

Amoco Production Company (USA)

Post Office Box 68
Hobbs, New Mexico 88240

S. J. Okerson
District Superintendent

May 10, 1983

File: SJ0-867-WF

Re: Application to Downhole Commingle
State "C" Tract 11 Well No. 11
Hardy Blinebry and Hardy Drinkard Oil Pools
Lea County, New Mexico

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Attention: Mr. Joe D. Ramey

Gentlemen:

Approval is hereby requested to downhole commingle the State "C" Tract 11 Well No. 11, in accordance with NMOCD Rule 303-C.

The subject well is located 510' FSL x 560' FEL, Sec. 2, T-21-S, R-36-E, Lea County, New Mexico. Amoco was authorized to dually complete this well in the Hardy Blinebry and Hardy Drinkard Oil Pools by Order No. R-6223, dated January 9, 1980. The Blinebry is currently artificially lifted and the Drinkard is flowing. When commingled, both zones will be produced by artificial lift. We feel commingling both oil zones and producing through a single tubing string will enhance the economic operation of this well. Reference Administrative Order No. DHC-397 dated March 23, 1983. This order gives approval to downhole commingle the Hardy Blinebry and Hardy Drinkard production in our State "C" Tract 11 Well No. 9.

In support of our request, we submit the following facts:

1. The latest productivity tests are as follows:

	Date	BOPD	BWPD	MCFD	Perforations
*Blinebry	5-01-83	23	19	169	5800'-6178'
**Drinkard	4-06-83	0	0	167	6719'-6832'

C-116 for the Drinkard are attached.

*Blinebry is not required to be reported on C-116. Data furnished by actual well tests. Reference production decline curves.

**We do not feel this is a representative well test. The well is currently experiencing loading problems and has a column of fluid in the hole. A previous well test dated 2-7-83 is more representative of true production 12 BOPD, 0.5 BWPD, and 37 MCFD. Reference our production decline curves attached. Recovery will be enhanced by rod pump when commingled.

2. Neither zone produces more water than the combined oil limit as determined in Rule 303-C.
3. The produced fluids should be compatible and commingling these fluids should not result in precipitates which might damage the reserves.
4. No depreciation of value will occur from downhole commingling. The Blinebry and Drinkard production is surface commingled on the closely located McQuatters Lease without depreciation of value. (Commingling Order PC-592, dated December 3, 1980.)
5. Expected daily production from the commingled zones are as follows:

	<u>Blinebry</u>	<u>Drinkard</u>	<u>Commingled</u>
BOPD	30	15	45
BWPD	15	2	17
MCFD	30	75	105

6. The commingling will not jeopardize the efficiency of future secondary recovery operations in either zone.
7. Bottom hole pressure estimations and calculations for each zone are as follows:

Drinkard

SITP: 100 PSI
Gas Gravity: 0.85
Oil Gravity: 41° API
Estimated Fluid Level: 1500' Above Mid perfs
No water in fluid column.

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Gas Gradient: $P = P_{SF} \left(\exp \left[\frac{0.018776(G)(X)}{(T)(Z)} \right] \right),$
 $P = 100 \text{ PSI} \left(\exp \left[\frac{0.018776(.85)(6775' - 1500')}{(540)(0.99)} \right] \right),$
 $P = 100 \text{ PSI} (\exp [0.157])$
 $P = 117 \text{ PSI}$

Oil Gradient: $(1500')(0.354 \text{ PSI/FT}) = 531 \text{ PSI}$

Bottom hole pressure estimate (Drinkard): 648 PSI

Blinebry

SICP: 40 PSI
Gas Gravity: 0.755
Oil Gravity: 43° API
Sonolog: 1377' above SN at 6178' (27% water)
Water Gravity (Gradient): 0.433 PSI/FT

Gas Gradient: $P = P_{SF} \left(\exp \left[\frac{0.018776(G)(X)}{(T)(Z)} \right] \right),$
 $P = 40 \text{ PSI} \left(\exp \left[\frac{(0.018776)(0.755)(5990' - 1377')}{(540)(0.99)} \right] \right),$
 $P = 45 \text{ PSI}$
Oil Gradient: $P = (1377')(0.27)(0.35 \text{ PSI/FT}) +$
 $(1377')(1 - 0.27)(0.35 \text{ PSI/FT})$
 $P = 482 \text{ PSI}$

Bottom hole pressure estimate (Blinebry): 527 PSI

8. Both zones to be commingled have common ownership.
9. Recommended oil and gas allotments are as follows:

	Oil	Gas
Blinebry	67%	29%
Drinkard	33%	71%

Based on estimated increase in production.

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10. All offset operators have been notified by registered mail.
(Copy of receipts attached.)

If additional information is required, contact Charles Herring at
393-1781.

Yours very truly,

A handwritten signature in cursive script, appearing to read "B. J. Olson".

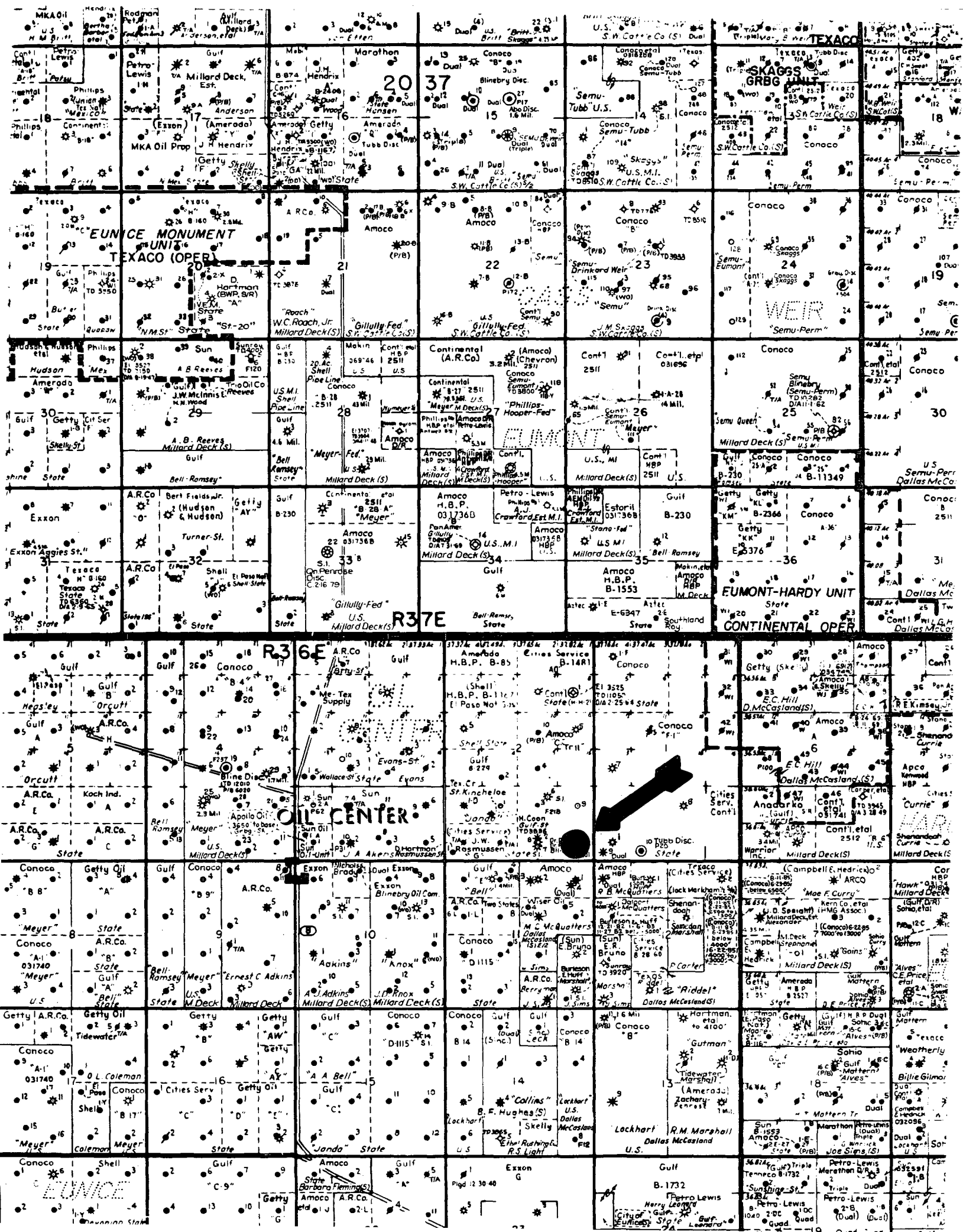
Attachments

cc: State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 1980
Hobbs, NM 88240

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Offset Operators

Conoco, Inc.
P. O. Box 460
Hobbs, NM 88240



State "C" Tract 11 No. 11
Hardy Blinebry - Drinkard

Well History:

Cementing Record:

- 08/28/79: Set 13-3/8"-48#, H-40 ST&C casing set at 1275' in a 17½" hole. Cmt'd w/700 sx Class C w/additives, 150 sx Class C w/2% CaCl. Circulated 50 sx.
- 09/12/79: Set 9-5/8"-36#, S-80 and K-55 ST&C; 32.3#, H-40 ST&C casing set at 5061' in a 12½" hole. Cmt'd w/600 sx Halliburton Lite with 8# salt, ½# Flocele and 400 sx Thikset w/10# Gilsonite ½# Flocele and 1700 sx Halliburton Lite w/8# salt and ½# Flocele, 100 sx Class C w/CaCl. Circ. 175 sx.
- 09/20/79: Set 7"-26#, K-55 LT&C; 23#, K-55 ST&C liner set from 4809'-6902' in an 8-3/4" hole. Cmt'd w/400 sx Class C w/additives. Circ.

Initial Completion:

- 10/01/79: Perforated 6719'-25', 6756'-62', 6765'-75', 6794'-98', 6808'-6812', 6828'-32', w/2 JSPF. Acidized w/5250 gals 15% NE acid.
- 10/26/79: Retrievable bridge plug set at 6220'. Capped w/10' of sd. Perforated 5800'-08', 5848'-53', 5952'-62', 6104'-08', 6172'-78' with 2 JSPF. Acidized w/4800 gals 15% NE acid. Fraced 5800'-6178' w/45000 gallons Titan II 30 and 52,500# 20/40 sand and 13,000# 10/20 sand, additives, rock salt and Benzoic acid chips.
- 11/28/79: Well completed. Drinkard potentialled flowing 49 BOPD x 1 BWPD x 346 MCFD, 30 PSI FTP, 48/64" CH. Blinebry potentialled flowing 107 BOPD x 101 BWPD x 414 MCFD, 320 PSI FTP, 13/64" CH.

GAS-OIL RATIO TESTS

Operator		Pool		Drinkard		County		Lea							
Amoco Production Company						TYPE OF TEST - (X)		SCHEDULED ☐		CONCLUSION ☐		SPECIES ☒			
P. O. Box 68, Hobbs, New Mexico 88240															
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	CHOKE SIZE	TEG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU. FT/BSL
		U	S	T	R						WATER GALS.	GRAV. OIL DLS.	OIL DLS.	GAS M.C.F.	
State C Tr. 11	11	G	15	24	37	4-6	F		14	24	0	0	0	167	---

No well will be assigned an allowable greater than the amount of oil produced on the official test.
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 allowances when authorized by the Division.

Gas volume 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.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 331 and appropriate pool rules.

0+4-NMCCD 1-F11e 533.11 1-LRB

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

Ruth Bunnison
Administrative Analyst

GAS-OIL RATIO TESTS

Operator		Pool		County											
Amoco Production Company		Hardy Blinebry		Lea											
Address		P. O. Box 68, Hobbs, New Mexico 88240		TEST - (X)											
LEASE NAME		WELL NO.		DATE OF TEST											
		LOCATION		CHOKE SIZE											
		U S T R		TEG. PRESS.											
				DAILY ALLOW. ABLE											
				LENGTH OF TEST HOURS											
				WATER BGLS.											
				PROD. DURING TEST											
				OIL BGLS.											
				GAS M.C.F.											
				GAS - OIL RATIO CU.FT/BBL											
State C Tr. 11	11	P	2	21	36	5-1-83	P			54	24	19	23	169	7348

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0+2-NMOC 1-LRB 1-File 533.11

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

Ruth Burson
Administrative Analyst

5-16-83

PLOT 2 11.17.09 FRI 1 APR, 1983

JOB-R6340276, 5000, TULSA CENTER DISSEPLA VER 8.2

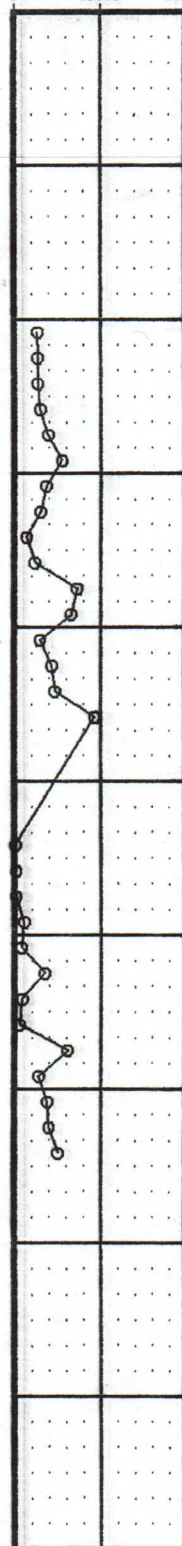


OIL

INDUSTRY PRODUCTION DATA RATE-TIME PLOTS

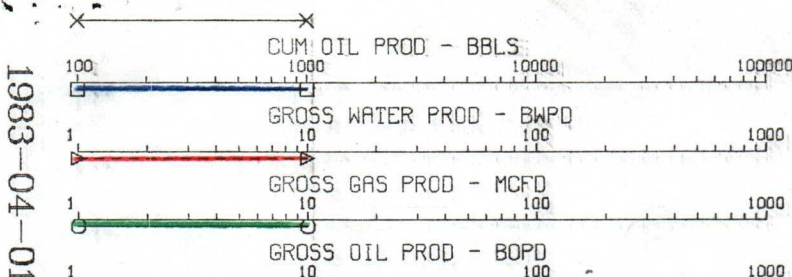
WELL: STATE C TR 11
FIELD: HARDY DRINKARD
OPERATOR: AMOCO PRODUCTION CO
STATE: NM 30 COUNTY: LEA
FIRST PROD: LAST PROD 82 09
REQUESTOR: POWELL -HOB-36 LOCATION: HOBBS
API NO: 300250000000
DK 008032829 PERFS:
COMP DATE: 79 10
GENID: 4W018026
RESERVOIR: DK
MAJOR PROD CUM: 20,090

GOR - CFPB
0 12500 25000



25 15 5 38 40 31 37 24 29 31 52 28 22 23 26 27 12 23 0 29 19 18 11 12 3 9 13 8 6 6 6 9

MAJOR PRODUCT



1983-04-01

TIME

REPORT NUMBER 321

PLOT IDENTIFIER FOR DECLINE CURVE DATA CD55C4Q4

PLUT 2 11.16.48 FRI 1 APR, 1983

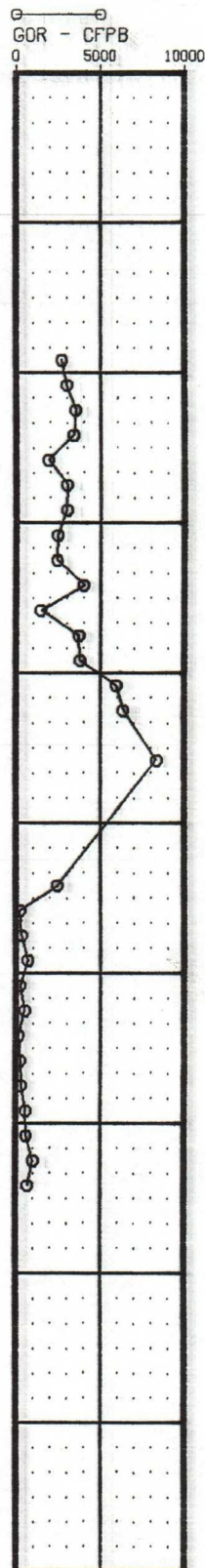
JOB-R6390276, SOCO, TULSA CENTER DISSEPLA VER 8.2



OIL

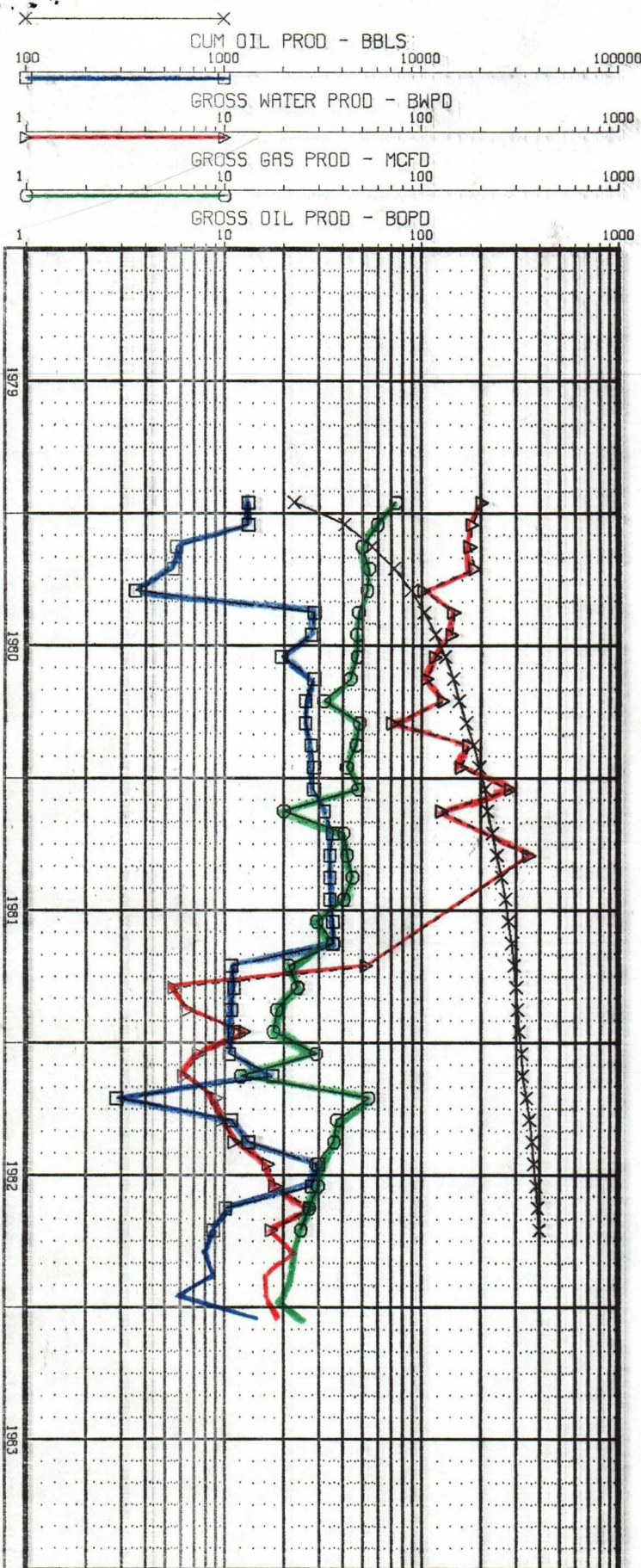
INDUSTRY PRODUCTION DATA RATE-TIME PLOTS

WELL: STATE C TR 11 000011
 FIELD: HARDY BLINERY BL 008032811
 OPERATOR: AMOCO PRODUCTION CO 019922
 STATE: NM 30 COUNTY: LEA 025
 FIRST PROD LAST PROD 82 09
 REQUESTOR: POWELL -HOB-36 LOCATION: HOBBS
 API NO: 300250000000
 PERFS:
 COMP DATE: 79 12
 GENID: 4W019025
 RESERVOIR: BL
 MAJOR PROD CUM: 39,840



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MAJOR PRODUCT



PLOT IDENTIFIER FOR DECLINE CURVE DATA CD55C4Q3

1983-04-01

TIME

REPORT NUMBER 321

P 267 164 369
RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

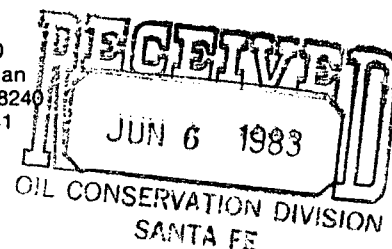
SENT TO		Conaco, Inc.		
STREET AND NO.		P.O. Box 460		
P.O., STATE AND ZIP CODE		Hobbs, NM 88240		
POSTAGE		\$.54		
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	.15 ^c		
	SPECIAL DELIVERY	c		
	RESTRICTED DELIVERY	c		
	OPTIONAL SERVICES RETURN RECEIPT SERVICE	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY	.60 ^c	
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY	c	
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	c	
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	c	
TOTAL POSTAGE AND FEES		\$ 1.89		
POSTMARK OR DATE				
				

PS Form 3800, Apr. 1976



Mark K. Mosley
Division Manager
Production Department
Hobbs Division
North American Production

Conoco Inc.
P. O. Box 460
726 E. Michigan
Hobbs, NM 88240
(505) 393-4141



June 1, 1983

New Mexico Oil Conservation Division
Department of Energy and Minerals
P. O. Box 2088
Santa Fe, NM 87501

Attention: Joe Ramey

Gentlemen:

Downhole Commingling of State "C" Tract 11 Well No. 11, Hardy Blinbry and
Hardy Drinkard Oil Pools, Section 2, T-21S, R-36E, Lea County, New Mexico

Conoco Inc. has approved, as offset operator, Amoco's subject request. One
copy of their letter ballot is attached for your file.

Yours very truly,

HAI:mhe

CC: Amoco, Hobbs



Amoco Production Company (USA)

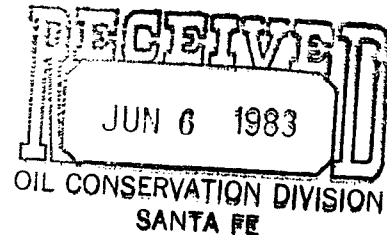
Post Office Box 68
Hobbs, New Mexico 88240

S. J. Okerson
District Superintendent

May 10, 1983

File: SJ0-868-WF

Re: Downhole Commingling of
State "C" Tract 11 Well No. 11
Hardy Blinbry and Hardy Drinkard Oil Pools
510' FSL x 560' FEL,
Section 2, T-21-S, R-36-E
Lea County, New Mexico



Conoco, Inc.
P. O. Box 460
Hobbs, NM 88240

Gentlemen:

As operator of the State "C" Tract 11 Well No. 11, Amoco hereby notifies you that we have applied to the NMOCD for Administrative Approval to downhole commingle the subject well. Commingling will enhance the economic operations of this well.

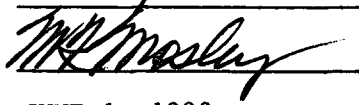
If you have no objections to the commingling, sign below and forward one copy to the NMOCD in Santa Fe, one copy to the NMOCD in Hobbs, one copy to this office, and retain one copy for your own records. Addressed stamped envelopes have been provided for your convenience.

Yours very truly,

APPROVAL

Original Signed By
S. J. OKERSON

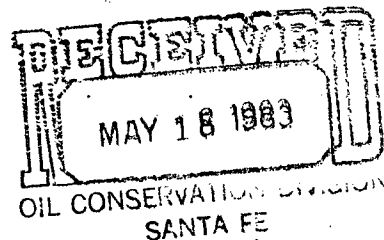
Company: CONOCO INC.

By: 

Date: JUNE 1, 1983

Attachments

OIL CONSERVATION DIVISION
DISTRICT 1



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

DATE May 13, 1983

RE: Proposed MC
Proposed DHC X
Proposed NSL
Proposed NSP
Proposed SWD
Proposed WFX
Proposed PMX

Gentlemen:

I have examined the application for the:

Amoco Production Co.	State C Tr. 11	#11-X	2-21-36
Operator	Lease and Well No.	Unit, S - T - R	

and my recommendations are as follows:

O.K.---J.S.

Yours very truly,

A handwritten signature in cursive script, appearing to read "Jerry L. Lyle", written over a horizontal line.

/mc