

EXXON COMPANY, U.S.A.

POST OFFICE BOX 1600 • MIDLAND, TEXAS 79702-1600

OIL CONSERVATION DIVISION
RECEIVED

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PRODUCTION DEPARTMENT
SOUTHWESTERN DIVISION

September 10, 1990

Downhole Commingling
F. F. Hardison "B" #4
Unit B, Section 34, T21S, R37E
Lea County, New Mexico

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

Attention: Mr. David R. Catanach

Exxon Corporation requests an exception to New Mexico Oil Conservation Division Rule 303-A to permit downhole commingling of production from the Blinebry Oil and Gas and Drinkard pools in the captioned wellbore.

The well is currently a dual completion with the Drinkard producing 4 bopd and 163 mcfpd on plunger lift up the tubing and the Blinebry is dead in the casing-tubing annulus (see attached wellbore schematic). The Blinebry has been shut-in during the 12 months ending 5/31/90. The well has a static fluid level of 4000' and casing pressure of only 10 psig. By downhole commingling the Blinebry with the economic Drinkard completion and artificially lifting both zones, Exxon will be able to recover additional reserves from the Blinebry that would not otherwise be recovered.

Exxon proposes to perforate the tubing to establish communication with the Blinebry, and to artificially lift remaining reserves out of both zones simultaneously using plunger lift.

All offset operators have been notified by copy of this letter and its attachments.

Sincerely,



Michael W. Andrews
Compliance Supervisor

MWA:dbm
Attachments

c: Offset Operators
Mr. Jerry Sexton, NMOCD, Hobbs, NM
2 copies to addressee

OFFSET OPERATORS

EXXON'S F. F. HARDISON "B" LEASE

Amoco Production Company
Box 39
Hobbs, New Mexico 88240

Arco Oil and Gas Company
Box 1610
Midland, TX 79702

Bravo Operating Company
Box 2160
Hobbs, New Mexico 88240

Chevron USA, Inc.
P. O. Box 670
Hobbs, New Mexico 88240

Conoco
Box 460
Hobbs, New Mexico 88240

Marathon Oil Corporation
P. O. Box 552
Midland, TX 79702

Mobil Producing TX & NM, Inc.
Nine Greenway Plaza, Suite 2700
Houston, TX 77046

Moran Corporation
1111 Fannin, Suite 1340
Houston, Texas 77590

Texaco
4601 DTC Blvd.
Denver, Colorado 80237

Attachment 2
F. F. Hardison "B" #4
Downhole Commingling - Data Required

To obtain approval for downhole commingling, we have enclosed the following data pursuant to Rule 303 (C) (2) (a through j):

1. Exxon's name and address:

Exxon Corporation
P. O. Box 1600
Midland, TX 79702

2. Lease name, well number, well location, and name of pools to be commingled:

F. F. Hardison "B" No. 4, Unit B, Section 34, T-21-S, R-37-E, Lea County, New Mexico. Pools to be commingled: Blinebry Oil and Gas and Drinkard.

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

Attached.

4. A 24-hour productivity test on Division Form C-116 showing the amount of oil, gas, and water produced from each zone:

Tests for the Blinebry Oil and Gas and Drinkard are attached.

5. A production decline curve for 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:

Decline curves for the Blinebry and Drinkard are attached.

6. A current bottomhole pressure for each zone capable of flowing:

Measured shut-in bottomhole pressure is 421 psig for the Drinkard (measured by static downhole pressure bomb in the F. F. Hardison "B" #4), and 492 psig for the Blinebry (estimated from static fluid level in the tubing-casing annulus in the F. F. Hardison "B" #4).

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

Produced fluids are already surface commingled with no compatibility problems.

F. F. HARDISON "B" #4
DOWNHOLE COMMINGLING APPLICATION

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:

All of the crude and condensate currently produced from the Blinebry and Drinkard is already being surface commingled into one common stock tank, and sold as a mixture.

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 a formula:

The Drinkard has produced an average of 4 bopd and 120 mcfpd during the 12 months ending 5/31/90. The contribution from the Blinebry will be determined by subtracting the prior rate of the Drinkard from the total commingled rate. A test period of 2 to 3 weeks will be used to obtain a stabilized rate prior to submitting the allocation formula.

10. A statement that all offset operators and, in case of a well on Federal land, the United States Geological Survey, has been notified in writing of the proposed commingling.

By copy of this letter, we are notifying the offset operators of this proposed commingling.

11. In addition, working interest and royalty interest ownership in all zones are the same.

Operator Exxon Corporation			Lease F. F. Hardison "B"		Well No. 1
Unit Letter H	Section 34	Township 21-S	Range 37-E	County Lea	
Actual Footage Location of Well: 1980 feet from the North line and 440 feet from the East line					
Ground Level Elev. 3,395' DF	Producing Formation Upper Clearfork	Pool Blinebry Gas	Dedicated Acreage: 160 Acres		

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
Well No. 4 and Well No. 1 to share 160 acre proration unit.

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.

Name
Melba Knipping

Position
Proration Specialist

Company
Exxon Corporation
Box 1600 Midland, Texas

Date
10-18-76

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 5, 1974

Registered Professional Engineer and/or Land Surveyor
H. S. Waterfield

Certificate No.
1282

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 Test Period - Jan., Feb., March, April

Operator	EXXON Co., U.S.A. Operations Acctg.	P.C. #3	Pool		County	Lea									
Address		P. O. Box 1600		Midland, TX 79702	TYPE OF TEST - (X)										
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBQ PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	Completion			Special		
		U	S	T						R	WATER BBL.S.	PROD. GRAV. OIL		OIL BBL.S.	GAS M.C.F.
F. F. Hardison "B"	1 L	H	34	21	37	1-7-90	F 32			24	0	0	0	6	
	3	G	34	21	37	S.I.									
	4 L	B	34	21	37	2-11-90	F 28			24	0	3	0	235	78470
	5	O	27	21	37	2-7-90	F 32			24	0	0	0	4	
	7 L	P	27	21	37	2-24-90	F 32			24	0	0	2	104	
	8 L	I	27	21	37	2-13-90	F 16			24	0	0	0	3	

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.

Anita R. Douglass
Signature

Anita R. Douglass, Sr. Staff Ofc. Asst.

Printed name and title

5-11-90

Date

915/688-7627

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

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

Test Period - July, August, September

Operator Exxon Co., U.S.A. Operations Accounting P.C. #3		Pool Blinberry Oil & Gas		County Lea										
Address P. O. Box 1600 Midland, TX 79702		TYPE OF TEST - (X) ☒ Scheduled		Completion ☐ Special ☐										
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	T.B.G. PRESS.	DAILY ALLOW. ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT/BBL.	
		U	S	T						R	WATER BBL.S.	GRAV. OIL		OIL BBL.S.
F. F. Hardison 'B'	1	H	34	21	37	7/4/89	F			24	0	0	19	
	4	B	34	21	37	7/24/89	F				0	0	7	
	6	J	27	21	37	8/8/89	P				1	6	148	24667
	7	P	27	21	37	7/12/89	F				0	0	314	
	8	I	27	21	37	7/8/89	F				0	0	35	
New Mexico 'S' State	12	A	2	22	37	7/28/89	F				0	0	10	
	14	C	2	22	37	7/28/89	F				0	0	40	
	21	L	2	22	37	7/28/89	F				0	0	795	
	22	M	2	22	37	8/21/89	F				0	11	140	12753
	23	P	2	22	37	9/27/89	F				0	0	1802	

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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.

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

Anita R. Douglass
Signature

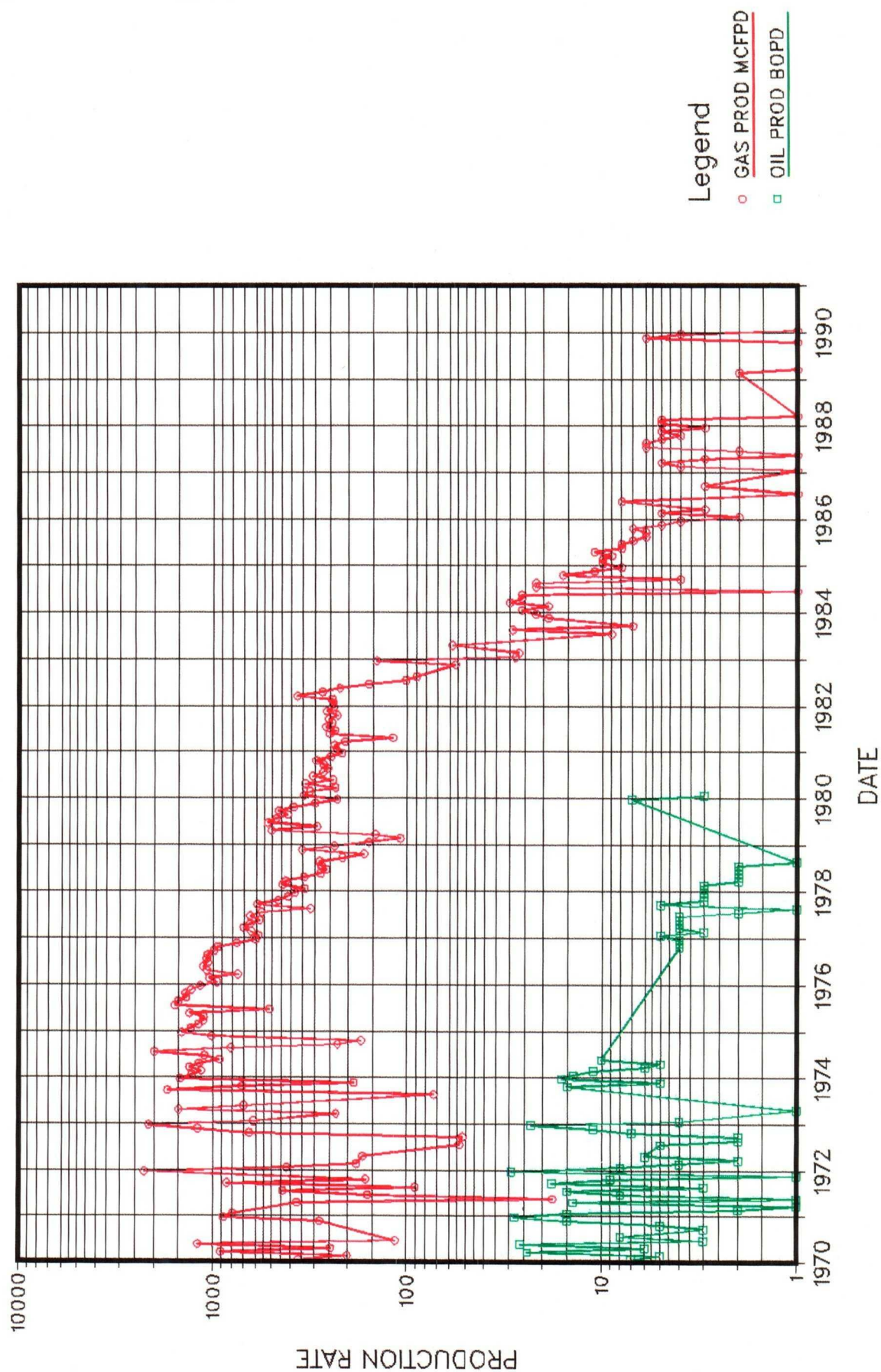
Anita R. Douglass, Sr. Staff Ofc. Asst
Printed name and title

10/9/89
Date

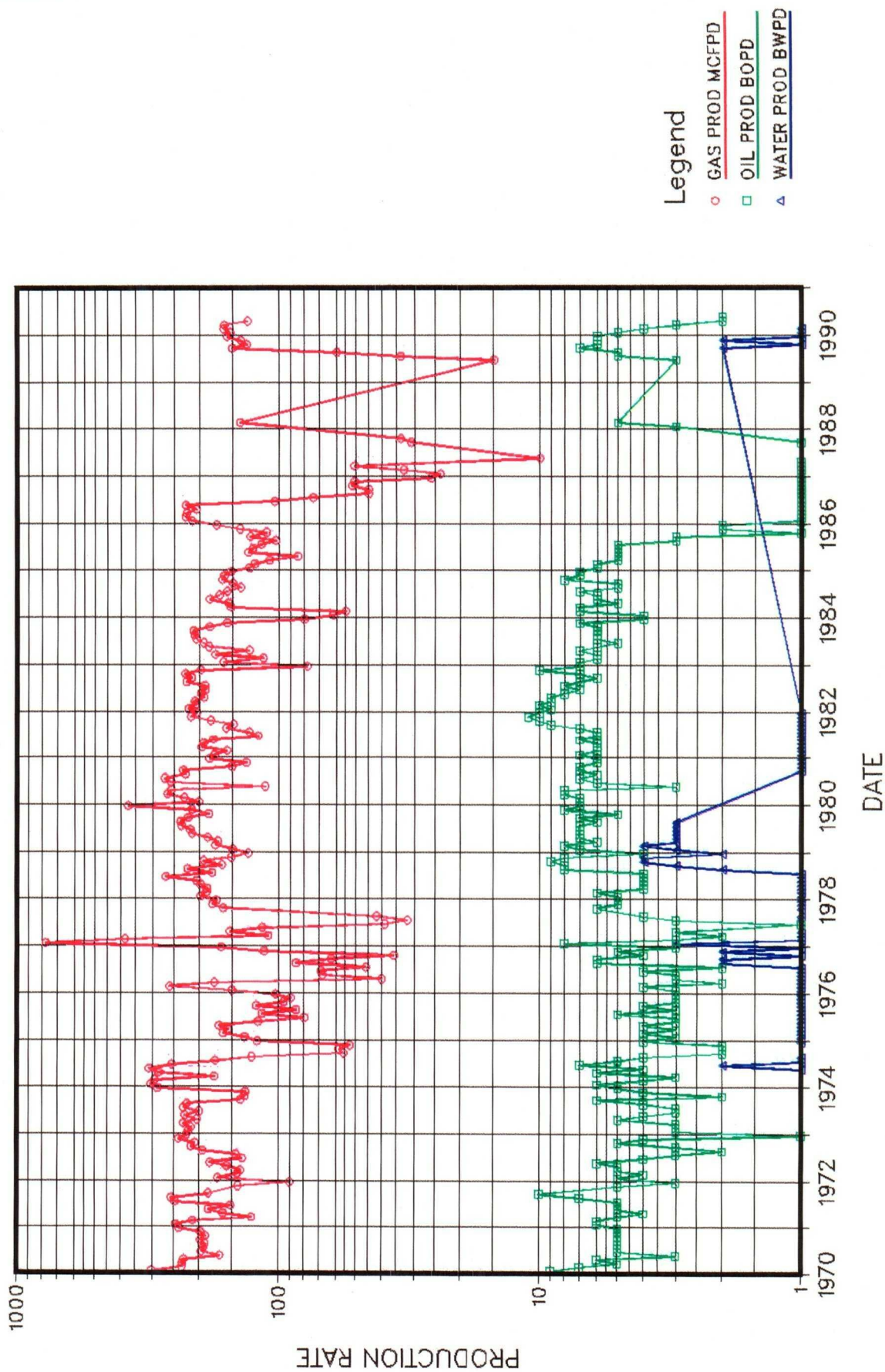
915/688-7627

Telephone No.

F. F. HARDISON B #4 BLINEBRY GAS PRODUCTION



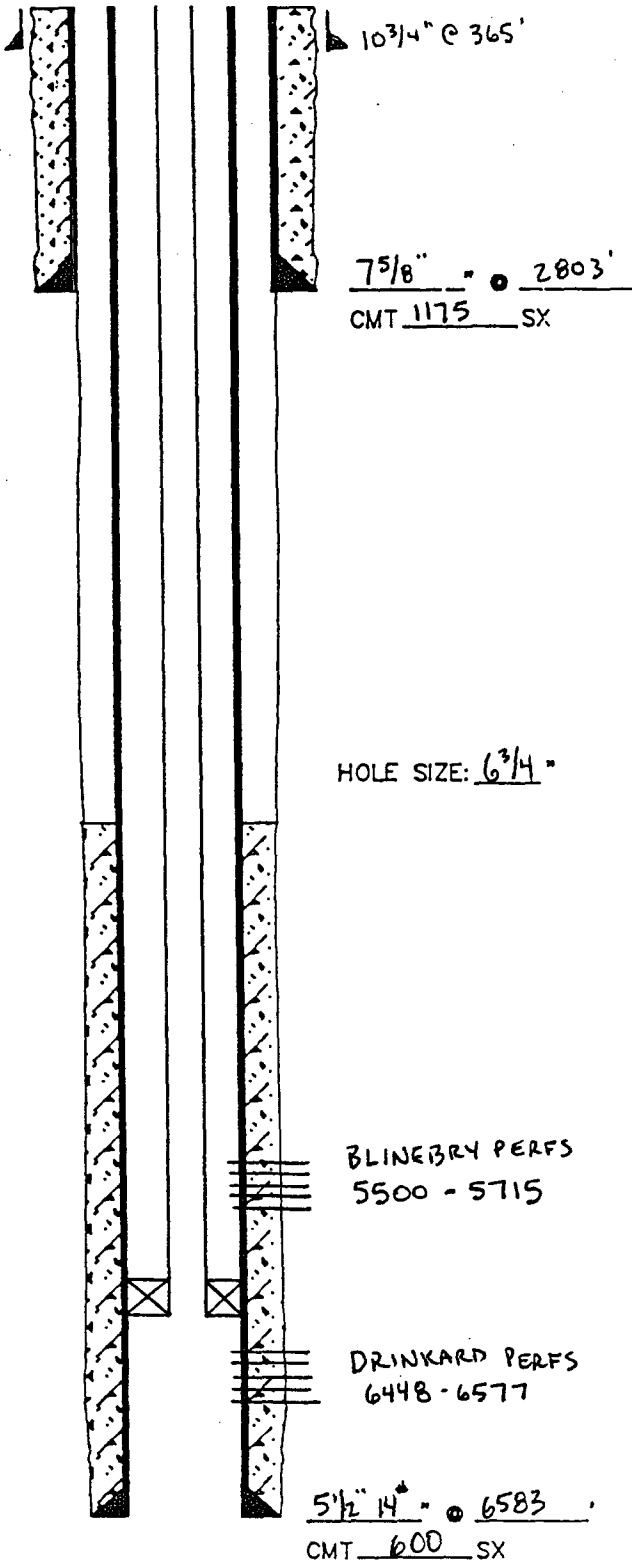
F. F. HARDISON B #4 DRINKARD PRODUCTION



WELLBORE SKETCH AND WELL HISTORY

ELEV.: KB 3414 * 1 ' ABOVE DF

LEASE & WELL NAME: F.F. HARDISON "B" #4
 FIELD: B-D-T COUNTY: LEA ST.: NM
 LOCATION: UNIT B, SEC 34, T21S, R37E
 DATE: 7/17/90 BY: KPJ REV.: _____ BY: _____



CASING RECORD

SURFACE CASING

O.D.	WT/FT	GRADE	SET AT
7 5/8			2803

PRODUCTION CASING

5 1/2	14		6583

TUBING

NO. JTS.	O.D.	THD.	TYPE	WT.	GDE.	SET AT
	2 3/8			4.7 #	H-40	

WELL HISTORY:

9/46 Drill and complete
 Perf Drinkard 6448-6577
 Acidize w/ 3000 gals
 IP = 642 BOPD GOR = 872 scf/561

1/54 Workover to make dual completion
 with the Blinebry Gas
 Perf Blinebry 5555-70, 5580-5620,
 5640-80 @ 2 spf
 Acidized twice - 3000 gals then 6000 gals
 IP = 610 mcfpd

12/55 Add perfs in Blinebry
 5500-30, 5680-5715 4 spf
 Acidize w/ 500 gals.
 Frec 5555-5715 w/ 20,000 gals oil
 + 20,000 # sand
 Frec 5500-30 w/ 10,000 gals oil
 + 10,000 # sand
 IP = 5896 mcfpd

Blinebry flows up tubing/casing annulus
 Drinkard flows up tubing

TD: 6584 ' PBD: 6580 '

[illegible]



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

9-13-90

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:

MC	_____
DHC	<u>X</u> _____
NSL	_____
NSP	_____
SWD	_____
WFX	_____
PMX	_____

OIL CONSERVATION DIVISION
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SEP 17 AM 9 57

Gentlemen:

I have examined the application for the:

Exxon Corp. F-F-Hardison B #4-B 74-21-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Jerry Sexton
Supervisor, District 1

/ed