BROWN AND CALDWELL
CONSULTING ENGINEERS

June 11, 1987

Mr. Ted Gerow
Alameda County Public Health Service
Division of Environmental Health
Room 322
470 27th Street
Oakland, California 94612

11-39-3310-03/1

Subject: Tank Integrity Testing Results for
Arco Service Stations 608 and 414

Dear Mr. Gerow:

On behalf of Arco Petroleum Products Company (Arco), enclosed are the tank testing results for the underground waste-oil tanks at Arco Service Stations 608 (located at 17601 Hesperian, San Lorenzo, California) and 414 (located at 3000 Shattuck, Berkeley, California). Tank tests indicate both tanks are tight. If you have any questions regarding this submittal, please call me.

Very truly yours,

BROWN AND CALDWELL

Margit Bantowsky

Margit Bantowsky

MB:cl
Enclosures (2)

cc: Ms. Karen Schultheis, Arco Petroleum Products Company,
San Mateo, California
Mr. Hank Sheetz, Arco Petroleum Products Company,
San Mateo, California

LCI LIQUID CONSTRUCTION, INC.



May 18, 1987

Hank Sheets
ARCO Petroleum Company
4895 Woodthrush Dr.
Pleasanton, CA 94560

Re: ARCO #608,17601 Hesperian/Hacienda, San Lorenzo, CA

Dear Hank:

On May 14, 1987, a Petro Tite System Test was performed at the above-referenced location. The test was performed by Larry Carver, LCI Tehnician. The NFPA Code 329.02 criteria for a tight system is a maximum loss of .05 gallons per hour. Because of the almost infinite variables involved, this is not intended to be a mathematical tolerance is not the permission of actual leakage.

During the standpipe test procedure the internal liquid hydrostatic pressure applied to the underground tank system is generally two to three times greater than normal liquid storage pressures. This increase in hydrostatic pressure will amplify the indicated rate of leak accordingly.

System Test

Tank No. 1 - West
Size - 550 gallons
Product - Waste Oil
The test showed a minus .008 gallons per hour. Based on the above criteria, we find the tank tested mathematically tight.

This concludes our test and findings. If you have any questions regarding the results, please contact me. It is your responsibility to notify your local County Health Department, Environmental Health, within thirty (30) days of the results of this test. The notification is required by the California Administrative Code, Title 23 Waters, Chapter 3 Water Resources Contol Board, Sub-chapter 16 Undergound Tank Regulation, Article 4.30.

We have enjoyed working with you on this project. If you need any further information, please feel free to contact our office.

Sincerely,

Larry Carver
Tank Testing Coordinator

LC/meo

# Data Cl rt for Tank System Tight ss Test

**petro TITE**
TANK TESTER

PLEASE PRINT

**1. OWNER** Property ☐ Tank(s) ☐
ARCO, 4895 Woodthrush, Pleasanton, CA 94560 — Name / Address / Representative / Telephone
ARCO, 4895 Woodthrush, Pleasanton, CA 94560 — Name / Address / Representative / Telephone

**2. OPERATOR**
ARCO #608, 17601 HesperianBlvd./Hacienda, San Lorenzo, CA — Name / Address — 415-276-2777 Telephone

**3. REASON FOR TEST** (Explain Fully)
To test system for tightness

**4. WHO REQUESTED TEST AND WHEN**
Hank Sheets — Name / ARCO — Company or Affiliation / Title / Date
ARCO, 4895 Woodthrush, Pleasanton, CA 94560 — Address / Telephone

**5. WHO IS PAYING FOR THIS TEST?**
ARCO — Company, Agency or Individual / Hank Sheets — Person Authorizing / Title / Telephone
ARCO, 4895 Woodthrush, Pleasanton, CA 94560 — Billing Address / City / State / Zip
Hank Sheets — Attention of: / Order No. / Other Instructions

**6. TANK(S) INVOLVED**

| Identify by Direction | Capacity | Brand/Supplier | Grade | Approx. Age | Steel/Fiberglass |
|---|---|---|---|---|---|
| #1 West | 550 | | Unleaded | | Steel |
| | | | | | |
| | | | | | |

**7. INSTALLATION DATA**

| Location | Cover | Fills | Vents | Siphones | Pumps |
|---|---|---|---|---|---|
| West fill Rear of Main | Concrete | 3" | 1½ | NO | No |
| North inside driveway, Rear of station, etc. | Concrete, Black Top, Earth, etc. | Size, Titelli make, Drop tubes, Remote Fills | Size, Manifolded | Which tanks? | Suction, Remote, Make if known |

**8. UNDERGROUND WATER**
Depth to the Water table 12 ft" — Is the water over the tank? ☐ Yes ☒ No

**9. FILL-UP ARRANGEMENTS**
Tanks to be filled ____ hr. ____ Date — Arranged by ____ Name / Telephone
Extra product to "top off" and run TSTT. How and who to provide? Consider NO Lead.
Terminal or other contact for notice or inquiry ____ Company / Name / Telephone

**10. CONTRACTOR, MECHANICS,** any other contractor involved

**11. OTHER INFORMATION OR REMARKS**
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.

**12. TEST RESULTS**
Tests were made on the above tank systems in accordance with test procedures prescribed for petro TITE as detailed on attached test charts with results as follows:

| Tank Identification | Tight | Leakage Indicated | Date Tested |
|---|---|---|---|
| #1 West | Yes | — | 5-14-87 |
| | | | |
| | | | |
| | | | |
| | | | |

**13. CERTIFICATION**
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 329.

5-14-87 — Date
1735 — Serial No. of Thermal
Harvey Carver — Technicians
414810198
LCI — Testing Contractor or Company
Larry Carver — By / Signature
P. O. Box 1220, Tulare, CA 93275 — Address

14. ARCO #608, 17601 Hesperian Blvd./Hacienda, San Lorenzo, CA — 5-14-87

Name of Supplier, Owner or Dealer | Address No. and Street(s) | City | State | Date of Test

petro tite TANK TESTER

**15. TANK TO TEST**

#1 West
Identity by position

Unleaded
Brand and Grade

**16. CAPACITY**

Nominal Capacity 550 Gallons

By most accurate capacity chart available 550 Gallons

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

Is there doubt as to True Capacity? ☐
See Section "DETERMINING TANK CAPACITY"

**17. FILL-UP FOR TEST**

Stick Water Bottom before Fill-up ____" to ⅛ in. ____ Gallons

Fill up. STICK BEFORE AND AFTER EACH COMPARTMENT DROP OR EACH METERED DELIVERY QUANTITY

Tank Diameter 1/6

| | Stick Readings to ⅛ in. | Gallons | Total Gallons ea. Reading |
|---|---|---|---|
| Inventory | | | 5150 |
| | | | |
| | | | 410 |
| Product in full tank (up to fill pipe) | | | 560 |

**18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK** Tank Tested with Unleaded

See manual sections applicable. Check below and record procedure in log (26).

☐ Water in tank ☐ High water table in tank excavation ☐ Line(s) being tested with LVLLT

VAPOR RECOVERY SYSTEM
- ☐ Stage I
- ☐ Stage II

**19. TANK MEASUREMENTS FOR TSTT ASSEMBLY**

| | |
|---|---|
| Bottom of tank to Grade* | 91" |
| Add 30" for 4" L | " |
| Add 24" for 3" L or air seal | " |
| Total tubing to assemble Approximate | 122" |

**20. EXTENSION HOSE SETTING**

| | |
|---|---|
| Tank top to grade* | 15" |
| Extend hose on suction tube 6" or more below tank top | 6" |

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

**21. TEMPERATURE/VOLUME FACTOR (a) TO TEST THIS TANK**

Is Today Warmer? [ ] Colder? [ ] ____° F Product in Tank ____° F Fill-up Product on Truck ____° F Expected Change ( + or − )

22. Thermal-Sensor reading after circulation 20277 digits — 84/85 Nearest °F

23. Digits per °F in range of expected change 306 digits

24. .560 (total quantity in full tank (16 or 17)) × .00016408 (coefficient of expansion for involved product) = .0918848 gallons (volume change in this tank per °F)

25. .0918848 (volume change per °F (24)) ÷ 306 (Digits per °F in test Range (23)) = .00030007 (Volume change per digit. Compute to 4 decimal places.) This is test factor (a)

.0003

OBSERVED GRAVITY 84.1

OBSERVED TEMPERATURES 84/85

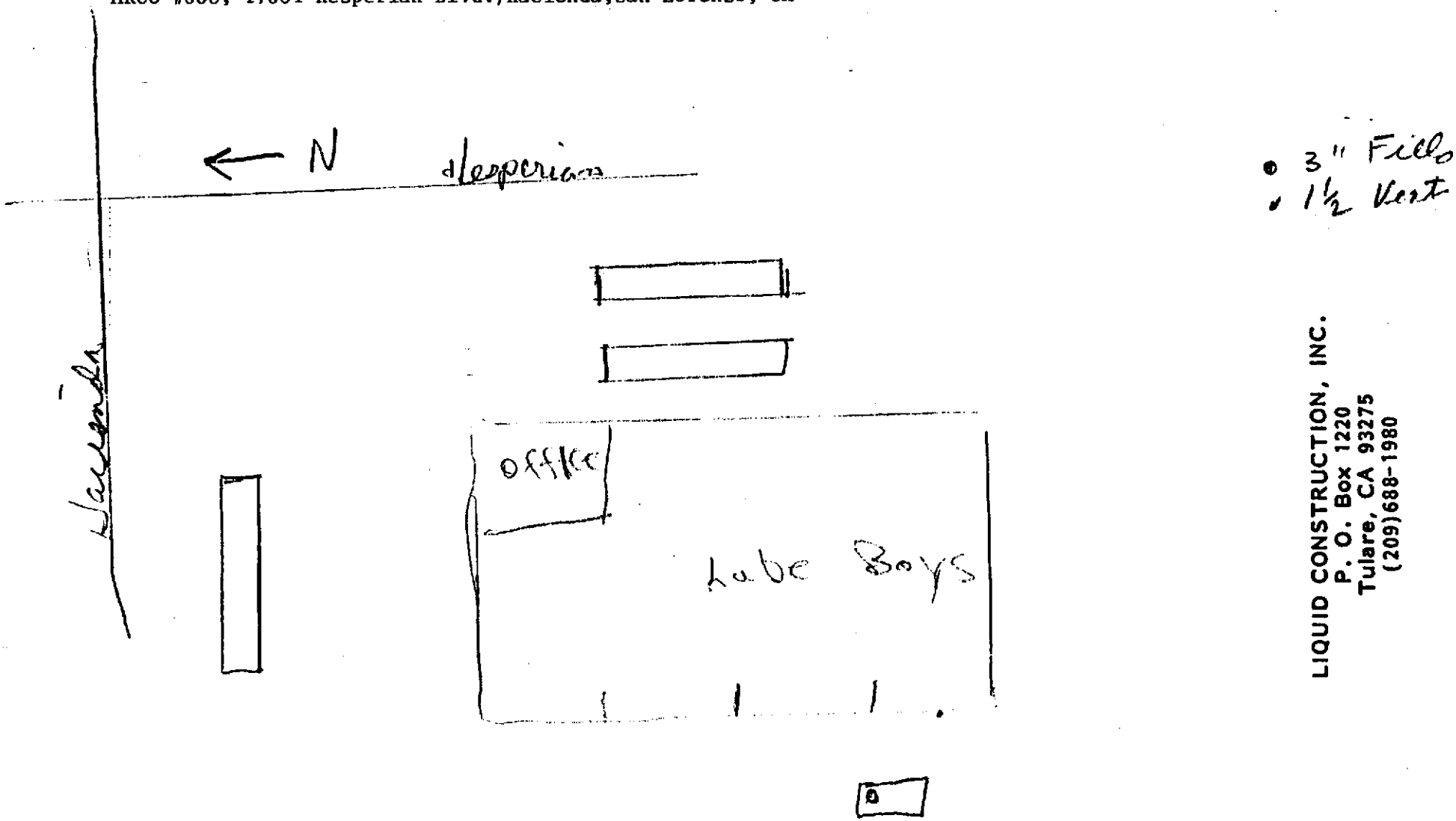
CORRECTED API GRAVITY ____

C. O. E. .00016408

| 26. LOG OF TEST PROCEDURES | | | 30. HYDROSTATIC PRESSURE CONTROL | | 31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL. | | | 34. TEMPERATURE COMPENSATION USE FACTOR (a) | | | CHANGES EACH READING | ACCUMULATED CHANGE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27. DATE / TIME (24 hr.) | 28. Record details of setting up and running test. (Use full length of line if needed.) | 29. Reading No. | Standpipe Level in Inches: Beginning of Reading | Standpipe Level in Inches: Level to which Restored | 32. Product in Graduate: Before Reading | 32. Product in Graduate: After Reading | Product Replaced (−) / Product Recovered (+) | 35. Thermal Sensor Reading | 36. Change Higher + Lower − (c) | 37. Computation (c) × (a) = Expansion + Contraction − | Temperature Adjustment / Volume Minus Expansion (+) or Contraction (−) #33(V) − #37(T) | At High Level record Total End Deflection / At Low Level compute Change per Hour (NFPA criteria) |
| 1130 | ARRIVED AT SITE: TOOK TANK BURIAL MEASUREMENTS: | | | | CHECKED FOR WATER: | | | PLEASE | NOTE: | IN THE EVENT AIR/VAPOR | | |
| | TOOK INVENTORY OF PRODUCT ON HAND: PREPARED AREA | | | | FOR SETTING UP TESTERS. | | | POCKETS WERE | | PRESENT IN THE TANK/SYSTEM | | |
| | | | | | | | | IT COULD HAVE AN EFFECT ON THE TEST READINGS | | | | |
| — | DELIVERY TRUCK ARRIVED: ASSISTED DRIVER IN FILLING TANK, SET UP TEST | | | | | | | | | | | |
| 1315 | STAND AND STARTED CIRCULATING PUMP, BLED AIR. | | | | | | | | | | | |
| | | | | | | | | Factor 0.0003 | | | | |
| 1345 | FIRST SENSOR READING | | | 42 | | .205 | | 20277 | 84/85 | 306 | | |
| 1400 | START SENSOR READING | 1. | 41.7 | " | .205 | .185 | −.020 | 265 | −12 | −.004 | −.016 | |
| 1415 | CONT'D HIGH LEVEL TEST | 2. | 41.8 | " | .185 | .170 | −.015 | 251 | −14 | −.004 | −.011 | |
| 1430 | " " " | 3. | 41.8 | " | .170 | .155 | −.015 | 239 | −12 | −.004 | −.011 | |
| 1445 | " " " | 4. | 41.9 | " | .155 | .140 | −.015 | 227 | −12 | −.004 | −.011 | |
| 1447 | Drop to Low Sensor | 5. | | " | | | | | | | | |
| 1500 | Cont'd " " | 6. | 12.6 | " | .140 | .165 | +.025 | 219 | −8 | −.002 | +.027 | |
| 1515 | " " " | 7. | 12.0 | " | .165 | .165 | +.000 | 212 | −7 | −.002 | −.002 | |
| 1530 | " " " | 8. | 11.9 | " | .165 | .160 | −.005 | 204 | −8 | −.002 | −.003 | |
| 1545 | " " " | 9 | 11.9 | " | .160 | .155 | −.005 | 198 | −6 | −.002 | −.003 | −.005 |
| 1600 | | | 12.0 | " | .155 | .155 | +.000 | 198 | +0 | +.000 | +.000 | |
| | TEST CONCLUDED. Dayton FOUND TO BE TIGHT OR NOT TIGHT ON THIS DAY. | | | | | | | 5-14-87 | | | | |
| | AT A 1.0" LEVEL READING OF .005 GALLONS PER HOUR. | | | | | | | | | | | |

ARCO Petroleum Products, 4895 Woodthrush, Pleasanton, CA 94560 87-5054

ARCO #608, 17601 Hesperian Blvd./Hacienda, San Lorenzo, CA




• 3" Fills
• 1½ Vent

LIQUID CONSTRUCTION, INC.
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Tulare, CA 93275
(209)688-1980