

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

811 South First St., 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

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429Form C-107-A
New 3-12-96

APPROVAL PROCESS:

☐ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Operator Marathon Oil Company Address PO Box 2490, Hobbs, NM 88241
Well No. Jicarilla Apache Well No. 8 UTL P. Sec. 27, T-26-N, R-5-W County Rio Arriba
OGRID NO. 14021 Property Code 6414 API NO. 30-039-06280 Federal ☒ State ☐ (and/or) Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zones	Lower Zone
1. Pool Name and Pool Code	Blanco Pictured Cliffs 72439	N/A	Basin Dakota 71599
2. Top and Bottom of Pay Section (Perforations)	3070-3134'		7258-7402'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Current Flowing Expect Artificial Lift		Artificial Lift
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: Estimated Current All Gas Zones: Measured Current Estimated Or Measured Original	a. (Current) 750 psi b. (Original) (1955) 1080 psi	a. b.	a. 510 psi b. (1967) 3170 psi
6. Oil Gravity ($^{\circ}$ API) or Gas BTU Content	1094		1212
7. Producing or Shut-In?	Producing		Shut-in
Production Marginal? (yes or no)	Yes		Yes
* If Shut-in, give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: Rates: N/A	Date: Rates:	Date: 9/2/99 Rates: 0.1/92/0.1
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: 11/2/99 Rates: 0.1/126/0.3	Date: Rates:	Date: Rates: N/A
8. Fixed Percentage Allocation Formula - % for each zone	Oil: 20 % Gas: 61 %	Oil: % Gas: %	Oil: 80 % Gas: 39 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes ☐ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ☐ Yes ☐ No
Have all offset operators been given written notice of the proposed downhole commingling? ☐ Yes ☐ No

11. Will cross-flow occur? ☒ Yes ☐ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☒ Yes ☐ No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes ☐ No

13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)

14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ☒ Yes ☐ No

15. NMOCD Reference Cases for Rule 303(C) Exceptions: ORDER NO(S) _____

16. ATTACHMENTS:

- * C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- * Production curve for each zone for at least one year. (If not available, attach explanation.)
- * For zones with no production history, estimated production rates and supporting data.
- * Data to support allocation method or formula.
- * Notification list of all offset operators.
- * Notification list of working, overriding, and royalty interests for uncommon interest cases.
- * Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Thomas P. Kacir TITLE Production Eng. DATE 11/15/99

TYPE OR PRINT NAME Thomas P. Kacir TELEPHONE NO. (505) 393-7106



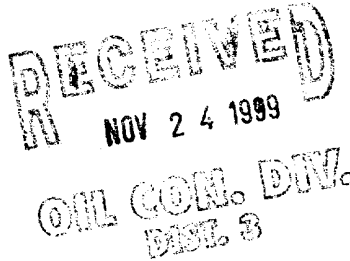
**Marathon
Oil Company**

P.O. Box 2490
Hobbs, New Mexico 88240
Telephone 505/393-7106

November 15, 1999

NM BLM
Deputy State Director
Resource Planning, Use and Protection
P.O. Box 27115
Santa Fe, New Mexico 87502-0115

RE: **Request for
Downhole Commingling
Jicarilla Apache Well No. 8
Unit Letter P, 990' FSL & 990' FEL
Section 27, T-26-N, R-5-W
Blanco Picture Cliff & Basin Dakota
Rio Arriba County, New Mexico**



Dear BLM personnel:

Marathon Oil Company requests administrative approval for the downhole commingling of production in the above subject well from the Blanco Picture Cliff & Basin Dakota pools in Rio Arriba County, New Mexico.

Jicarilla Apache Well No. 8 was drilled in 1955. The Blanco P.C. South pool was open-hole completed. In 1966, the wellbore was deepened and cased to TD. The well was perforated and completed in the Basin Dakota. At the end of the 1st quarter of 1999, the intermediate casing developed pressure. In September 1999, the Dakota was abandon below a RBP and the intermediate casing pressure problem was fixed. Afterwards, the Blanco P.C. South was perforated and stimulated with acid and a sand frac. The downhole commingling of these two pools will be by plunger lift through a single production tubing string. This should prevent crossflow during normal production operations.

Enclosed is pertinent data supporting this application. If additional information is necessary, please contact me at (505) 393-7106, ext 201.

Sincerely,

Thomas P. Kacir
Thomas P. Kacir
Production Engineer

Enclosure



P.O. Box 2490
Hobbs, New Mexico 88240
Telephone 505/393-7106

November 15, 1999

Mr. David Catanach
Oil Conservation Department
Energy and Minerals Department
2040 South Pacheco
Santa Fe, New Mexico 87505

RE: **Request for Exception to Rule 303-A
Downhole Commingling
Jicarilla Apache Well No. 8
Unit Letter P, 990' FSL & 990' FEL
Section 27, T-26-N, R-5-W
Blanco Picture Cliff & Basin Dakota
Rio Arriba County, New Mexico**

Dear Mr. Catanach:

Marathon Oil Company requests administrative approval for an exception to Rule 303-A to permit the downhole commingling of production in the above subject well from the Blanco Picture Cliff & Basin Dakota pools in Rio Arriba County, New Mexico.

Jicarilla Apache Well No. 8 was drilled in 1955. The Blanco P.C. South pool was open-hole completed. In 1966, the wellbore was deepened and cased to TD. The well was perforated and completed in the Basin Dakota. At the end of the 1st quarter of 1999, the intermediate casing developed pressure. In September 1999, the Dakota was abandon below a RBP and the intermediate casing pressure problem was fixed. Afterwards, the Blanco P.C. South was perforated and stimulated with acid and a sand frac. The downhole commingling of these two pools will be by plunger lift through a single production tubing string. This should prevent crossflow during normal production operations.

Enclosed is pertinent data supporting this application as outlined in Rule 303-A. If additional information is necessary, please contact me at (505) 393-7106, ext 201.

Sincerely,

A handwritten signature in cursive script that reads 'Thomas P. Kacir'.

Thomas P. Kacir
Production Engineer

Enclosure

REQUEST FOR EXCEPTION TO RULE 303-A
Jicarilla Apache Well No. 8

A: Operator

Marathon Oil Company
P.O. Box 2490
Hobbs, New Mexico 88241

B: Lease Name and Well Number

Jicarilla Apache Well No. 8
Unit Letter P, 990' FSL & 990' FEL
Section 27, T-26-N, R-5-W
Rio Arriba County, New Mexico
Blanco Pictured Cliffs South, Basin Dakota

C: Plats and Offset Operators

Attached

D: C-116's

Attached

E: Production Decline Curves

Expected Decline Curves are Attached

F: Estimated Bottomhole Pressures

	Current
Blanco Pictured Cliffs	750 psi
Basin Dakota	510 psi

G: Product Characteristics

Previous commingling of these zones by other operators in this area have shown that the produced fluids are compatible and commingling will not cause formation damage.

H: Value

Marathon receives the same price for product from these zones and value will not be adversely affected.

I: Production Allocation

<u>POOL</u>	<u>BOPD</u>	<u>MCFD</u>	<u>BWPD</u>	<u>Estimated Methods</u>
Pictured Cliffs	0.1	108	0.3	Post Workover (note below)
Basin Dakota	<u>0.4</u>	<u>69</u>	<u>0.5</u>	Pre-Workover Average
Total	0.5	177	0.8	

<u>Allocated Percentages</u>	<u>Oil %</u>	<u>Gas %</u>	<u>Water %</u>
Pictured Cliffs	20	61	38
Basin Dakota	<u>80</u>	<u>39</u>	<u>62</u>
Total	100	100	100

J: Ownership

Ownership of all zones is common and correlative rights will not be compromised.

K: Offset Operators

A list of offset operators is included. The offset operators were not notified because of the rule change in July 1999, eliminating the notification of offset operators.

OFFSETTING OPERATORS
Jicarilla Apache Well No. 8
UL "P", 990' FSL, 990' FEL
Section 27, T-26-N, R-5-W
Rio Arriba County, New Mexico

On the North, Northwest, West, Southwest and South:

Marathon Oil Company
P.O. Box 2490
Hobbs, NM 88240

On the Northeast, East and Southeast:

Burlington Resources Oil & Gas Company
3535 E. 30th Street
Farmington, NM 87402

DHC Additional Data

The Pictured Cliffs in Jicarilla Apache Well No. 8, is expected to have additional back pressure on it when DHC with the Dakota.

Pictured Cliffs gas production after DHC w/ Dakota is expected to be:

Static TP = 640 psig

Current Producing TP = 45 psig

Expected Producing CP = 125 psig (plunger lift w/ Dakota)

Currently the Pictured Cliffs drawdown is at 93% of static.

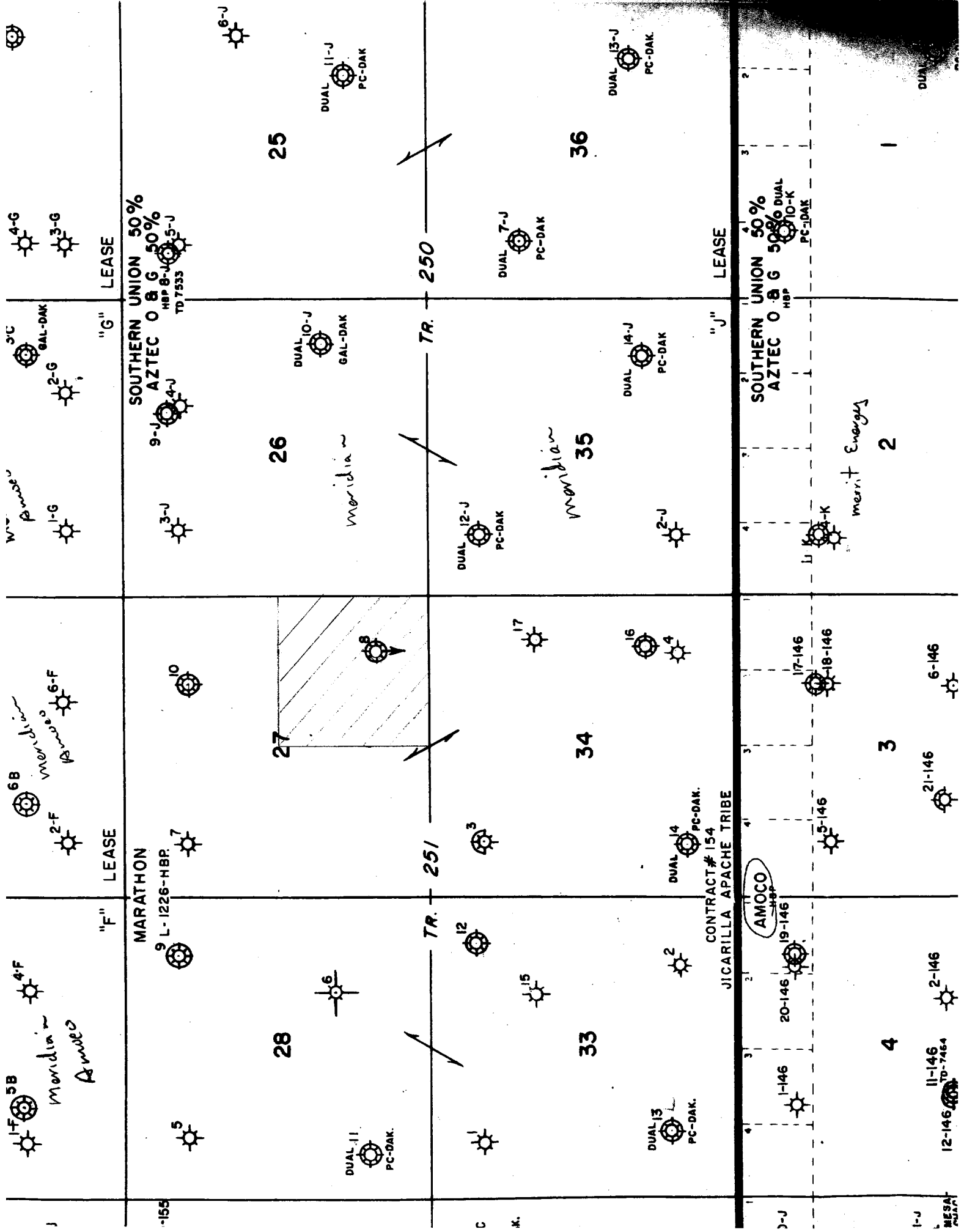
Expected Pictured Cliffs drawdown will be at 80% of static.

The current gas rate will be reduced by 14% due to the change in drawdown.

Current gas rate = 126 MCFPD

Expected gas rate = 108 MCFPD

The production from the Basin Dakota in Jicarilla Apache Well No. 8 was average from January 1998 through February 1999. Attempts to blow down the intermediate casing, keep the latter data from being representative of the Dakota production. The average production rates were used for allocation purposes and prediction of Dakota production after DHC with Pictured Cliffs.



Submit 2 copies to Appropriate
District Office.
DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
811 S. 1st Street, Artesia, NM 88210-2834
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

2040 Pacheco St.
Santa Fe, NM 87505

GAS - OIL RATIO TEST

Operator Marathon Oil Company		Pool Blanco Pictured Cliffs & Basin Dakota		County Rio Arriba										
Address P.O. Box 2490 Hobbs, NM 88240		TYPE OF TEST - (X) <input type="checkbox"/> Scheduled <input type="checkbox"/> Completion <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.	
Jicarilla Apache ; PC	8	P	27	26	5	11/02/99	F	41		24	0.1	0.2	126	630,000
	9	P	27	26	5	9/02/99	P	40		24	0.1	0.1	92	920,000

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.

Thomas P. Kacir
Signature

Thomas P. Kacir Production Engineer

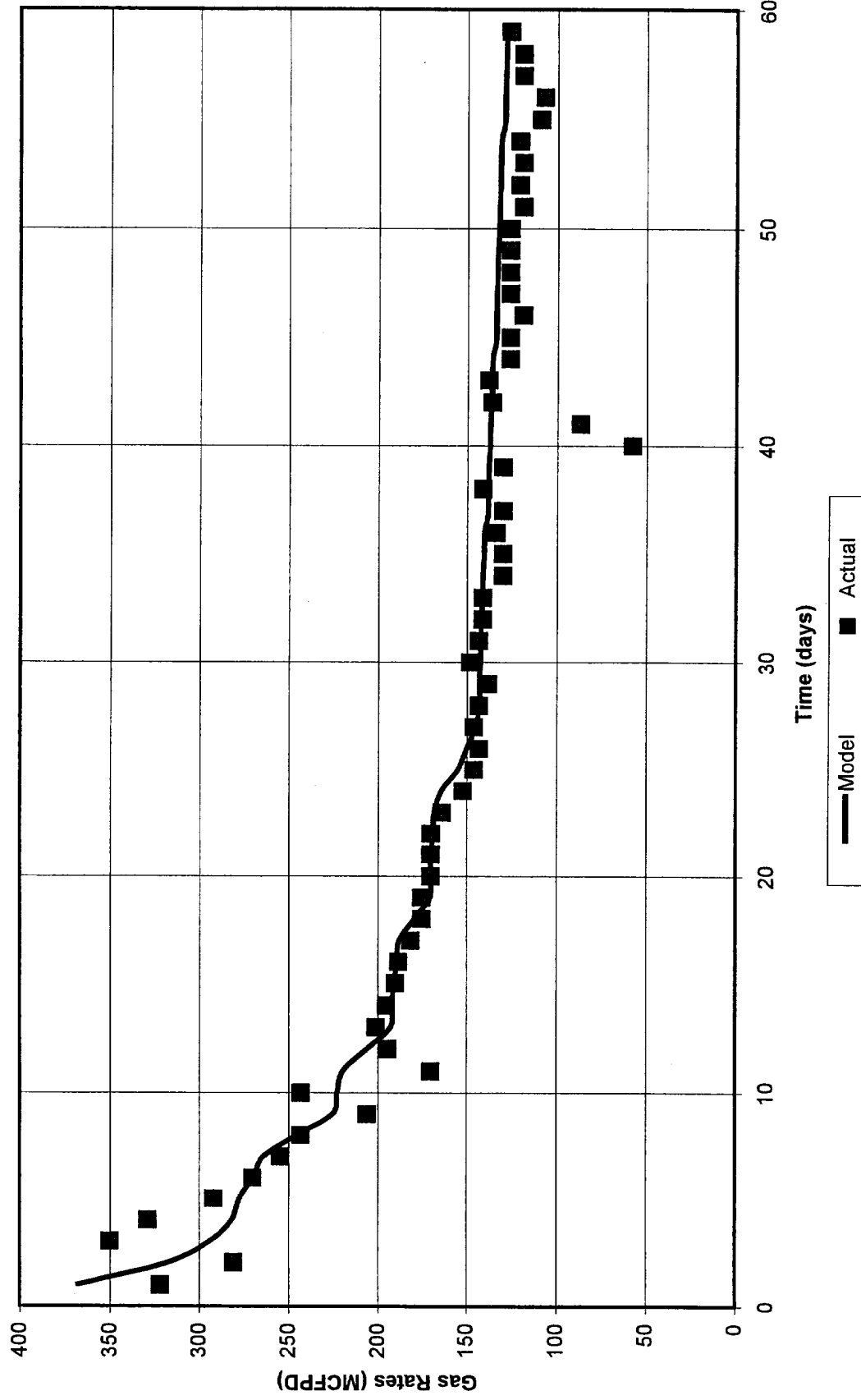
Printed name and title

November 12, 1999 (505) 393-7106

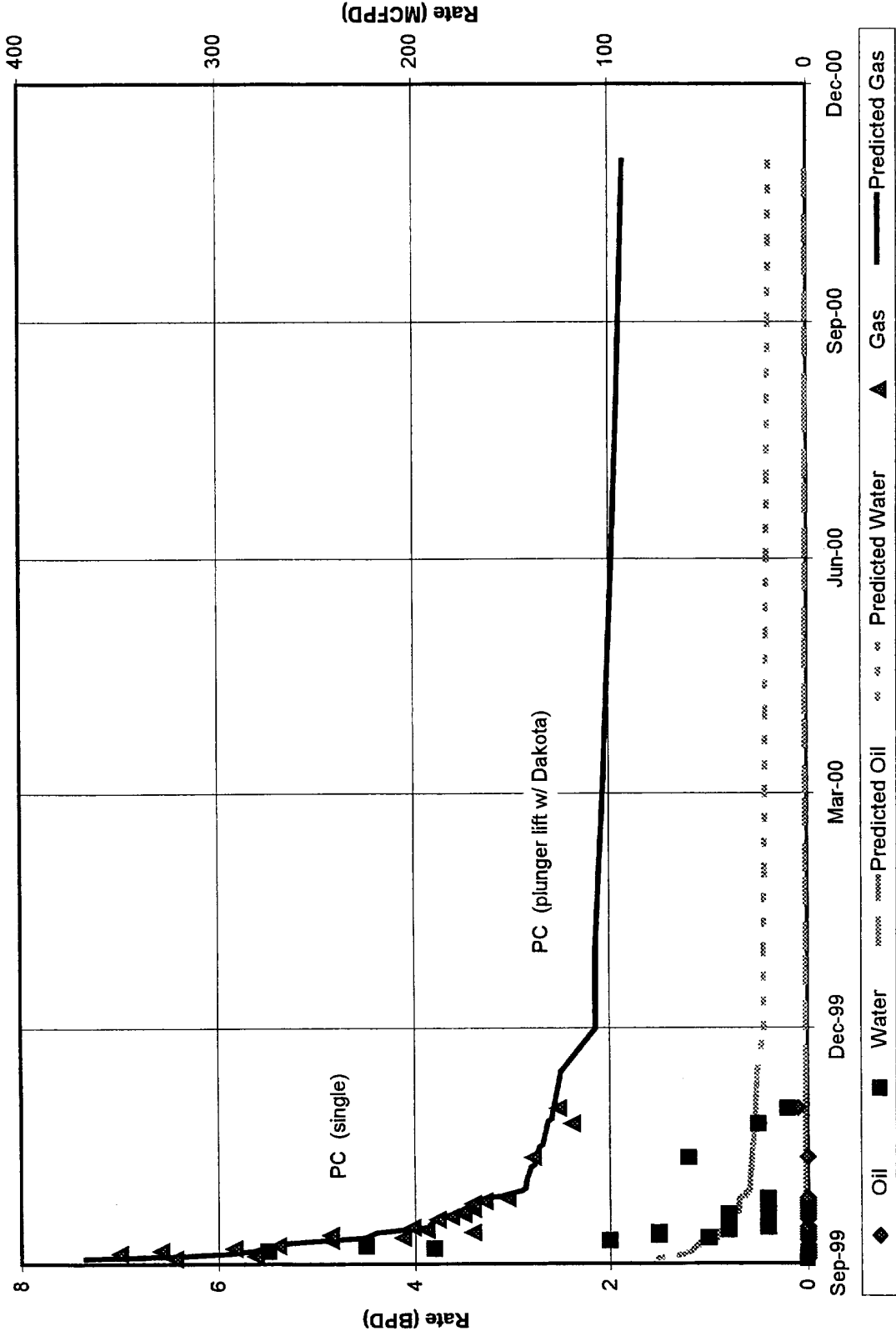
Date Telephone No.

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

Jicarilla Apache #8 Picture Cliff



Jicarilla Apache Well No. 8 Picture Cliff Pool Production

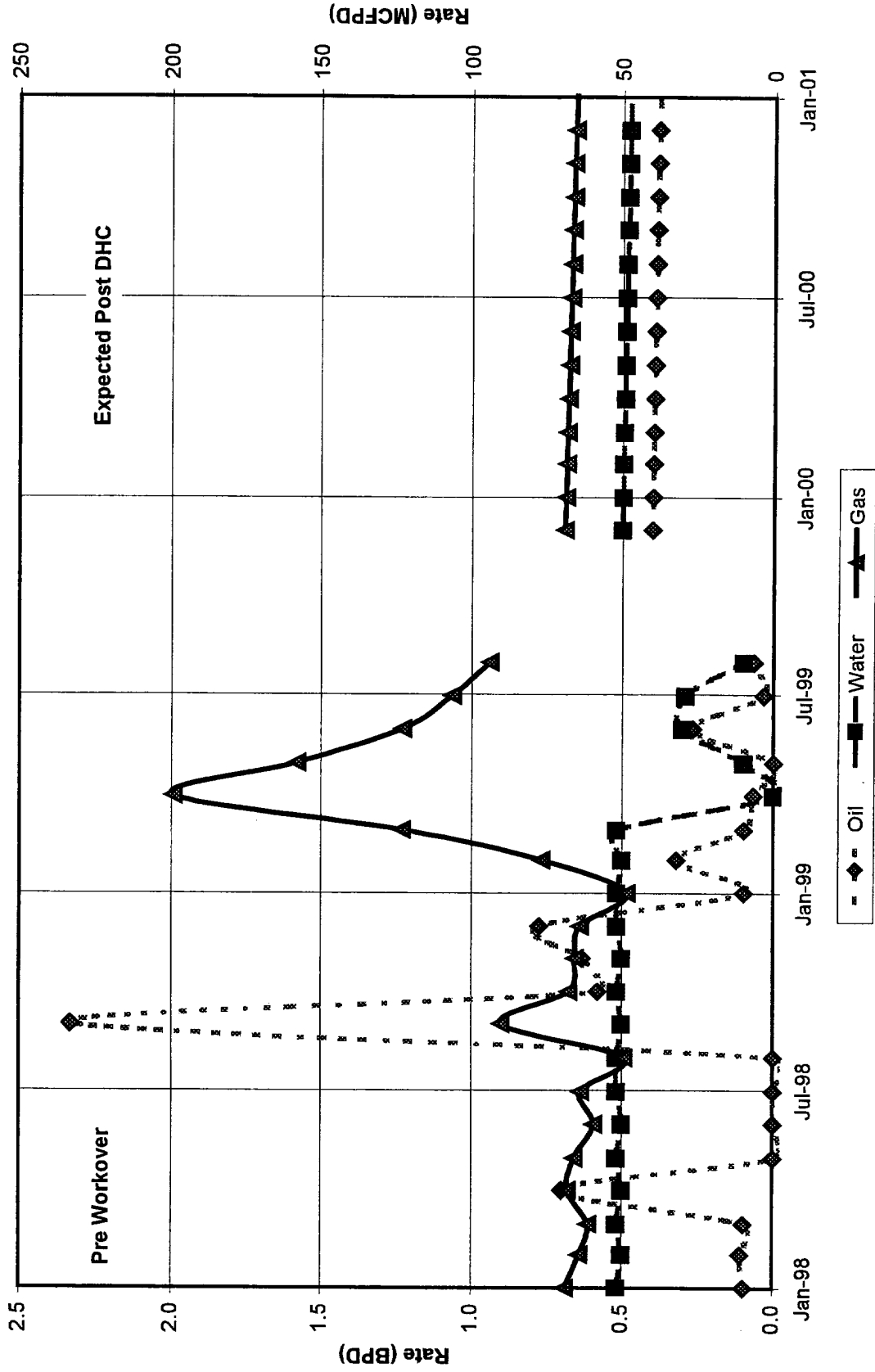


Sec 27, T-26-N, R-5-W
990' FSL, 990' FEL

Pictured Cliffs, Dakota
DHC Application

11/12/99

Jicarilla Apache Well No. 8 Basin Dakota

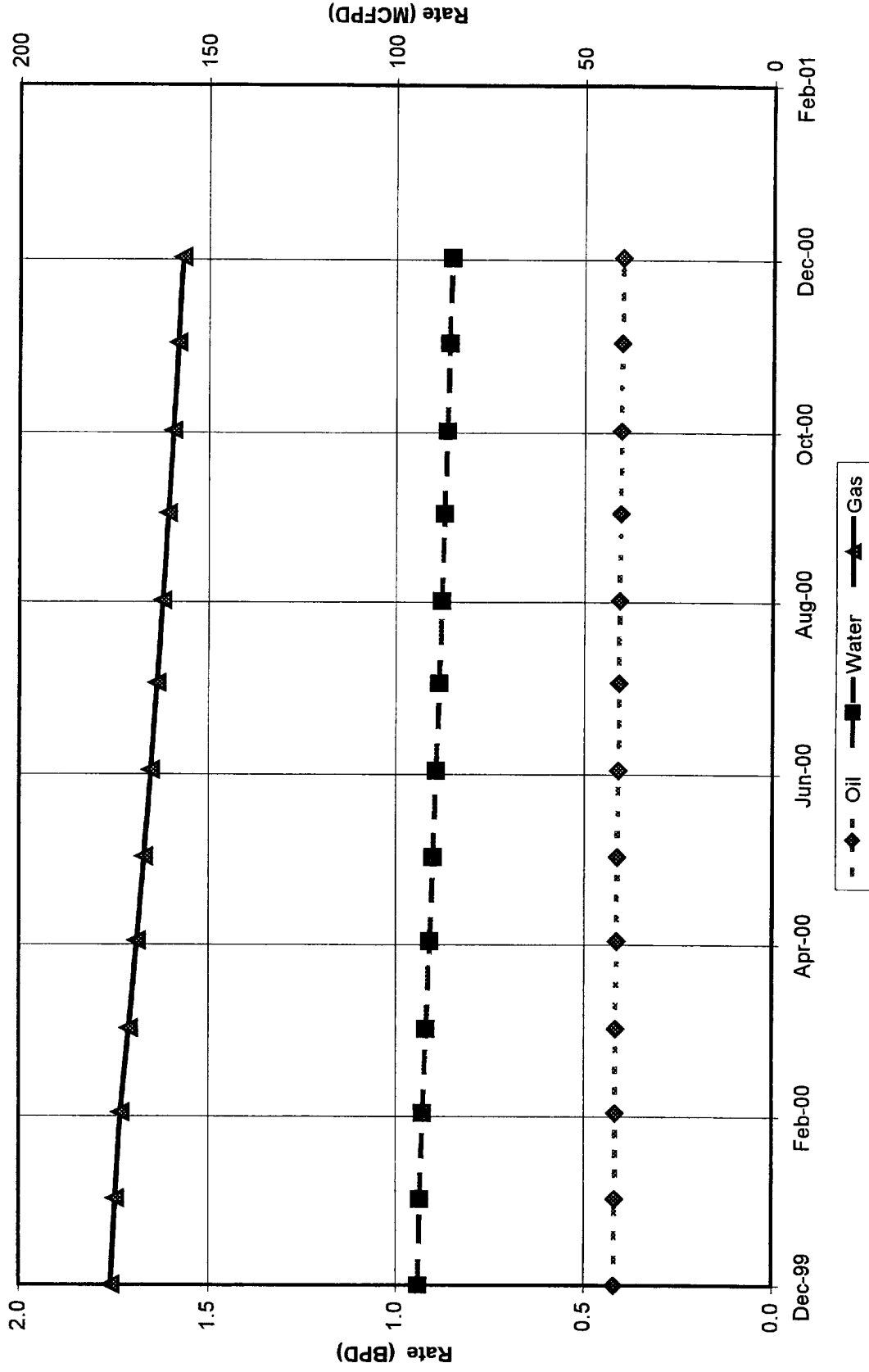


Sec 27, T-26-N, R-5-W
990' FSL, 990' FEL

Pictured Cliffs, Dakota
DHC Application

11/11/99

Jicarilla Apache Well No. 8 Expected Pictured Cliffs & Dakota Production



Sec 27, T-26-N, R-5-W
990' FSL, 990' FEL

Pictured Cliffs, Dakota
DHC Application

11/12/99

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 S. 1st Street, Artesia, NM 88210-2834
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT


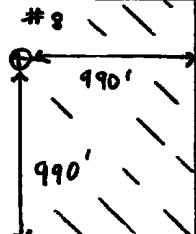
¹ API Number 30-039-06280		² Pool Code 72439		³ Pool Name Blanco Picture Cliff	
⁴ Property Code 6414		⁵ Property Name Jicarilla Apache			⁶ Well Number 8
⁷ OGRID No. 014021		⁸ Operator Name Marathon Oil Company			⁹ Elevation 6660' GL

¹⁰ Surface Location									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
P	27	26N	5W		990	South	990	East	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
--------------------------------------	-------------------------------	----------------------------------	-------------------------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION.

				27		¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature Thomas P. Kacir Printed Name Production Engineer Title 9-22-99 Date
Dedicated Acreage →						¹⁸ 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 belief. Date of Survey Signature and Seal of Professional Surveyor: Certificate Number

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 S. 1st Street, Artesia, NM 88210-2834
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-06280		² Pool Code 71599		³ Pool Name Basin Dakota	
⁴ Property Code 6414		⁵ Property Name Jicarilla Apache			⁶ Well Number 8
⁷ OGRID No. 014021		⁸ Operator Name Marathon Oil Company			⁹ Elevation 6660' GL

¹⁰ Surface Location									
UL or lot no. P	Section 27	Township 26N	Range 5W	Lot. Idn	Feet from the 990	North/South Line South	Feet from the 990	East/West line East	County Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
¹² Dedicated Acres 160		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

				¹⁷ OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i>	
				Signature Thomas P. Kacir Printed Name Production Engineer Title 11-12-99 Date	
				¹⁸ SURVEYOR CERTIFICATION <i>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 belief.</i>	
				Date of Survey	
				Signature and Seal of Professional Surveyer: Certificate Number	