**Ernie Busch**

**From:** Ernie Busch
**To:** Ben Stone
**Subject:** AMOCO CASE B#4A(DHC)
**Date:** Thursday, March 21, 1996 1:45PM
**Priority:** High

H-18-31N-11W
RECOMMEND: APPROVAL

FORM C-115- OPERATORS MONTHLY REPORT (CONTINUATION)

OPERATOR: LOUIS DREYFUS NATURAL GAS CORP | OGRID: 025773 | MONTH/YEAR 08/95 | PAGE 26 OF 26

| 7 POOL NO. AND NAME / PROPERTY NO. AND NAME / WELL NO. AND U-L-S-T-R / API NUMBER | INJECTION | | | PRODUCTION | | | | DISPOSITION OF OIL, GAS, AND WATER | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 COD E 1 | 9 VOLUME | 10 PRESSURE | 11 COD E 2 | 12 BBLS OF OIL/COND-ENSATE PRODUCED | 13 BBLS OF WATER PRODUCED | 14 GAS PRODUCED (MCF) | 15 DAYS PRODUCED | 16 COD E 3 | 17 POINT OF DISPOSI-TION | 18 GAS BTU OR OIL API GRAV | 19 OIL ON HAND AT BEGINNING OF MONTH | 20 VOLUME (BBLS/MCF) | 21 TRANS-PORTER OGRID | 22 COD E 4 | 23 OIL ON HAND AT END OF MONTH |
| 016396 SHEEP DRAW FEDERAL COM | | | | | | | | | | | | | | | | |
| 001 B-33-22S-26E | | | | | | | | | | | | | | | | |
| 30-015-26847 | F | | | | 0 | 0 | 1621 | 31 | | | | | | | | |
| | | | | | | | | | G | 2805516 | 1047 | | 1569 | 025773 | | |
| | | | | | | | | | G | | | | 52 | | U | |
| 96100 SWD; DELAWARE | | | | | | | | | | | | | | | | |
| 015284 BIG EDDY 117 | | | | | | | | | | | | | | | | |
| 117 M-25-22S-28E | | | | | | | | | | | | | | | | |
| 30-015-27261 | D | 19149 | 0 | W | | | | | | | | | | | | |
| 96171 CARLSBAD, WOLFCAMP S.E. | | | | | | | | | | | | | | | | |
| 016395 RAM EWE FEDERAL COM | | | | | | | | | | | | | | | | |
| 001 J-33-22S-26E | | | | | | | | | | | | | | | | |
| 30-015-27032 | F | | | | 0 | 0 | 6089 | 31 | | | | | | | | |
| | | | | | | | | | G | 2805513 | 1047 | | 5894 | 025773 | | |
| | | | | | | | | | G | | | | 195 | | U | |

Southern
Rockies
Business
Unit

March 4, 1996



Mr. William J. LeMay, Director
New Mexico Oil Conservation Division
2040 S. Pacheco Street
P. O. Box 6429
Santa Fe, NM 87505

**Application for Exception to Rule 303-C**
**Downhole Commingling**
**Case B #4A Well**
**1450' FNL & 1175' FEL, Unit H Section 18-T31N-R11W**
**Blanco Pictured Cliffs (Pool IDN 72359) and Blanco Mesaverde (Pool IDN 72319) Pools**
**San Juan County, New Mexico**

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Pictured Cliffs and Blanco Mesaverde Pools in the Case B #4A well referenced above. The Case B #4A is currently a dual completion in the Pictured Cliffs and Mesaverde formations. We plan to complete the well with both the Pictured Cliffs and Mesaverde formations being downhole commingled in the wellbore. This well will benefit from downhole commingling because of the reduced costs of operation offered by commingling. The two zones are expected to produce at a total commingled rate of about 204 MCFD with less than 1 BCPD. The ownership (WI, RI,ORI) of these pools is common in this wellbore. Downhole commingling will offer an economical method of production while protecting against reservoir damage, waste of reserves and violation of correlative rights. Offset operators to this well will receive a copy of this application by certified mail.

The allocation method that we plan to use for this commingled well is as follows. Both formations have been producing at stabilized rates for some time. We recommend that the Mesaverde and Pictured Cliffs formations gas and condensate be allocated based on current rates. The Mesaverde is currently producing at 170 MCFD with 0.83 BCPD while the Pictured Cliffs is currently producing 34 MCFD with no condensate. The recommended allocation percentages after downhole commingling would be set as a percentage of the total rate with the Mesaverde attributing 83% of gas production and 100% of condensate production. The Pictured Cliffs would be allocated at 16% of gas production and no condensate production. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

Attached to aid in your review are plats showing the location of the well and offset wells in the same formation, a historical and recent production plot and a C-102 for each formation. This spacing unit

is located on a federal lease (SF-078095) and we will send a copy of the application to the BLM as their notice. Should you have questions concerning this matter, please contact me at (303) 830-5344.

Sincerely,

Pamela W. Staley

Enclosures

cc: Khanh Vu
Gail Jefferson

Frank Chavez, Supervisor
NMOCD District III
1000 Rio Brazos Road
Aztec, NM 87410

Duane Spencer
Bureau of Land Management
1235 La Plata Hwy.
Farmington, NM 87401

**Application for Exception to Rule 303: SEGREGATION OF PRODUCTION FROM POOLS**

Requirements

(1) Name and address of the operator:

Amoco Production Company
P.O. Box 800
Denver, CO 80201

(2) Lease name, well number, well location, name of the pools to be commingled:

| | |
|---|---|
| Lease Name: | Case B |
| Well Number: | 4A |
| Well Location: | 1450' FNL & 1175' FEL<br>Unit H Section 18-T31N-R11W<br>San Juan County, New Mexico |
| Pools Commingled: | Blanco Mesaverde Pool<br>Blanco Pictured Cliffs Pool |

(3) A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

Attached

(4) A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas and water produced from each zone.

The Blanco Mesaverde produced an average stabilized rate of 170 MCFD and 0.82 BCPD. The Blanco Pictured Cliffs zone produced at an average rate of about 34 MCFD and no condensate.

(5) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes.

| | |
|---|---|
| Blanco Mesaverde Completion: | Historical production curve attached. |
| Blanco Pictured Cliffs Completion: | Historical production curve attached. |

(6) Estimated bottomhole pressure for each zone. A current (within 30 days) measured bottom hole pressure for each zone capable of flowing.

Bottomhole pressures were estimated from 72 hour shut-in pressures during a packer leakage test for the well. Estimated bottomhole pressure in the Pictured Cliffs formation is 512 PSI while the estimated bottomhole pressure in the Mesaverde is 667 PSI. See attached calculations.

(7) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the wellbore.

The two formations do not produce any measurable amount of fluids and therefore are not expected to any effect that would prohibit commingling, or promote the creation of emulsions or scale .

(8) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams:

Since the BTU content of the produced gasses are very similar, we would expect the commingled production to have a similar value as the sum of the individual streams.

(9) A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula:

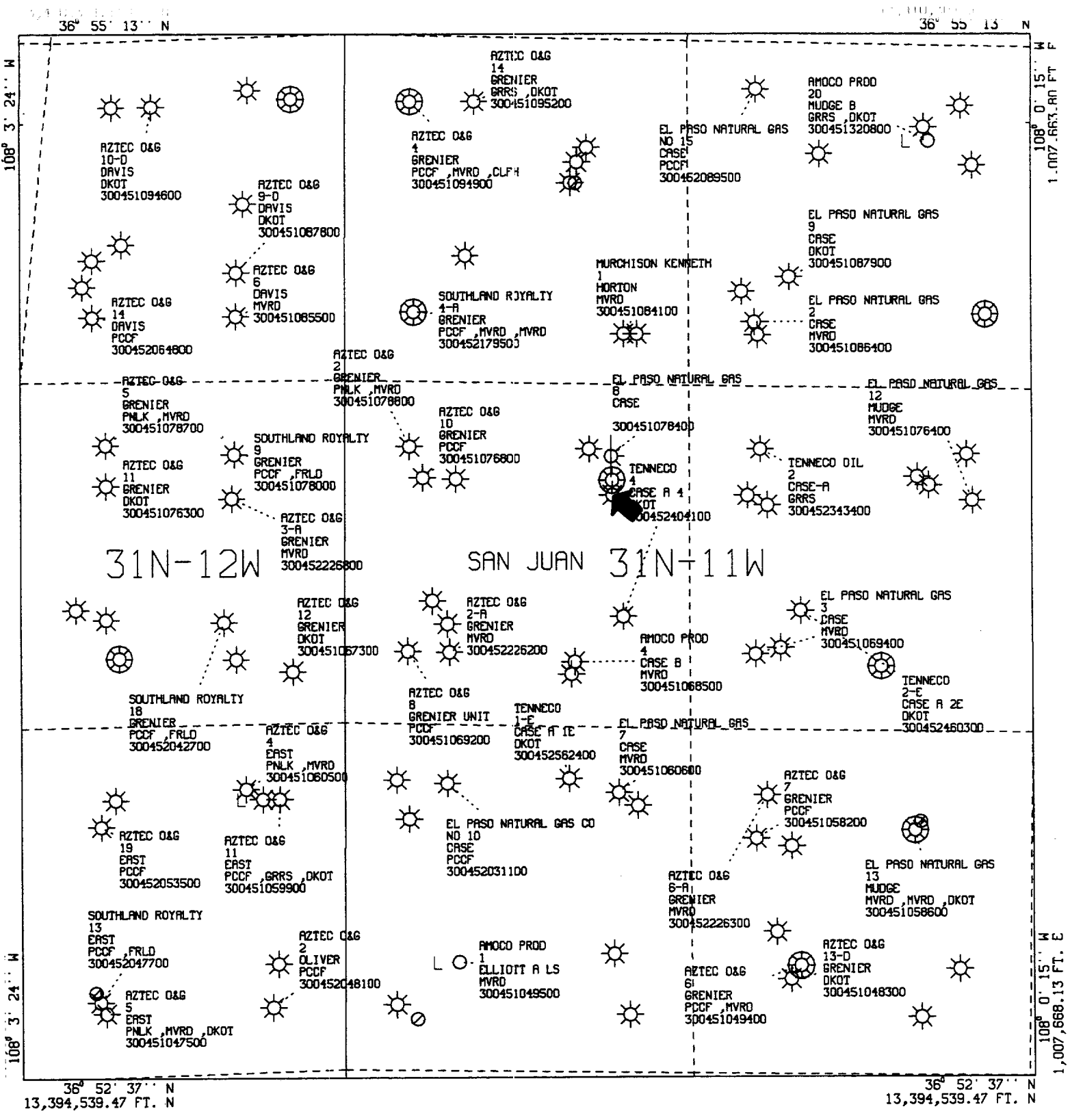
The allocation method that we plan to use for this commingled well is as follows. Both formations have been producing at stabilized rates for some time. We recommend that the Mesaverde and Pictured Cliffs formations gas and condensate be allocated based on current rates. The Mesaverde is currently producing at 170 MCFD with 0.83 BCPD while the Pictured Cliffs is currently producing 34 MCFD with no condensate. The recommended allocation percentages after downhole commingling would be set as a percentage of the total rate with the Mesaverde attributing 83% of gas production and 100% of condensate production. The Pictured Cliffs would be allocated at 16% of gas production and no condensate production. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

(10) A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.

BLM will receive a copy of this application by certified mail. The offsetting operators listed on the attached sheet will receive a copy of this application by certified mail.

(11) Referencing NMOCD Order No. 10470 Rule 303 (D) (11): In a case where there is diversity of ownership between the zones to be commingled (including working royalty, or overriding royalty interest), the applicant shall submit a statement that all such interest owners have been notified in writing of the proposed commingling.

All interest owners in the two formations are common.






POLYCONIC CENTRAL MERIDIAN - 108° 1' 49" W LON
SPHEROID - 6

# AMOCO PRODUCTION COMPANY
## PLAT MAP
## Case B 4A
## Offset Wells

SCALE 1 IN = 2,000 FT. APR 28, 1995

NEW MEXICO OIL CONSERVATION COMMISSION

# WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
*Supersedes C-128*
Effective 1-1-65

**All distances must be from the outer boundaries of the Section.**

| Operator | Lease | Well No. |
|---|---|---|
| EL PASO NATURAL GAS COMPANY | CASE (SF078095) | 4A |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| H | 18 | 31N | 11W | San Juan |

Actual Footage Location of Well:
1450 feet from the North line and 1175 feet from the East line

| Ground Level Elev. | Producing Formation | Pool | Dedicated Acreage: |
|---|---|---|---|
| 6225 | Pictured Cliffs<br>Mesa Verde | Blanco Pictured Cliffs Ext.<br>Blanco Mesa Verde | 160.00 & 320.00 Acres |

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

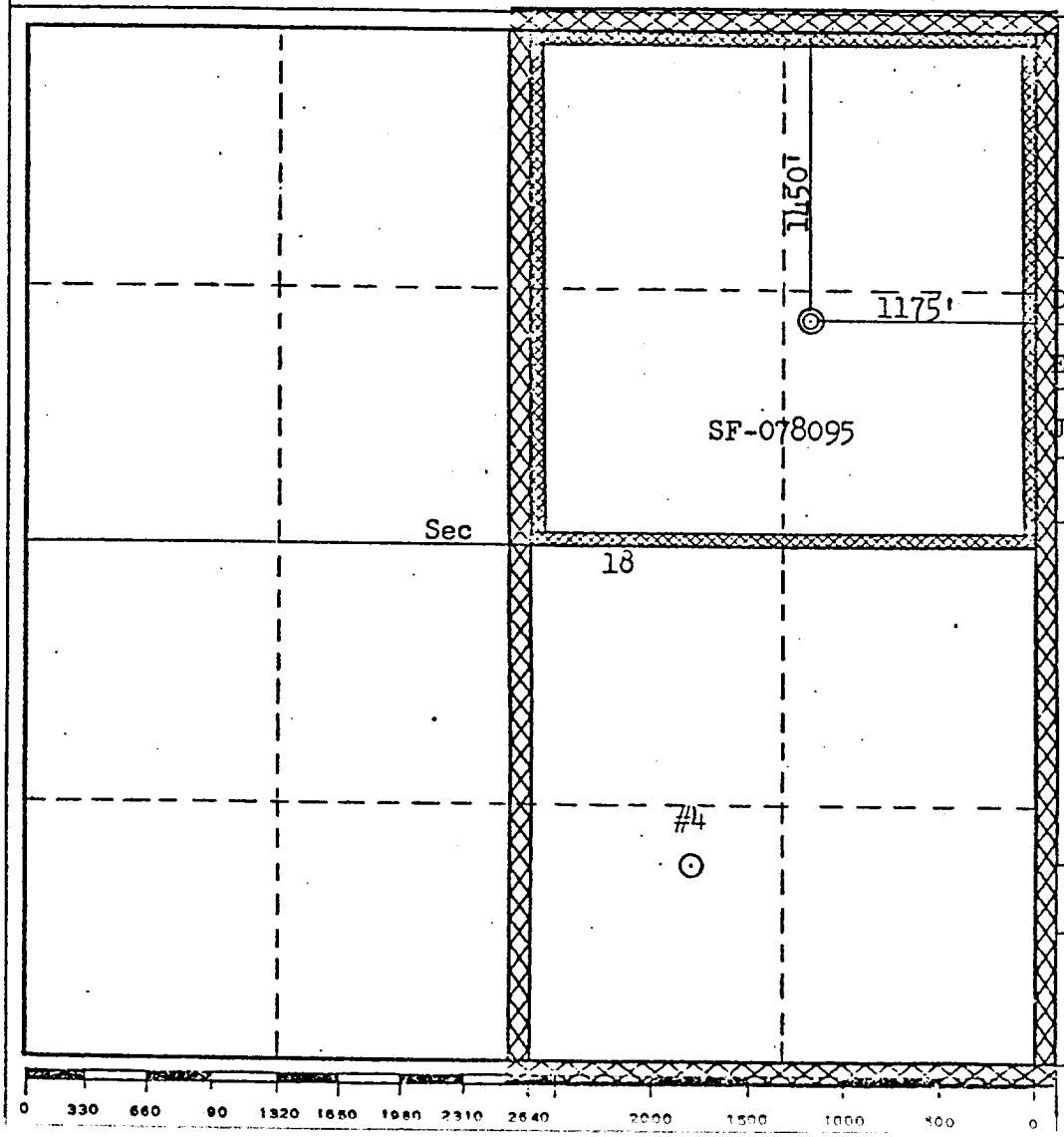
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.




CERTIFICATION

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

R. G. Hughes

Name: Drilling Clerk

Position: El Paso Natural Gas Co.

Company: July 25, 1978

Date:

*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 knowledge and belief.*

Date Surveyed: June 20, 1978

Registered Professional Engineer and/or Land Surveyor: Fred B. Kerr Jr.

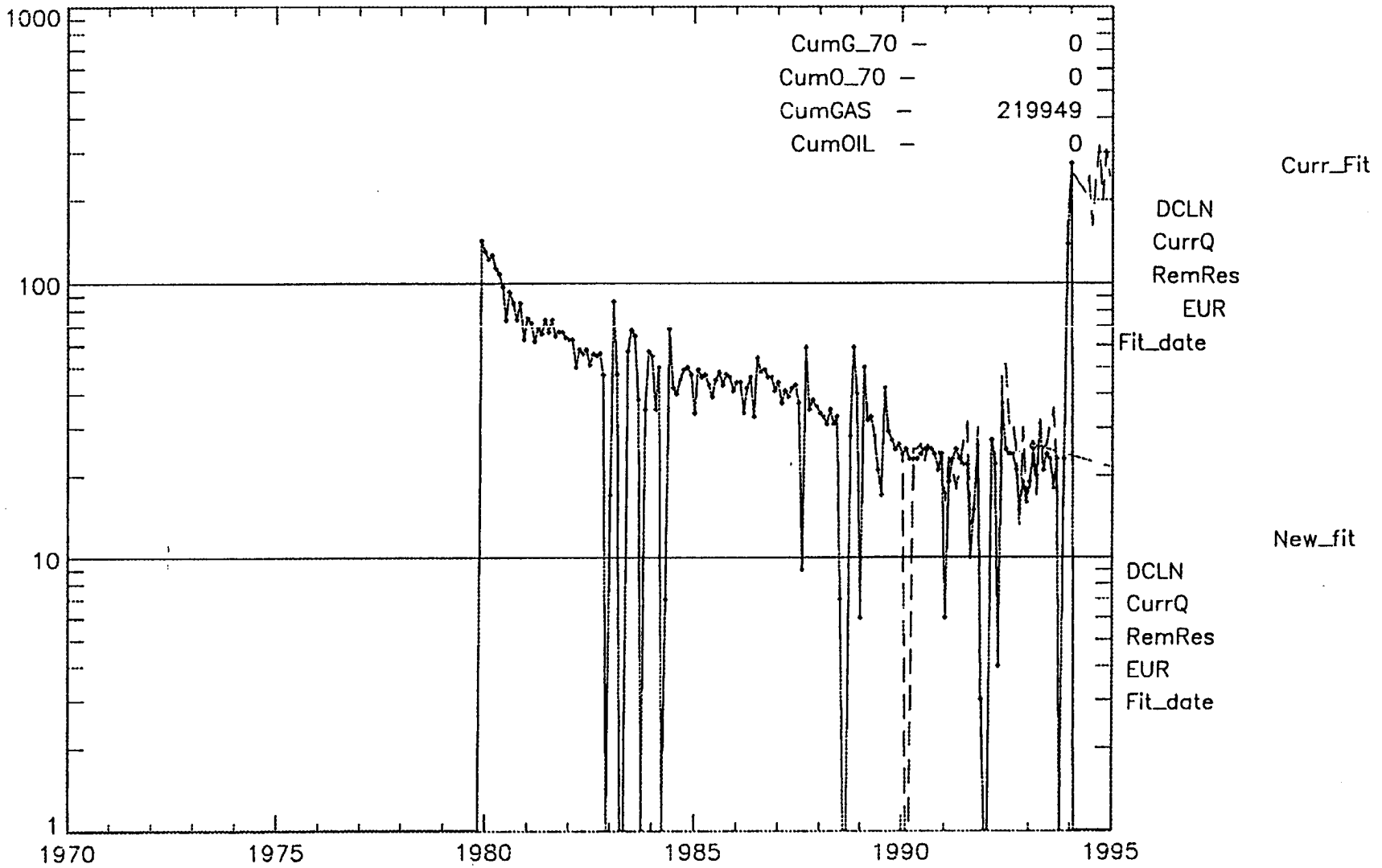
Certificate No. 3950

Engr: zdws22

CASE B 4A

Operator- AMOCO PRODUCTION CO

300452319100PC H183111-004APC APC_WI - 0.50000000

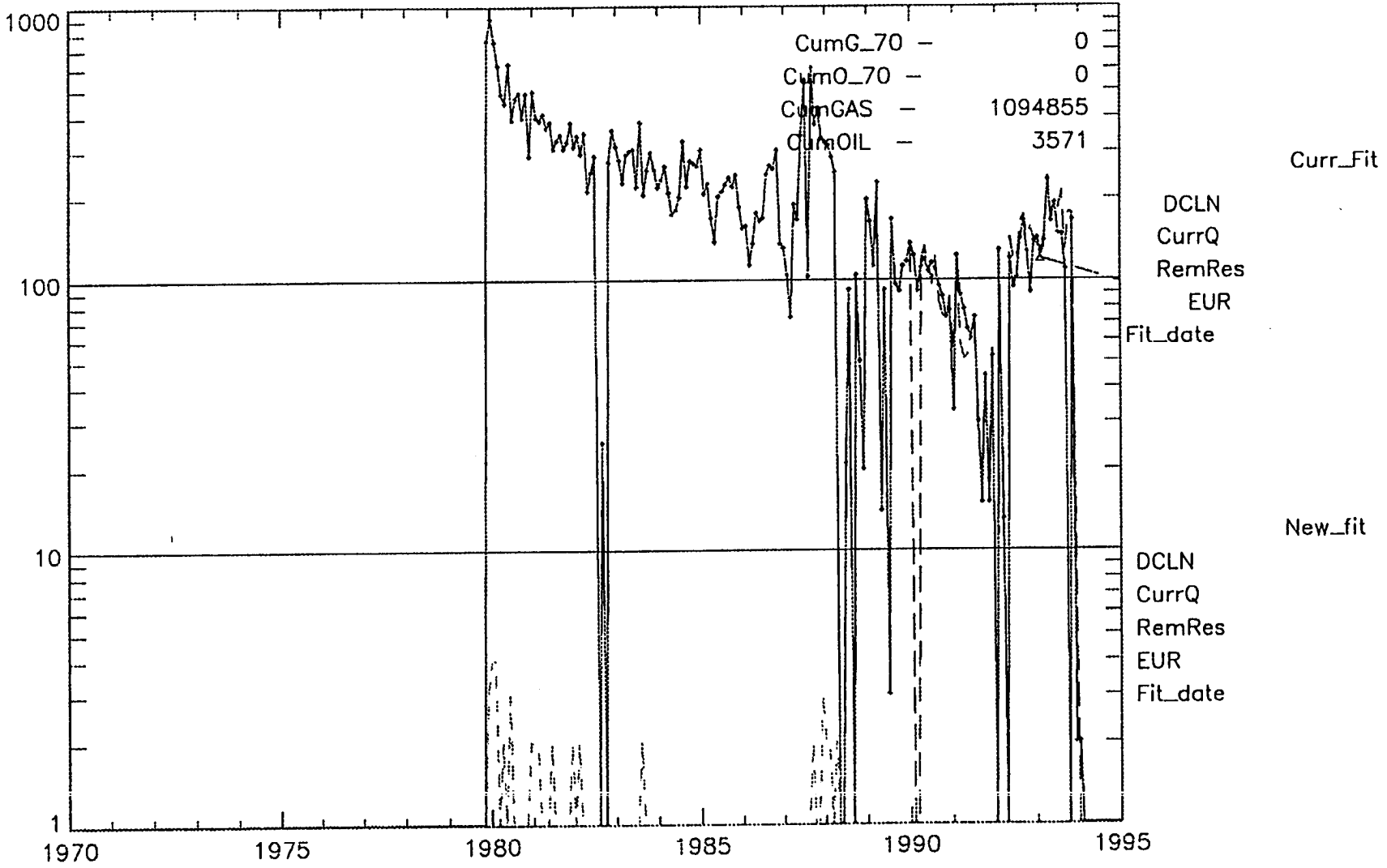


Engr: zdws22

CASE B 4A

Operator– AMOCO PRODUCTION CO

300452319100MV H183111–004AMV APC_WI – 0.50000000



***ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION***
Case B #4A

PC Perforations at 2826-2914' midperf at 2870'
MV Perforations at 5430-5302' midperf at 5494'

10/95 shut in pressures --- MV =228 PSIG
PC =282 PSIG

GRADIENT = 0.08 PSI/FT

MV BHP = 228 PSIG + 5494' X 0.08 PSIG
= 667 PSIG

PC BHP = 282 PSIG +2870' X 0.08 PSIG
=512 PSIG

H-18-31-11

STATE OF NEW MEXICO
ENERGY and MINERALS DEPARTMENT

Location of Well: H183111 

OIL CONSERVATION DIVISION
NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator: AMOCO PRODUCTION COMPANY Lease/Well #:CASE B 004A
Meter #:90761 RTU:0-000-00 County:SAN JUAN

E/11

| | NAME RESERVOIR OR POOL | TYPE PROD | METHOD PROD | MEDIUM PROD |
|---|---|---|---|---|
| UPR COMP | CASE B 004A BPC 90760 | GAS | FLOW | TBG |
| LWR COMP | CASE B 004A BMV 90761 | GAS | FLOW | TBG |

PRE-FLOW SHUT-IN PRESSURE DATA

| | Hour/Date Shut-In | Length of Time Shut-In | SI Press. PSIG | Stabilzed |
|---|---|---|---|---|
| UPR COMP | 10/07/95 | | | |
| LWR COMP | 10/07/95 | | | |

FLOW TEST DATE NO.1

Commenced at (hour,date)* Zone Producing (Upr/Lwr)

| TIME (hour, date) | LAPSED TIME SINCE* | PRESSURE Upper P.C. | PRESSURE Lower M.V | Prod Temp. | REMARKS |
|---|---|---|---|---|---|
| 10/07/95 | Day 1 | 282# | 228# | | Both Zones SI |
| 10/08/95 | Day 2 | 282# | 228# | | Both Zones SI |
| 10/09/95 | Day 3 | 282# | 228# | | Both Zones SI |
| 10/10/95 | Day 4 | 282# | 228# | | TURN ON M.V. |
| 10/11/95 | Day 5 | 282# | 161# | | |
| 10/12/95 | Day 6 | 282# | 157# | | |
| 10/13/95 | | | | | |

Production rate during test
Oil:_____ BOPD based on _____ BBLs in _____ Hrs _____ Grav___ GOR ___
Gas:_____ MFCPD:Tested theu (Orifice or Meter):METER

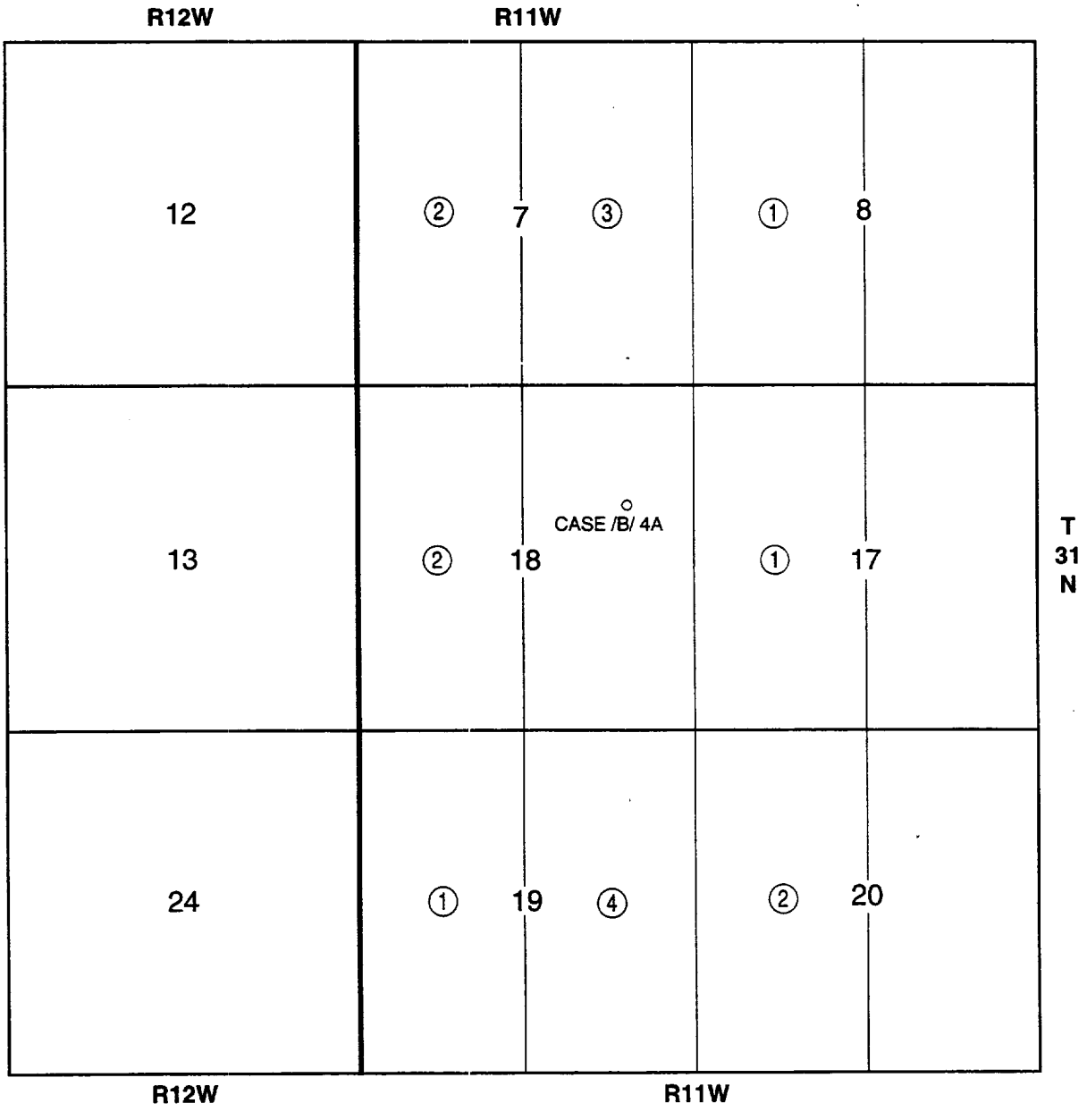
MID-TEST SHUT-IN PRESSURE DATA

| | Hour,Date SI | Length of Time SI | SI Press. PSIG | Stabilized (yes/no) |
|---|---|---|---|---|
| UPR COMP | | | | |
| LWR COMP | | | | |

(Continue on reverse side)

**Amoco Production Company**

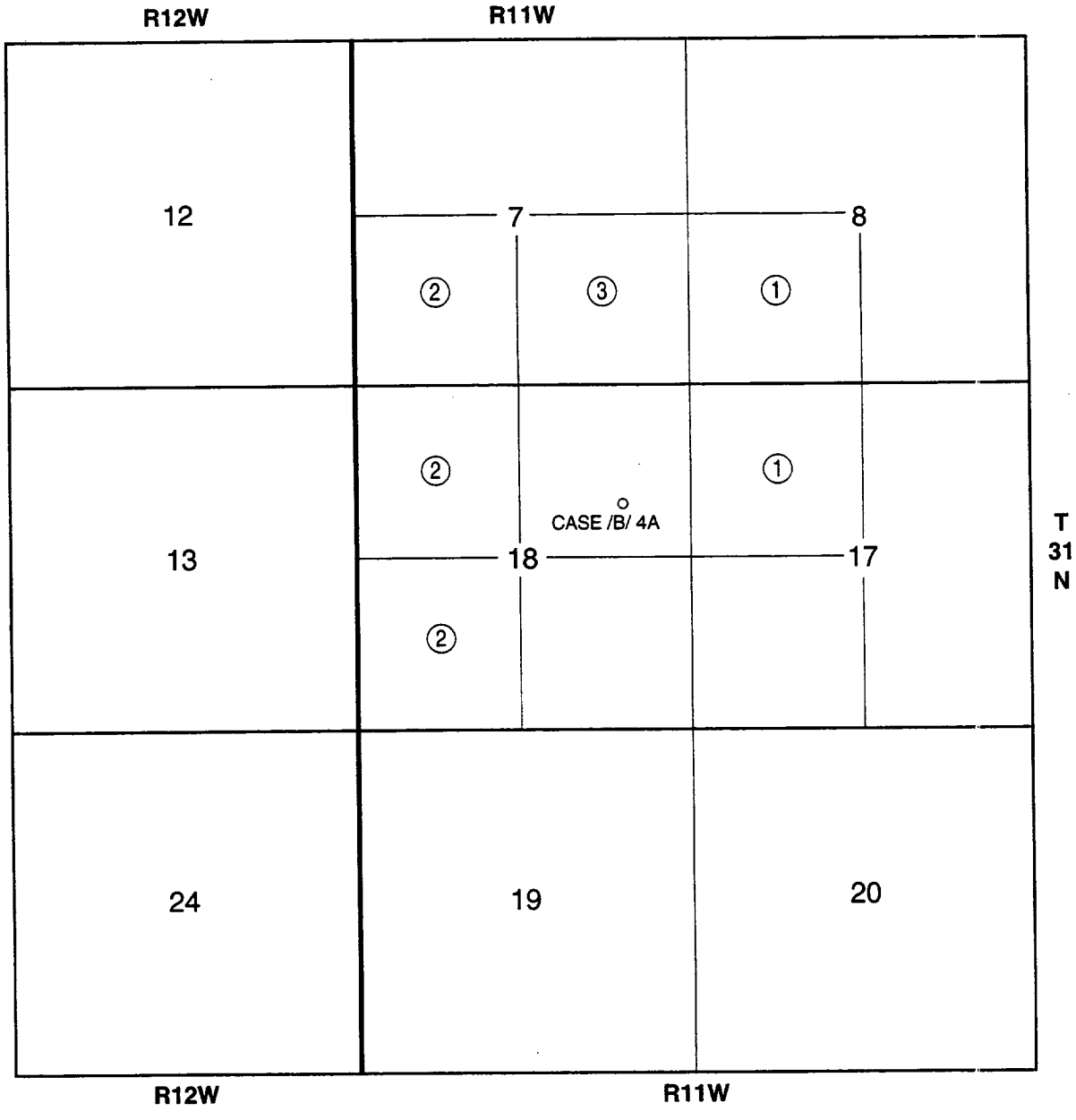
Offset Operator Plat
Case /B/ 4A
T31N-R11W Sec. 18
Blanco Mesaverde Formation




① Amoco Production Company
② Southland Royalty Company
③ Kimbark Oil & Gas Co.
④ Meridian Oil Production Inc.

**Amoco Production Company**

Offset Operator Plat
Case /B/ 4A
T31N-R11W Sec. 18
Blanco Pictured Cliffs Formation




① Amoco Production Company
② Southland Royalty Company
③ Kimbark Oil & Gas Co.

**LIST OF ADDRESSES FOR OFFSET OPERATORS**
Case B #4A

Meridian Oil, Inc.
P.O. Box 4289
Farmington, NM 87499

Kimbark Oil and Gas Co.
1660 Lincoln Street, Suite 2700
Denver, CO 80202