

ARCO Oil and Gas Company
Western District
Post Office Box 1610
Midland, TX 79702
Telephone (915) 688-5200

OIL CONSERVATION DIVISION
RECEIVED
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January 20, 1992

Downhole Commingling Application
Drinkard & Blinebry Pools
A. M. York #2 Well
660' FNL, 660' FEL, Sec 20
T21S, R37E, Lea Co, NM

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

*Blinebry - 6607 - 5629-6602
D - 3726-~~66~~ 3776*

Attention: Mr. David R. Catanach

ARCO Oil and Gas Company requests an exception to New Mexico Oil Conservation Division Rule 303-A to permit downhole commingling of production from the Drinkard and Blinebry Oil and Gas Pools in the A. M. York #2 well. This well is currently a single completion Blinebry producer, but ARCO plans to re-open the Drinkard and downhole commingle Drinkard and Blinebry production once this downhole commingling application is approved. Current Blinebry tests show production rates of 4 bopd, and expected Drinkard production is 15 bopd based on testing done in 1988. ARCO cannot economically justify production and testing of each zone through separate completion strings, and therefore is filing this application for downhole commingling to allow both zones to be produced simultaneously. ARCO feels that this will best serve the interests of the owners of this well by maximizing production without detrimentally affecting either zone.

ARCO believes that separate testing on each regulatory zone is unnecessary for this well, and cannot be economically justified. The Blinebry zone has several years of production to establish its contribution. The Drinkard contribution can be determined by the difference in total production rate before and after commingling.

All offset operators have been notified by copy of this letter and its attachments. Please call Kevin Renfro at (915) 688-5546 if you need additional information.

Sincerely,

Kevin D. Renfro
Operations/Analytical Engineer
ARCO Oil and Gas Company

Attachments

CC: Mr. Jerry Sexton, NMOCD - Hobbs, NM Office
James Cogburn Hobbs
Offset Operators (as per Attachment #1)
✓ 2 copies to NMOCD - Santa Fe, NM Office

**A. M. YORK #2
OFFSET OPERATORS
ATTACHMENT 1**

ADOBE RESOURCES
300 W. TEXAS
MIDLAND TX 79701

DOUG GRIMES
104 E. 3RD
MONAHANS TX 79756

AMERADA HESS CORPORATION
P.O. BOX 2040
TULSA OK 74102

JOHN H. HENDRIX
223 W. WALL, SUITE 525
MIDLAND TX 79701

AMERICAN EXPLORATION CO
ATTN: DAVID VELTRI
700 LOUISIANA, SUITE 2100
HOUSTON TX 77002-2797

HONDO DRLG CO
410 N. LORAIN
MIDLAND TX 79701

AMOCO PRODUCTION COMPANY
ATTN: JOINT INTEREST
P.O. BOX 3092
HOUSTON TX 77253

MARATHON OIL COMPANY
P.O. BOX 552
Midland TX 79702

CAMPBELL & HEDRICK
P.O. BOX 401
MIDLAND TX 79702

MOBIL E & P U.S., INC
P.O. BOX 633
Midland TX 797021

CHEVRON U.S.A., INC
ATTN: JOHN PRINDLE
P.O. BOX 1150
MIDLAND TX 79702

ORYX ENERGY COMPANY
P.O. BOX 1861
MIDLAND TX 79702-1861

J. R. CONE
P.O. BOX 10217
LUBBOCK TX 79408

S & J OPERATING COMPANY
P.O. BOX 2249
WICHITA FALLS TX 76307-2249

CONOCO INC.
10 DESTA DRIVE
MIDLAND TX 79705

TEXACO INC
P.O. BOX 3109
MIDLAND TX 79702

GRAHAM ROYALTY LTD.
5429 LBJ FREEWAY, SUITE 550
Dallas TX 75240

Attachment #2

ARCO A. M. York #2 Well

Data Required for Downhole Commingling Application

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

a. Name and address of Operator:

ARCO Oil and Gas Company
P. O. Box 1610
Midland, TX 79702

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

A. M. York #2
660' FNL, 660' FEL, Section 20, T21S, R37E, Lea County, New Mexico
Downhole Commingle the Drinkard and Blinebry Oil & Gas Pools

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

See Attachments #3 and #4

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

C-116 Form for the Blinebry is attached (Attachment #5). The Drinkard is not currently being produced (below bridge plug). A test form for the Drinkard will be submitted after approval to downhole commingle is received from the NMOCD, and after a workover to open the Drinkard is completed.

e. Production decline curve showing a steady rate of decline for a minimum one year period to allow allocation of the commingled production. If not available, a completion history and estimation of future production should be included.

A production decline curve for the Blinebry is attached (Attachment #6). A completion history of the well detailing past Drinkard completion work and tests is included in Attachment #7. From results of a 1988 test, it is expected that the Drinkard will produce at a rate of approximately 15 bopd, 30 mcf/d.

ARCO A. M. York #2 Downhole Commingling Application
Attachment #2
Page 2

- f. **Estimated bottom-hole pressure for each artificially lifted zone:**

Measured shut-in bottomhole pressure (on 2/10/88) for the Blinebry zone was 430 psia at a mid perf depth of 5767', or 2283' subsea.

Measured shut-in bottomhole pressure (on 2/04/88) for the Drinkard zone was 516 psia at a mid perf depth of 6537', or 3053' subsea.

These SIBHP's were measured during recompletion work attempted on the well in 1988. The work was deferred due to suspected variations in NRI ownership in the two zones, which has since been investigated and been determined to be common between the two zones.

- g. **Description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the wellbore:**

Blinebry and Drinkard production are currently commingled on ARCO's State 367 Lease in T21S, R37E, Sec 36 with no compatibility problems. Blinebry and Drinkard production are also currently commingled in the nearby Shell NEDU with no compatibility problems.

- h. **Computation showing that the value of the commingled production will not be less than the sum of the values of the original streams:**

The commingled crude will be sold for the same price as that which would be obtained if either zone was producing singly.

- i. **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 Blinebry has produced at an average rate of 2.7 BOPD, 70 MCFD, and 1 BWPD during 1991. After the Drinkard formation is opened to production, the contribution from the Drinkard will be determined by subtracting the established Blinebry production rate from the total commingled production rate. A test period of one month will be used to obtain a stabilized rate prior to submitting the allocation formula.

- j. **A statement that all offset operators and, in case of a well on Federal land, the US BLM, have been notified in writing of the proposed commingling.**

By copy of this letter and application, we are hereby notifying the offset operators (as listed in Attachment #1) of this proposed commingling.

- k. **In addition, working interest and royalty interest ownership are the same in all zones to be commingled.**

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

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

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

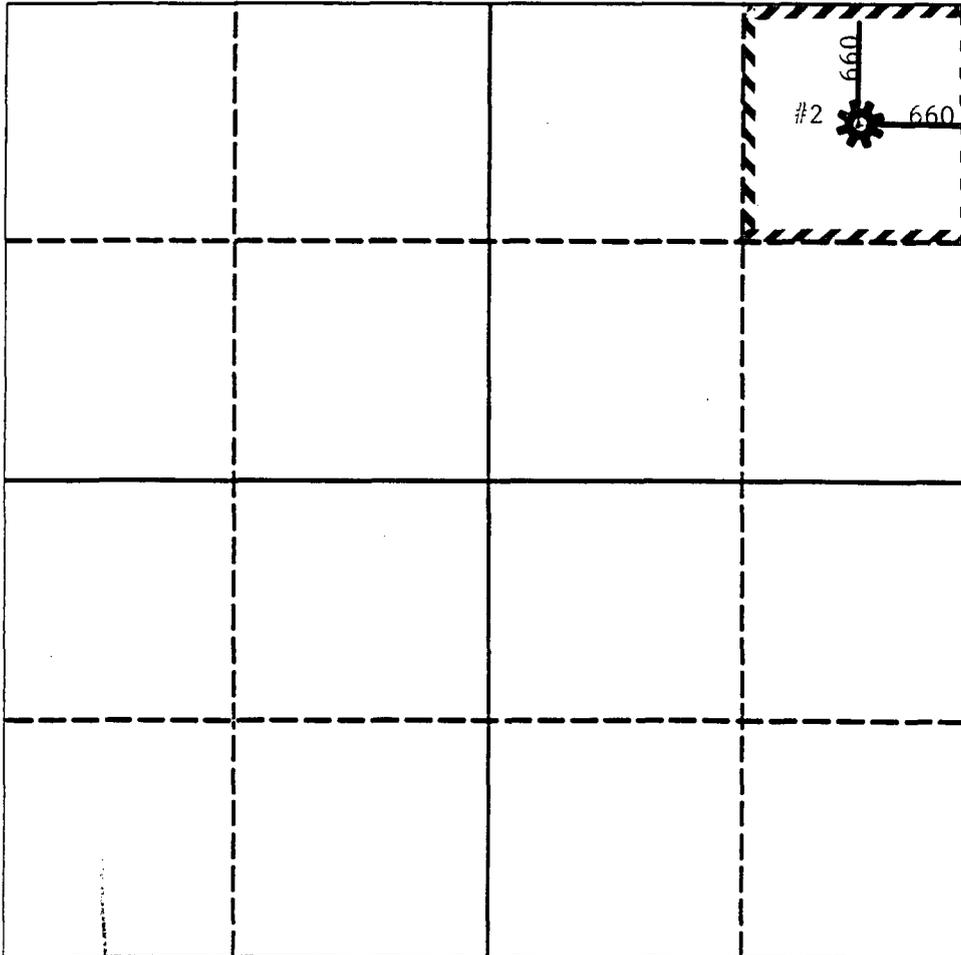
Operator ARCO Oil and Gas Company		Lease A. M. York		Well No. 2
Unit Letter A	Section 20	Township T21S	Range R37E	County NMPM Lea
Actual Footage Location of Well: 660 feet from the North line and 660 feet from the East line				
Ground level Elev.	Producing Formation Blinebry/Drinkard	Pool	Dedicated Acreage: 40 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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
Evelyn Gilson

Printed Name
Evelyn Gilson

Position
Engr. Tech.

Company
ARCO Oil and Gas Company

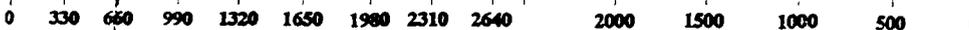
Date
January 21, 1992

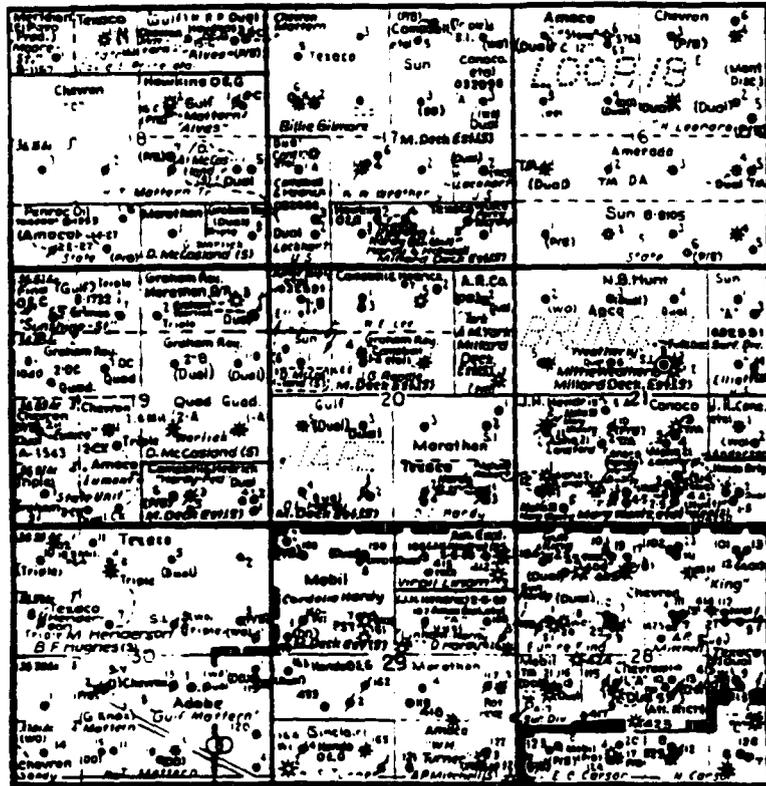
SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Signature & Seal of Professional Surveyor

Certificate No.





A. M. YORK #2
 660FNL, 660 FEL, SECTION 20, T21S, R37E
 LEA COUNTY, NEW MEXICO

OFFSET OPERATORS
 ATTACHMENT 4

- | | |
|--------------------------|-------------------------|
| ADOBE RESOURCES | DOUG GRIMES |
| AMERADA HESS CORPORATION | JOHN H. HENDRIX |
| AMERICAN EXPLORATION CO | HONDO DRLG CO |
| AMOCO PRODUCTION COMPANY | MARATHON OIL COMPANY |
| CAMPBELL & HEDRICK | MOBIL E & P U.S., INC |
| CHEVRON U.S.A., INC | ORYX ENERGY COMPANY |
| J. R. CONE | S & J OPERATING COMPANY |
| CONOCO INC. | TEXACO INC |
| GRAHAM ROYALTY LTD. | |

Submit 2 copies to Appropriate District Office.
 DISTRICT I
 P.O. Box 1980, Hobbs, NM 88240
 DISTRICT II
 P.O. Drawer 00, 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

GAS - OIL RATIO TEST

Operator ARCO OIL AND GAS COMPANY		Pool BLINEBERRY OIL & GAS		County LEA COUNTY, NM											
Address BOX 1710, HOBBS, NEW MEXICO 88240		TYPE OF TEST - (X) <input checked="" type="checkbox"/> S <input type="checkbox"/> K <input type="checkbox"/> G		Completion <input type="checkbox"/> Scheduled <input type="checkbox"/> Special <input checked="" type="checkbox"/>											
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.S.	GRAV. OIL		OIL BBL.S.	GAS M.C.F.
A. M. YORK	2	A	20	21	37	01/03/92	P			24	1	37.6	4	32	8000

Instructions:

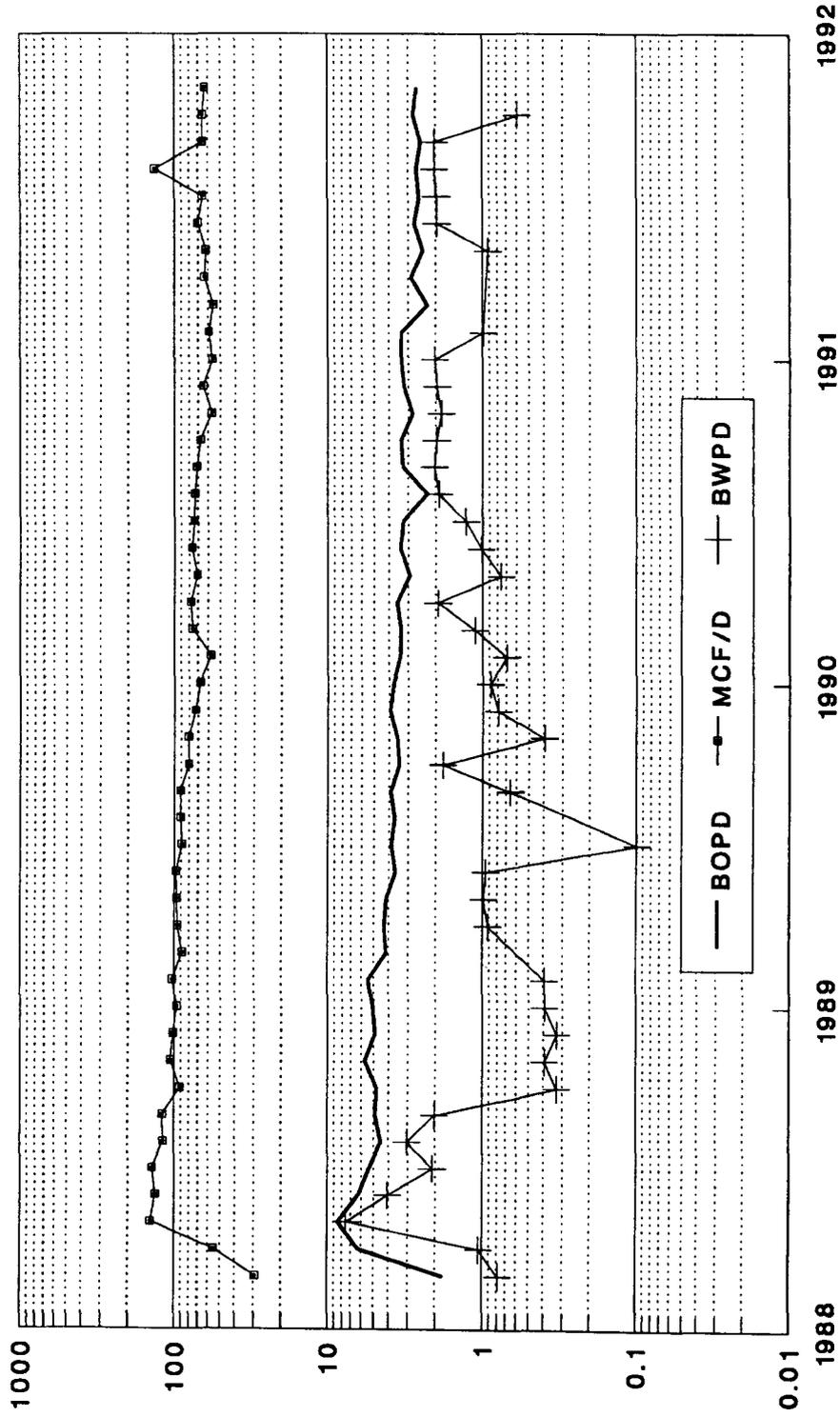
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized 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.

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

Signature: 
 Printed name and title: James D. Cogburn, Operations Coordinator
 Date: 1/15/92
 Telephone No.: 392-1600

(See Rule 301, Rule 1116 & appropriate pool rules.)

A. M. YORK #2
BLINEBRY FIELD
ARCO OIL AND GAS COMPANY - OPERATOR



ATTACHMENT 6

Attachment #7

ARCO A. M. York #2 Downhole Commingling Application Well Completion & Production History

- 7/47 Well drilled and completed as a single completion Drinkard producer from 6569-6608'. IP @ 455 bopd.
- 4/57 Acidize Drinkard with 10,000 gallons 20% HCl.
- 1/58 Frac Drinkard with 20,000 gallons refined oil and 20,000# sand. Perforate Tubb from 6204-6250', 6270-6300' and frac with 20,000 gallons refined oil and 20,000# sand. IP @ 198 bopd. Produce as Drinkard/Tubb dual completion.
- 2/72 Squeeze cement Tubb zone. Perforate additional Drinkard pay from 6467-6534'. Acidize Drinkard with 3,000 gallons 15% HCl with 24 ball sealers for diversion. Perforate Grayburg (3726-76'), acidize with 750 gallons 15% HCl and frac with 30,000 gallons slick water and 30,000# sand for IP of 29 bopd. Produce well as a Grayburg/Drinkard dual completion.
- 9/73 TA Drinkard by setting BP @ 6400'. Last Drinkard production = 7 bopd, 164 mcf. Produce as single completion Grayburg well.
- 4/87 SI Grayburg.
- 12/87 Squeeze cement Grayburg zone. Re-open Drinkard, acidize Drinkard with 2,000 gallons xylene, 5,000 gallons 15% HCl with 400# rock salt, 400# benzoic acid flakes for diversion. Drinkard production at 16 bopd, 5 bwpd. Produce as single Drinkard completion.
- 2/88 Set RBP @ 6600' to shut-in Drinkard. Perforate Blinebry from 5629-5905'. Acidize and frac with 20,000 gallons, 30,000# sand. Produce as single Blinebry completion.
- 1/92 Apply to re-open Drinkard zone, downhole commingle with Blinebry.



OIL CONSERVATION DIVISION STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

'92 JAN 30 AM 9 01 CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

1-27-92

BRUCE KING
GOVERNOR

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:

Arco oil & Gas Co. A.M. York #2-A 20-21-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed