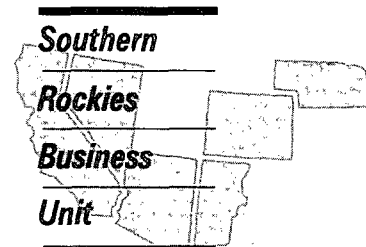




YES NO - R AM 8 52



November 2, 1995

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**  
**Hughes B #7A Well**  
**1450' FNL & 1750' FWL, Unit F Section 29-T29N-R8W**  
**Blanco Mesaverde and Blanco Pictured Cliffs Pools**  
**San Juan County, New Mexico**

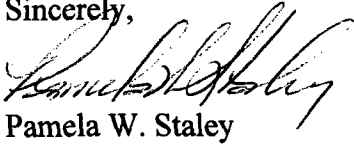
Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Blanco Pictured Cliffs Pools in the Hughes B #7A well referenced above. The Hughes B #7A is currently a dual completion in the Mesaverde and Pictured Cliffs formations. We plan to complete the well with both the Mesaverde and Pictured Cliffs formations being downhole commingled in the wellbore. The Pictured Cliffs zone has been producing against line pressure while the Mesaverde has been on compression. This commingling will allow both the Mesaverde and the Pictured Cliffs formations to be produced through the compressor and should result in additional Pictured Cliffs production. The two zones are expected to produce at a total commingled rate of about 300 MCFD with a very small amount of condensate (less than 1 BCPD) from each formation. 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. Since the Mesaverde formation has been producing on compression for some time and the Pictured Cliffs formation has not, we recommend that once total commingled production rates are established that the Pictured Cliffs be allocated the percent difference between the stabilized Mesaverde producing rate and total stabilized commingled production. The Mesaverde is currently producing 40 MCFD. The allocation percentages would then be set as a percentage of the total rate attributing 40 MCFD as the rate from the Mesaverde and the rest to the Pictured Cliffs. We would notify your Aztec District office when the testing was complete and report the allocation percentages for gas at that time for approval. The well has produced negligible amounts of condensate in the past and we recommend allocating 50% of condensate to each formation. 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-078046) 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: Stan Kolodzie  
Lois Raeburn

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: Hughes B  
  
Well Number: 7A  
Well Location: 1450' FNL & 1750' FWL  
Unit F Section 29-T29N-R8W  
San Juan County, New Mexico  
  
Pools Commingled: Blanco Mesaverde Pool  
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 40 MCFD and less than 1 BCPD. The Blanco Pictured Cliffs zone produced at an average rate of about 27 MCFD and less than 1 BCPD.

- (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 Pictured Cliffs Completion: | Historical production curve attached. |
| Blanco Mesaverde 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 450 PSI while the estimated bottomhole pressure in the Mesaverde is 798 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 fluids that, when combined, 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:

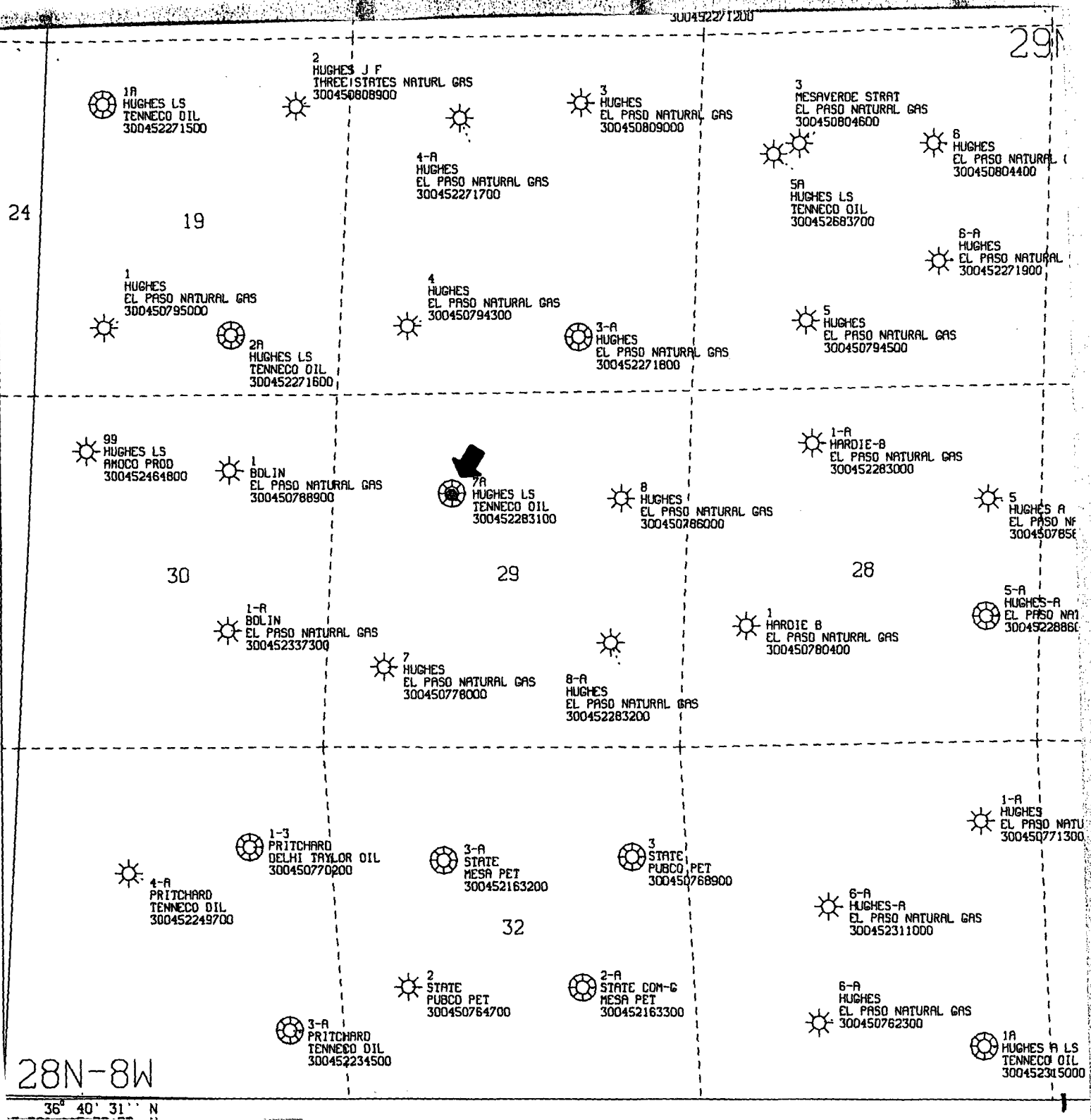
Since the BTU content of the produced gasses are very similar, we would expect the commingled production to have a similar value as the sum of the individual streams.

- (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. Since the Mesaverde formation has been producing on compression for some time and the Pictured Cliffs formation has not, we recommend that once total commingled production rates are established that the Pictured Cliffs be allocated the percent difference between the stabilized Mesaverde producing rate and total stabilized commingled production. The Mesaverde is currently producing 40 MCFD. The allocation percentages would then be set as a percentage of the total rate attributing 40 MCFD as the rate from the Mesaverde and the rest to the Pictured Cliffs. We would notify your Aztec District office when the testing was complete and report the allocation percentages for gas at that time for approval. The well has produced negligible amounts of condensate in the past and we recommend allocating 50% of condensate to each formation. 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.



AMOCO PRODUCTION COMPANY  
PLAT MAP  
Hughes B 7A  
Mesaverde

SCALE 1 IN. = 2,000 FT. MAY 16, 1995

HORIZONTAL DATUM NAD27

PJH13433--RUN#95136145912

DD M

300452271200

29

24

19

1A HUGHES LS  
TENNECO OIL  
300452271500

2 HUGHES J F  
THREE STATES NATURL GAS  
300450808900

3 HUGHES  
EL PASO NATURAL GAS  
300450809000

3 MESAVEROE STRAT  
EL PASO NATURAL GAS  
300450804600

6 HUGHES  
EL PASO NATURAL  
300450804100

4-A HUGHES  
EL PASO NATURAL GAS  
300452271700

5A HUGHES LS  
TENNECO OIL  
300452683700

6-A HUGHES  
EL PASO NATURAL  
300452271900

1 HUGHES  
EL PASO NATURAL GAS  
300450795000

4 HUGHES  
EL PASO NATURAL GAS  
300450794300

3-A HUGHES  
EL PASO NATURAL GAS  
300452271800

5 HUGHES  
EL PASO NATURAL GAS  
300450794500

2A HUGHES LS  
TENNECO OIL  
300452271600

99 HUGHES LS  
AMOCO PROD  
300452464800

1 BOLIN  
EL PASO NATURAL GAS  
300450788900

7A HUGHES LS  
TENNECO OIL  
300452283100

8 HUGHES  
EL PASO NATURAL GAS  
300450786000

1-A HARDIE-B  
EL PASO NATURAL GAS  
300452283000

5 HUGHES A  
EL PASO NF  
3004507850

30

29

28

1-A BOLIN  
EL PASO NATURAL GAS  
300452337300

7 HUGHES  
EL PASO NATURAL GAS  
300450778000

8-A HUGHES  
EL PASO NATURAL GAS  
300452283200

1 HARDIE B  
EL PASO NATURAL GAS  
300450780400

5-A HUGHES-A  
EL PASO NAT  
300452288600

4-A PRITCHARD  
TENNECO OIL  
300452249700

1-3 PRITCHARD  
DELHI TAYLOR OIL  
300450770200

3-A STATE  
MESA PET  
300452163200

3 STATE  
PUBCO PET  
300450768900

1-A HUGHES  
EL PASO NATU  
300450771300

6-A HUGHES-A  
EL PASO NATURAL GAS  
300452311000

32

2 STATE  
PUBCO PET  
300450764700

2-A STATE COM-G  
MESA PET  
300452163300

6-A HUGHES  
EL PASO NATURAL GAS  
300450762300

3-A PRITCHARD  
TENNECO OIL  
300452234500

1A HUGHES A LS  
TENNECO OIL  
300452315000

28N-8W

36° 40' 31" N



AMOCO PRODUCTION COMPANY  
 PLAT MAP  
 Hughes B 7A  
 Mesaverde

SCALE 1 IN. = 2,000 FT. MAY 16, 1995

HORIZONIAL DATUM NAD27

PJH13433--RUN#95136145912

DO H

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

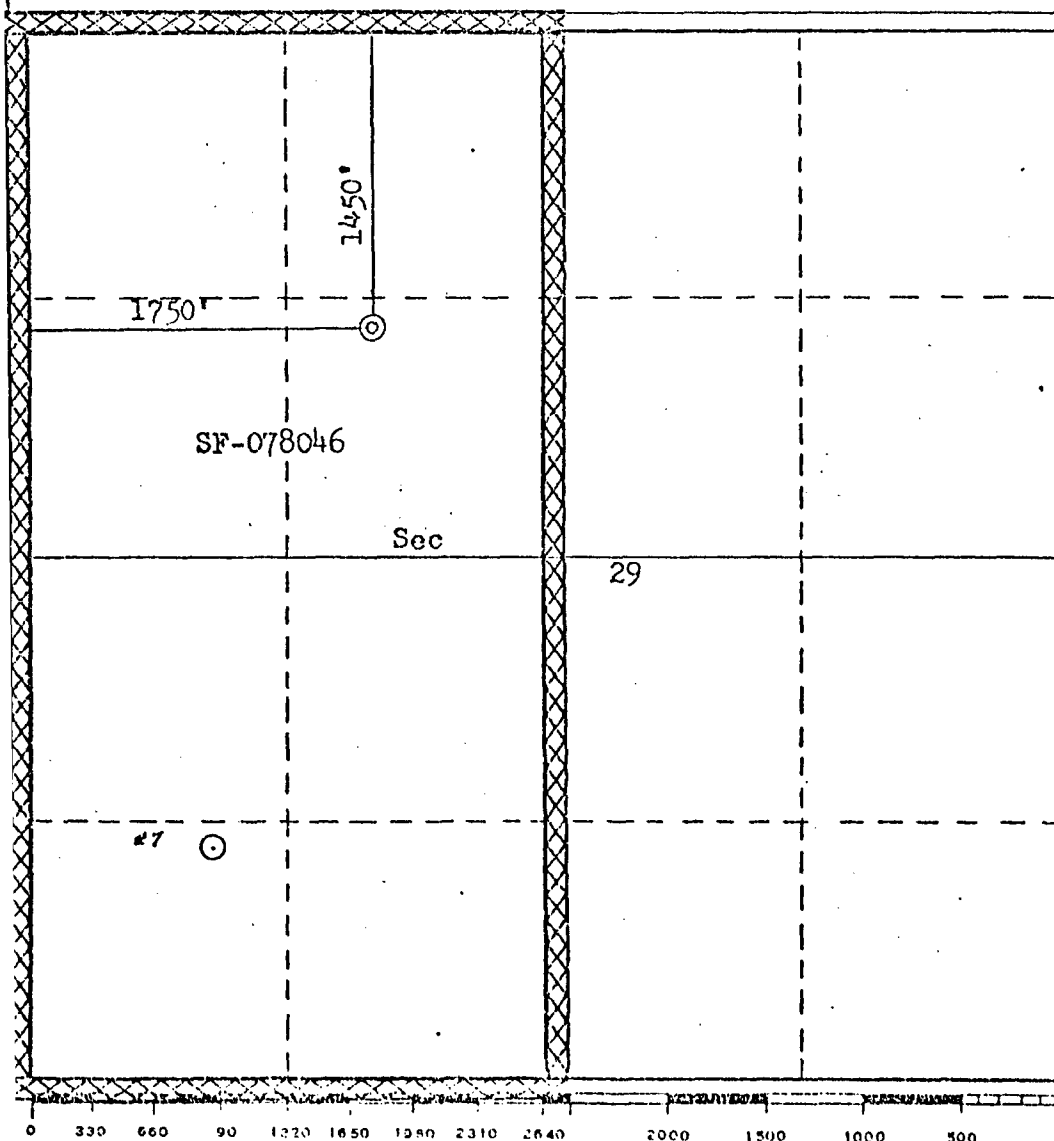
|   |                                   |                                  |                             |                                    |                |
|---|-----------------------------------|----------------------------------|-----------------------------|------------------------------------|----------------|
| Operator<br>El Paso Natural Gas Company |                                   |                                  | Lease<br>Hughes (SF-078046) |                                    | Well No.<br>7A |
| Unit Letter<br>F                        | Section<br>29                     | Township<br>29N                  | Range<br>8W                 | County<br>San Juan                 |                |
| Actual Footage Location of Well:        |                                   |                                  |                             |                                    |                |
| 1450 feet from the North                |                                   | line and 1750 feet from the West |                             | line                               |                |
| Ground Level Elev.<br>6445              | Producing Formation<br>Mesa Verde | Pool<br>Blanco Mesa Verde        |                             | Dedicated Acreage:<br>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.

*A. G. Bueco*

Name

Drilling Clerk

Position

El Paso Natural Gas Co.

Company

12-14-77

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

November 14, 1977

Registered Professional Engineer and/or Land Surveyor

*Fred B. Kerr, Jr.*  
Fred B. Kerr, Jr.

Certificate No.

3950

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

OCT 21 1985 Form C-102  
Superseded C-128  
Effective 1-1-85

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

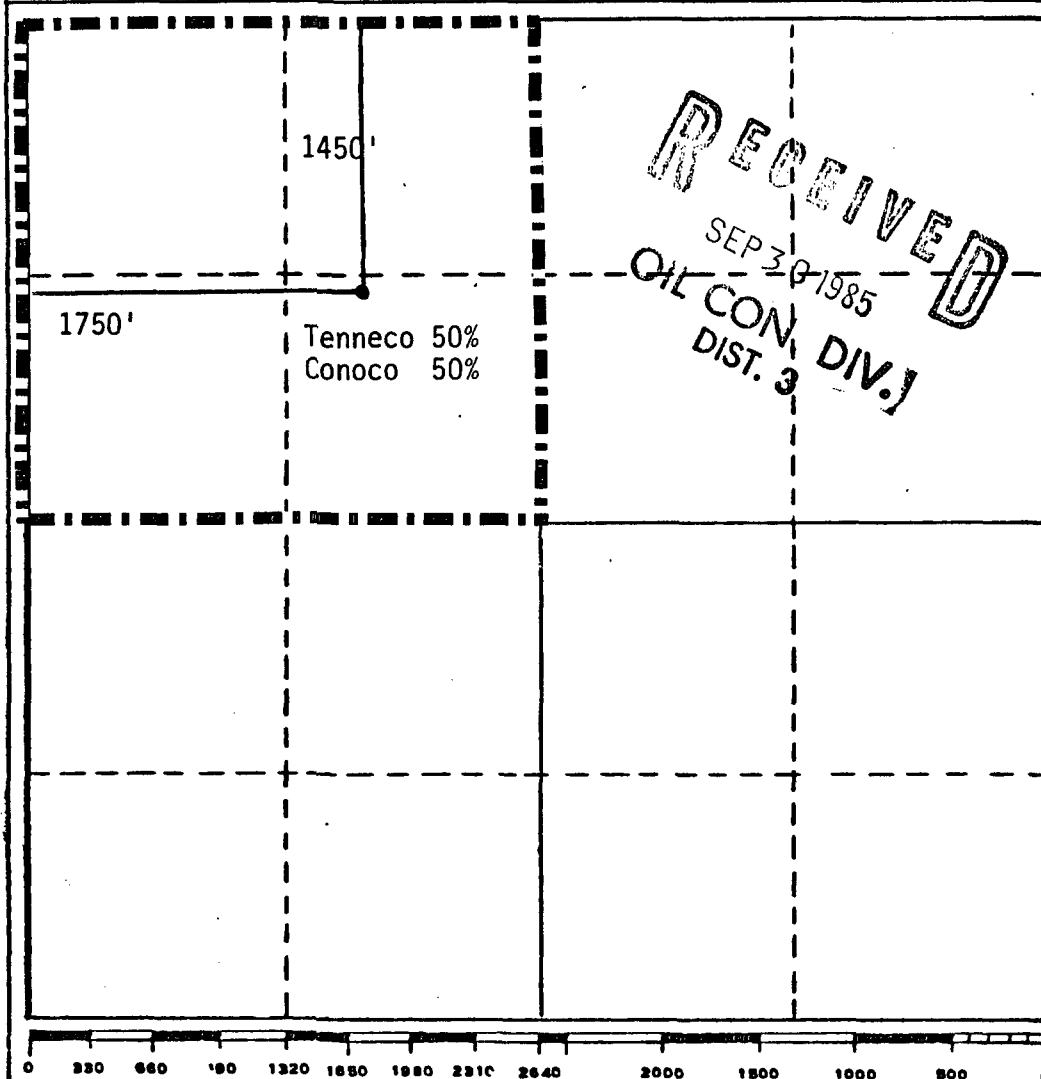
|                                   |  |                              |                                 |                    |
|-----------------------------------|--|------------------------------|---------------------------------|--------------------|
| Operator<br>Tenneco Oil Company   |  | Lease<br>Hughes LS           |                                 | Well No.<br>7A     |
| Unit Letter<br>F                  | Section<br>29                          | Township<br>29N              | Range<br>8W                     | County<br>San Juan |
| Actual Footage Location of Well:  |  |                              |                                 |                    |
| 1450 feet from the North line and |  | 1750 feet from the West line |                                 |                    |
| Ground Level Elev.<br>6445        | Producing Formation<br>Pictured Cliffs | Pool<br>Blanco PC            | Dedicated Acreage:<br>160 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.

*Scott McKinney*

Name  
Scott McKinney

Position  
Senior Regulatory Analyst

Company  
Tenneco Oil Company

Date  
September 1, 1985

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.

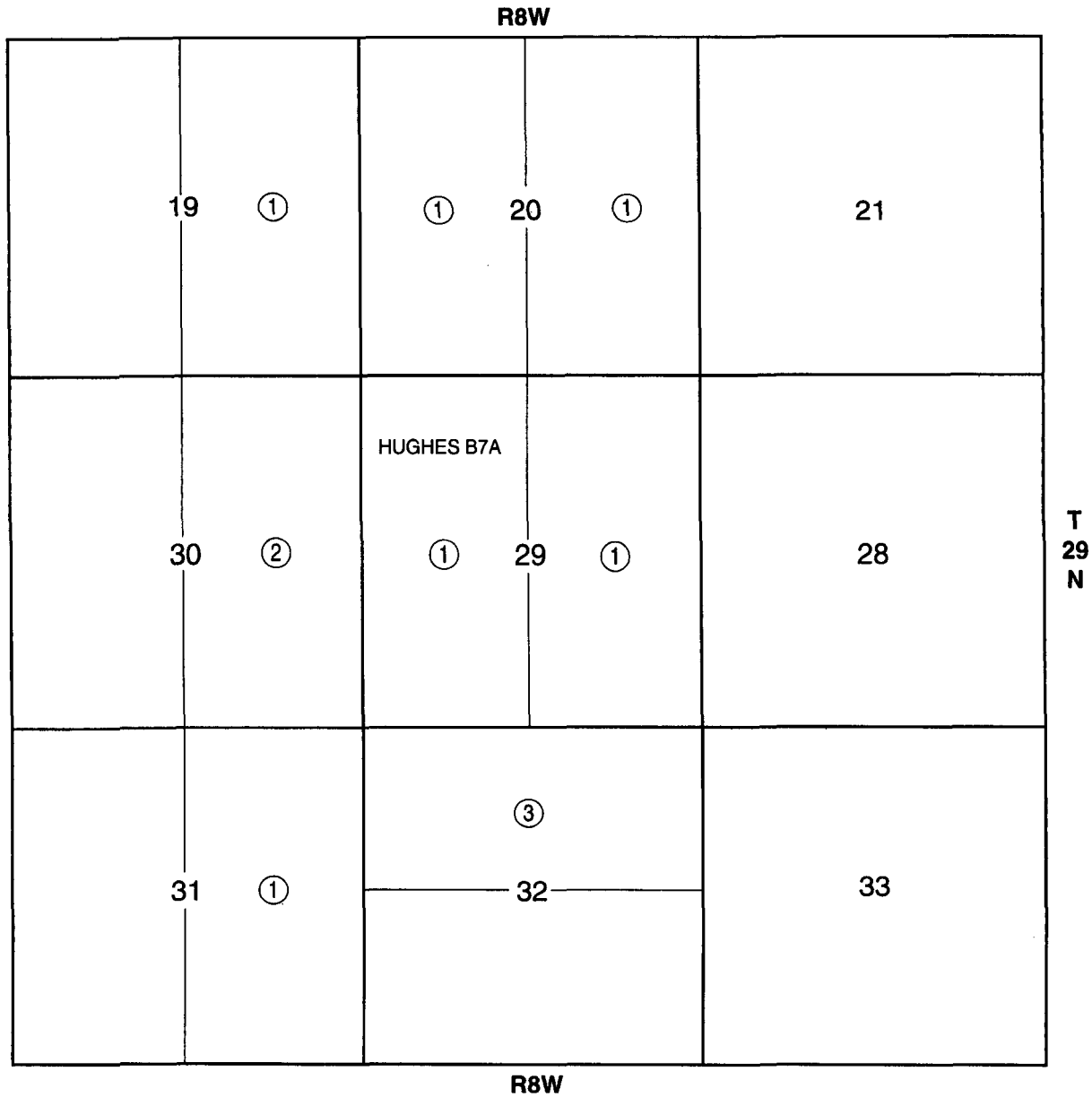
Date Surveyed

Registered Professional Engineer  
and/or Land Surveyor

Certificate No.

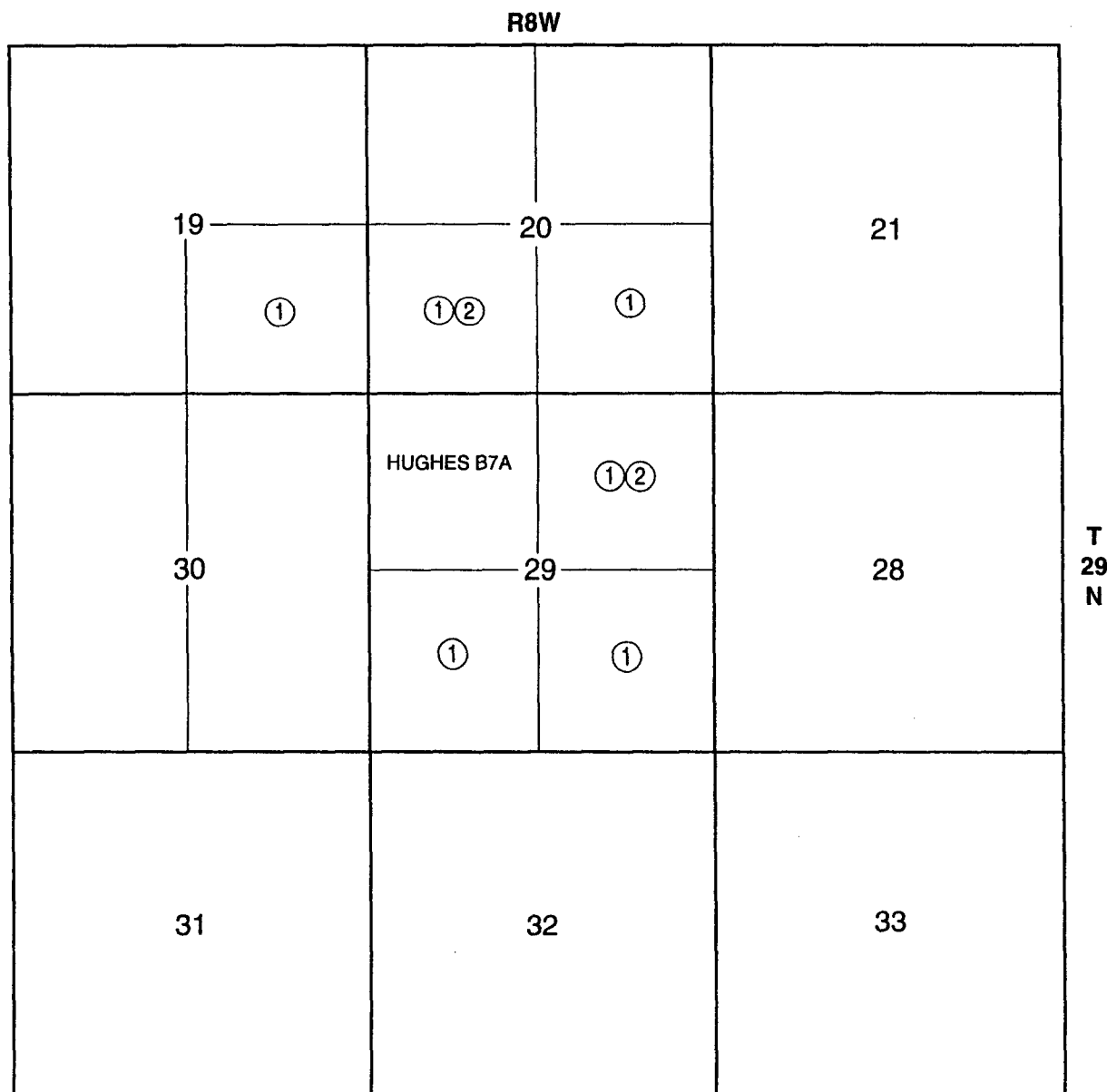


**Amoco Production Company**  
 Offset Operator Plat  
 Hughes B7A  
 T29N-R8W Sec. 29  
 Blanco Mesaverde Formation



- ① Amoco Production Company
- ② Meridian Oil Production Inc.
- ③ Conoco Inc.

**Amoco Production Company**  
 Offset Operator Plat  
 Hughes B7A  
 T29N-R8W Sec. 29  
 Pictured Cliffs Formation



**R8W**

- ① Amoco Production Company
- ② Meridian Oil Production Inc.
- ③ Conoco Inc.

**LIST OF ADDRESSES FOR OFFSET OPERATORS**  
**Hughes B # 7A**

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

2 Conoco, Inc.  
10 Desta Drive West  
Midland, Texas 79705

For: zmr14  
Engr: zmr14

HUGHES B 7A  
Operator- AMOCO PRODUCTION CO

300452283100MV F292908-007AMV

APC\_WI - 0.50000000

|         |   |        |
|---------|---|--------|
| CumG_70 | - | 0      |
| CumO_70 | - | 0      |
| CumGAS  | - | 767275 |
| CumOIL  | - | 3416   |

gas, MCFD

Reserves

DCLN  
CurrQ  
RemRes  
EUR  
Fit\_date

Year

Last Op. Forecast by zmr14 in 07/1994

For: zmr14  
Engr: zmr14

HUGHES B 7A Operator- AMOCO PRODUCTION CO

300452283100PC F292908-007APC APC\_WI - 0.50000000

|         |   |        |
|---------|---|--------|
| CumG_70 | - | 0      |
| CumO_70 | - | 0      |
| CumGAS  | - | 120031 |
| CumOIL  | - | 314    |

gas, MCFD

Reserves

DCLN  
CurrQ  
RemRes  
EUR  
Fit\_date

Year

Last Op. Forecast by zmr14 in 07/1994

Chart1

Well: HUGHES B 007A-MV (97941901)

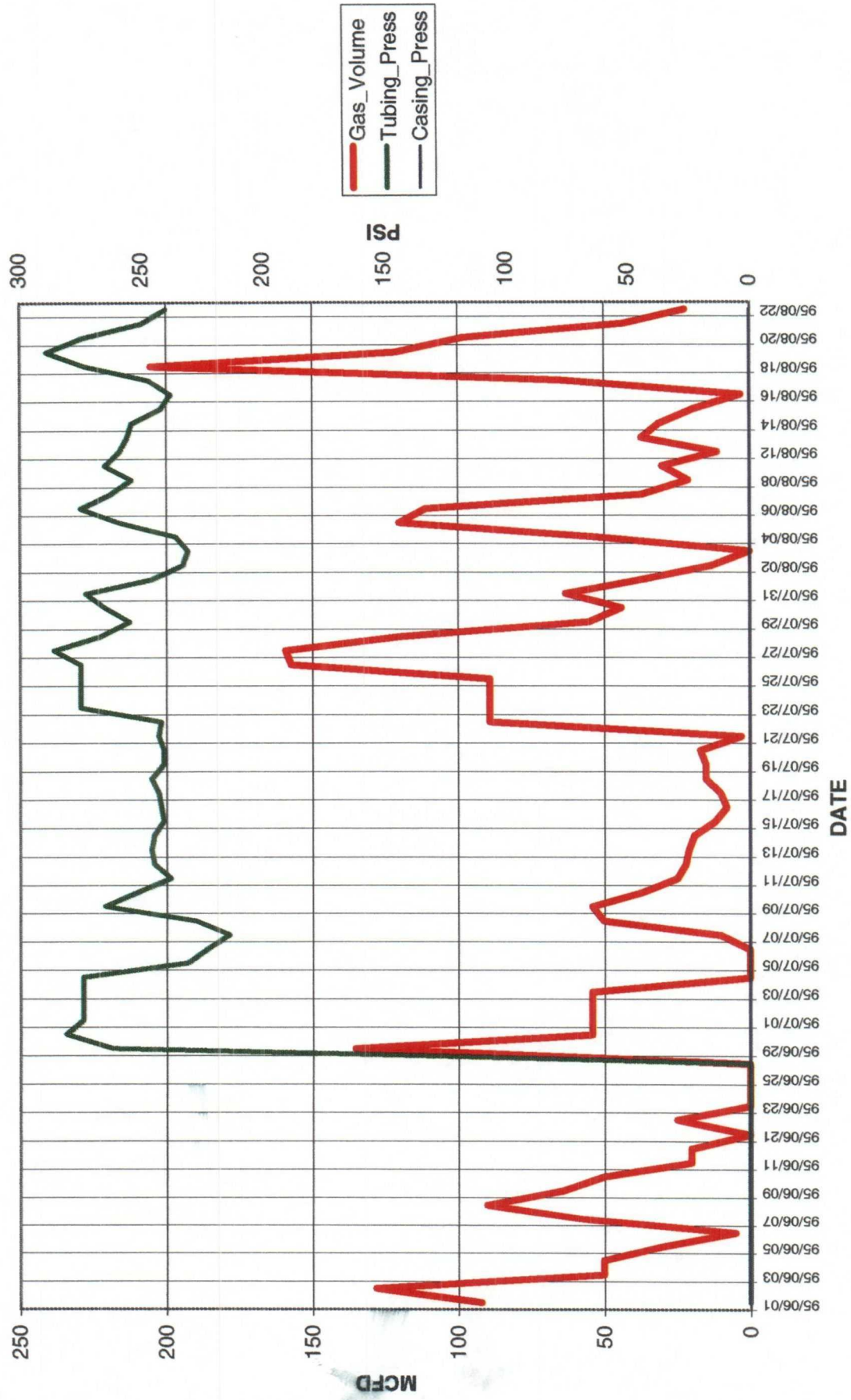
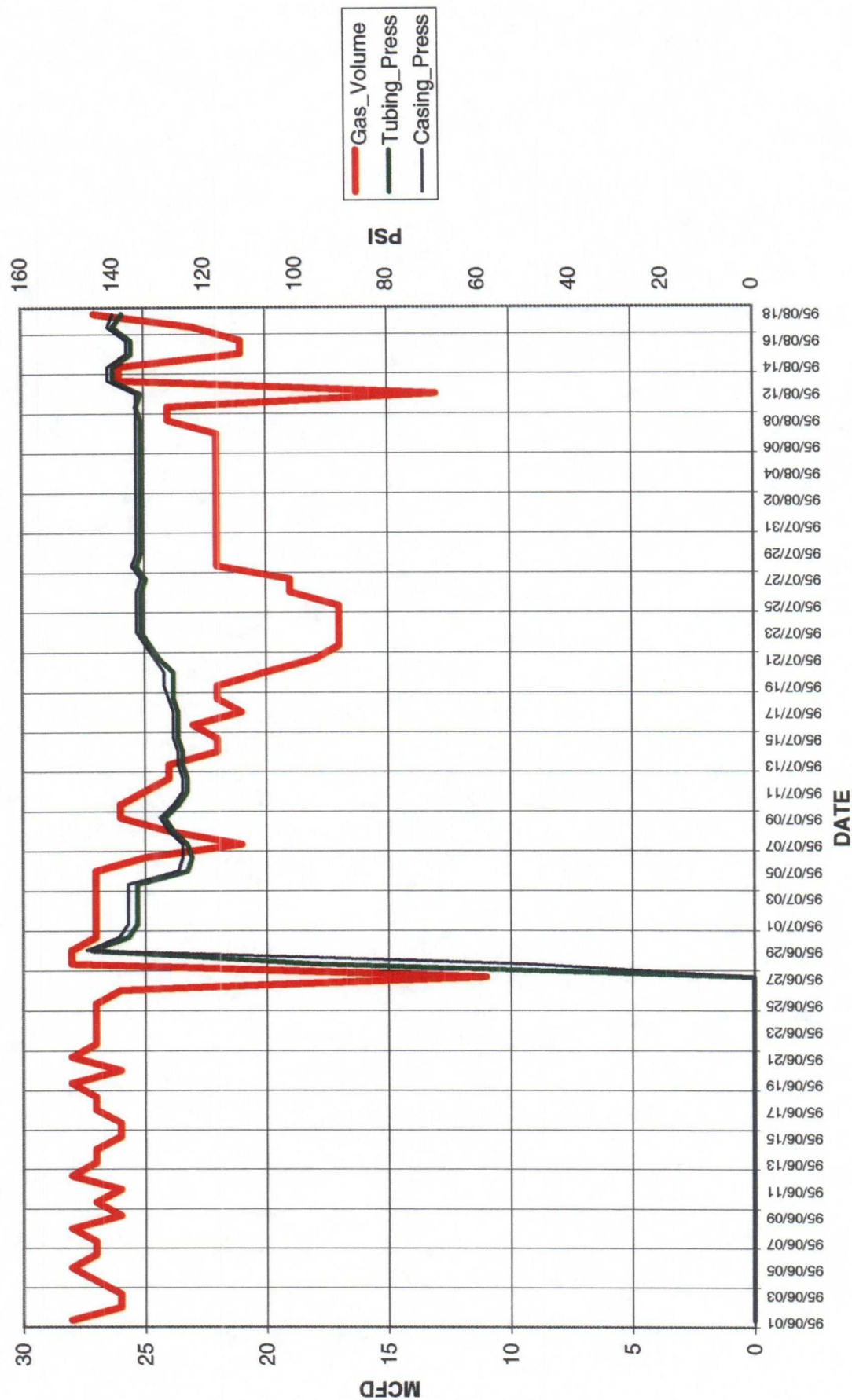


Chart1

Well: HUGHES B 007A-PC (97941902)



STATE OF NEW MEXICO  
ENERGY and MINERALS DEPARTMENT

Location of Well: F292908 Page 1

OIL CONSERVATION DIVISION  
NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator: AMOCO PRODUCTION COMPANY Lease/Well #: HUGHES B 007A  
Meter #: 95797 RTU: 1-238-04 County: SAN JUAN

RECEIVED  
JUL 14 1994

|             | NAME RESERVOIR OR POOL | TYPE PROD | METHOD PROD | MEDIUM PROD |
|-------------|------------------------|-----------|-------------|-------------|
| UPR<br>COMP | HUGHES B 007A PC 95797 | GAS       | FLOW        | TBG         |
| LWR<br>COMP | HUGHES B 007A MV 90187 | GAS       | FLOW        | TBG         |

PRE-FLOW SHUT-IN PRESSURE DATA

|             | Hour/Date Shut-In | Length of Time Shut-In | SI Press. PSIG | Stabilized |
|-------------|-------------------|------------------------|----------------|------------|
| UPR<br>COMP | 06/18/94<br>25    | 72 hrs                 | 211            | yes        |
| LWR<br>COMP | 06/18/94<br>25    | 72 hrs                 | 388            | yes        |

FLOW TEST DATE NO. 1

| Commenced at (hour, date)* |                       |          |       | Zone Producing (Up/Lwr) |                 |
|----------------------------|-----------------------|----------|-------|-------------------------|-----------------|
| TIME<br>(hour, date)       | LAPSED TIME<br>SINCE* | PRESSURE |       | Prod<br>Temp.           | REMARKS         |
|                            |                       | Upper    | Lower |                         |                 |
| 06/19/94<br>25             | Day 1                 | 178      | 385   |                         | Both Zones SI   |
| 06/19/94<br>26             | Day 2                 | 195      | 388   |                         | Both Zones SI   |
| 06/19/94<br>27             | Day 3                 | 198      | 388   |                         | Both Zones SI   |
| 06/19/94<br>28             | Day 4                 | 211      | 388   |                         | flow upper zone |
| 06/19/94<br>29             | Day 5                 | 146      | 388   |                         | " " "           |
| 06/19/94<br>30             | Day 6                 | 150      | 389   |                         | " " "           |

Production rate during test

Oil: \_\_\_\_\_ BOPD based on \_\_\_\_\_ BBLs in \_\_\_\_\_ Hrs \_\_\_\_\_ Grav \_\_\_\_\_ GOR \_\_\_\_\_  
Gas: \_\_\_\_\_ MFCPD: Tested thru (Orifice or Meter): METER

MID-TEST SHUT-IN PRESSURE DATA

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

(Continue on reverse side)



***ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION***  
**Hughes B # 7A**

MV Perforations at 4618 - 5640' midperf at 5129'  
PC Perforations at 2990'

6/94 shut in pressures --- MV = 388 PSIG  
PC = 211 PSIG

GRADIENT = 0.08 PSI/FT

PC BHP = 211 PSIG + 2990' X 0.08 PSIG  
= 450 PSIG

MV BHP = 388 psig + 5129' X 0.08 PSIG  
= 798 PSIG



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

RECEIVED  
OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE

'95 NOV 13

DHC-1173  
New Mexico  
DRUG FREE  
It's a State of Mind!

GARY E. JOHNSON  
GOVERNOR

JENNIFER A. SALISBURY  
CABINET SECRETARY

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178 FAX: (505) 334-6170

Date: Nov 9, 1995

Oil Conservation Division  
P.O. Box 2088  
Santa Fe, NM 87504-2088

RE: Proposed MC \_\_\_\_\_ Proposed DHC X \_\_\_\_\_  
Proposed NSL \_\_\_\_\_ Proposed SWD \_\_\_\_\_  
Proposed WFX \_\_\_\_\_ Proposed PMX \_\_\_\_\_  
Proposed NSP \_\_\_\_\_ Proposed DD \_\_\_\_\_

Gentlemen:

I have examined the application received on Nov. 6, 1995  
for the Omow Single B #7A  
OPERATOR LEASE & WELL NO.

F-29-29N-8W and my recommendations are as follows:  
UL-S-T-R

Omow  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours truly,

J. J.