

ARCO Oil and Gas Company  
Central District  
Post Office Box 1610  
Midland, Texas 79702  
Telephone 915 688 5200



April 13, 1989

Mr. William J. LeMay  
New Mexico Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501

RE: Application to Downhole Commingle  
State 367 #1  
Unit Letter M, Sec 36, T21S, R37E  
Blinebry / Drinkard Pools  
Lea County, New Mexico

Dear Mr. LeMay:

ARCO Oil and Gas Company respectfully requests administrative approval under the provisions of Rule 303-C to downhole commingle production from the Blinebry Oil and Gas Pool and the Drinkard Oil Pool within the State 367 #1. This well is currently completed as a dual well with two strings of 2" tubing in 5-1/2" casing. The small tubulars cause excessive operating costs due to significantly increased mechanical problems. By downhole commingling the two pools, a single string of larger tubing can be run. This will result in fewer mechanical problems, thereby significantly reducing operating costs and prolonging the life of the well. Therefore, additional reserves will be recovered.

A detailed listing of the requirements of Rule 303-C is attached. This is a State of New Mexico lease, and the interest is common in all depths. Furthermore, the Blinebry and Drinkard Pools have been downhole commingled on the lease since 1982, in the State 367 #2, located 1320 feet north of the #1. This commingling was approved by NMOCD Order #R-6783. The pools are also commingled at the surface.

The offset operators have been notified of this application by certified mail. A copy of the notification letter is attached. Copies of the return receipts will be forwarded when they are received.

ARCO Oil and Gas believes approval of this request will be in the interest of conservation, will protect correlative rights, and will allow for a more complete recovery of Blinebry and Drinkard oil and gas reserves from the subject acreage. If you have any questions, please call me at (915) 688-5557. Thank you for your consideration.

Very truly yours,

Jack T. Lowder  
Area Engineer

Attachments

XC: New Mexico Oil Conservation Division  
P.O. Box 1980  
Hobbs, New Mexico 88240

ARCO Oil and Gas Company  
Central District  
Post Office Box 1610  
Midland, Texas 79702  
Telephone 915 688 5200



April 13, 1989

Offset Operators  
State 367 Lease  
Lea County, New Mexico

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Dear Sirs:

In accordance with New Mexico Oil Conservation Division regulations, you are hereby notified of ARCO Oil and Gas Company's application to downhole commingle production from the Blinebry Oil and Gas Pool and the Drinkard Oil Pool within the State 367 #1. This well is located 660 ft FSL and 660 ft FWL of Section 36, T21S, R37E, Lea County, New Mexico.

If you have no objection to this application, we request that you sign the attached waiver form and send it to the NMOCD. We have also enclosed a copy of the waiver to be returned to us and a copy for your own files. Self addressed, stamped envelopes are enclosed for your convenience.

Very truly yours,

A handwritten signature in black ink that reads "Jack T. Lowder". The signature is written in a cursive, flowing style.

Jack T. Lowder  
Area Engineer

ARCO Oil and Gas Company  
Application to Downhole Commingle  
State 367 #1  
Unit Letter M, Sec 36, T21S, R37E  
Blinbry / Drinkard Pools

Offset Operators -

AMOCO Production Company  
P. O. Box 3092  
Houston, Texas 77001

Bravo Energy, Inc.  
P. O. Box 2160  
Hobbs, New Mexico 88240

Chevron U.S.A., Inc.  
P. O. Box 670  
Hobbs, New Mexico 88240

Conoco, Inc.  
P. O. Box 460  
Hobbs, New Mexico 88240

EXXON Company, U. S. A.  
Attn: Joint Interest Manager  
P. O. Box 1700  
Midland, Texas 79702

Marathon Oil Company  
P. O. Box 552  
Midland, Texas 79702

OXY U.S.A., Inc.  
Attn: Glen Kellerhals  
P. O. Box 50250  
Midland, Texas 79710

Texaco Inc.  
P. O. Box 728  
Hobbs, New Mexico 88240

State 367 #1  
Application to Downhole Commingle  
Blinebry Oil and Gas Pool/ Drinkard Oil Pool  
Conditions for Commingling-Rule 303 C.1

a. For Wells Involving Oil Zones

- 1) Total Combined Oil Production Limit: The lowermost perforation is at 6489'. The limit for this depth is 40 BOPD. The Blinebry produces 7 BOPD and the Drinkard 6 BOPD, for a total combined oil production of 13 BOPD. This is below the required limit.
- 2) Both zones are capable of flowing. However, upon commingling, artificial lift will be installed.
- 3) Total Combined Water Production Limit: The combined water production is 2 BWPD, which is below the limit of 80 BWPD.
- 4) The fluids are compatible with each other.
- 5) The total value of the crude will not be reduced by commingling.
- 6) The ownership of the zones is common, including royalty interest. ARCO owns 100% working interest in the lease.
- 7) The commingling will not jeopardize a secondary recovery project. There are no existing or known proposed secondary recovery projects in this area.

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State 367 #1  
Application to Downhole Commingle  
Blinebry Oil and Gas Pool/ Drinkard Oil Pool  
Required Data-Rule 303 C.2

- a) Operator: ARCO Oil and Gas Company  
P.O. Box 1610  
Midland, TX 79702
- b) Lease, Well, Location, and Pools:  
State 367 Well #1  
660 ft FSL & 660 ft FWL  
Sec 36, T21S, R37E  
Lea County, New Mexico  
Blinebry Oil and Gas Pool  
Drinkard Oil Pool
- c) Acreage Dedication:  
40 Acres: SW/4 SW/4 Sec 36.  
Form C-102 Attached.  
Offset operators are shown on attached 4-section plat.
- d) A C-116 Form for the Blinebry dated 3/12/89 and a C-116 Form for the Drinkard dated 3/18/89 are attached.
- e) Production decline curves are attached. The State 367 #1 was drilled in 1946 as a single Drinkard producer. In 1965, the Blinebry was added, and the well was completed as a dual producer. The well history is attached.
- f) Bottom-hole pressures: The bottom hole pressures were determined from tests which were conducted in February, 1989. A bottom hole pressure guage was set in the tubing strings as close to the perforations as practical. The results of the tests follow:

<u>Pool</u>	<u>Test Depth, Ft</u>	<u>Mid- Perfs Ft</u>	<u>Pressure at Mid-Perfs psia</u>	<u>Common Datum Ft</u>	<u>Pressure at Common Datum psia</u>
Blinebry	5552	5667	444	6400	501
Drinkard	6251	6393	494	6400	495

- g) Fluid Compatibility: The Blinebry and Drinkard produced fluids are compatible. The zones have been downhole commingled on the offsetting State 367 #2 well since 1982 with no adverse effects. In addition, the fluids are surface commingled.
- h) Value of Commingled Fluids: The value of the commingled fluids will not be less than the sum of the individual values. Since the fluids are surface commingled, the individual values are the same whether downhole commingled or isolated.
- i) Proposed Formula for the Allocation of Production:

<u>Pool</u>	<u>Oil</u>	<u>Gas</u>	<u>Water</u>
Blinebry	62%	52%	75%
Drinkard	38%	48%	25%

A sheet is attached which shows the method used to arrive at this allocation.

- j) All offset Operators have been notified of this application by certified mail. Copies of the letter and the return receipts are attached.

Submit to Appropriate  
District Office  
State Lease - 4 copies  
Fee Lease - 3 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

OIL CONSERVATION DIVISION

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

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

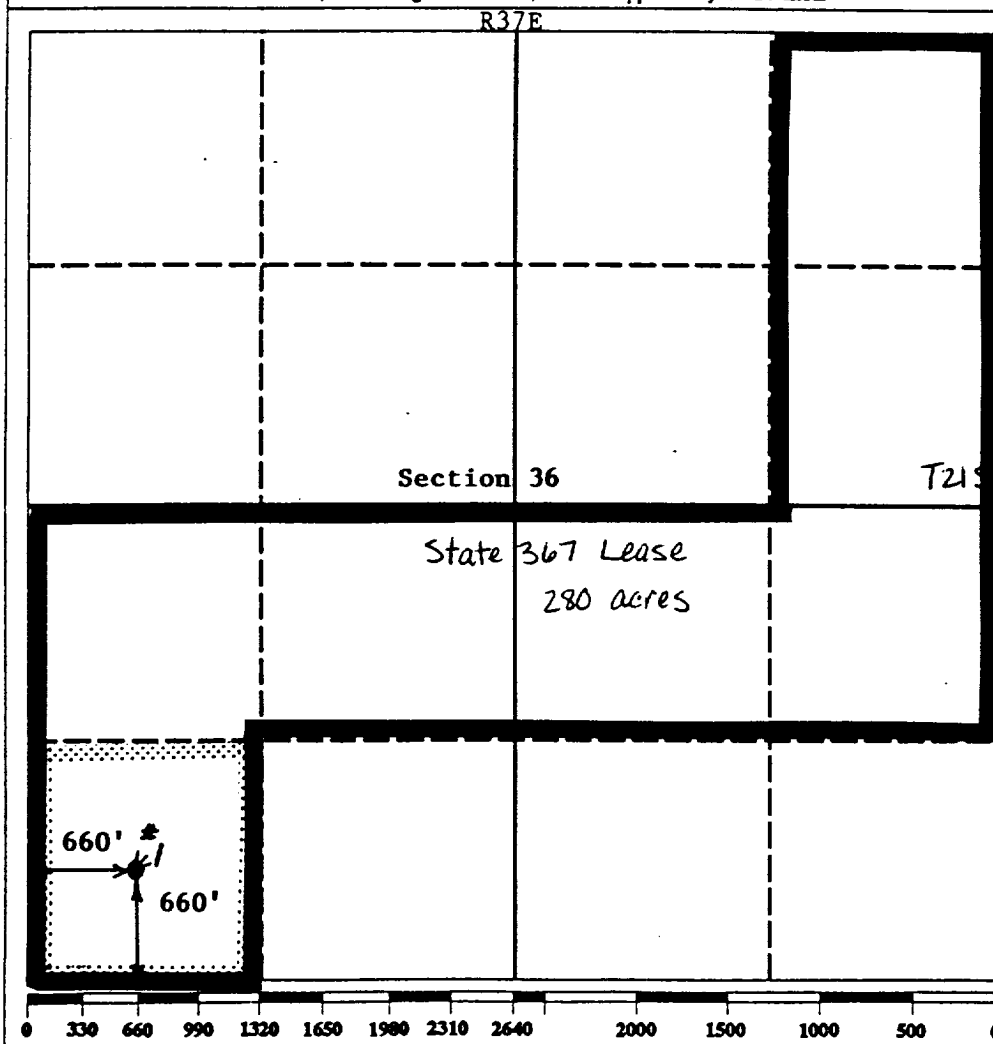
DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator ARCO Oil and Gas Co.			Lease State 367		Well No. 1
Unit Letter M	Section 36	Township 21 South	Range 37 East	County NMPM Lea	
Actual Footage Location of Well: 660 feet from the south line and 660 feet from the west line					
Ground level Elev. 3361	Producing Formation Blinebry/Drinkard		Pool Blinebry oil & gas/Drinkard		Dedicated Acreage: 40 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 interest 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 interest, has been approved by the Division.



OPERATOR CERTIFICATION  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature  
*Cindy W. Ellis*  
Printed Name  
Cindy W. Ellis  
Position  
Senior Engineer  
Company  
ARCO Oil and Gas Co.  
Date  
March 10, 1988

SURVEYOR CERTIFICATION  
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  
Signature & Seal of Professional Surveyor  
Certificate No.

Blinebry and Drinkard Pools  
Unit Letter M, Sec 36, T21S, R37E

Range 37 East

Conoco  
Lockhart  
A-35 & B-35

Bravo  
EM Elliott

**Marathon  
Mark Owen**

OXY  
Owen

EXXON  
New Mexico 'S'



AMOCO  
State 'C'

ARCO  
State '367'

Texaco  
State 'Q'

**Township  
21 South**

**Township  
22 South**

Chevron  
Alice  
Paddock

**Marathon  
Walter  
Lynch**

## OFFSET OPERATORS

AMOCO  
Bravo Energy  
Chevron  
Conoco  
EXXON  
Marathon  
OXY  
Texaco

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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

Operator ARCO OIL AND GAS COMPANY		Pool BLINEBRY OIL & GAS		County LEA COUNTY, NM											
Address BOX 1710, HOBBS, NEW MEXICO 88240		TYPE OF TEST - (X)		Completion <input type="checkbox"/> Scheduled <input type="checkbox"/> Special <input checked="" type="checkbox"/>											
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. 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.	GAS M.C.F.
STATE 367	1	M	36	21	37	3-12-89	F		M	24	1	38.3	7	324	46285

#### 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.

Signature

James D. Cogburn, Services Supervisor  
Printed name and title

3-28-89

Date

392-3551

Telephone No.

# OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

## GAS - OIL RATIO TEST

Operator		Pool		County											
ARCO OIL AND GAS COMPANY		DRINKARD		LEA COUNTY, NM											
Address		TYPE OF TEST - (X)		Completion		Special									
BOX 1710, HOBBS, NEW MEXICO 88240						XX									
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. 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.	GAS M.C.F.
STATE 367	1	M	36	21	37	3-18-89	F		M	24	1	38.3	6	130	21666

### 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.

*James D. Cogburn*  
Signature

James D. Cogburn, Services Supervisor  
Printed name and title

3-28-89

Date

392-3551

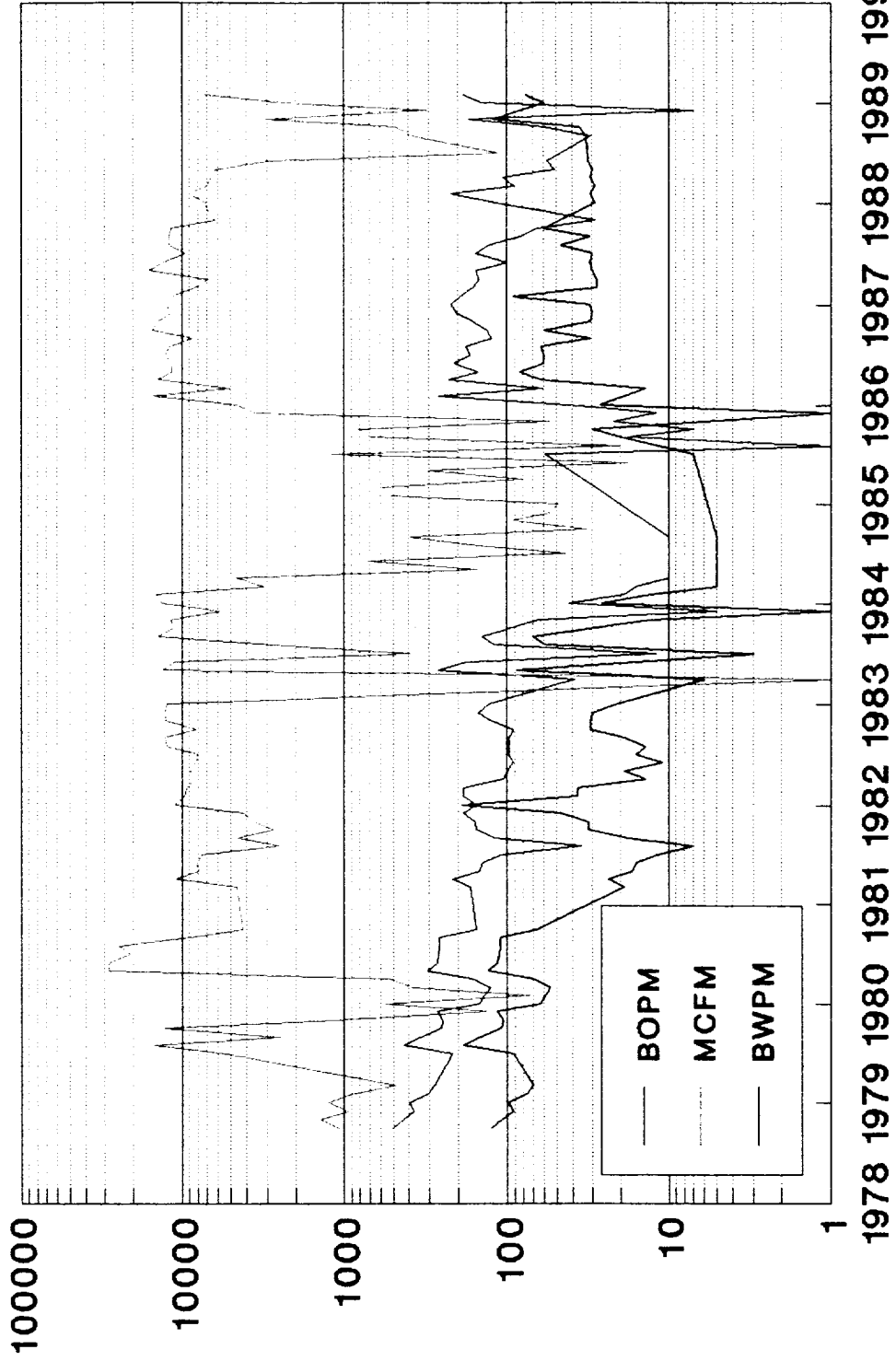
Telephone No.

7720

APR 14 1980

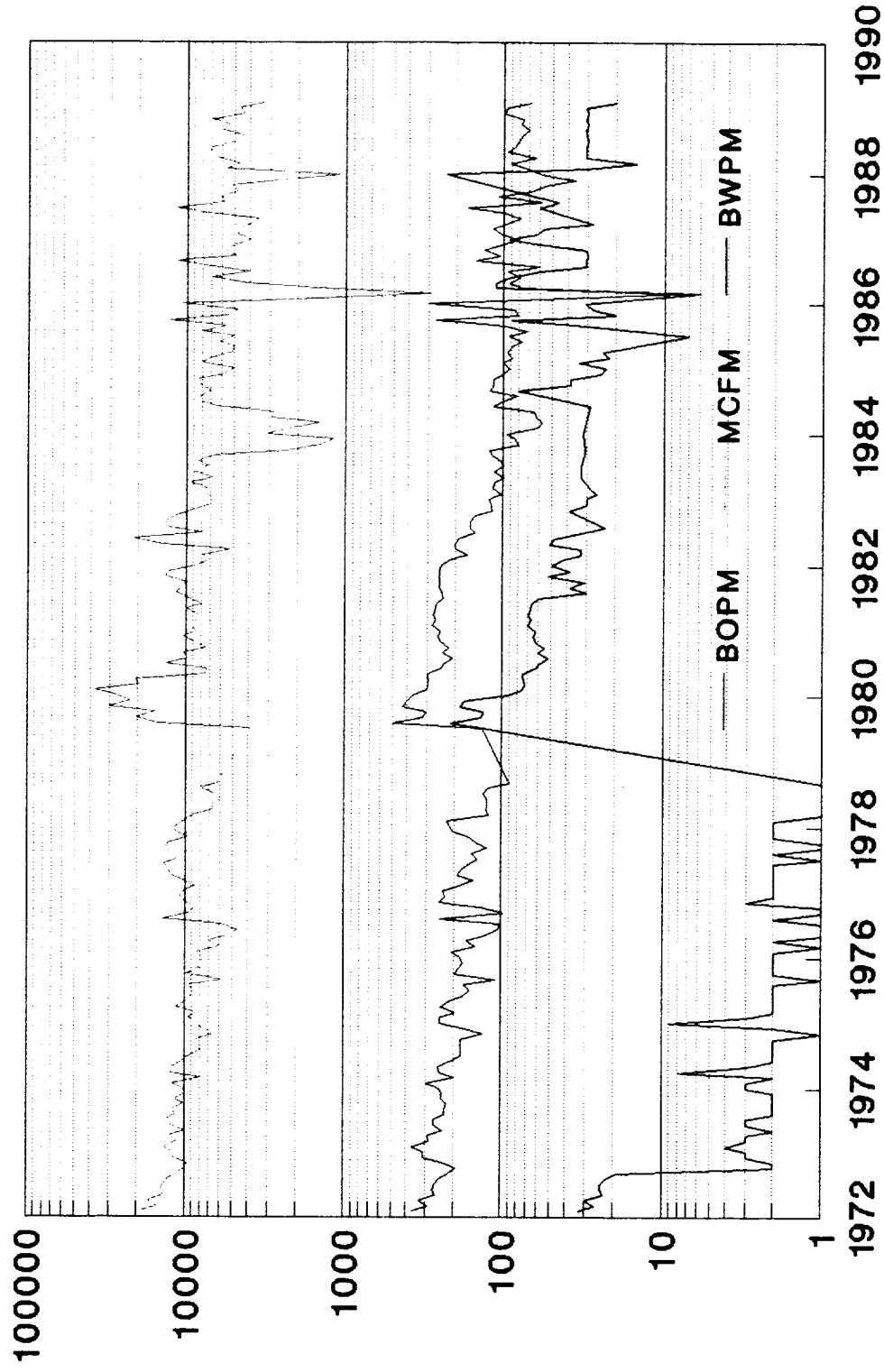
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MOBAS OFFICE

# STATE 367 #1 BLINEBRY FIELD



03/08/89

# STATE 367 #1 DRINKARD FIELD



03/08/89

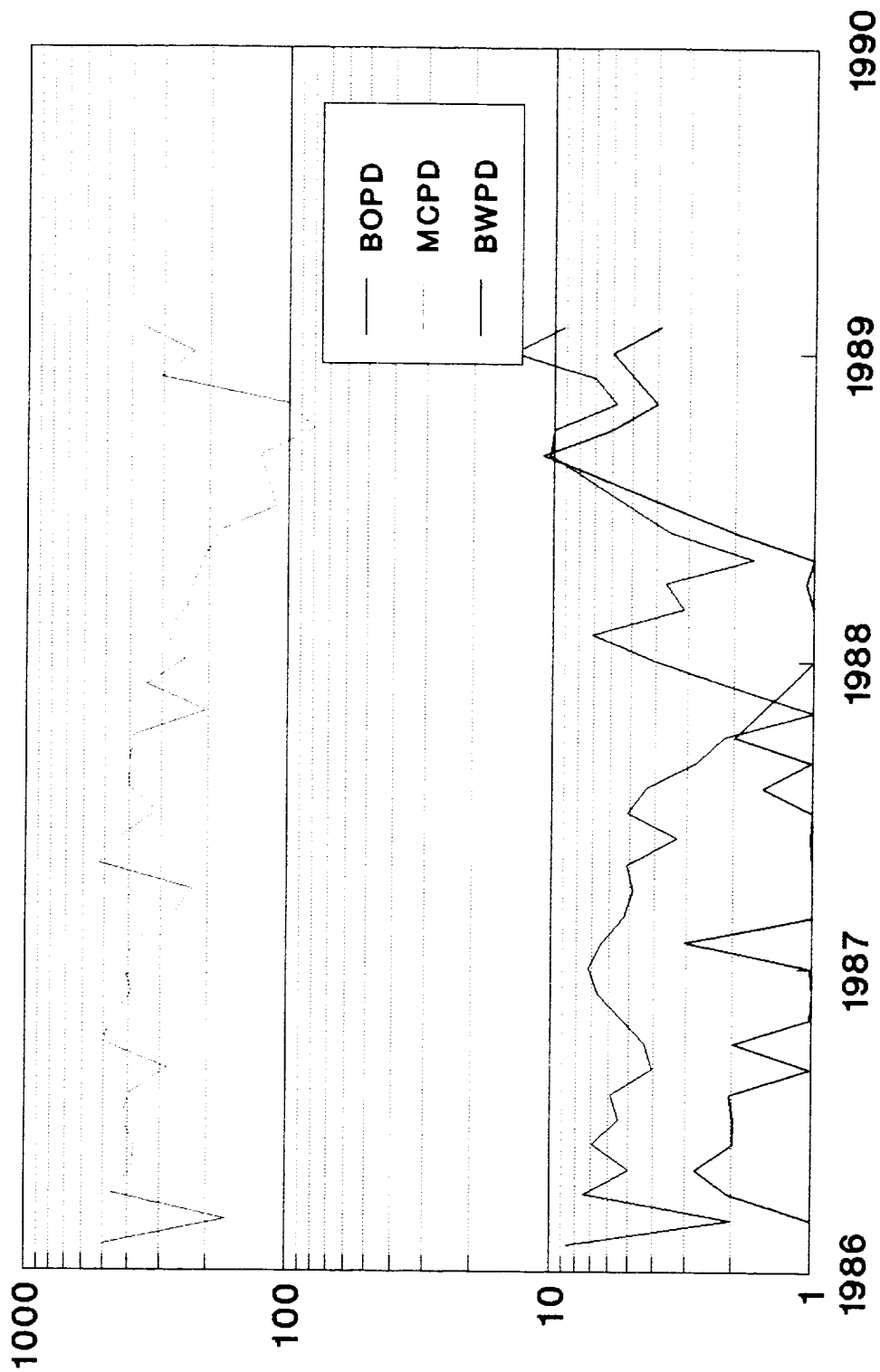
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OCD  
HOBBS OFFICE

# STATE 367 #1

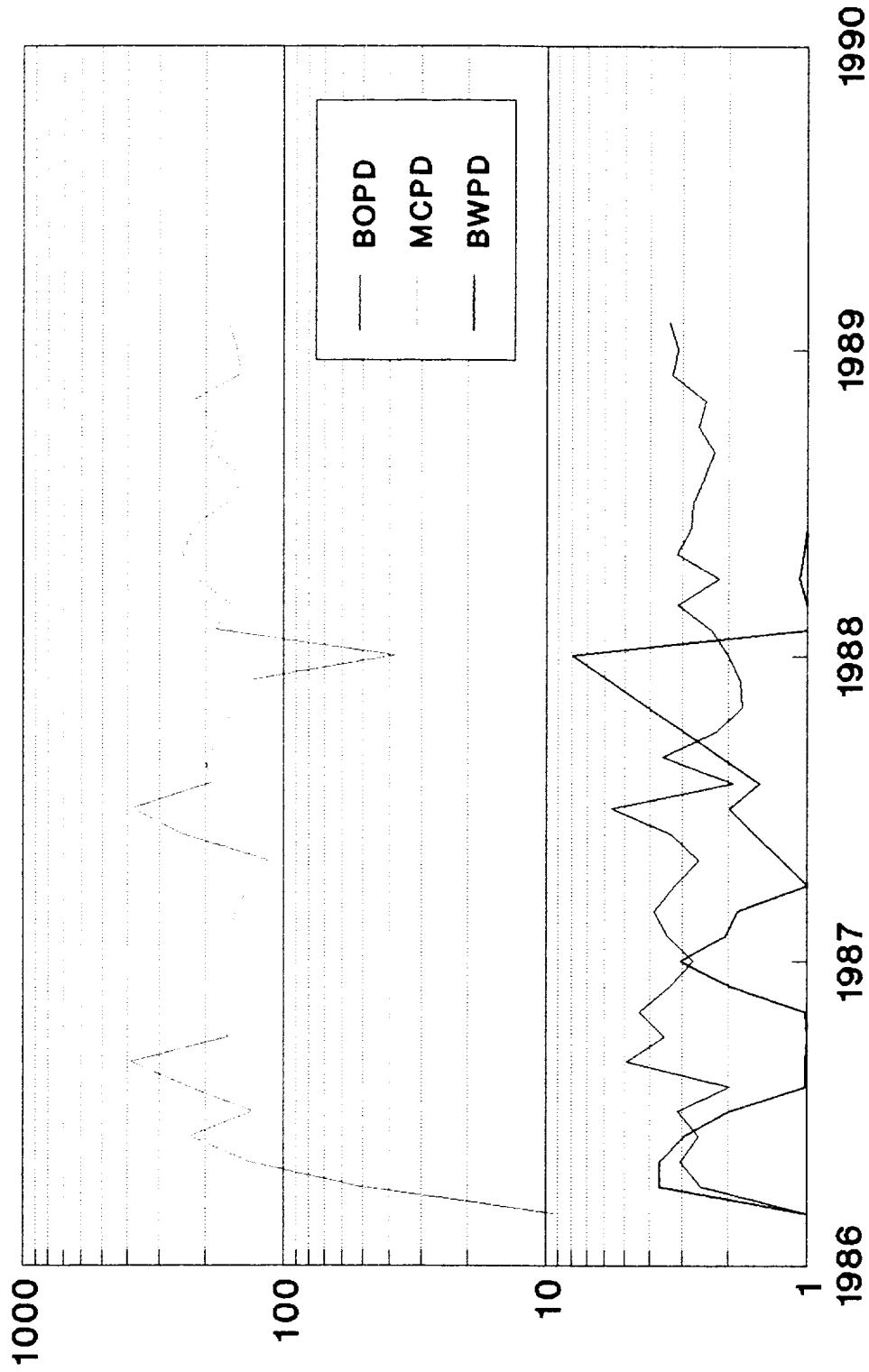
## BLINEBRY FIELD



03/08/89

# STATE 367 #1

## DRINKARD FIELD



03/08/89

State 367 #1

Surface Location:

660 FSL & 660 FWL Sec 36 T21S R37E

Elevation:

3361' GL 3372' RKB

TD: 6542'

PBD: 6508

Spud Date: 5/20/46

Casing:

13 3/8" 48# H-40 @ 297' w/300 sx. Circ cmt.

8 5/8 32# SS @ 2799' w/1000 sx. TOC @ 440'

5 1/2" 17# N-80 & J-55 @6541' w/400 sx.

Completion:

Drinkard: Perf 6449-6489' w/240 1/2" holes. A/2000.

IP: 240 BOPD Flowing.

Workovers:

4/48 Drk: A/5000. Incr 70 to 100 BOPD.

12/57 Drk: Perf 6424-6449 w/100js. A/1000. SOF/30/20 all perfs.  
151 BOPD.

9/65 Set Mod D @6380'. Perf 5950-51' & sqz w/125 sx. Perf  
5590-91' & sqz w/150 sx.  
Perf Blinebry 5636, 48, 54, 61, 76, 86, 89, 95, 5707, 13,  
23, 26, 42, 53, 64, 83, 86, 93, 5817, 27, & 5838' w/2spf.  
A/2000. SOF/20/20. IP 80 BOPD & 30 BWPD. Dual  
completion.

3/71 Blby SI- pump stuck & uneconomical to repair.

8/78 Set RBP @ 5923' to TA Drk. Blby single.

4/79 Pushed Mod D to 6498'. Perfd Drk 6297, 6304, 06, 16, 20,  
23, 27, 30, 38, 40, 48, 70, 80, 87. Perfd Blby 5496,  
5504, 10, 20, 25, 29, 33, 40, 45, 49, 55, 64, 68, 71, 86,  
89, 93, 5597. A/Blby/4000. Acid Frac/Blby/18k gal  
gel/18k gal 20% acid. Dual completion: 2-1/16" tbgs par.  
anchor @5452'. Mod D pkr @ 6250'.

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HOBBS OFFICE

STATE 367 #1  
 BLINEBRY-DRINKARD DOWNHOLE COMMINGLING  
 FORMULA FOR PRODUCTION ALLOCATION  
 =====

Average production from Jan 1987 through Dec 1988:

	BOPD	MCFPD	BWPD
-----	-----	-----	-----
Blinebry	5	196	3
Drinkard	3	178	1
	=====	=====	=====
TOTAL	8	374	4

Percentage of Production from each zone:

	OIL	GAS	WATER
-----	-----	-----	-----
Blinebry	62.50%	52.41%	75.00%
Drinkard	37.50%	47.59%	25.00%
	=====	=====	=====
TOTAL	100.00%	100.00%	100.00%