

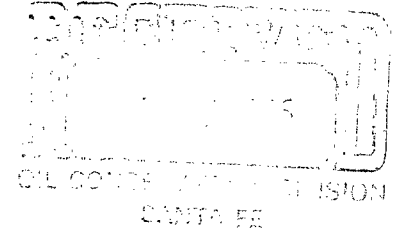
Houston Division
Production Operations, United States



P.O. Box 2409
Hobbs, New Mexico 88240
Telephone 505/393-7106

March 22, 1985

Division Director
Energy & Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501



Re: Downhole Commingling the Dayton Hardy Well No. 1
(I, Sec. 20, T21S, R37E), Penrose Skelly (Grayburg) and Eumont
(Queen) Lea County, New Mexico

Dear Sir:

Marathon Oil Company requests permission to downhole commingle production in the above referenced well. The Dayton Hardy No. 1 was drilled and completed open hole from 3494' - 3750' in the Queen and Grayburg formations in 1938. A formation packer set in 1939 at 3675' separated the Grayburg (3675' - 3750') from the Queen (3494' - 3670').

In January and February of 1985 the Grayburg was acidized and the Queen was fracture stimulated. The formation packer was removed and a pumping unit was placed on the well. Production has increased from 20 MCFD to 189 MCFD, 3 BOPD, and 11 BWPD.

Additional information as required under Rule 303(C) is attached for your consideration.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Thomas F. Zapatka'.

Thomas F. Zapatka
Production Engineer

TFZ/lp

Enclosures

Rule 303(C) 2 Information

- A. Operator: Marathon Oil Company
P. O. Box 2409
Hobbs, New Mexico 88240
- B. Lease: Dayton Hardy Well No. 1
660' FEL & 1980' FSL
Sec. 20, T21S, R37E
Lea County, New Mexico
- Pools to be commingled are Penrose-Skelly Grayburg and
Eumont Queen
- C. Plat: See attachments
- D. A Form C-116 is attached.
- E. A production decline curve for the lower Penrose-Skelly (Grayburg) zone is attached. This well was completed in 1938 in the Penrose Skelly Grayburg. In 1939 a formation packer was installed separating the Grayburg from the Queen formation. The initial production rate was 40 BOPD. Prior to this workover in March 1985 this well was producing 20 MCFD, no liquids. Cumulative production as of December 1, 1984 was 66,615 BO, 1,476 MMCF and 1,687 BW.
- F. Bottom-hole pressures taken of both these zones are attached.
- G. The fluid produced is crude oil, formation water and gas. There is no evidence of incompatibility.
- H. The commingling of gas from these zones has no effect on the resultant price. Ownership of the zones is common.
- I. Eumont (Queen) 100% of the liquids
80% of the gas
Penrose Skelly (Grayburg) 20% of the gas

These figures are based on production prior to and after the stimulation and commingling.

- J. All offset operators have been notified by letter of the proposed commingling. Offset operators are:

Gulf Oil Company, P. O. Box 670, Hobbs, NM 88240
Conoco Oil Company, P. O. Box 460, Hobbs, NM 88240
Arco Oil Company, P. O. Box 1710, Hobbs, NM 88240
Texaco Producing Inc., P. O. Box 728, Hobbs, NM 88240
Hunt Oil Company, Drawer 1350, Midland, TX 79702
Petro-Lewis Corp., P. O. Box 2250, Denver, CO 80201

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

Form C-116
Revised 10-1-78

GAS-OIL RATIO TESTS

Operator		Pool		County	
Marathon Oil Company		Penrose Skelly (Grayburg) & Eumont (Queen)		Lea	
Address		P. O. Box 2409 Hobbs, NM 88240		TYPE OF TEST - (X)	
LEASE NAME		WELL NO.		DATE OF TEST	
Dayton Hardy		1		3-19-85	
		LOCATION		CHOKE SIZE	
		U S T R		TBG. PRESS.	
		20 21S 37E		DAILY ALLOW. ABLE	
				LENGTH OF TEST HOURS	
				WATER BBL'S	
				GRAV. OIL BBL'S	
				GAS M.C.F.	
				GAS-OIL RATIO CU.FT/BBL	
				24 11 34 3 189 63,000	

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 allowable 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.

Well original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

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


Thomas F. Zabatka
(Signature)

Production Engineer
(Title)

March 22, 1985
(Date)

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-102
Revised 10-1-78

All distances must be from the outer boundaries of the Section.

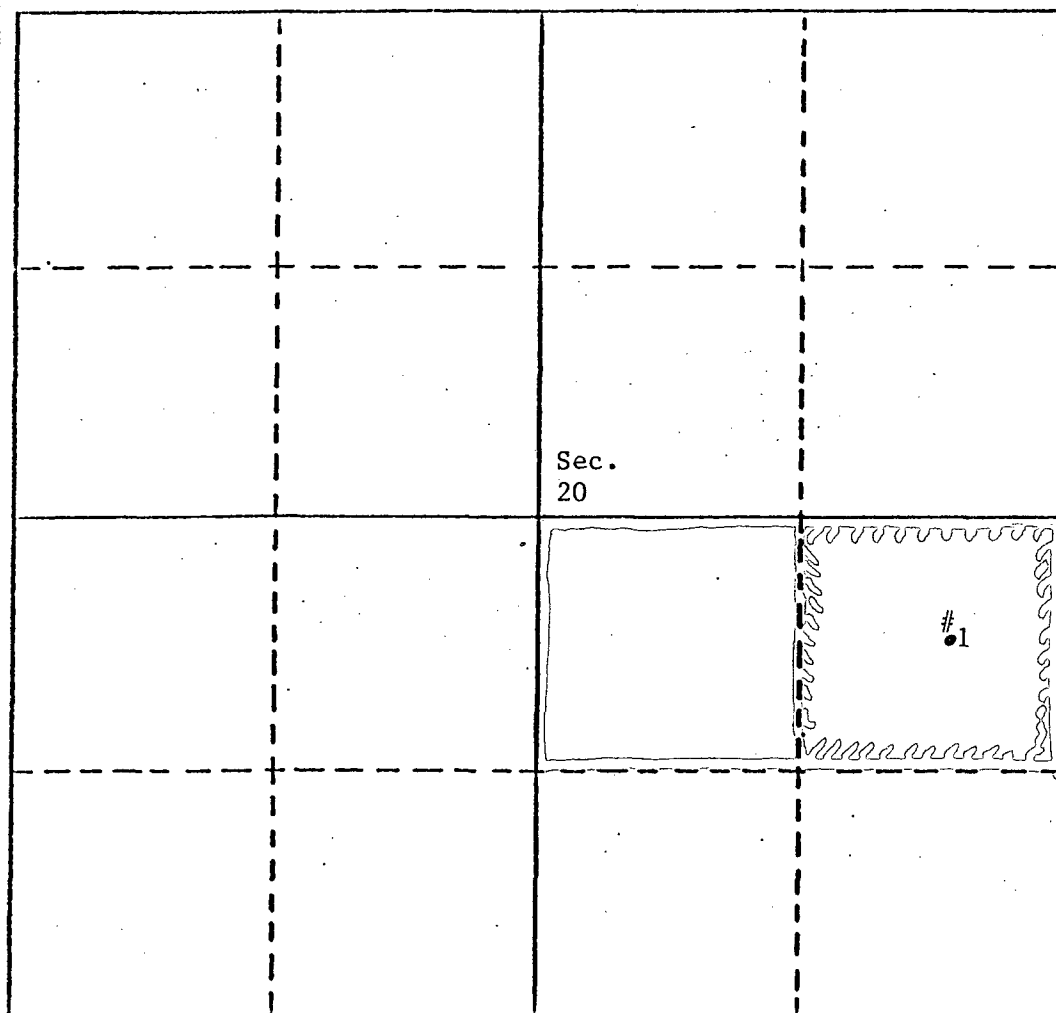
Operator Marathon Oil Company			Lease Dayton Hardy		Well No. 1
Unit Letter I	Section 20	Township 21S	Range 37E	County Lea	
Actual Footage Location of Wells: 660 feet from the East line and 1980 feet from the South line					
Ground Level Elev. 3489	Producing Formation Queen & Grayburg		Pool Penrose Skelly - Eumont		Dedicated Acreage: 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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 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 Division.



CERTIFICATION

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

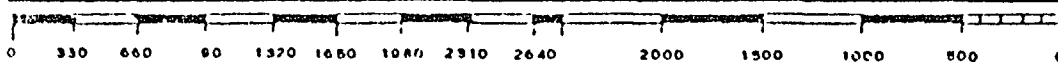
Name	Thomas F. Zapatka
Position	Production Engineer
Company	Marathon Oil Company
Date	March 22, 1985

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

Registered Professional Engineer
and/or Land Surveyor

Certificate No.



PETROLEWIS		SUN B	CAMPBELL & HEDRICK	ARCO	HUNT	SUN
51,621 BO 2 BOPD	205 MCFGPD 1 BOPD 13 WPD	3662 BO 2 MCFGPD 1 BOPD	<div> <div> <div>7</div> <div>1270 BO 16 MCFGPD</div> </div> <div> <div>1</div> <div>43,179 BO 2 MCFGPD</div> </div> </div> <div> <div>W. LEE</div> <div>PETROLEWIS</div> </div>	<div> <div>-48</div> <div>2</div> <div>17,550 BO 6 BOPD 27 MCFGPD 11 BWPD</div> </div>	<div> <div>2</div> <div>26,674 BO</div> </div>	<div> <div>DAYTON HARDY LEASE</div> <div>Lea County, New Mexico</div> <div>Offset Operators</div> <div>Cumulative Production</div> </div>
34,610 BO 4 BOPD 47 MCFGPD 12 BWPD	43,707 BO 33 MCFGPD	6489 BO	<div> <div>4</div> <div>14,692 BO</div> </div>	<div> <div>32,097 BO</div> </div>	<div> <div>1</div> <div>26,065 BO</div> </div>	<div> <div>ELLIOT</div> </div>
WARLICK		RANDLE	RANDLE	A.W. YORK	WEATHERLY	ELLIOT
<div> <div>PETROLEWIS</div> <div>60,282 BO 3 BOPD</div> <div>2 24 MCFGPD 6 BWPD</div> <div>46,345 BO 3 BOPD</div> <div>30 MCFGPD</div> </div> <div> <div>CAMPBELL & HEDRICK</div> <div>27,183 BO 2 BOPD</div> <div>48 MCFGPD 17 BWPD</div> </div>	<div> <div>GULF</div> <div>-200</div> <div>3</div> <div>32,444 BO</div> </div>	<div> <div>MARATHON</div> <div>-209</div> <div>1</div> <div>66,700 BO 21 MCFGPD</div> <div>10,381 BO 1 BOPD 16 MCFGPD 1 BWPD</div> </div>	<div> <div>31,173 BO</div> </div>	<div> <div>45,584 BO</div> </div>	<div> <div>39,199 BO</div> </div>	<div> <div>CONOCO</div> <div>5566 BO 6 BOPD 41 MCFGPD</div> <div>2</div> <div>18,731 BO 6 BOPD 153 MCFGPD</div> <div>5</div> <div>19,533 BO 7 BOPD 63 MCFGPD</div> <div>6</div> <div>8529 BO 7 BOPD 63 MCFGPD</div> <div>3</div> <div>45,247 BO</div> </div>
<div> <div>HARDY</div> <div>37,402 BO 6 MCFGPD</div> </div>	<div> <div>C.L. HARDY</div> <div>-188</div> <div>4</div> <div>16,030 BO</div> <div>41,545 BO</div> </div>	<div> <div>D.C. HARDY</div> <div>-209</div> <div>1</div> <div>45,584 BO</div> </div>	<div> <div>GULF</div> <div>2</div> <div>50,163 BO</div> <div>32,394 BO</div> <div>160,149 BO 5 BOPD 18 MCFGPD 4 BWPD</div> <div>97,012 BO 2 BOPD 23 MCFGPD 1 BWPD</div> </div>	<div> <div>M.E. WANTZ</div> <div>60,312 BO</div> <div>189,695 BO</div> </div>	<div> <div>37,674 BO</div> </div>	<div> <div>ANDERSON</div> </div>
<div> <div>MOBIL</div> <div>2</div> <div>42,066 BO</div> <div>33,372 BO</div> </div>	<div> <div>63,037 BO 3 BOPD 92 MCFGPD 3 BWPD</div> </div>	<div> <div>V. LINAM</div> <div>11,548 BO</div> </div>	<div> <div>SUN</div> <div>1</div> <div>12,229 BO</div> </div>	<div> <div>GULF</div> <div>11</div> <div>189,695 BO</div> </div>	<div> <div>37,674 BO</div> </div>	<div> <div>ANDERSON</div> </div>

30

25

20

15

10

5

0

DAYTON HARDY WELL NO. 1
PENROSE SKELLY (GRAYBURG)

1978

1979

1980

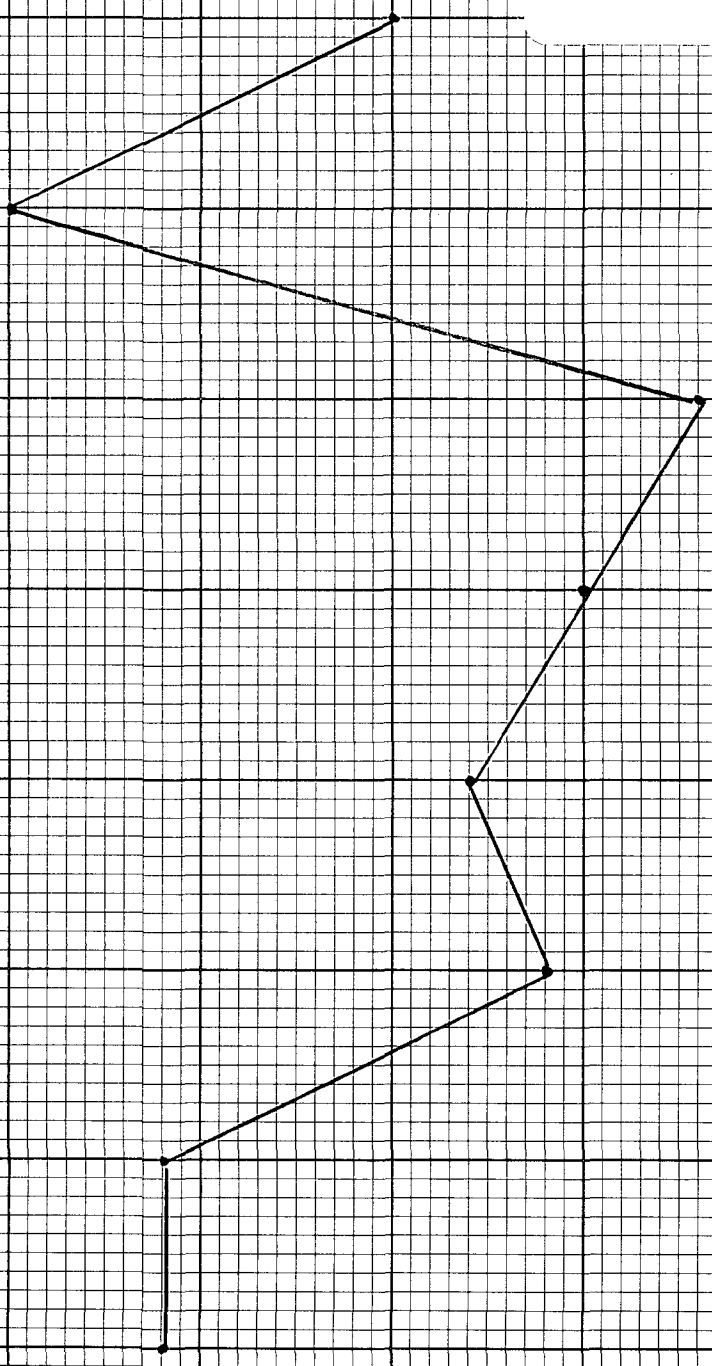
1981

1982

1983

1984

1985



42 Hour Shut In Pressure Data

Bomb was run per request of Mr. Thomas Zapatka to determine shut in bottom hole pressure. Used Marathon's 2150# element.

MARATHON OIL COMPANY
Dayton Hardy Well No. 1
Lea County, New Mexico
January 8, 1985
GL 3489'; KB 3492'
Penrose Skelly (Grayburg)

24 Hour Shut In Pressure Data

<u>Depth</u>	<u>Pressure</u>	<u>Δ P</u>	<u>Δ P</u>	<u>Gradient</u>
<u>0</u>	<u>241#</u>	<u> </u>	<u> </u>	<u> </u>
<u>1000'</u>	<u>252#</u>	<u>11#</u>	<u>1000'</u>	<u>.011</u>
<u>2000'</u>	<u>264#</u>	<u>12#</u>	<u>1000'</u>	<u>.012</u>
<u>3000'</u>	<u>270#</u>	<u>6#</u>	<u>1000'</u>	<u>.006</u>
<u>3540'</u>	<u>372#</u>	<u>102#</u>	<u>540'</u>	<u>.188</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u>3750'</u>	<u>≈ 412#</u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
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<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
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Pressure @ Datum

WELL DATA SHEET

FIELD Drinkard

LEASE & WELL NO. Dayton Hardy Well No. 1

LOCATION 660' FEL & 1980' FSL, Sec. 20, T21S, R37E

COUNTY & STATE Lea County, New Mexico

STATUS Pumping
(Pumping, Flowing, Gas-Lift, etc.)

TD 3750' PBTD KB 3489' GL 3486'

SURFACE CASING 13", 40# set at 389' with 100 sacks

INTERMEDIATE CASING 8 5/8", 32# set at 1249'
with 200 sacks

PRODUCTION CASING 7", 24# set at 3494' with 200 sacks

TUBING 2 3/8", 4.7#, 8rd, J55 from 3.00' - 382'
10V, J55 from 382' - 3649'. Mud joint at bottom of
seating nipple

RODS

PUMPING UNIT

PRESENT COMPLETION Penrose Skelly
(Formation and Interval)

Queen/Grayburg Open hole from 3494' - 3750'

HISTORY Drilled and completed in 1938 in the Grayburg from 3675 - 3750'. In 1985 the
Queen was fractured and the Grayburg acidized. Both were then downhole commingled.

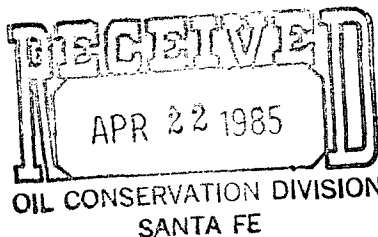
PREPARED BY Thomas F. Zapatka DATE March 22, 1985



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

TONEY ANAYA
GOVERNOR

David



POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

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

RE: Proposed:

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

Gentlemen:

I have examined the application for the:

Dayton Hardy

#1

Northern Oil Co. ~~McCallister State #5-A~~
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

*~~25-19-34~~
20-21-37*

OK JS

Yours very truly,

Jerry Sexton
Supervisor, District 1

/mc