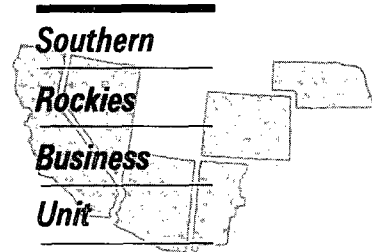


DAC 11-27-95
1172



OIL CONSERVATION DIVISION
RECEIVED

NOV 10 6 40 AM '95



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

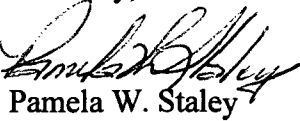
Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Blanco Pictured Cliffs Pools in the Hughes B #2A well referenced above. The Hughes B #2A is currently a dual completion in the Mesaverde and Pictured Cliffs formations. We plan 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.

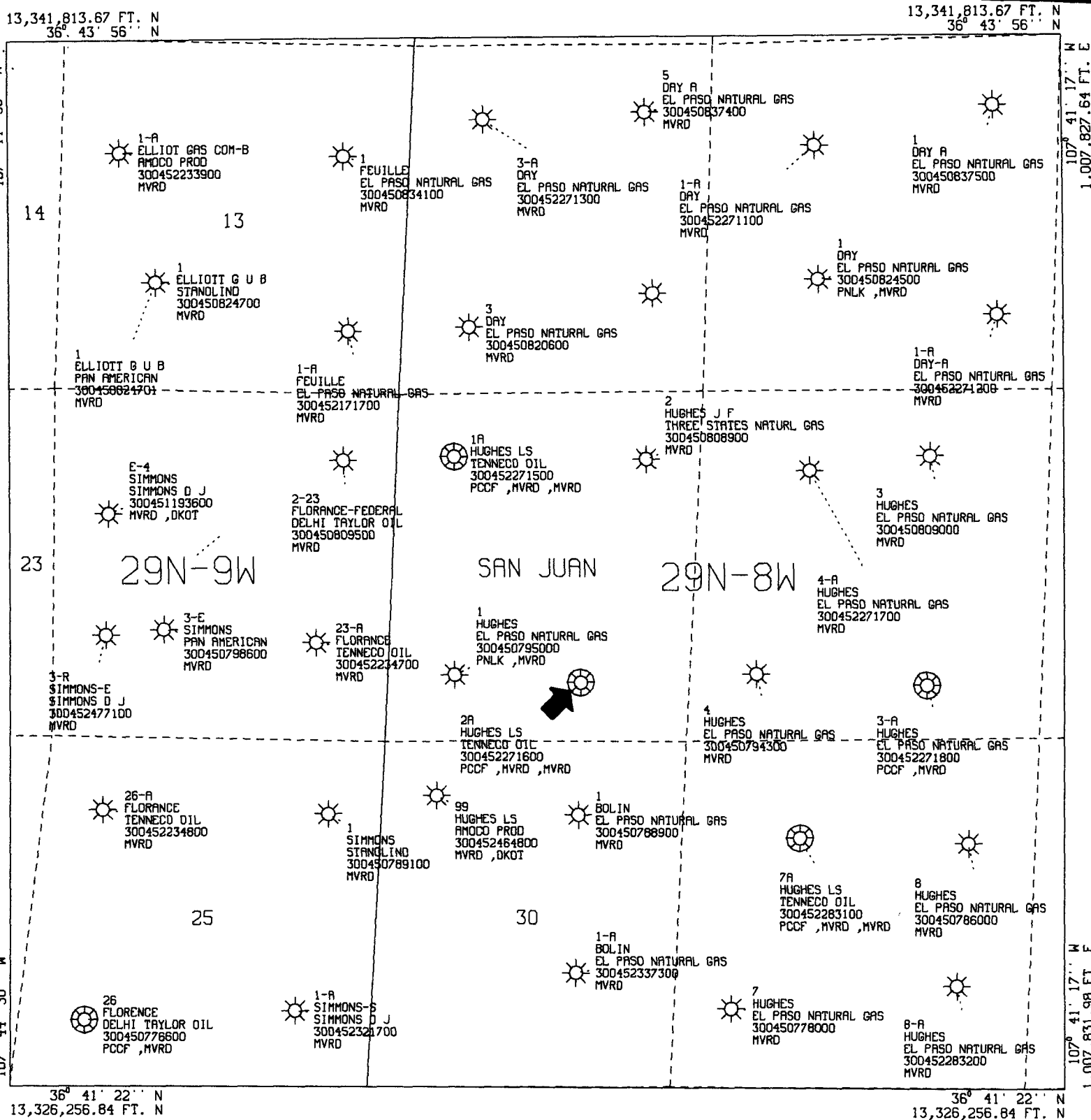
- (10) A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.

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



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.

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

AMOCO PRODUCTION COMPANY
PLAT MAP
Hughes B 2A
Mesaverde

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

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

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 EL PASO NATURAL GAS COMPANY			Lease HUGHES (SF 078046)		Well No. 2A
Unit Letter 0	Section 19	Township 29-N	Range 8-W	County SAN JUAN	

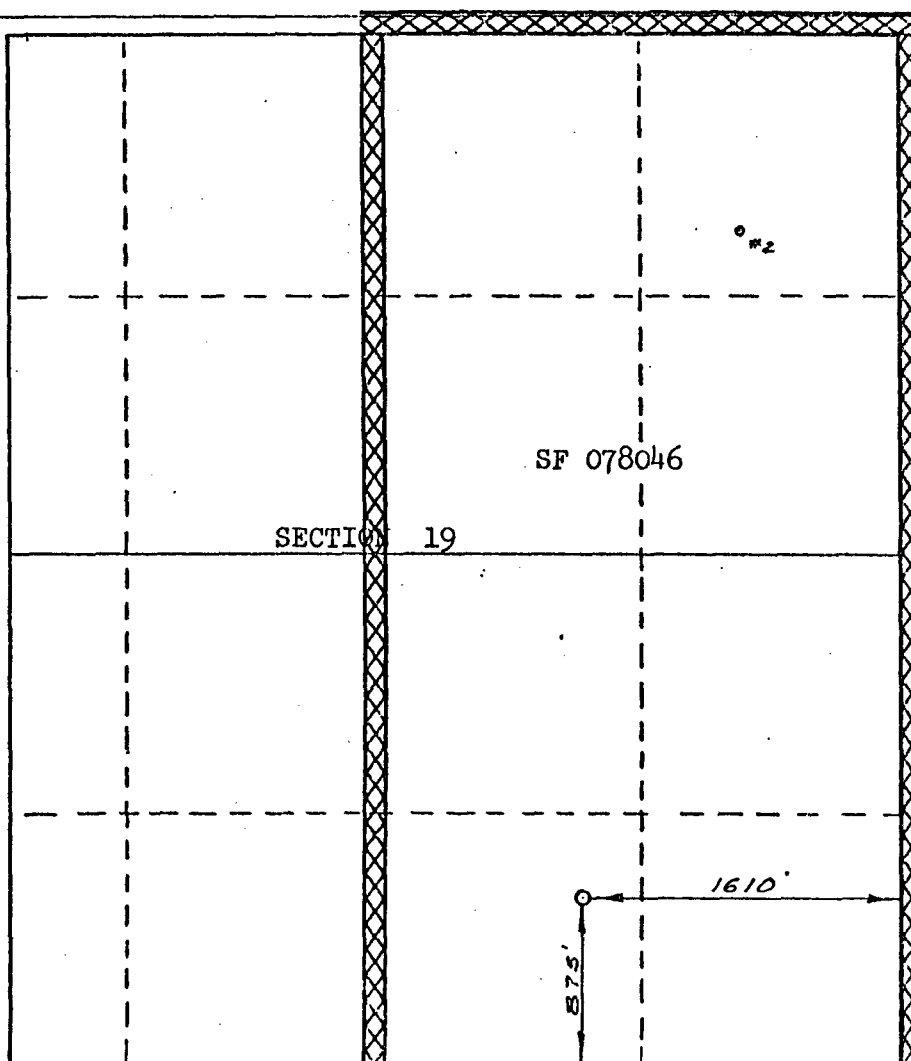
Actual Footage Location of Well: 875 feet from the SOUTH line and 1610 feet from the EAST line					
Ground Level Elev. 6482	Producing Formation MESA VERDE		Pool BLANCO MESA VERDE	Dedicated Acreage: 320.00 Acres	

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.

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

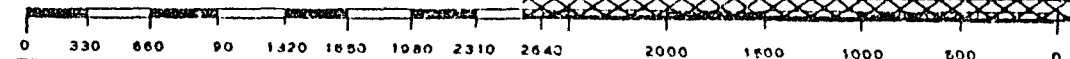
JULY 21, 1977

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-1P
Supersedes C-12P
Effective 1-1-81

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

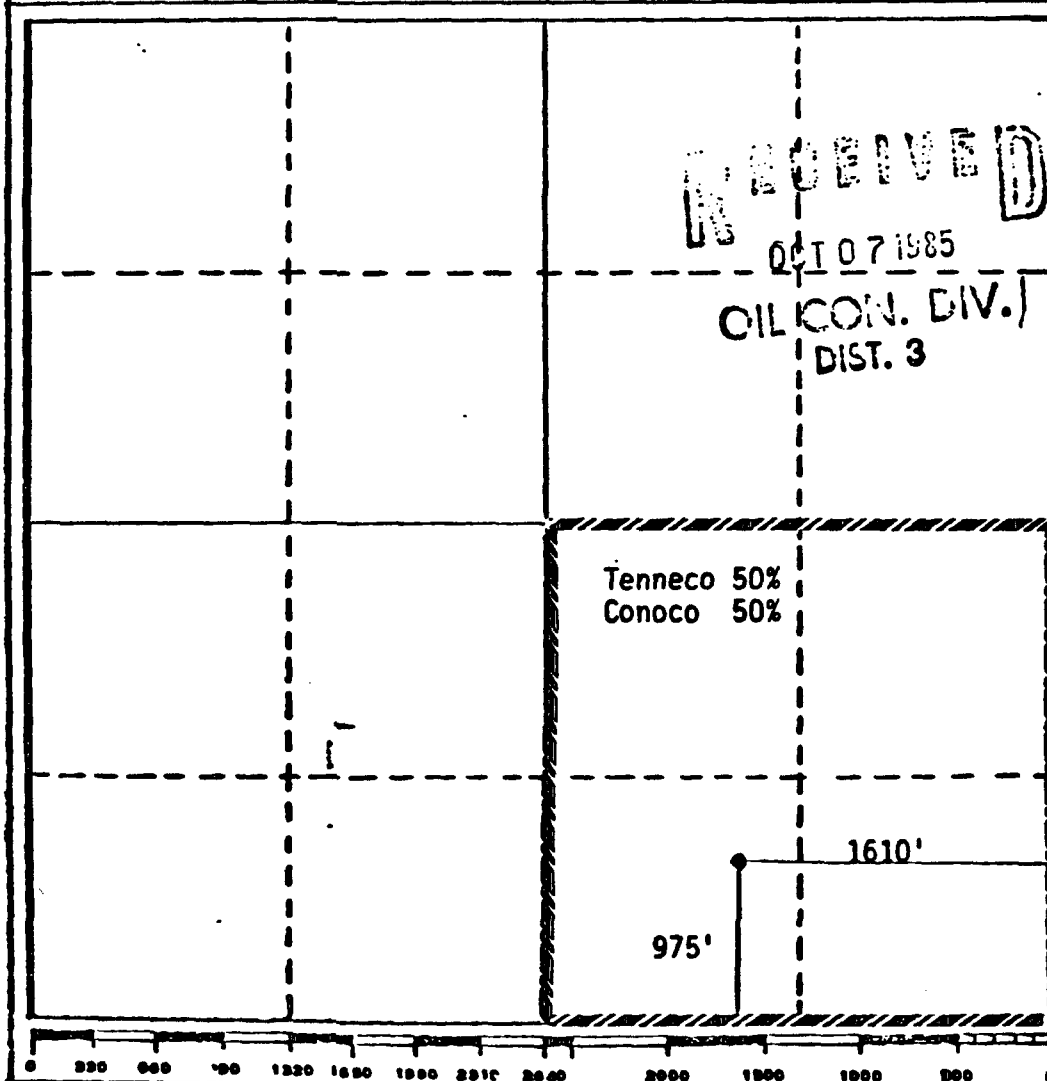
Operator Tenneco Oil Company			Lease Hughes LS		Well No. 2A
Unit Letter 0	Section 19	Township 29N	Range 8W	County San Juan	
Actual Footage Location of Well: 975' 875' feet from the South line and 1610 feet from the East line					
Ground Level Elev. 6482' GL	Producing Formation Pictured Cliffs		Pool Blanco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

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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 B2A
 T29N-R8W Sec. 19
 Blanco Mesaverde Formation

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

T
29
N

HUGHES B2A

- ① Amoco Production Company
 ② Meridian Oil Production Inc.

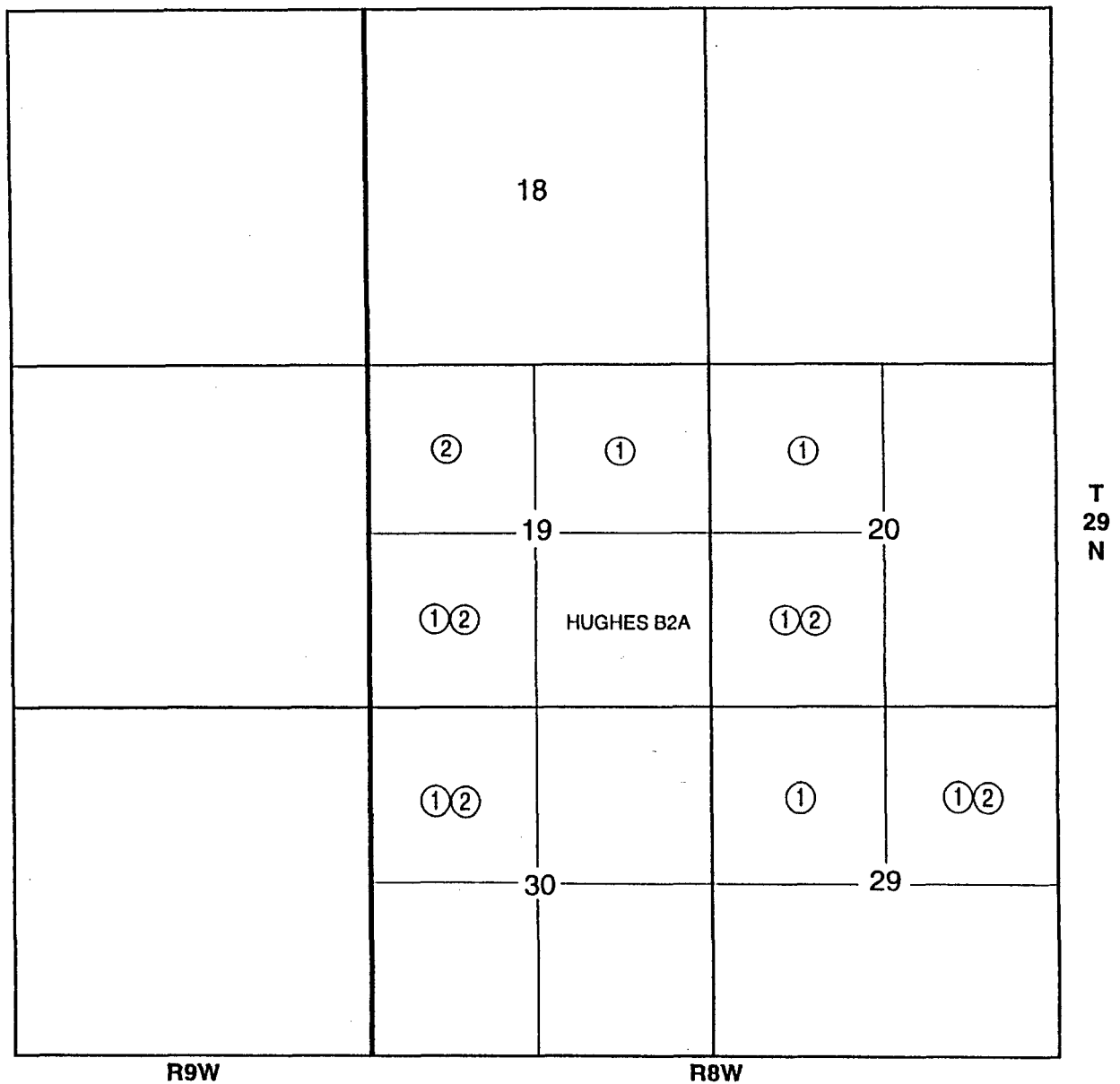
Amoco Production Company

Offset Operator Plat

Hughes B2A

T29N-R8W Sec. 19

Pictured Cliffs Formation



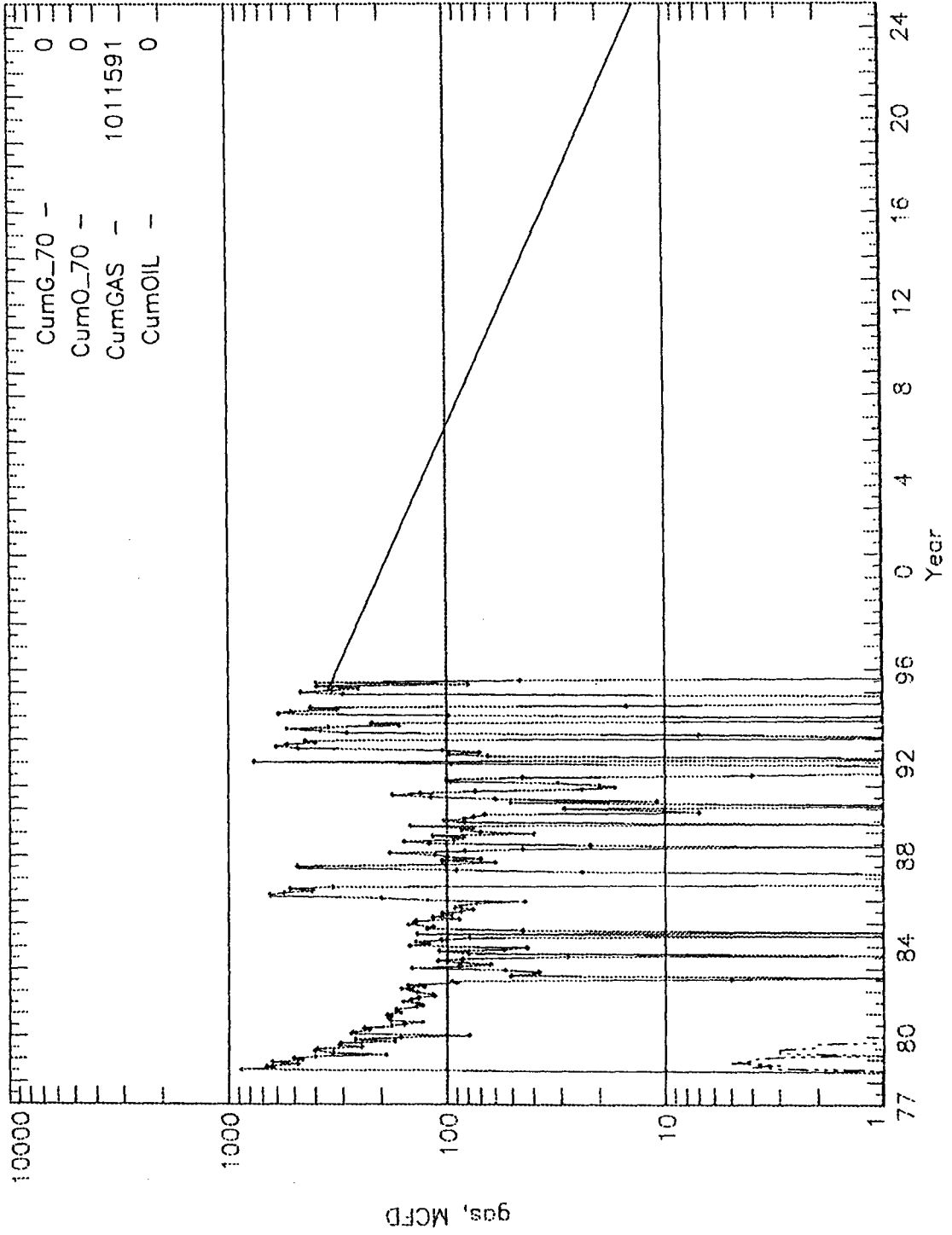
- ① Amoco Production Company
- ② Conoco Inc.

zmrf14

Engr: zmrf14

HUGHES B 2A
300452271600MV 0192908-002AMV Operator- AMOCO PRODUCTION CO
APC_WI - 0.50000000

CumG_70 - 0
CumO_70 - 0
CumGAS - 1011591
CumOIL - 0



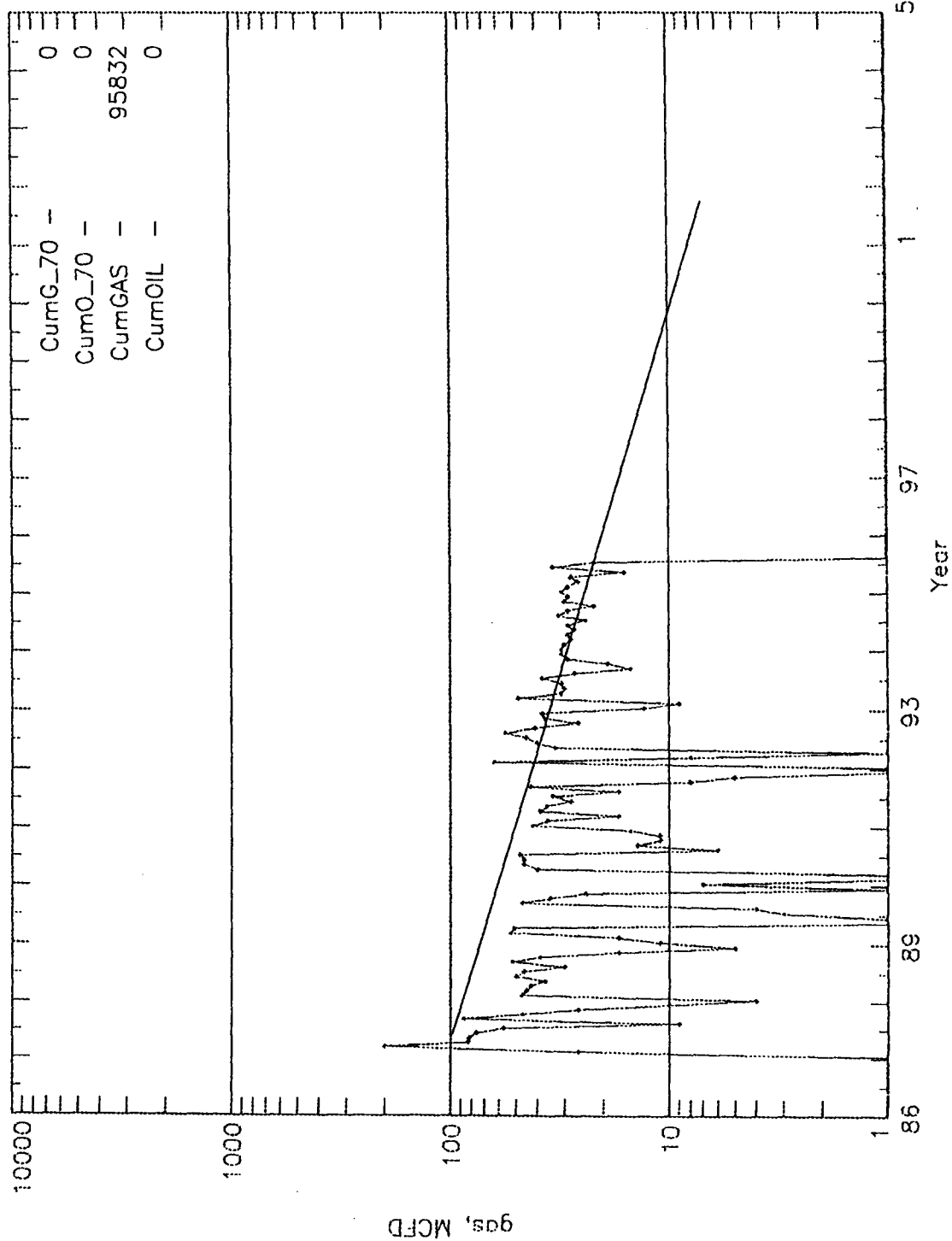
Last Op. Forecast by None in None

zmrf14

Engr: zmrf14

HUGHES LS 2A
300452271600PC 0192908-002APC Operator- AMOCO PRODUCTION CO
APC_WI - 0.50000000

CumG_70 - 0
CumO_70 - 0
CumGAS - 95832
CumOIL - 0



Last Op. Forecast by zmrf14 in 07/1994

Chart1

Well: HUGHES B 002A-PC (97938902)

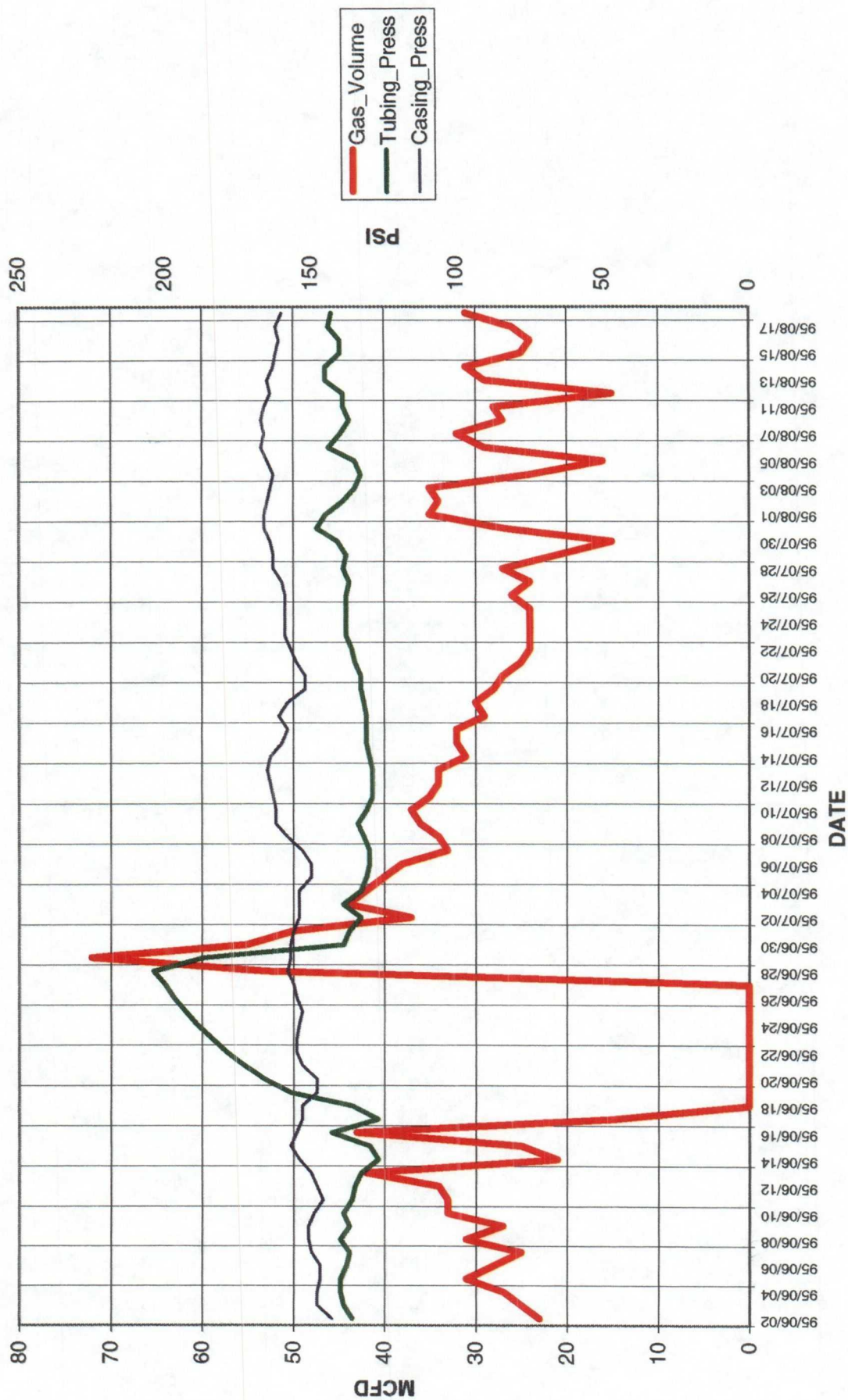
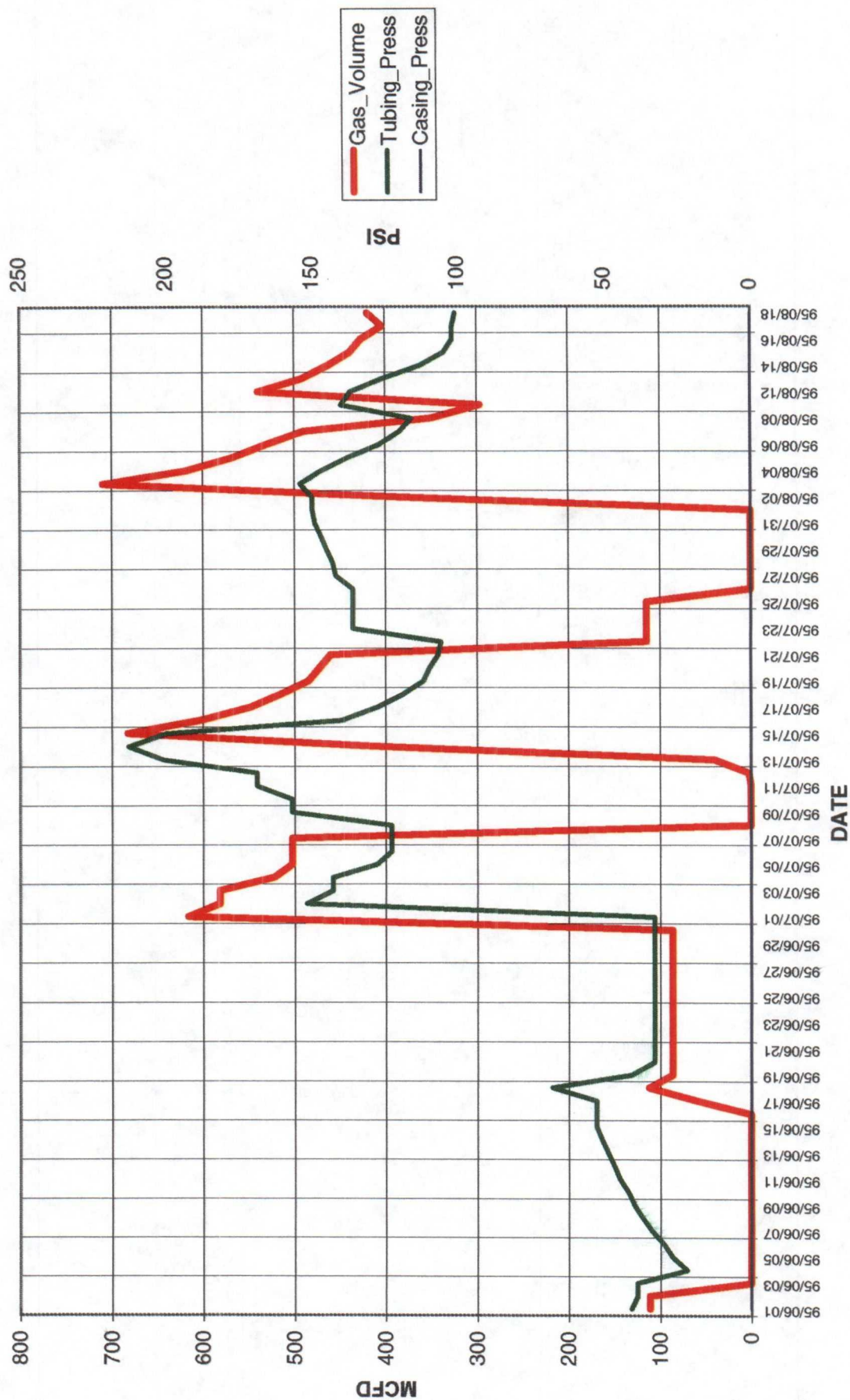


Chart1

Well: HUGHES B 002A-MV (97938901)



STATE OF NEW MEXICO
ENERGY and MINERALS DEPARTMENT

Location of Well: 0-19-29-8 Page 1

OIL CONSERVATION DIVISION
NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

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

RECEIVED
JUL 14 1994

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

OIL CON. DIST. #

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour/Date Shut-In	Length of Time Shut-In	SI Press. PSIG	Stabilized
UPR 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 (Upr/Lwr)

TIME (hour, date)	LAPSED TIME SINCE*	Upper Pressure	Lower Pressure	Prod Temp.	REMARKS
06/16/94	Day 1	210 200	100		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)
UPR 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

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 Wingfield #2A
OPERATOR LEASE & WELL NO.

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

Approve

Yours truly,

JS. S