

DHC

6/26/96

1277



Arch Petroleum Inc.

June 4, 1996

Mr. William J. LeMay, Director
State of New Mexico
Energy, Minerals & Natural Resources Dept.
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Re: S. J. Carr #5
Unit N, Section 10, T-23S, R37E,
Lea County, New Mexico

Gentlemen:

Your administrative approval is requested for an exception to Rule 303-C to permit down-hole commingling of the Fowler Upper Yeso and Fowler Abo production in the subject well.

Please find enclosed all pertinent data regarding this application as outlined in Rule No. 303-C.

Sincerely,

Bobbie Brooks
Production Analyst

Enclosures

cc: New Mexico Oil Conservation Division
P. O. Box 1980
Hobbs NM 88240

Offset operators

ARCH PETROLEUM INC.

S. J. CARR #5

Approval is requested for an exception to Rule 303-3-C to permit down-hole commingling of the Flower Upper Yeso and Fowler Abo production in the subject well.

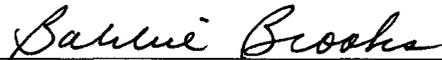
The C. J. Carr #5 has permission to surface commingle the production under order PC-933.

The Fowler Upper Yeso is currently shut-in and the Fowler Abo is producing.

The fluids show no evidence of incompatibility; therefore, down-hole commingling is not expected to result in reservoir damage. Ownership in the two pools is common and correlative rights will not be violated.

Should secondary recovery operations become practical in the future, the two zones could be separated at such time without damaging either reservoir.

Offset operators were notified of the intent to down-hole commingle the subject well by letter dated June 4, 1996.



Bobbie Brooks - Production Analyst

EXHIBIT I

OXY USA INC.
P. O. BOX 50250
MIDLAND TX 79710

CONOCO INC.
P. O. BOX 2197
HOUSTON TX 77079-1175

AMOCO PRODUCTION CO.
P. O. BOX 4072
ODESSA TX 79760

RALPH C. BRUTON
3500 ACOMA
HOBBS NM 88240



Arch Petroleum Inc.

June 4, 1996

CERTIFIED MAIL

Re: DHC - S. J. Carr #5
Unit N. Section 10, T23S, R37E
Lea County, New Mexico

To: All offset operators

We are enclosing a copy of our application to downhole commingle the Fowler Upper Yeso and Fowler Abo zones in the above well.

Any questions, you might have, please contact me at 915-685-1961.

Sincerely,

A handwritten signature in cursive script that reads "Bobbie Brooks".

Bobbie Brooks
Production Analyst

Enclosure

District I
 PO Box 1980, Hobbs, NM 88241-1980
 District II
 PO Drawer DD, Artesia, NM 88211-0719
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
 PO Box 2088
 Santa Fe, NM 87504-2088

Form C-102
 Revised February 10, 1994
 Instructions on back
 Submit to Appropriate District Office
 State Lease - 4 Copies
 Fee Lease - 3 Copies

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT WIDOCAT G-03 5243710N ABO

| | | | | | | | |
|------------------------------|--|--|--|---|--|--|--|
| 1 API Number 30-025-11084 | | 2 Pool Code 26680 | | 3 Pool Name Fowler Upper Yeso/Fowler Abo | | 4 Well Number 9655 96574 | |
| 4 Property Code 014925 | | 5 Property Name S. J. Carr | | | | 6 Well Number 5 | |
| 7 OGRID No. 000962 | | 8 Operator Name ARCH PETROLEUM INC. | | | | 9 Elevation 3252' GL | |

10 Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| N | 10 | 24S | 37E | | 555 | South | 2085 | West | Lea |

11 Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| | | | | | | | | | |

| | | | |
|--------------------------|--------------------|-----------------------|--------------|
| 12 Dedicated Acres 40 | 13 Joint or Infill | 14 Consolidation Code | 15 Order No. |
|--------------------------|--------------------|-----------------------|--------------|

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

| | | | |
|----|---|--|--|
| 16 | 17 OPERATOR CERTIFICATION | | |
| | <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Bobbie Brooks</i> Signature Bobbie Brooks Printed Name Production Analyst Title 6-4-96 Date</p> | | |
| | 18 SURVEYOR CERTIFICATION | | |
| | <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date of Survey Signature and Seal of Professional Surveyor: Certificate Number</p> | | |

Southeast LEA COUNTY, NEW MEXICO

SCALE: 1" = 4,000 Ft.

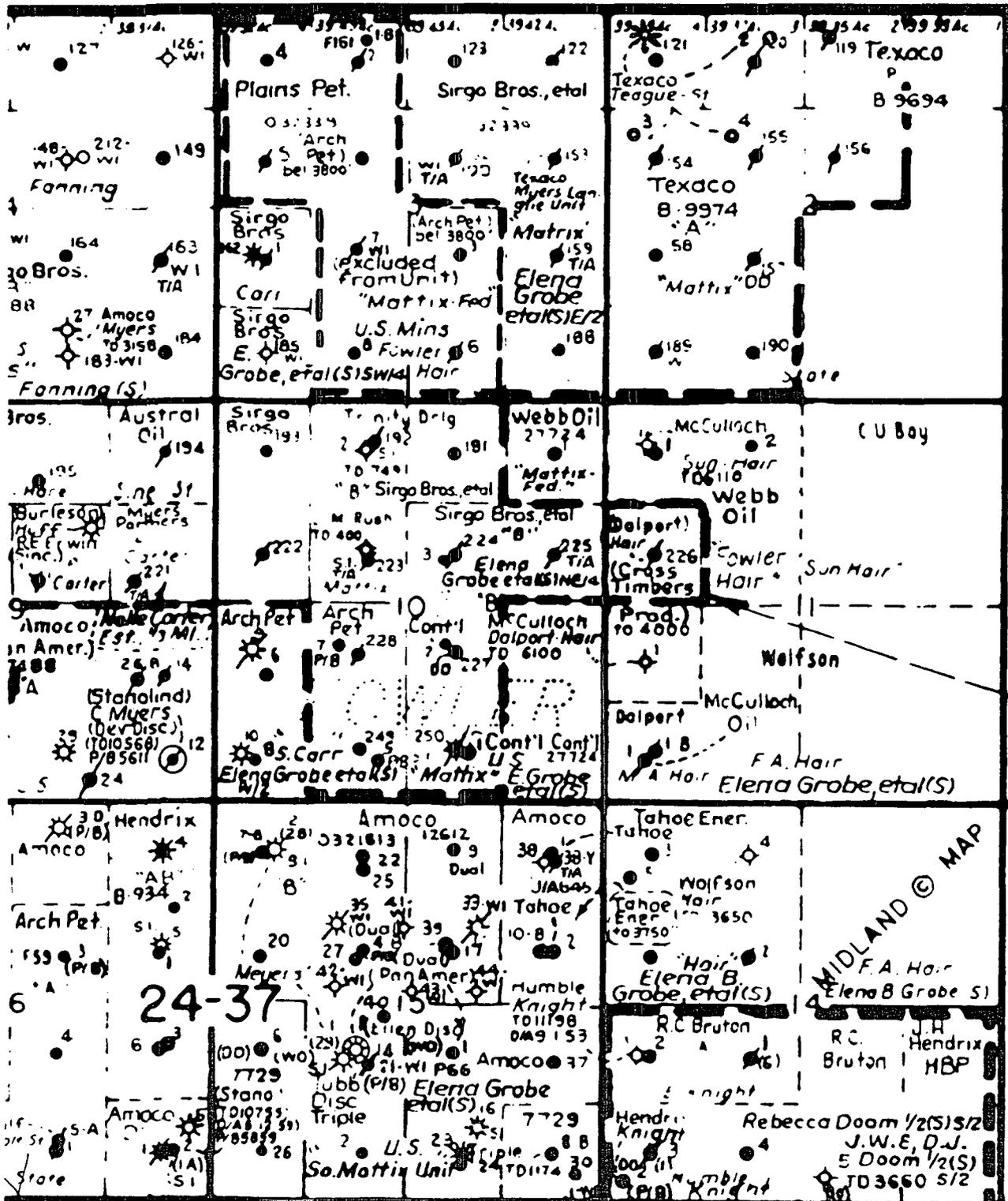


EXHIBIT 3

Lease and Fee Information

Posted to 3-23-96

Oil Conservation Commission Well Information

Posted to APR 22 1996

Date Sold APR 22 1996

PROPOSED COMPLETION

| | | | | | |
|----------|-------------------|---------|------------|------------------|------------|
| Lease | <u>S. J. CARR</u> | | Well No. | <u>5</u> | |
| Location | <u>555' FSL</u> | | and | <u>2085' FWL</u> | |
| Unit | <u>N</u> | Section | <u>10</u> | Township | <u>24S</u> |
| Range | <u>37E</u> | County | <u>LEA</u> | State | <u>NM</u> |

| | |
|-----------|-----------------|
| GE | <u>3252'</u> |
| KDB to GE | <u>11'</u> |
| DF to GE | <u> </u> |

| | | | |
|--------------------|--------------------|--------------|----------------|
| Completion date | <u>03/26/53</u> | | |
| Initial Formation | <u>ELLENBURGER</u> | | |
| From | <u>10,350'</u> | to | <u>10,450'</u> |
| | <u>BOPD</u> | <u>MCFPD</u> | <u>BWPD</u> |
| Initial Production | <u>640</u> | <u>464</u> | <u>0</u> |

| | |
|--------------------|---------------|
| Surface csg | |
| 13-3/8" | " OD Surface |
| Set @ | <u>314</u> ft |
| Cmt with | <u>350</u> sx |
| Cmt circulated | <u>yes</u> |

Completion Data:

Perf 10,450-10,370 & 10,350-10,300 w/ 4-.5" JHPF. Completed natural, displaced hole w/ 402 BO. Swabbed 49 BO, well kicked off flowing on 3/4" ck, 150# TP.

| | |
|-------------------------|---------------------|
| Intermediate csg | |
| 9-5/8" | " OD Surface |
| Set @ | <u>3799</u> ft |
| Cmt with | <u>3390</u> sx |
| Cmt circulated | <u>no-TOC@1210'</u> |

Subsequent Workovers or Reconditionings:

May-58) Set CIBP @ 10,358', dmp 2 sx cmt on top. Perf 10,270-300' w/ 4-.5" JHPF. Acdz w/2000 gal 15% acid. D/O cmt & BP @ 10,358', C/O to 10,476'. Install PE.

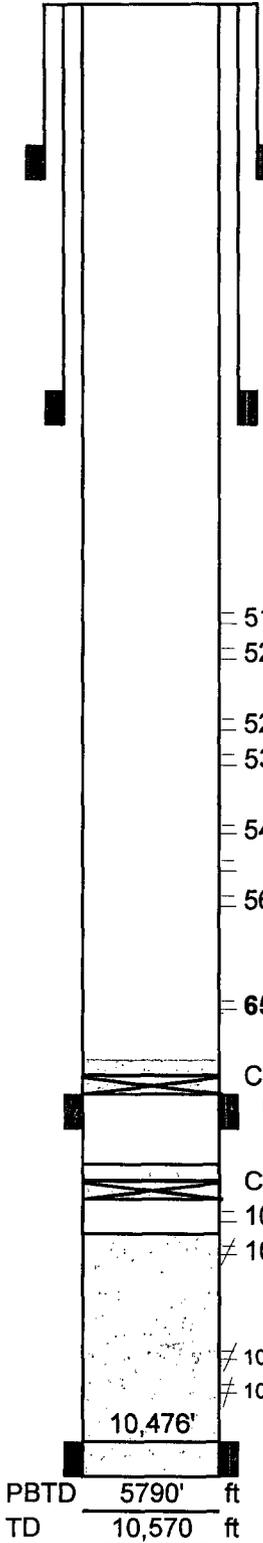
Aug-63) Acdz dn tbg w/ 1000 gal 15% NEA.

Jan-65) Set CIBP @ 10,232'. Sqz w/100 sx reg neat cmt. Max TP 2000#. D/O w/bit&csg scraper. D/O CIBP & cmt to 10,292'. Perf 10,280-92' w/2-.5" JHPF. Spot 1000 gal 15% NEA & brk dn perfs. Run rods&tbg. RTP.

Jan-67) P&A Ellen. Recomp in Bline. Set CIBP @ 10,250', dmp 2 sx cmt. Set CIBP on wireline @ 5800', dmp 2 sx cmt. Perf w/4-.5" JHPF 5647-49, 5596-98, 5559-61, 5529-31, 5503-05, 5468-70, 5439-41 (56 holes). Start to frac. Ball out on 1st stg. GIH w/RBP&pk, straddle each perf & acdz w/1750 gal 15% acid. Frac dn csg w/27000 gal gel BW, 42000# 10-20 sd, 36 RCNB's in 3 stgs. TP 1900-2300#, AIR 37 BPM, ISIP 2300#, 15 min SIP 800#. RTP in Bline. 46 BO, 4 BW, 79 MCFPD.

Jul-71) GIH&>tag fill @ 5720'. Set RBP @ 5388', dmp 2 sx sd on top. Spot 750 gal 15% NEA. Perf 5270-72, 5318-20, 5338-40, 5366-68 w/4-.5" JHPF (32 holes). Frac dn 3.5" tbg in 4 stgs of 6000 gal gel BW, 1.5#/gal 20-40 sd each. Drop 8 RCNB's & 750 gal 15% NEA between each stg. TP 2700-3600#, AIR 23 BPM, ISIP 1100#, 10 min SIP 900#. Good ball action. Rtrv RBP & POH. RTP 70 BO/103 BW.

Oct-78) Acdz perfs w/5000 gal 15% NEA&130 RCNB's. Perf 5185-87, 5209-11, 5226-28 w/2-.5" JHPF (12 holes). Isolate & frac new perfs w/26000 gal gel BW, 36000# 20-40 sd. TP 3400-4400#, AIR 16 BPM, ISIP 1200#, 15 min SIP 850#. POH w/ RBP & c/o to 5790'. RTP 20BO/75BW.



5185' U. Yeso perfs (12 holes)
5228'
5270' U. Yeso perfs (32 holes)
5368'
5439'
5649' U. Yeso perfs (56 holes)
6544-6574' New Abo Perfs
CIBP@6700' w/2 sx cmt @ 6690'
DV Tool @ 7509'
CIBP@10,250', TOC@10,240'
10,280-10,292' (TOC @ 10,292')
10,350'
10,370'
10,450'
10,476'

| | |
|-----------------------|------------------|
| Production csg | |
| 7" | " OD |
| 23,26,29 | # |
| Grade | <u>N-80</u> |
| Set @ | <u>10569'</u> ft |
| Cmt with | <u>845</u> sx |
| TOC by TS | <u>4877'</u> ft |

PBTD 5790' ft
TD 10,570 ft

EXHIBIT 5

ARCH PETROLEUM INC.
DHC S. J. CARR #5
UPPER YESO & ABO
WELL HISTORY

3/53 The well was drilled to a total depth of 10,570'. 13-3/8" casing was set @ 314' and cement was circulated to surface. 9-5/8" intermediate casing was set @ 3,799' and cemented. Cement was not circulated. Top of cement is at 1210' as determined by temperature survey. 7" inch production casing was set @ 10,569' and cemented in two stages. Top of cement is 4877' determined by temperature survey. Cement was cleaned out to 10,476' PBTD.

3/53 Initial completion. The well was perforated in the Ellenburger from 10450'-10,370' and 10,350'-10,300' with 4- 0.5" JHPF. The well was completed without treatment. Initial production began 3/26/53

5/58 Added Pay in Ellenburger. Set a CIBP @ 10,358' & dumped 2 sx cmt on top. Perforated f/10,270'-10,300' w/4- 0.5" JHPF. Acidized w/2,000 gal acid. Swabbed back load. Drilled out cement & CIBP. Cleaned out to 10,476' PBTD. Installed pumping equipment & returned well to production on 5/13/58.

3/60 Squeeze lower perms & acidize. Squeeze perms f/10,450'-10,370' and 10,350'-10,300' w/100 sacks . Acidized perms f/10,270'-10,300' w/1,000 gal acid. Returned well to production on 3/18/60.

8/63 Acidize existing perms f/10,270'-10,300' w/1,000 gallons 15% NE acid. Return to production on 8/16/63.

2/65 Squeeze perms & re perforate. Set CICR @ 10,232'. Squeeze perms f/10,270'-10,300' w/100 sacks cement. Maximum tubing pressure was 2,000#. Drill out CICR & cement to 10,292'. Perforate 10,280'-10,292' w/2- 0.5" JHPF. Acidize w/1,000 gal 15% NE acid. Return to production on 2/1/65.

1/67 Plug & abandon Ellenberger and complete in Upper Yeso. Set CIBP @ 10,250'. Dump 2 sacks cement on top. Set CIBP @ 5800' & dump 2 sacks cement on top. New PBTD= 5790'. Perforate f/5647'-49', 5596'-95', 5559'-61', 5529'-31', 5503'-05', 5468'-70', and 5439', 41' w/4- 0.5" JHPF total 56 holes. Break down perms individually using total 1,750 gals 15% HCL. Frac dn csg w/27,000 gals gelled brine water & 42,000# 10-20 mesh sand. Began initial production from the Upper Yeso formation on 1/23/67.

7/71 Add perms in Upper Yeso. Set RBP @ 5388' and dump 2 sx sand on top. Spot 750 gallons 15% NE acid. Perf f/5270'-72', 5318'-20', 5338'-40', 5366'-68', w/4- 0.5" JHPF total 32 holes. Frac down 3-1/2" tubing w/6,000 gallons gelled brine water & 9,000# 20-40 mesh sand. Flowed & swabbed back load. Retrieved RBP and returned to production on 7/16/71.

10/78 Add perms in Upper Yeso and Acidize. Acidize perms w/5,000 gallons 15% NE acid blocked w/130 RCN ball sealers. Perf f/5185'-87', 5209'-11', 5226'-28' w/2- 0.5" JHPF total 12 holes. Isolate & frac new perms w/26,000 gal gelled brine water & 36,000# 20-40 mesh sand. Retrieved RBP and return to production.

3/96 Clean out & recomplate in Abo. POH w/rods & tbq. Drill out fill, BP's, & junk to 7172'. Set CIBP @ 6700'. Dump 2 sx cmt on top. PBTD=6690'. Perforate f/6544'-6574' w/1- 0.45" JHPF(total 30 holes). RIH w/2-3/8" SN, 7" Baker Lokset, on/off tool w/seal assembly, & 205 jts 2-7/8" tbq. (Pkr set @ 6359). ' Acidize w/2,000 gal 15% HCL using 45 RCNB ball sealers. Had good ball action. Pbkdn=2070#, AIR=2.5 bpm, Pavg=1830#. Swab back load. RIH w/1"X 10' GA, 2X 1-1/2"X 16' pump, 2'X 3/4" sub, 184- 3/4", 71- 7/8", 10'X 7/8", 2'X 7/8", 2'X 7/8", & PR. Production test Abo formation. Started pumping well on 4-1-96.

EXHIBIT 6

ARCH PETROLEUM INC.

DHC - S. J. CARR #5

FOWLER UPPER YESO AND FOWLER ABO

RULE 303 (C) (2)

- A. Operator: Arch Petroleum Inc., 10 Desta Drive, Suite 420E, Midland, Texas 79705.
- B. Lease, Well and Location: S. J. Carr #5, Unit N, 555' FSL, 2085' FWL, Section 10-T24S-R37E, Lea County, New Mexico.
- C. Plats showing dedicated acreage and offset ownership - Exhibit 2 and 3.
- D. Production Decline: The Fowler Upper Yeso is expected to decline 6% per year after an IP of 30 MCFPD while the oil will decline 6% per year after an IP of 5 BOPD. The Fowler Abo gas is expected to decline 10% per year after an IP of 10 MCFPD while the oil will decline 10% per year after an IP of 5 BOPD.
- E. Bottom Hole Pressure: Fowler Upper Yeso BHP at 5400' is estimated to be 150 psi. Fowler Abo BHP at 6500' is estimated to be 200 psi.
- F. Fluid Characteristics: The Fowler Upper Yeso and Fowler Abo are currently commingled in surface facilities located on the S. J. Carr lease per commingling Order PC-933 dated April, 1996. To date, there has been no evidence of fluid incompatibility.
- G. Value of Commingled Fluids: Fowler Upper Yeso and Fowler Abo oil production is currently being commingled in surface storage facilities on the subject lease from wells numbered 5, 6, 7 and 8. Down-hole commingling will not effect the price. Exhibit 8 shows the relative value of commingled and non commingled liquids produced on the lease.
- H. The suggested allocation of produced hydrocarbons is based on the percentages of oil and gas produced on the latest C-116.

| | Fowler Upper Yeso | Fowler Abo |
|-------|-------------------|------------|
| Oil - | 71 % | 29 % |
| Gas - | 87 % | 13 % |

- I. State of Notification - Exhibit 1.

Submit 2 copies to Appropriate District Office.
 DISTRICT I
 P.O. Box 1980, Hobbs, NM 88240
 DISTRICT II
 P.O. Drawer DD, Artesia, NM 88210
 DISTRICT III
 1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
 Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
 P.O. Box 2088
 Santa Fe, New Mexico 87504-2088

Form C-116
 Revised 1/1/89

GAS - OIL RATIO TEST

| Operator ARCH PETROLEUM INC. | | Pool FOWLER ABO | | County LEA | | | | | | | | | | | | |
|---|----------|--------------------|----|---|-----|--------------|--------------|------------|-------------|------------------|----------------------|-------------------|-----------|-----------|----------------------------|------------|
| Address 10 DESTA DRIVE, STE. 420E, MIDLAND, TX 79705 | | | | TYPE OF TEST - (X) <input type="checkbox"/> Scheduled <input type="checkbox"/> Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/> | | | | | | | | | | | | |
| LEASE NAME | WELL NO. | LOCATION | | | | DATE OF TEST | SIZE OF TEST | CHOKE SIZE | TBG. PRESS. | DAILY ALLOW-ABLE | LENGTH OF TEST HOURS | PROD. DURING TEST | | | GAS - OIL RATIO CU.FT/8BL. | |
| | | U | S | T | R | | | | | | | WATER BBL.S. | GRAV. OIL | OL BBL.S. | | GAS M.C.F. |
| S. J. CARR | 5 | N | 10 | 24S | 37E | 5-4-96 | P | 110 | | | 24 | 5 | 36.8 | 2 | 5 | 2500 |

Instructions:

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

(See Rule 301, Rule 1116 & appropriate pool rules.)

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Signature

BOBBIE BROOKS PRODUCTION ANALYST

Printed name and title

6-4-96 915-685-1961

Date

Telephone No.

Submit 2 copies to Appropriate District Office.
 DISTRICT I
 P.O. Box 1980, Hobbs, NM 88240
 DISTRICT II
 P.O. Drawer DD, Artesia, NM 88210
 DISTRICT III
 1000 Rio Brazos Rd., Aztec, NM 87410

EXHIBIT 7
 State of New Mexico
 Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
 P.O. Box 2088
 Santa Fe, New Mexico 87504-2088

Form C-116
 Revised 1/1/89

GAS - OIL RATIO TEST

| Operator ARCH PETROLEUM INC. | | Pool FOWLER UPPER YESO | | County LEA | | | | | | | | | | | |
|---|----------|---|----|---|--------------|--------|------------|-------------|-----------------|----------------------|-------------------|--------------|-----------|-----------------------------|------------|
| Address 10 DESIA DRIVE, STE. 420E, MIDLAND, TX 70705 | | TYPE OF TEST - (X) <input type="checkbox"/> Scheduled <input type="checkbox"/> Daily Allowable | | Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/> | | | | | | | | | | | |
| LEASE NAME | WELL NO. | LOCATION | | | DATE OF TEST | STATUS | CHOKE SIZE | TBG. PRESS. | DAILY ALLOWABLE | LENGTH OF TEST HOURS | PROD. DURING TEST | | | GAS - OIL RATIO CU. FT/8BL. | |
| | | U | S | T | | | | | | | R | WATER BBL.S. | GRAV. OIL | | OIL BBL.S. |
| S. J. CARR | 5 | N | 10 | 24S | 37E | 2-9-96 | P | 35 | | 24 | 30 | 36.5 | 5 | 33 | 4333 |

Instructions:

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

(See Rule 301, Rule 1116 & appropriate pool rules.)

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Signature
BOBBIE BROOKS PRODUCTION ANALYST
 Printed name and title
 Date 6-4-96 Telephone No. 915-685-1961

EXHIBIT 8

CARR, S. J. LEASE TANK BATTERY
 Section 10, T-24-S, R-3-E
 Lea County, New Mexico

| WELLS AND POOL | PRODUCTION | | | AVG. BOPD |
|----------------------|------------------|------------------|---------------|---------------|
| | <u>JAN. 1996</u> | <u>FEB. 1996</u> | <u>TOTAL</u> | |
| Fowler Upper Yeso | | | | |
| Carr #5 | 147 | 153 | 300 | 5.00 |
| Carr #6 | 122 | 274 | 396 | 6.60 |
| Carr #7 | 111 | 60 | 171 | 2.85 |
| Carr #8 | 147 | 122 | 269 | 4.48 |
| Wildcat (Fowler) Abo | | | | |
| Carr #5 | | | | 8.00 |
| | <u>BOPD</u> | <u>GRAVITY</u> | <u>\$/BBL</u> | <u>\$/DAY</u> |
| Fowler Upper Yeso | 4.73 | 36.5 | \$19.709 | \$ 93.22 |
| Wildcat(Fowler) Abo | 8.00 | 36.8 | \$19.709 | \$157.67 |
| Total | | | | \$250.89 |
| Commingled | 12.73 | 36.7 | \$19.709 | \$250.89 |
| | | | Difference | \$.00 |