

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" No. 8
Unit I, Section 27, T21S, R37E
Lea County, New Mexico

Mr. David R. Catanach
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

Dear Mr. 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 Blinebry flowing 35 mcfpd up the casing-tubing annulus and the Drinkard completion dead (wellbore schematic attached). The Blinebry has produced an average of 33 mcfpd and the Drinkard has been shut-in during the 12 months ending 5/31/90.

In order of our preference we see the following options for depleting these two zones:

- 1) Perforate the tubing and commingle the Drinkard and Blinebry up the tubing. Extra gas production from the Blinebry may be enough to unload the fluid in the tubing from the Drinkard (static and flowing bottomhole pressure surveys on 5/24/90 indicate a fluid level at 5000'). Plunger lift may be used to aid in keeping the wellbore unloaded. This option avoids having to kill the well. Exxon prefers this option.
- 2) Kill the well, pull the packer, put the well on rod pump, and downhole commingle the Drinkard and the Blinebry. This method risks losing both zones because the well would have to be killed. Exxon views this option as a second alternative to Option 1, should plunger lift not be adequate to produce the well.
- 3) Set a blanking plug in the packer, perforate the tubing, and produce the Blinebry up the tubing. This option would only be pursued if downhole commingling authority is denied. It would not recover any remaining Drinkard reserves which could be recovered by artificially lifting the combined production.

Downhole Commingling
F. F. Hardison "B" No. 8

2

Based on current production, the Drinkard would not be economical to artificially lift by itself. Commingling the Blinebry with the Drinkard would be attractive enough to justify artificial lift.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andrews", written over a horizontal line.

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" #8
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. 8, Unit I, Section 27, 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 787 psig for the Drinkard (measured by static downhole pressure bomb in the F. F. Hardison "B" #8), and 1052 psig for the Blinebry (estimated from static fluid level in the tubing-casing annulus in the F. F. Hardison "B" #8).

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" #8
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 Wantz 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:

A blanking plug will be put in the packer. The tubing will be perforated, and the rate will be measured from the Blinebry for a period of 2-3 weeks. The blanking plug will then be retrieved, and the Drinkard and Blinebry will be commingled up the tubing. A flow period of another 2-3 weeks will be used to get a stabilized rate. The contribution from the Drinkard will be the incremental production once it is added to the Blinebry flowstream. The allocation formula will then be submitted.

If the well will not flow naturally nor with the aid of plunger lift, the packer will be removed, and the well will be put on rod pump. In this case the proposed allocation formula would be based on the cumulative production from each zone to date as follows:

Producing Reservoir	12/31/89		% of OIL	% of GAS
	Cum. Prod. MBO	MMCF		
-----	---	----	-----	-----
Drinkard	247	906	87.9	13.6
Blinebry Oil & Gas	34	5738	12.1	86.4
	===	=====	=====	=====
Total	281	6644	100.0	100.0

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.

Exxon Les. No. 52267NEW MEXICO OIL CONSERVATION COMMISSION
State Les. No. _____ WELL LOCATION AND ACREAGE DEDICATION PLATForm C-102
Supersedes C-128
Effective 1-1-65

Federal Les. No. _____ All distances must be from the outer boundaries of the Section

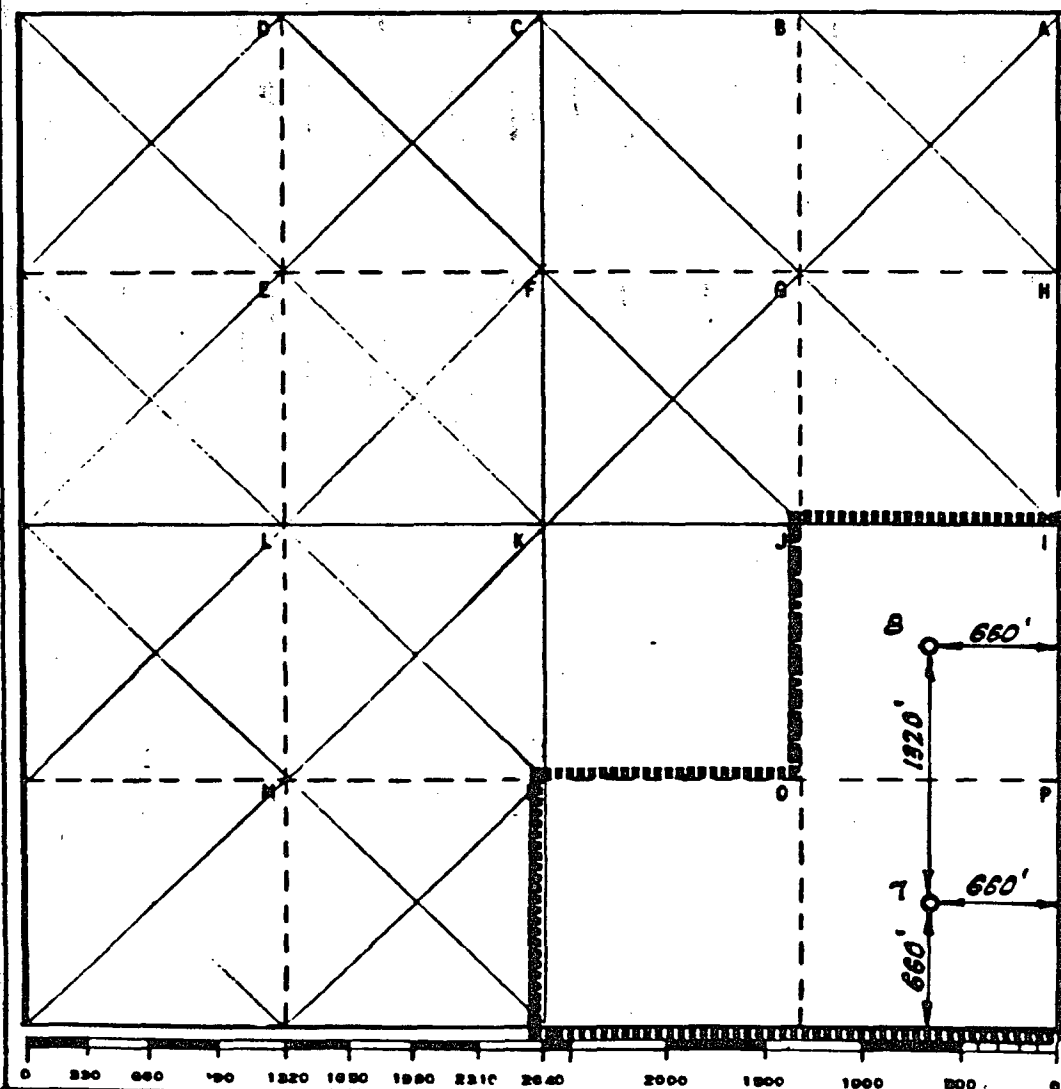
Operator Exxon Corporation		Lease F. F. Hardison "B"		Well No. 8
Unit Letter I	Section 27	Township 21-S	Range 37-E	County Lea
Actual Footage Location of Well: 1980 feet from the South line and 660 feet from the East line				
Ground Level Elev. 3393	Producing Formation Upper Clearfork	Pool Blinebry	Dedicated Acreage: 120 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. Well No. 7 and Well No. 8 to share 120 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 Knippling

Position

Proration Specialist

Company Exxon Corporation

Box 1600 Midland, Texas

Date

11-2-76

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. Wintersfeld*

Certificate No.

1382

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

Form C-116
Revised 1/1/89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

GAS - OIL RATIO TEST

Test Period - July, August, September

Operator Exxon Co., U.S.A. Operations Accounting P.C. #3		Pool Blaine Oil & Gas		County Lea										
Address P. O. Box 1600 Midland, TX 79702		TYPE OF TEST - (X)		Completion ☐ Special ☐										
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBQ. PRESS.	DAILY ALLOW- ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT/BBL.	
		U	S	T						R	WATER BBL.	GRAV. OIL		OIL BBL.
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	
	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	0	140	12753	
23	P	2	22	37	9/27/89	F				0	0	1802		
New Mexico 'S' State														

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

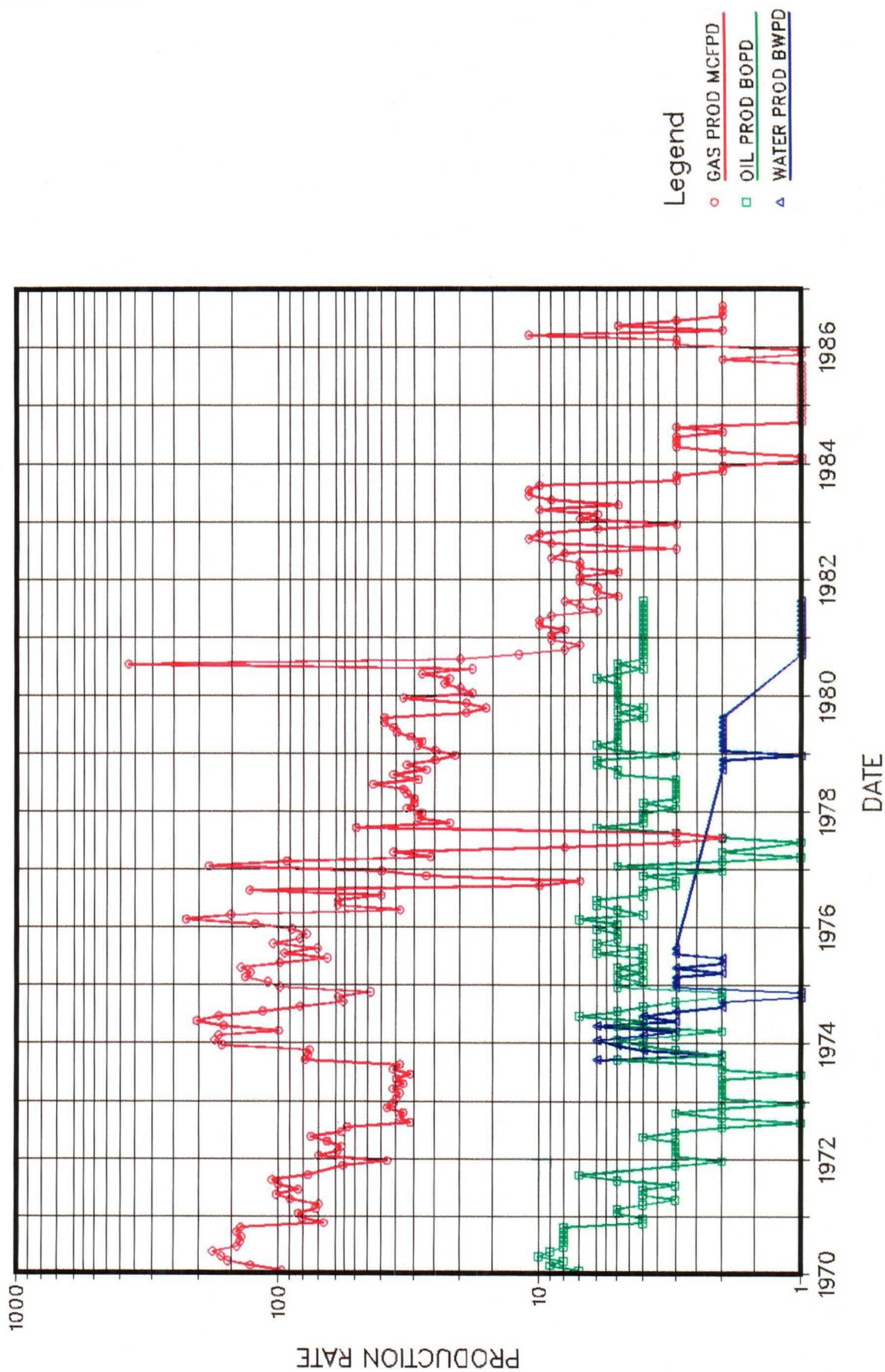
Anita R. Douglass, Sr. Staff Offc. Ass.
Printed name and title

10/9/89
Date

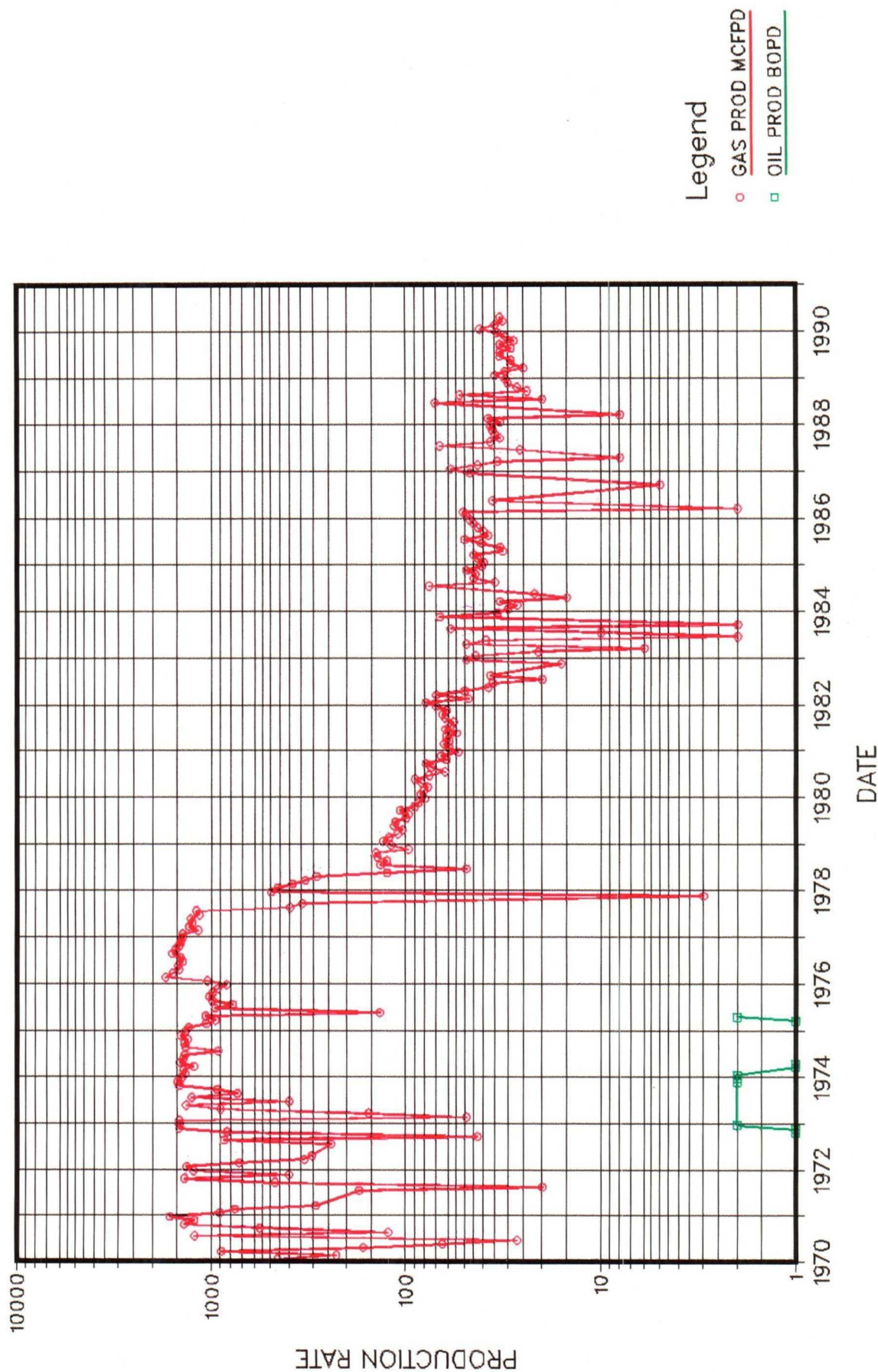
915/688-7627

Telephone No.

F. F. HARDISON B #8 DRINKARD PRODUCTION



F. F. HARDISON B #8U BLINEBRY GAS PRODUCTION



WELLBORE SKETCH AND WELL HISTORY

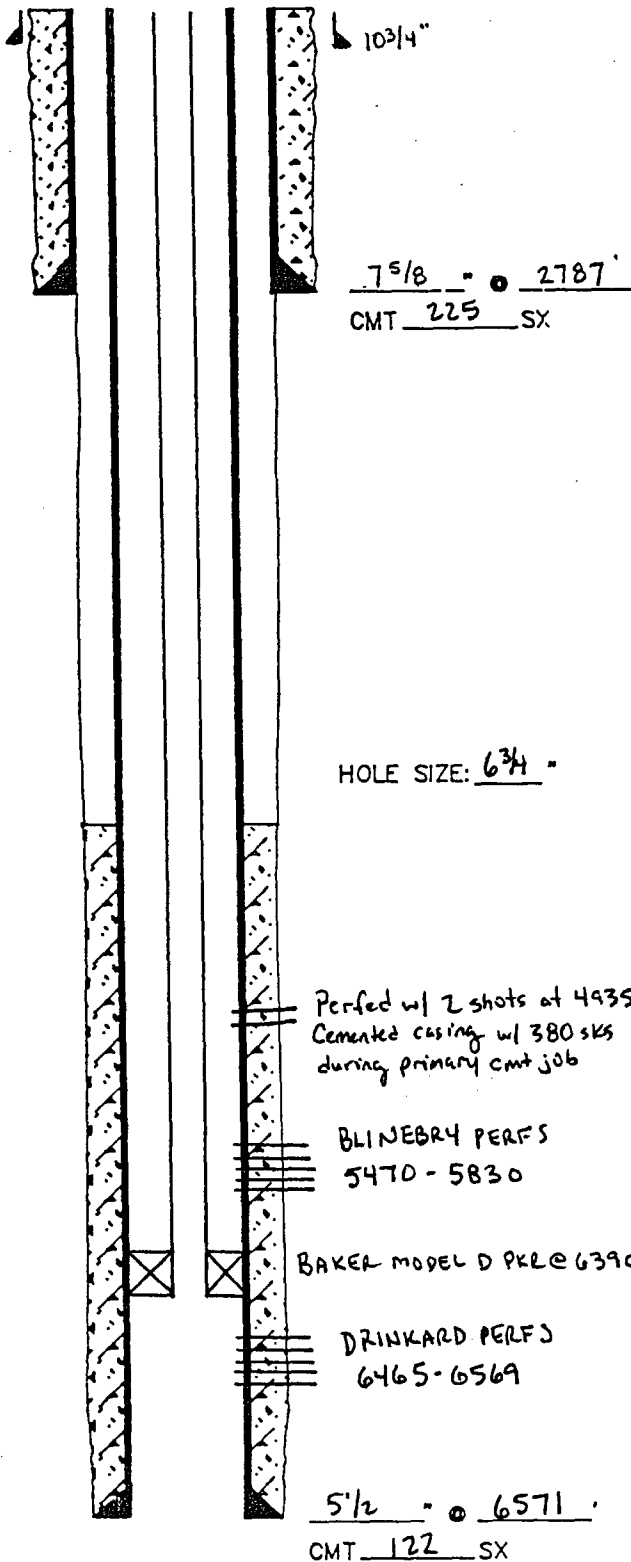
ELEV.: KB 3403 ", 12 ' ABOVE GL

LEASE & WELL NAME: F.F. HARDISON "B" #8

FIELD: B-D-T COUNTY: LEA ST.: NM

LOCATION: UNIT I, SEC 27, T21S, R37E

DATE: 7/17/90 BY: KPJ REV.: BY:



CASING RECORD

SURFACE CASING

O.D.	WT/FT	GRADE	SET AT
7 5/8"			2787

PRODUCTION CASING

O.D.	WT/FT	GRADE	SET AT
5 1/2"	14		6571

TUBING

NO. JTS.	O.D.	THD.	TYPE	WT.	GDE.	SET AT
	2 3/8"			4.7		6390

WELL HISTORY:

2/47 Drill and complete
Perf Drinkard 6465-90, 6512-69.
Acidize w/ 2000 gals
IP = 864 BOPD

1/53 Acidize Drinkard w/ 6250 gals

12/54 Workover to make dual completion
with the Blinebry Gas
Perf Blinebry 5690-5725, 5735-50,
5765-90, 5800-30, 5880-90,
5625-65, 5605-15, 5510-90,
5470-90 @ 2 spf
Acidize w/ 3000 gals
IP = 2820 mcfpd

Blinebry flows up tubing / casing annulus
Drinkard flows up tubing

TD: 6572' PBD: _____



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 X _____
NSL _____
NSP _____
SWD _____
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

Exxon Corp. F.F. Hardison B #8-I 27-21-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed

OIL CONSERVATION DIVISION
RECEIVED
'90 SEP 17 AM 9 57