer total to line 25a

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK
 Water in tank Line(s) being tested with LVLLT
 High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27).
 Use maximum allowable test pressure for all tests. Four pound rule does not apply to doublewalled tanks.
 Complete section below:

1. Is four pound rule required? Yes No
2. Height to 12" mark from bottom of tank _____ in.
3. Pressure at bottom of tank _____ P.S.I.
4. Pressure at top of tank _____ P.S.I.

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY
 Bottom of tank to grade* 168 in.
 Add 30" for "T" probe assy. 30 in.
 Total tubing to assemble - approximate _____ in.

20. EXTENSION HOSE SETTING
 Tank top to grade* 78" in.
 Extend hose on suction tube 6" or more 82" + in.
 below tank top

*If fill pipe extends above grade, use top of fill.

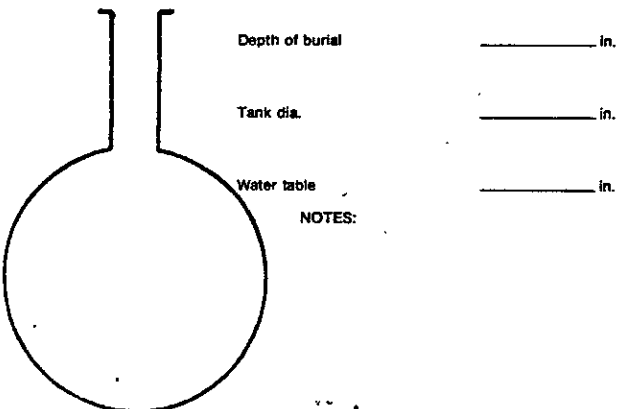
22. Thermal-Sensor reading after circulation 12882 digits
61-62 °F Between
 23. Digits per °F in range of expected change 322 digits

COEFFICIENT OF EXPANSION (Complete after circulation)
 24a. Corrected A.P.I. Gravity 55.7
 Observed A.P.I. Gravity _____
 Hydrometer employed 6 H
 Observed Sample Temperature 66 °F
 Corrected A.P.I. Gravity @ 60°F. From Table A 56.3 ± .7 = 57.0
 Coefficient of Expansion for Involved Product From Table B .00059230
 Transfer COE to Line 25b.

21. VAPOR RECOVERY SYSTEM Stage I Stage II

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD
 Type of Product N/A
 Hydrometer Employed N/A
 Temperature in Tank After Circulation N/A °F
 Temperature of Sample N/A °F
 Difference (+/-) N/A °F
 Observed A.P.I. Gravity N/A
 Reciprocal _____ Page # _____
 Total quantity in full tank (16 or 17) _____ Reciprocal _____ Volume change in this tank per °F _____
 Transfer to Line 26a.

24c. FOR TESTING WITH WATER see Table C & D
 Water Temperature after Circulation Table C _____ °F
 Coefficient of Water Table D _____
 Added Surfactant? Yes No Transfer COE to Line 25b.



The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.
 Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

25. (a) 11,650 × (b) .00059230 = (c) 6,900295 gallons
 Total quantity in full tank (16 or 17) Coefficient of expansion for involved product Volume change in this tank per °F
 26. (a) 6,900295 ÷ (b) 322 = (c) 0.021429487
 Volume change per °F (25 or 24b) Digits per °F in test Range (23) Volume change per digit Compute to 4 decimal places. This is test factor (d) (.0214)

27. Sensor Calibration <u>16600, 16600</u>		30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGING EACH READING	39. ACCUMULATED CHANGE	
LOG OF TEST PROCEDURES		29. Reading No.	Standpipe Level in Inches		32. Product in Graduate		33. Product Replaced (-)	35. Thermal Sensor Reading	36. Change Higher + Lower - (c)	37. Computation (c) x (a) = Expansion (+) Contraction -	Temperature Adjustment	At Low Level compute Change per Hour (NFPA criteria)
DATE	Record details of setting up and running test. (Use full length of line if needed.)		Beginning of Reading	Level to which Restored	Before Reading	After Reading	Product Recovered (+)				Volume Minus Expansion (+) or Contraction (-) #33(V) - #37(T)	
TIME (24 hr.)	<u>Unleaded Clear</u>											
0925	Pump Primed + Running	All										
0930	Begin Circulation									Factor A.		
1025	Took API Sample									(.0214)		
1030	1st Sensor Reading	1	42	—	.895	1st Sensor -		12882				
1045	High level	2	40.6	42	.895	.790	.105	12891	+9	+1926	-2976	
1100		3	40.8	42	.790	.690	.100	898	+7	+1498	-2498	
1115		4	41.1	42	.690	.620	.070	905	+7	+1498	-2198	
1130		5	41.3	42	.620	.570	.050	911	+6	+1284	-1784	
1145		6	41.3	42	.570	.530	.040	920	+9	+1926	-2326	
1200		7	41.4	42	.530	.490	.040	930	+10	+2140	-2540	
1215		8	41.8	42	.490	.480	.010	938	+8	+1712	-1812	
1216	Drop to low level	9	42	12	.480	1st Sensor		939				
1230		10	13.5	12	.480	.590	+110	943	+4	+0856	+0244	
1245		11	13.3	12	.590	.680	+090	953	+10	+2140	-1240	
1250	Begin Low level Test	12	12.5	12	.680	.720	+040	955	+2	+0428	-0028	
1255		13	12.4	12	.720	.755	+035	959	+4	+0856	-0506	
1300		14	12.4	12	.755	.790	+035	963	+4	+0856	-0506	
1305		15	12.4	12	.790	.820	+030	967	+4	+0856	-0556	
1310		16	12.5	12	.820	.855	+035	972	+5	+1070	-0720	
1315		17	12.5	12	.800	.035	+035	975	+3	+0642	-0292	
1320		18	12.5	12	.035	.065	+030	976	+1	+0214	+0086	
1325		19	12.5	12	.065	.100	+035	978	+2	+0428	-0078	
1330		20	12.5	12	.100	.130	+030	981	+3	+0642	-0342	
1335		21	12.6	12	.130	.170	+040	983	+2	+0428	-0028	
1340		22	12.5	12	.170	.205	+035	987	+4	+0856	-0506	

1345		23	12.7	12	.205	.255	+0.050	991	+4	+0.856	-0.356	
1350		24	13.0	12	.255	.325	+0.070	993	+2	+0.428	+0.272	
1355		25	12.8	12	.325	.370	+0.045	997	+4	+0.856	-0.406	
1400		26	12.5	12	.370	.405	+0.035	13000	+3	+0.642	-0.292	
1405		27	12.8	12	.405	.455	+0.050	003	+3	+0.642	-0.142	
1410		28	12.9	12	.455	.510	+0.055	007	+4	+0.856	-0.306	
1415		29	12.7	12	.510	.555	+0.045	010	+3	+0.642	-0.192	
1420		30	12.9	12	.555	.610	+0.055	014	+4	+0.856	-0.306	
1425		31	12.8	12	.610	.660	+0.050	016	+2	+0.428	+0.072	
1430		32	12.9	12	.660	.720	+0.060	018	+2	+0.428	+0.172	
1435		33	12.9	12	.720	.780	+0.060	021	+3	+0.642	-0.042	
1440		34	12.7	12	.780	.820	+0.040	023	+2	+0.428	-0.028	
1445		35	12.8	12	.820	.870	+0.050	027	+4	+0.856	-0.356	-2693
1450		36	12.9	12	.870	.930	+0.060	030	+3	+0.642	-0.042	-2700
1455		37	12.9	12	.930	.995	+0.065	033	+3	+0.642	+0.008	-2443
1500		38	12.8	12	.160	.225	+0.065	034	+1	+0.214	+0.236	-1972
1505		39	12.5	12	.225	.260	+0.035	036	+2	+0.428	-0.078	-1733
1510		40	13.0	12	.260	.330	+0.070	040	+4	+0.856	-0.156	-1451
1515		41	12.8	12	.330	.380	+0.050	041	+1	+0.214	+0.286	-1162
1520		42	12.8	12	.380	.425	+0.045	042	+1	+0.214	+0.236	-1087
1525		43	12.9	12	.425	.490	+0.065	044	+2	+0.428	+0.222	-0937
1530		44	13.2	12	.490	.570	+0.080	046	+2	+0.428	+0.372	-0580
1535		45	12.6	12	.570	.600	+0.030	050	+4	+0.856	-0.556	-0844
1340		46	12.8	12	.600	.660	+0.060	052	+2	+0.428	+0.172	-0505
1345		47	13.0	12	.660	.725	+0.065	054	+2	+0.428	+0.222	-0216
1350	Remove Test -											

P-T Tank Test Data Chart
Additional Info.

1. Net Volume Change at Conclusion of Precision Test -0.0216 gph

Signature of Tester: A. MADIE

Date: 10-17-89

2. Statement:

Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak.

OR

Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329.

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Health Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator _____

Date _____

Data Chart for Tank System Tightness Test

-JOB
1546

LEASE PRINT

1. OWNER Property Tank(s)

ARCO SS #2152 2214 CENTER ST / GREENE WAY 541-1262

Name Address Representative Telephone

2. OPERATOR

Name Address Telephone

3. REASON FOR TEST
(Explain Fully)

NEW TANKS

4. WHO REQUESTED TEST AND WHEN

COURTLAND HOLMAN ARCO 10/19/89

Name Title Company or Affiliation Date

Address Telephone

5. TANK INVOLVED
Use additional lines for manifolded tanks

Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass
CLOSEST TO CENTER ST	12,000	ARCO	SUPERLOADED	NEW	DOUBLE WALL FIBERGLASS

6. INSTALLATION DATA

Location	Cover	Fills	Vents	Siphones	Pumps
NORTHEAST OF BUILDING <small>North inside driveway, Rear of station, etc.</small>	FULL SLAB <small>Concrete, Black Top, Earth, etc.</small>	4"	2" <small>Size, Manifolded</small>	NONE <small>Which tanks?</small>	Remote <small>Suction, Remote, Make if known</small>

7. UNDERGROUND WATER

Depth to the Water table ?

Is the water over the tank? Yes No

8. FILL-UP ARRANGEMENTS

Tanks to be filled 6:30 hr. 10/17/87 Date Arranged by COURTLAND HOLMAN

Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead

Terminal or other contact for notice or inquiry

9. CONTRACTOR, MECHANICS, any other contractor involved

GETTLER PUGH INC
JIM REED

10. OTHER INFORMATION OR REMARKS

1) TESTED WITH ALL LINES PLUGGED AT TANK
2) VENT & VAPOR LINES TESTED WITH RECIRCULATING TANK
3) TESTED WITH TWO RECIRCULATING PUMPS

Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.

11. TEST RESULTS

Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows:

Tank Identification	Tight	Leakage Indicated	Date Tested
12,000 GALLON SUPERLOADED	YES		10/18/89

2. SENSOR CERTIFICATION

10/18/89 Date

13. This is to certify that these tank systems were tested on the date(s) shown. Those indicated as "Tight" meet the criteria established by the National Fire Protection Association Pamphlet 328.

Technicians
1. Jim Reed

GETTLER PUGH INC James P. Reed
Testing Contractor or Company By: Signature

1992 NATIONAL AVE WILMINGTON
Address

Certification # 414813017

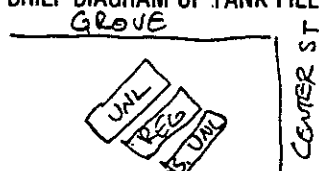
2. _____
Certification # _____

R
KA

15. TANK TO TEST

CLOSET TO CENTER ST
 Identify by position
ARCO SUPER UNLEADED
 Brand and Grade

15a. BRIEF DIAGRAM OF TANK FIELD



16. CAPACITY

Nominal Capacity 12,000 Gallons
 By most accurate capacity chart available 11630 Gallons

- From
- Station Chart
 - Tank Manufacturer's Chart
 - Company Engineering Data
 - Charts supplied with
 - Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up 0 to 1/2" in. Gallons _____ Tank Diameter 92" in. Inventory _____ Gallons 11630 Total Gallons es. Reading _____

DP OFF 25

11655

Transfer total to line 25a

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

- Water in tank
- Line(s) being tested with LVLTL
- High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27).

Use maximum allowable test pressure for all tests. Four pound rule does not apply to doublewalled tanks.

Complete section below:

- 1. Is four pound rule required? Yes No
- 2. Height to 12" mark from bottom of tank _____ in.
- 3. Pressure at bottom of tank _____ P.S.I.
- 4. Pressure at top of tank _____ P.S.I.

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade* 180 in.
 Add 30" for "T" probe assay. 30 in.
 Total tubing to assemble — approximate 210 in.

20. EXTENSION HOSE SETTING

Tank top to grade* 88 in.
 Extend hose on suction tube 6" or more below tank top 98 in.

*If Fill pipe extends above grade, use top of fill.

22. Thermal-Sensor reading after circulation 132100 digits
62/63/64 Between
 23. Digits per °F in range of expected change 324 digits

COEFFICIENT OF EXPANSION (Complete after circulation)

24a. Corrected A.P.I. Gravity 56.0
 Observed A.P.I. Gravity _____
 Hydrometer employed 6 H
 Observed Sample Temperature 66 °F
 Corrected A.P.I. Gravity @ 60°F, From Table A 55.3
 Coefficient of Expansion for Involved Product From Table B _____
 Transfer COE to Line 25b.

21. VAPOR RECOVERY SYSTEM

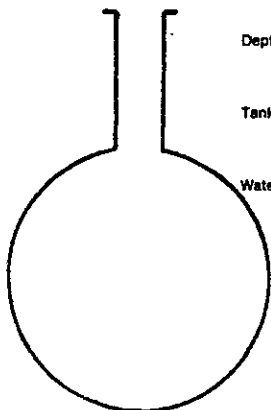
- Stage I
- Stage II

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product _____
 Hydrometer Employed _____ H
 Temperature in Tank After Circulation _____ °F
 Temperature of Sample _____ °F
 Difference (+/-) _____ °F
 Observed A.P.I. Gravity _____
 Reciprocal _____ Page # _____
 Total quantity in full tank (16 or 17) _____ Reciprocal _____ Volume change in this tank per °F _____
 Transfer to Line 26a.

24c. FOR TESTING WITH WATER see Table C & D

Water Temperature after Circulation Table C _____ °F
 Coefficient of Water Table D _____
 Added Surfactant? Yes No Transfer COE to Line 25b.



NOTES:

The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.

Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

25. (a) 11655 × (b) .00058023 = (c) 6.7625306 gallons
 Total quantity in full tank (16 or 17) Coefficient of expansion for involved product Volume change in this tank per °F

26. (a) 6.7625306 + (b) 324 = (c) .0209 This is test factor (a)
 Volume change per °F (25 or 24b) Digits per °F in test Range (23) Volume change per digit Compute to 4 decimal places.

LOG OF TEST PROCEDURES		PRESSURE CONTROL		VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			TEMPERATURE COMPENSATION USE FACTOR (a)			30. NET VOLUME CHANGING EACH READING		39. ACCUMULATED CHANGE
28. DATE	Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Standpipe Level in Inches		32. Product in Graduate		33. Product Replaced (-)	35. Thermal Sensor Reading	36. Change Higher + Lower - (d)	37. Computation (c) = (a) + Expansion - Contraction -	Temperature Adjustment Volume Minus Expansion (+) or Contraction (-) #33(V) - #37(T)	At Low Level compute Change per Hour (NFPA criteria)
			Beginning of Reading	Level to which Restored	Before Reading	After Reading	Product Recovered (+)					
900	SET UP TESTERS											
945	FILLED TESTERS & BLED OFF AIR									.0209		
1000	RAISED TO 42"											
1100	READING AT 42"	1		42		.100		13260				
1115		2	44.3	42	.100	.220	+ .120	13268	+8	+ .167	-.047	
1130		3	44.8	42	.220	.370	+ .150	13276	+8	+ .167	-.017	
1145		4	44.8	42	.370	.510	+ .140	13286	+10	+ .209	-.069	
1200		5	45.0	42	.510	.660	+ .150	13295	+9	+ .183	-.038	
1215		6	45.1	42	.660	.810	+ .150	13306	+11	+ .230	-.080	
1230		7	45.4	42	.810	1.000	+ .190	13317	+11	+ .230	-.040	
1245		8	45.4	42	.900	.390	+ .190	13327	+12	+ .251	-.061	
1247	LOWERS TO 12"			42								
1300	READING TO 12"	9	16.0	12	.360	.620	+ .260	13339	+10	+ .209	+ .051	
1315		10	15.7	12	.620	.850	.230	13350	+11	+ .230	± .000	
1320		11	13.3	12	.060	.140	+ .080	13354	+4	+ .084	-.004	
1325		12	13.3	12	.140	.220	+ .080	13359	+5	+ .105	-.025	
1330		13	13.0	12	.220	.280	+ .060	13362	+3	+ .063	-.003	
1335		14	13.0	12	.280	.340	+ .060	13364	+2	+ .042	+ .018	
1340		15	13.0	12	.340	.400	+ .060	13366	+2	+ .042	+ .013	
1345		16	13.2	12	.400	.470	+ .070	13369	+3	+ .063	+ .007	
1350		17	13.4	12	.470	.560	+ .090	13372	+3	+ .063	+ .027	
1355		18	13.2	12	.560	.630	+ .070	13376	+4	+ .084	-.014	
1400		19	13.3	12	.630	.710	+ .080	13380	+4	-.084	-.004	
1405		20	13.3	12	.710	.790	+ .080	13383	+3	+ .063	+ .017	
1410		21	13.2	12	.790	.860	+ .070	13388	+5	+ .105	-.035	
1415		22	13.3	12	.860	.910	+ .050	13392	+4	+ .084	-.004	
1420		23	13.3	12	.910	.990	+ .080	13396	+4	+ .084	-.004	
1425		24	13.2	12	.990	.260	+ .070	13399	+3	+ .063	+ .007	

DATA CHART
For Use With

1 LOCATION: 72141 CENTER ST / 6 ROVE **CHICAGO ILL**

2 DRAWING: **ARCC**

3 NAME: **MULLINIX**

4 TESTED BY: **CAUSTIN HOLMAN**

5 SPECIAL INSTRUCTIONS:

6 CONTRACTOR OR COMPANY MAKING TEST: **GORTON PUMP INC.**

7 MECHANIC(S) NAME:

8 IS A PUMP TEST TO BE MADE WITH THIS LINE TEST? YES NO

9 MAKE AND TYPE OF PUMP OR DISPENSER: **1 1/2" Dia**

10 WEATHER: **Cloudy** TEMPERATURE IN TANKS: **7** °C

11 COVER OVER LINES: **0.012** APPROXIMATE BURIAL DEPTH:

11 IDENTIFY AND LINE AS TESTED	12 TIME (MILITARY)	13 LOG OF TEST PROCEDURES, AMBIENT TEMPERATURE, WEATHER, ETC.	14 PRESSURE (PSI OR KPA)		15 VOLUME		16 TEST RESULTS	
			BEFORE	AFTER	READING			NET CHANGE
					BEFORE	AFTER		
UNIDENTIFIED	1000	SET UP TESTER						
	1005	FLARED TESTER FROM LINE						
	1010	RUNNER UP TO 50PSI						
	1020	RESTORED TO 50PSI		50		073		
	1015	↓ ↓ ↓	48	50	073	071	-002	
	1030		41	50	071	069	-002	
	1045		48	50	068	066	-002	
1000	48		50	066	064	-002		
1018	49		50	064	063	-001		
/ LINE TIGHT LAST HOUR READING -002								
SUPER UNIDENTIFIED	0920	SET UP TESTER						
	0930	FLARED TESTER FROM LINE						
	0940	RUNNER UP TO 50PSI						
	1000	RESTORED TO 50PSI		50		049		
	1015	↓ ↓ ↓	48	50	049	047	-002	
	1030		48	50	047	044	-003	
	1045		48	50	044	043	-001	
1100	49		50	043	042	-001		
1115	50		50	042	042	000		
/ LINE TIGHT LAST HOUR READING -005								

[Handwritten signature]

JAN 04 '98 14:13

14 METER SERIAL NO. OR TYPE	15 TANK (OPTIONAL)	16 USE OF TANK APPROX. TO TANK	17 PRESSURE		18 VOLUME		19 TEST RESULTS	20 TEST NUMBER	21 CONCLUSIONS, REPAIRS AND COMMENTS
			BEFORE	AFTER	BEFORE	AFTER			
REGULAR	710	SWUMPER							
	720	TIMING TESTER & BLOWER	GEAR						
	715	STARTED UP TO 50PSI							
	800	STARTED TO 50PSI		50		.051			
	815		47	50	.081	.048	.003		
	830		48	50	.048	.045	-.003		
	845		49	50	.045	.044	-.001		
	900		48	50	.044	.042	-.002		
	915	↓ ↓ ↓	49	50	.042	.041	-.001		LINE TIGHT LAST HOUR READING '007

SCALE: 1 PAGE = 8 FT. PER SQUARE - THIS SHEET = 100' x 110' 2 PAGES = 8 FT. PER SQUARE - THIS SHEET = 200' x 220'

17 SKETCH OF LOCATION SHOW NORTH ↑, STREETS, STATION BUILDING, TANKS, ISLANDS, PILING (IF KNOWN, OR BEST INFO), PUMPS OR DISPENSERS (USE NUMBERS ONLY IF PERMANENTLY MARKED).

