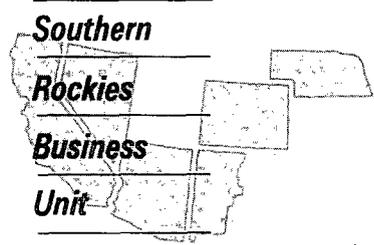


DAC 11-27-95  
1172



OIL CONSERVATION DIVISION  
RECEIVED  
NOV 10 6 40 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 #2A Well**  
**875' FSL & 1610' FEL, Unit O Section 19-T29N-R8W**  
**Blanco Mesaverde and Blanco Pictured Cliffs Pools**  
**San Juan County, New Mexico**

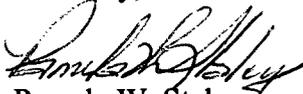
Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Blanco Pictured Cliffs Pools in the Hughes B #2A well referenced above. The Hughes B #2A is currently a dual completion in the Mesaverde and Pictured Cliffs formations. We plan 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 650 MCFD with no condensate. 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 400 MCFD. The allocation percentages would then be set as a percentage of the total rate attributing 400 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. Neither of these zones have produced condensate, and therefore, no recommended allocation for condensate is being made. 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: 2A  
Well Location: 875' FSL & 1610' FEL  
Unit O Section 19-T29N-R8W  
San Juan County, New Mexico  
  
Pools Commingled: Blanco Mesaverde  
Blanco Pictured Cliffs Pools

- (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 400 MCFD and 0 BCPD. The Blanco Pictured Cliffs zone produced at an average rate of about 30 MCFD and 0 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 426 PSI while the estimated bottomhole pressure in the Mesaverde is 502 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. 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 400 MCFD. The allocation percentages would then be set as a percentage of the total rate attributing 400 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. Neither of these zones have produced condensate, and therefore, no recommended allocation for condensate is being made. 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.

LIST OF ADDRESSES FOR OFFSET OPERATORS  
Hughes B # 2A

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

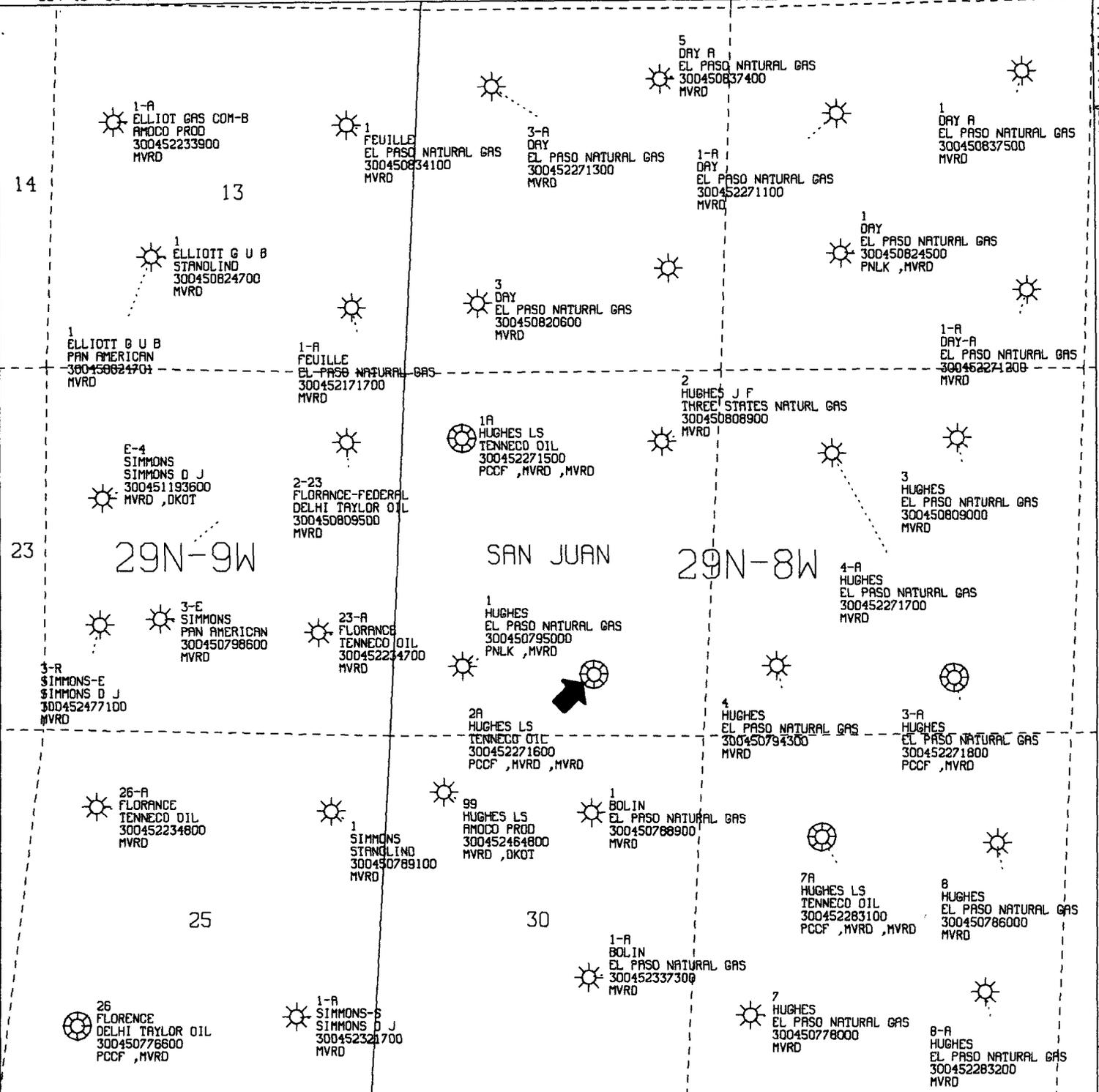
*2* Conoco, Inc.  
10 Desta Drive West  
Midland, Texas 79705

13,341,813.67 FT. N  
36° 43' 56" N

13,341,813.67 FT. N  
36° 43' 56" N

107° 44' 30" W  
107° 44' 30" W

107° 41' 17" W  
1,007,827.64 FT. E



36° 41' 22" N  
13,326,256.84 FT. N

36° 41' 22" N  
13,326,256.84 FT. N

107° 44' 30" W

107° 41' 17" W  
1,007,831.98 FT. E

All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

AMOCO PRODUCTION COMPANY  
 PLAT MAP  
 Hughes B 2A  
 Mesaverde

SCALE 1 IN. = 2,000 FT. MAY 27, 1995

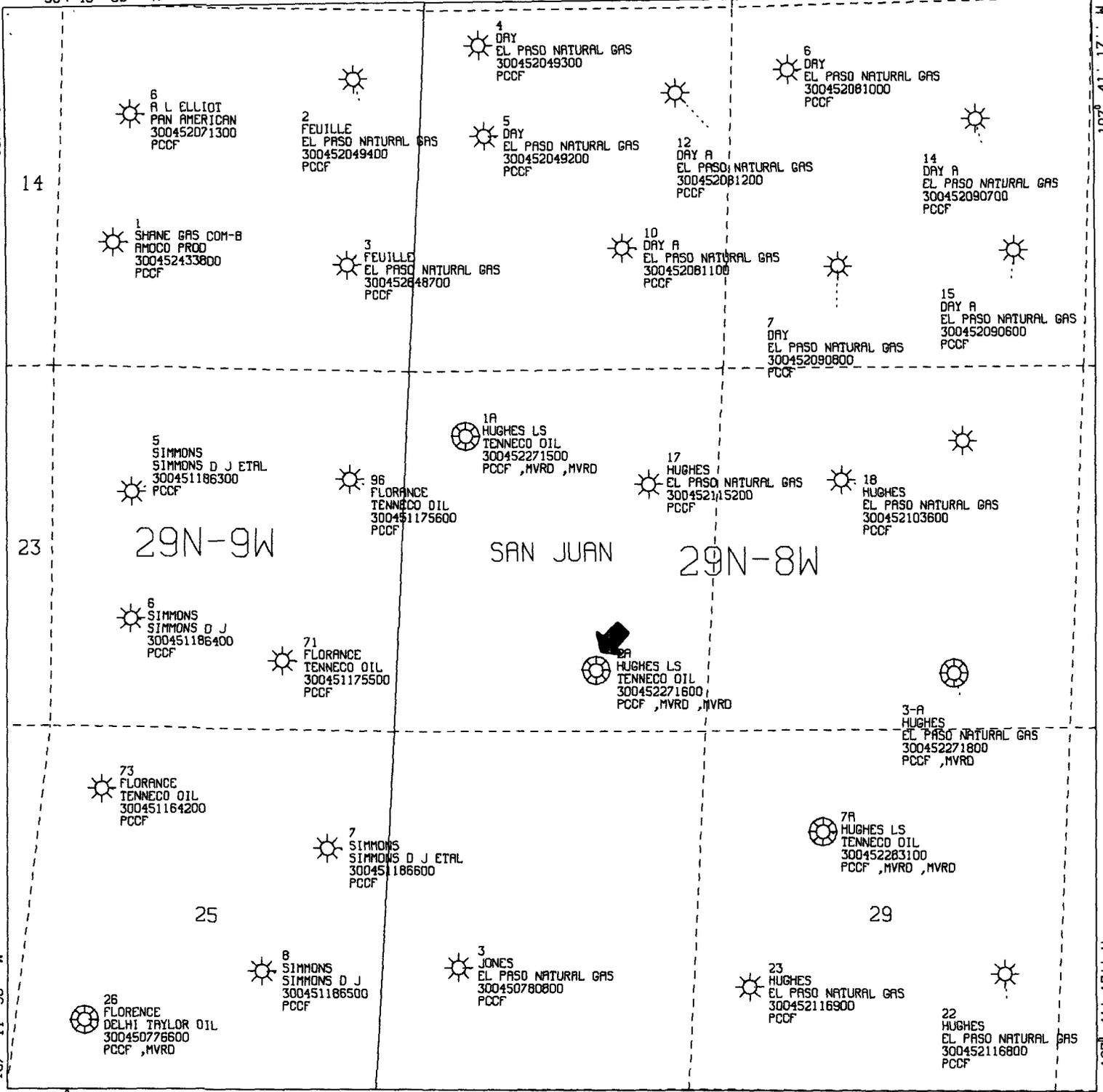
POLYCONIC CENTRAL MERIDIAN - 107° 42' 54" W LON  
SPHEROID - 6

13,341,813.67 FT. N  
36° 43' 56" N

13,341,813.67 FT. N  
36° 43' 56" N

107° 44' 30" W

107° 41' 17" W  
1,007,827.64 FT. E



36° 41' 22" N  
13,326,256.84 FT. N

36° 41' 22" N  
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107° 44' 30" W

107° 41' 17" W  
1,007,831.98 FT. E

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AMOCO PRODUCTION COMPANY  
 PLAT MAP  
 Hughes B 2A  
 Pictured Cliffs

SCALE 1 IN. = 2,000 FT. MAY 27, 1995

POLYCONIC CENTRAL MERIDIAN - 107° 42' 54" W LON  
SPHEROID - 6

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.

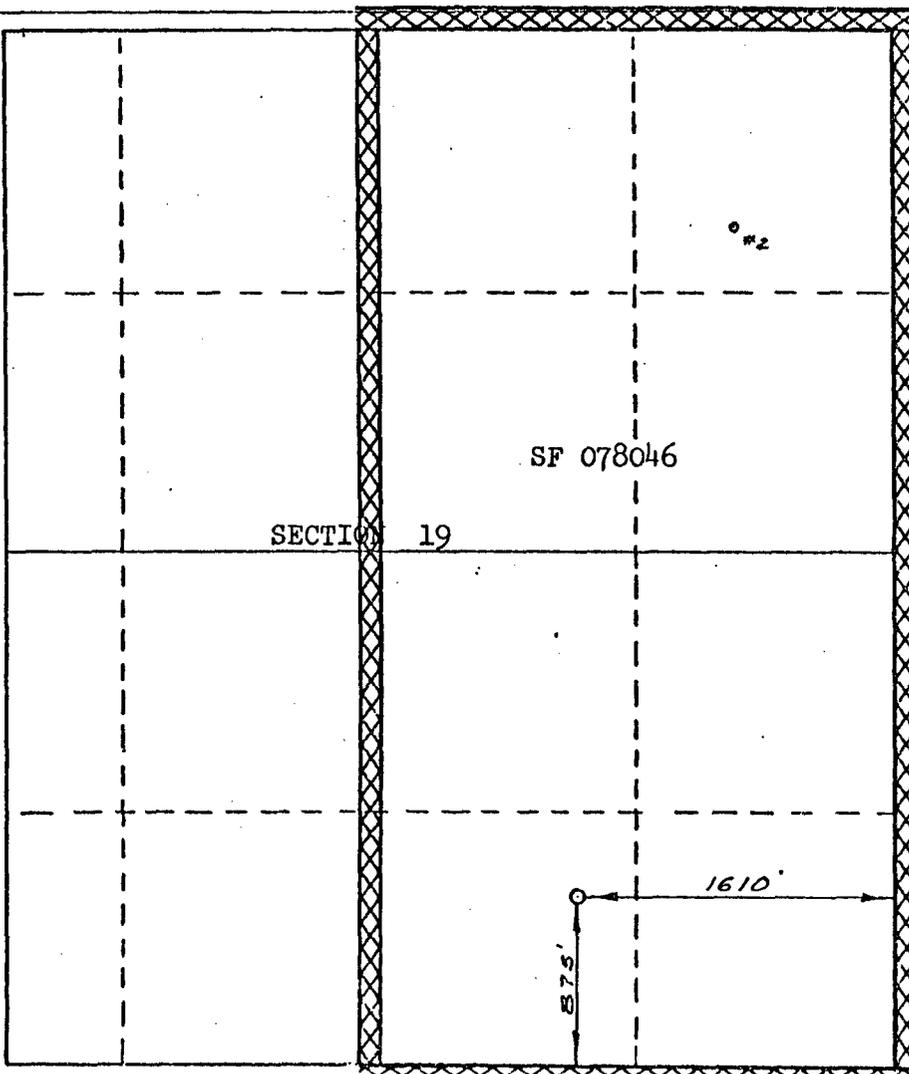
Operator <b>EL PASO NATURAL GAS COMPANY</b>			Lease <b>HUGHES (SF 078046)</b>		Well No. <b>2A</b>
Unit Letter <b>0</b>	Section <b>19</b>	Township <b>29-N</b>	Range <b>8-W</b>	County <b>SAN JUAN</b>	
Actual Footage Location of Well: <b>875</b> feet from the <b>SOUTH</b> line and <b>1610</b> feet from the <b>EAST</b> line					
Ground Level Elev. <b>6482</b>	Producing Formation <b>MESA VERDE</b>		Pool <b>BLANCO MESA VERDE</b>	Dedicated Acreage: <b>320.00</b> 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.

Original Signed by

**D. G. Brisco**

Name  
**Drilling Clerk**

Position  
**El Paso Natural Gas Co.**

Company  
**September 2, 1977**

Date

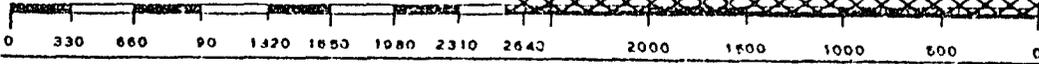
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
**JULY 21, 1977**

Registered Professional Engineer and/or Land Surveyor

*Paul Oliver*

Certificate No.  
**1760**



NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-12  
Supersedes C-12P  
Effective 1-1-83

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

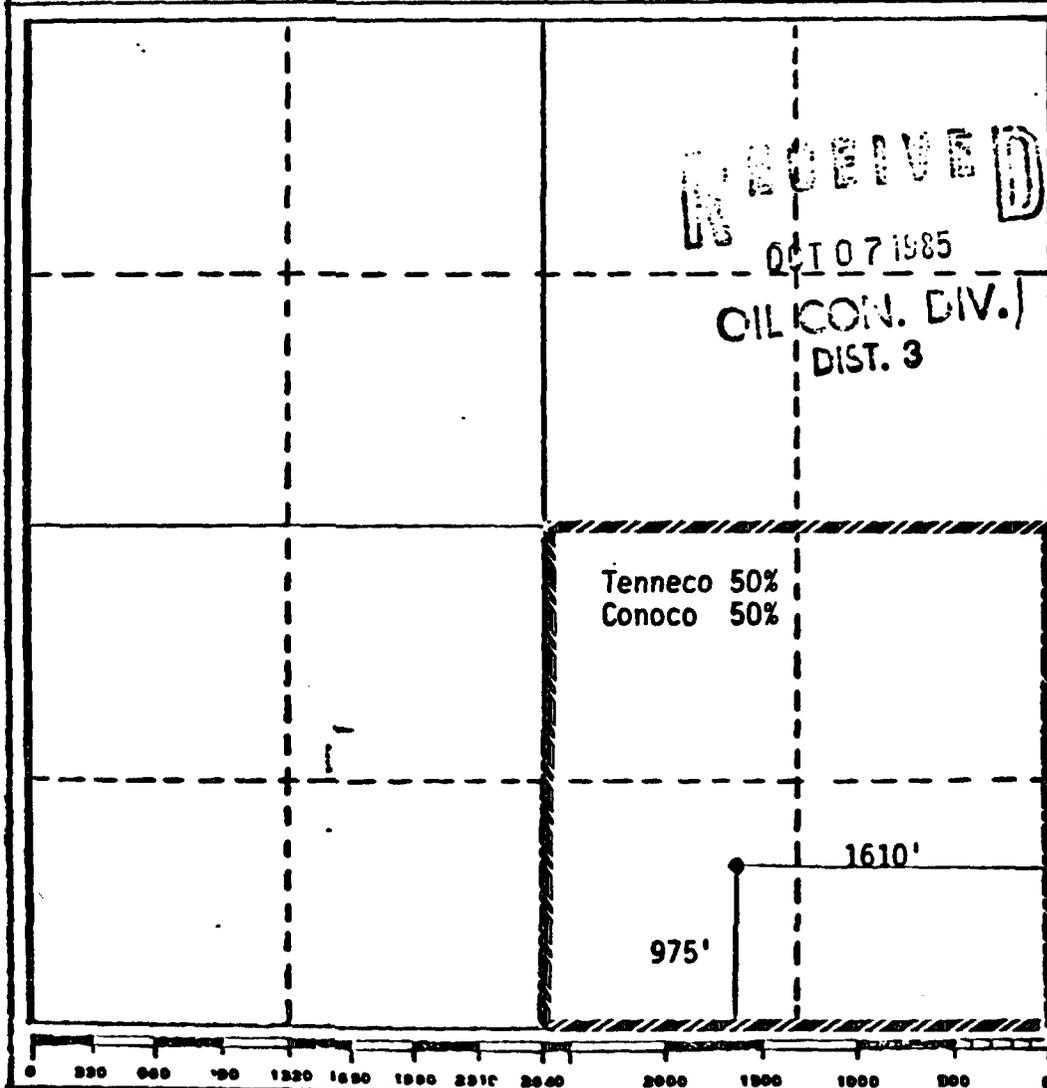
Operator <b>Tenneco Oil Company</b>			Lease <b>Hughes LS</b>		Well No. <b>2A</b>
Unit Letter <b>0</b>	Section <b>19</b>	Township <b>29N</b>	Range <b>8W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>975' 875'</b> feet from the <b>South</b> line and <b>1610</b> feet from the <b>East</b> line					
Ground Level Elev. <b>6482' GL</b>	Producing Formation <b>Pictured Cliffs</b>		Pool <b>Bianco Pictured Cliffs</b>	Dedicated Acreage: <b>160A</b> 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.



<b>CERTIFICATION</b>	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
<i>Scott McKinney</i>	
Name	<b>Scott McKinney</b>
Position	<b>Senior Regulatory Analyst</b>
Company	<b>Tenneco Oil Company</b>
Date	<b>September 1, 1985</b>
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 B2A

T29N-R8W Sec. 19

Blanco Mesaverde Formation

R9W		R8W				
13	②	18	①	②	17	①
24	①	19	①	①	20	
		HUGHES B2A				
25	①	30	②	①	29	
R9W		R8W				

T  
29  
N

① Amoco Production Company

② Meridian Oil Production Inc.

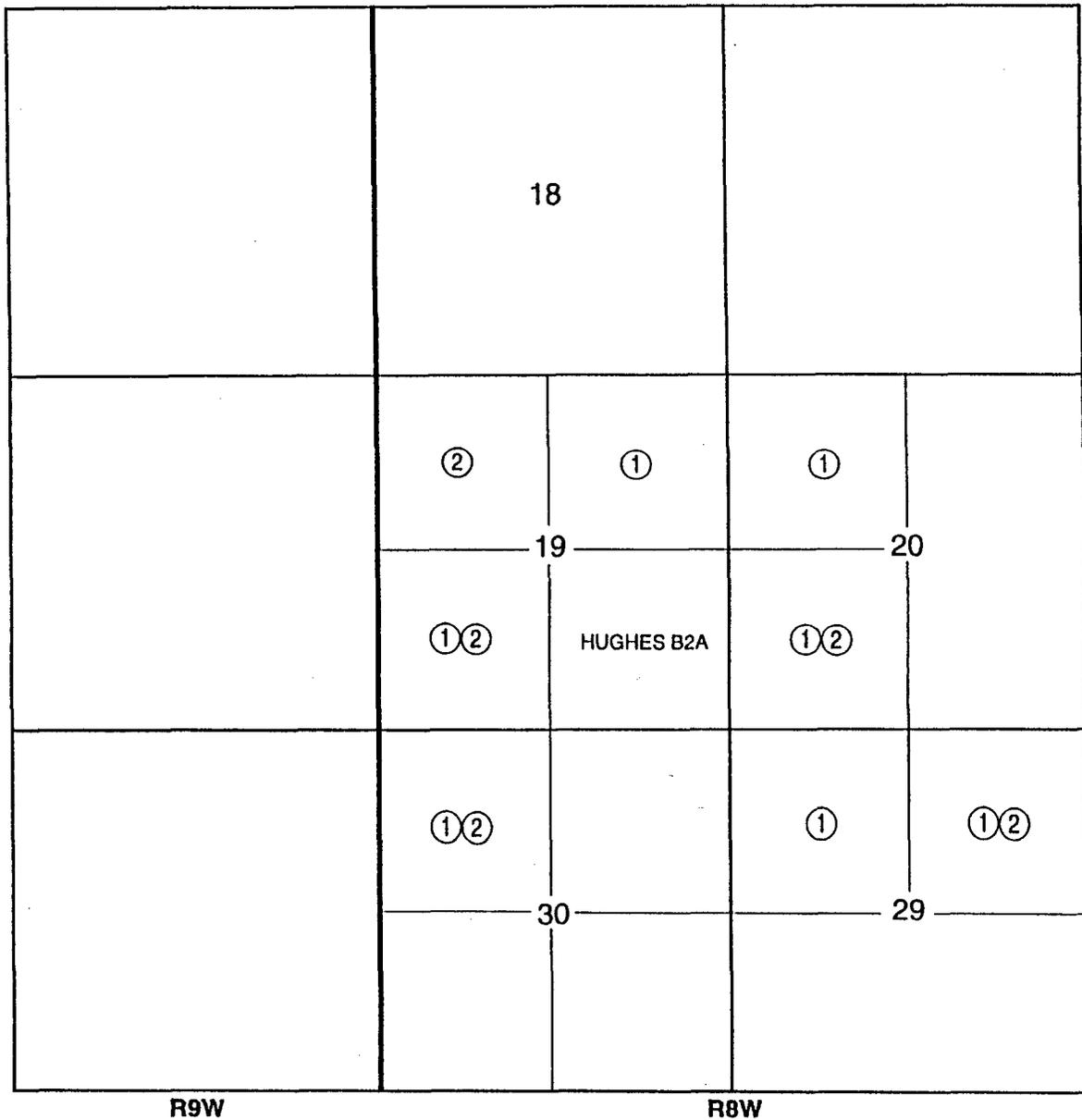
**Amoco Production Company**

Offset Operator Plat

Hughes B2A

T29N-R8W Sec. 19

Pictured Cliffs Formation



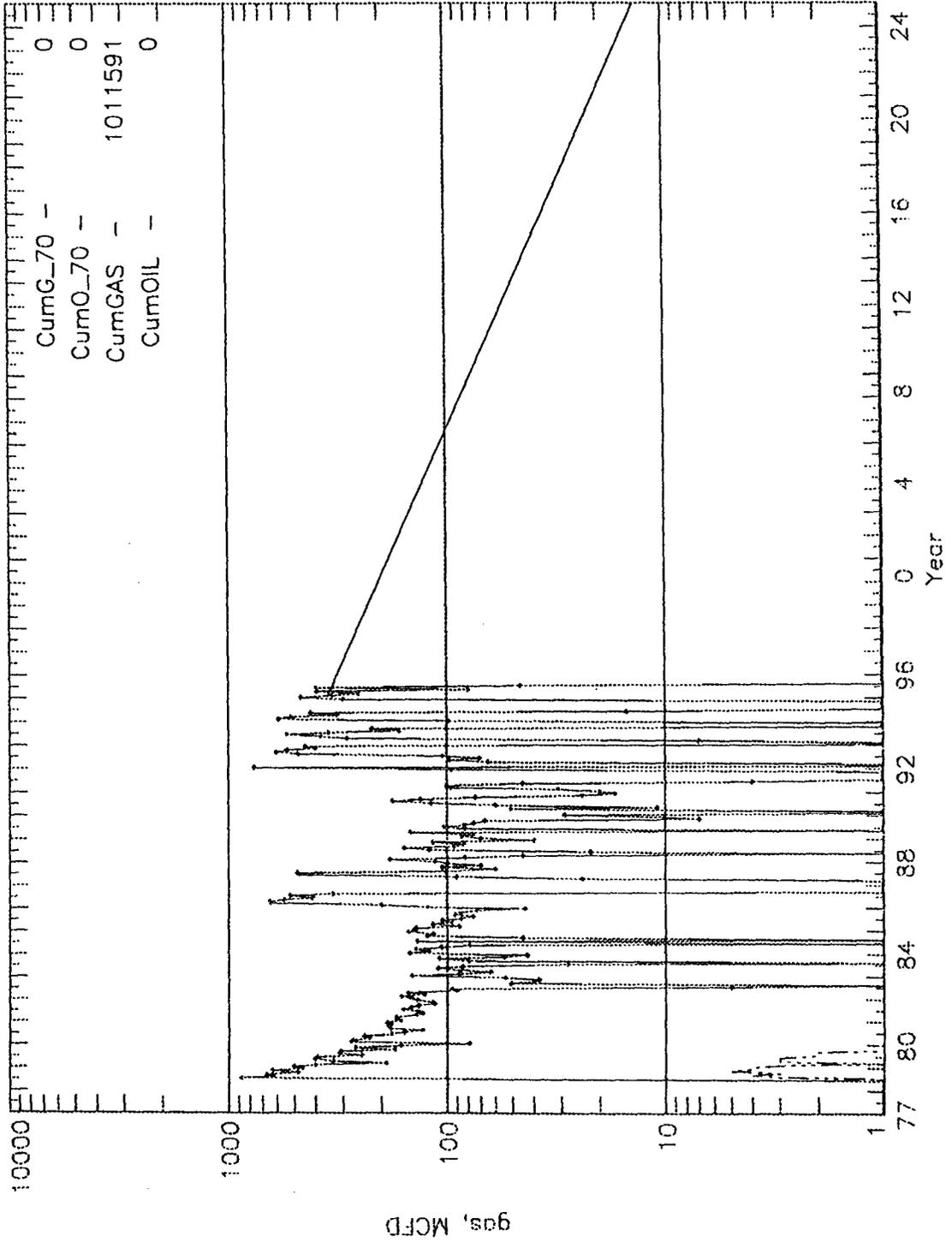
T  
29  
N

- ① Amoco Production Company
- ② Conoco Inc.

zmr14

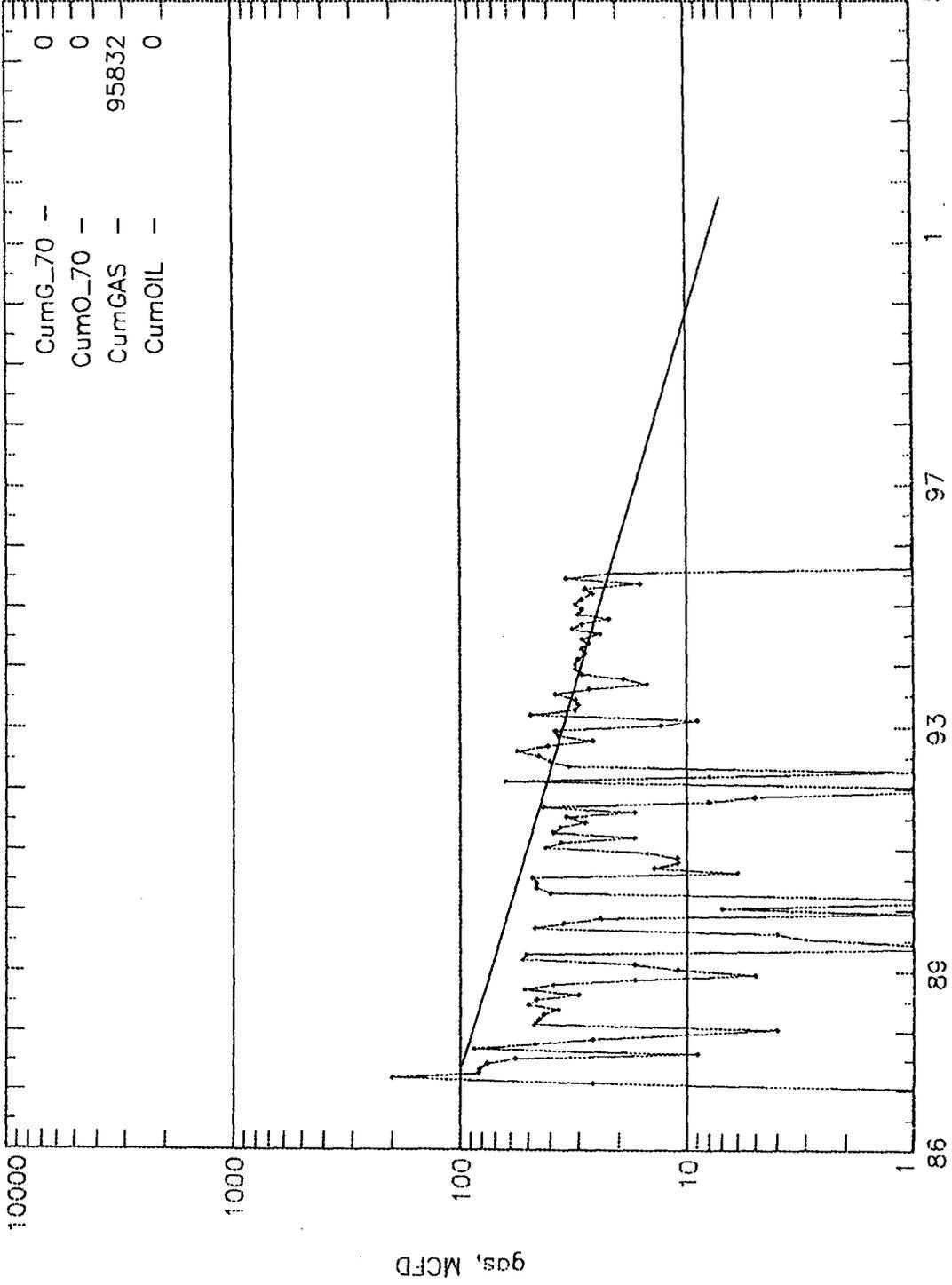
Engr: zmr14

HUGHES B 2A Operator-- AMOCO PRODUCTION CO  
300452271600MV 0192908-002AMV APC\_WI - 0.50000000



Last Op. Forecast by None in None

HUGHES LS 2A Operator- AMOCO PRODUCTION CO  
 300452271600PC 0192908-002APC APC\_WI - 0.500000000



CumG\_70 - 0  
 CumO\_70 - 0  
 CumGAS - 95832  
 CumOIL - 0

Chart1

Well: HUGHES B 002A-PC (97938902)

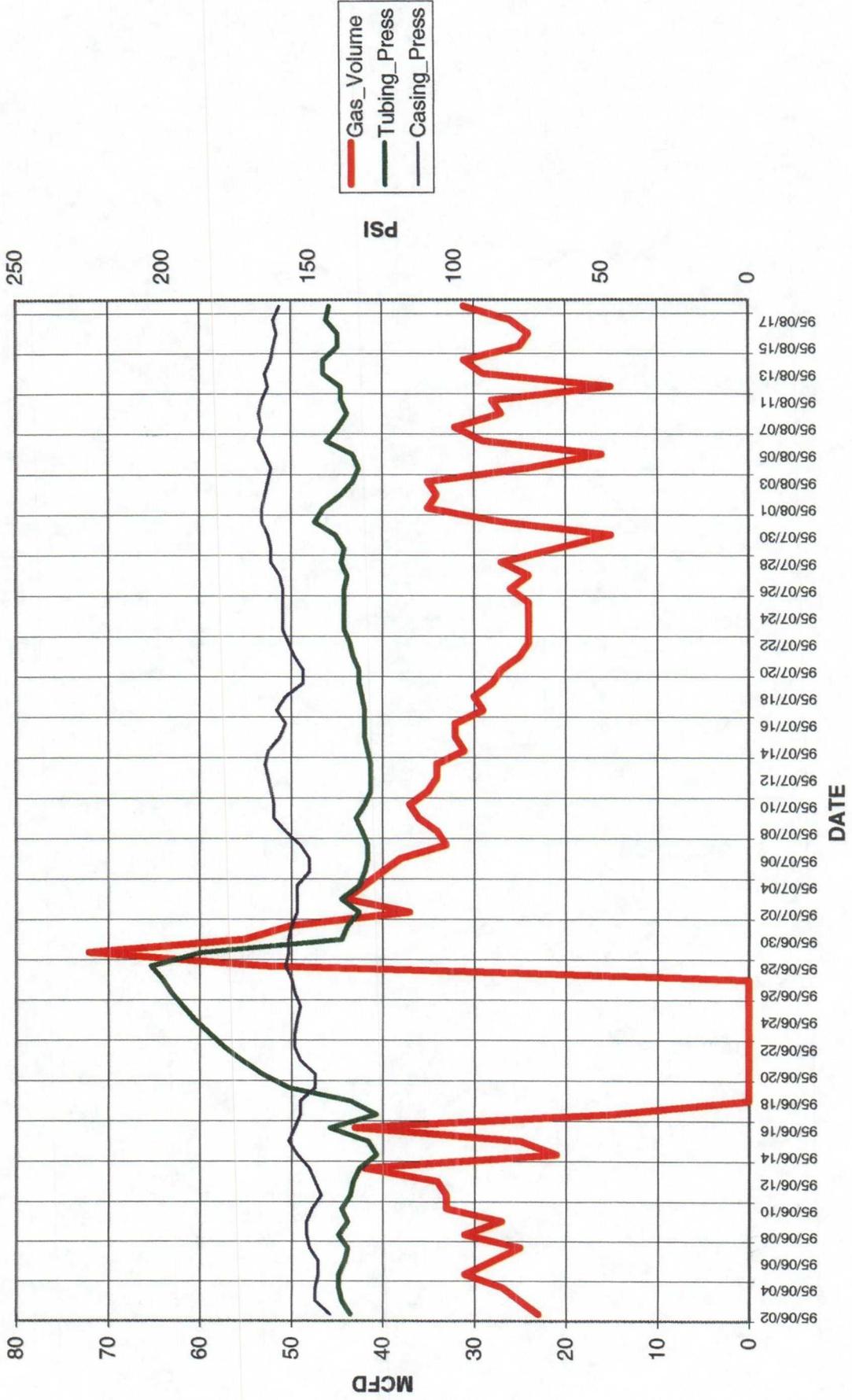
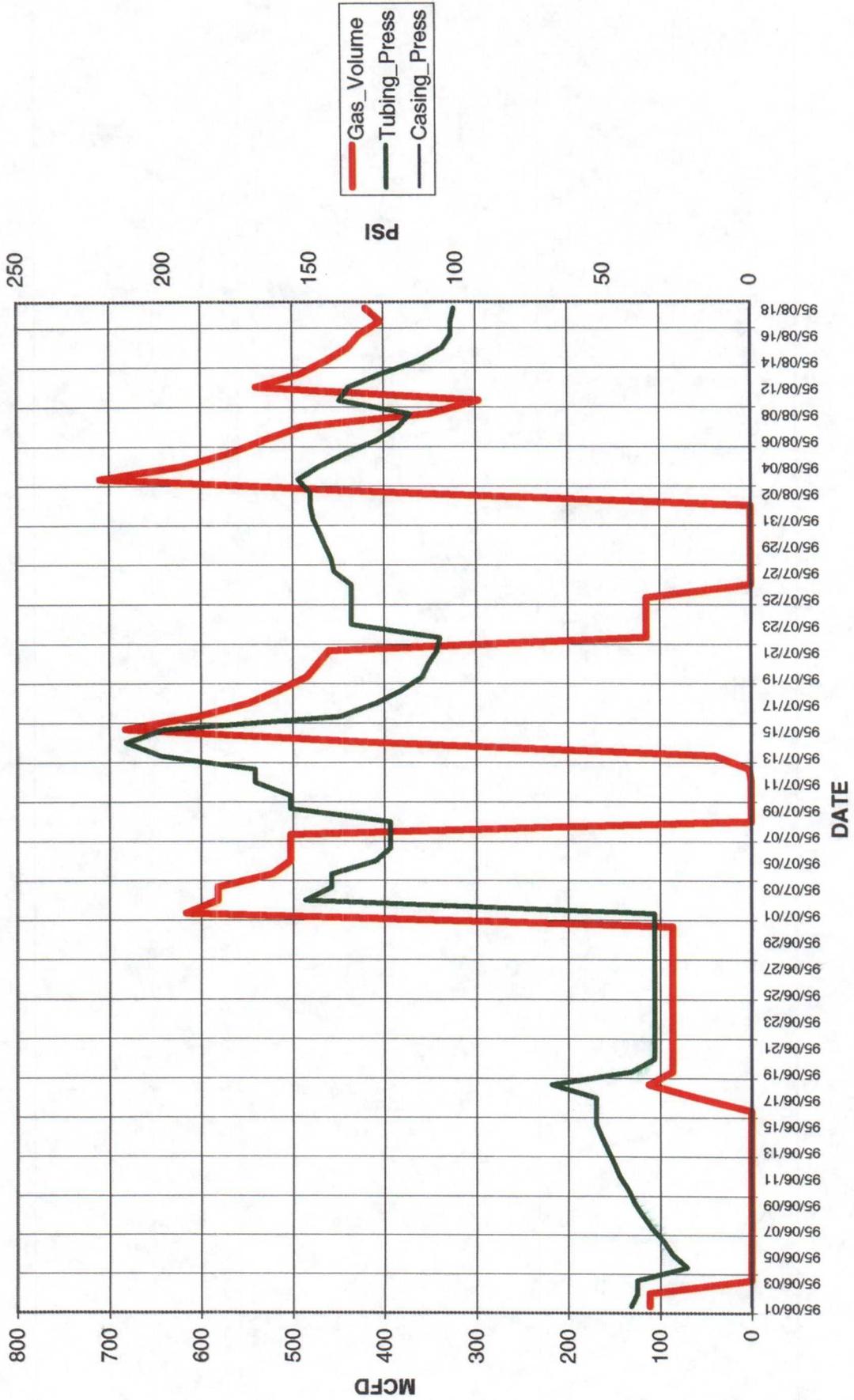


Chart 1

Well: HUGHES B 002A-MV (97938901)



OIL CONSERVATION DIVISION  
NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

**RECEIVED**  
JUL 14 1994

Operator: AMOCO PRODUCTION COMPANY Lease/Well #: HUGHES B #2A  
Meter #: RTU:1-052-11 County: SAN JUAN

OIL CON. DIST. #

	NAME RESERVOIR OR POOL	TYPE PROD	METHOD PROD	MEDIUM PROD
UPPER COMP	HUGHES B #2A BPC 45792	GAS	FLOW	TBG
LWR COMP	HUGHES B #2A MV 90000	GAS	FLOW	TBG

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour/Date Shut-In	Length of Time Shut-In	SI Press. PSIG	Stabilized
UPPER COMP	06/16/94	72 hrs	185	yes
LWR COMP	06/16/94	72 hrs	100	yes

FLOW TEST DATE NO. 1

Commenced at (hour, date)\*

Zone Producing (Upper/Lwr)

TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		Prod Temp.	REMARKS
		Upper	Lower		
06/16/94	Day 1	<del>210</del> 200	TBG		Both Zones SI.
06/17/94	Day 2	210	200	100	Both Zones SI
06/18/94	Day 3	210	200	100	Both Zones SI
06/19/94	Day 4	185	150	100	flow upper zone
06/20/94	Day 5	175	100		" " "
06/21/94	Day 6	150	100		" " "

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)
UPPER COMP				
LWR COMP				

(Continue on reverse side)

**ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION**  
**Atlantic A LS #2A**

MV Perforations at 4656 - 5388' midperf at 5022'  
PC Perforations at 3020'

6/94 shut in pressures --- MV = 100 PSIG  
PC = 185 PSIG

GRADIENT = 0.08 PSI/FT

PC BHP = 185 PSIG + 3020' X 0.08 PSIG  
= 426 PSIG

MV BHP = 100 psig + 5022' X 0.08 PSIG  
= 502 PSIG



STATE OF NEW MEXICO  
 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
 AZTEC DISTRICT OFFICE

DHC-1172



OIL CONSERVATION DIVISION RECEIVED  
 '95 NOV 13 AM 8 52

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: 11/9/95

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 11/6/95  
 for the Amoco OPERATOR Wingha B #2A LEASE & WELL NO.

0-19-29N-8W and my recommendations are as follows:  
 UL-S-T-R

Approve  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Yours truly,

J.S. G