

District I  
1625 N. French Drive, Hobbs, NM 88240

District II  
1301 W. Grand Avenue, Artesia, NM 88210

District III  
1000 Rio Grande Road, Aztec, NM 87410

District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-107A  
Revised June 10, 2003

APPLICATION TYPE  
☒ Single Well  
☐ Establish Pre-Approved Pools  
EXISTING WELLBORE  
☒ Yes ☐ No

APPLICATION FOR DOWNHOLE COMMINGLING

MARBOB ENERGY CORPORATION P O BOX 227 ARTESIA, NM 88211-0027  
Operator Address

AAO FEDERAL #6 F-1-18S-27E EDDY COUNTY, NEW MEXICO  
Lease Well No. Unit Letter-Section-Township-Range County

OGRID No. 14049 Property Code 29793 API No. 30-015-34071 Lease Type: ☒ Federal ☐ State ☐ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	RED LAKE Q-CB-SA		RED LAKE GLORIETA YESO NE
Pool Code	51300		96836
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2432-2770' PERFORATED		3426-3760' PERFORATED
Method of Production (Flowing or Artificial Lift)	ARTIFICIAL LIFT		ARTIFICIAL LIFT
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	EST. 50 PSI PRODUCING BHP		EST. 100 PSI PRODUCING BHP
Oil Gravity or Gas BTU (Degree API or Gas BTU)	28.5°		41.8°
Producing, Shut-In or New Zone	NEW ZONE		PRODUCING
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: N/A Rates:	Date: Rates:	Date: AUGUST 2005 50 BOPD Rates: 40 MCFD 350 BOPD
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil Gas 71 % 68 %	Oil Gas % %	Oil Gas 29 % 32 %

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones?  
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail?

Yes ☒ No ☐  
Yes ☐ No ☐

Are all produced fluids from all commingled zones compatible with each other?

Yes ☒ No ☐

Will commingling decrease the value of production?

Yes ☐ No ☒

If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands  
or the United States Bureau of Land Management been notified in writing of this application?

Yes ☒ No ☐

NMOCD Reference Case No. applicable to this well: R-11363 PRE-APPROVED POOL

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 working, royalty and overriding royalty interests for uncommon interest cases.
- Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

- List of other orders approving downhole commingling within the proposed Pre-Approved Pools
- List of all operators within the proposed Pre-Approved Pools
- Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
- Bottomhole pressure data.

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

SIGNATURE Brian Collins TITLE ENGINEER DATE 02/10/06

TYPE OR PRINT NAME BRIAN COLLINS TELEPHONE NO. ( 505 ) 748-3303

E-MAIL ADDRESS engineering@marbob.com

RECEIVED  
FEB 27 2006  
OCU-ARTESIA

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-10

Revised JUNE 10, 200

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code	Pool Name
		96836	Red Lake; Glorieta Yeso, Northeast
Property Code	Property Name		Well Number
29793	AAO FEDERAL		6
OGRID No.	Operator Name		Elevation
14049	MARBOB ENERGY CORPORATION		3596'

Surface Location

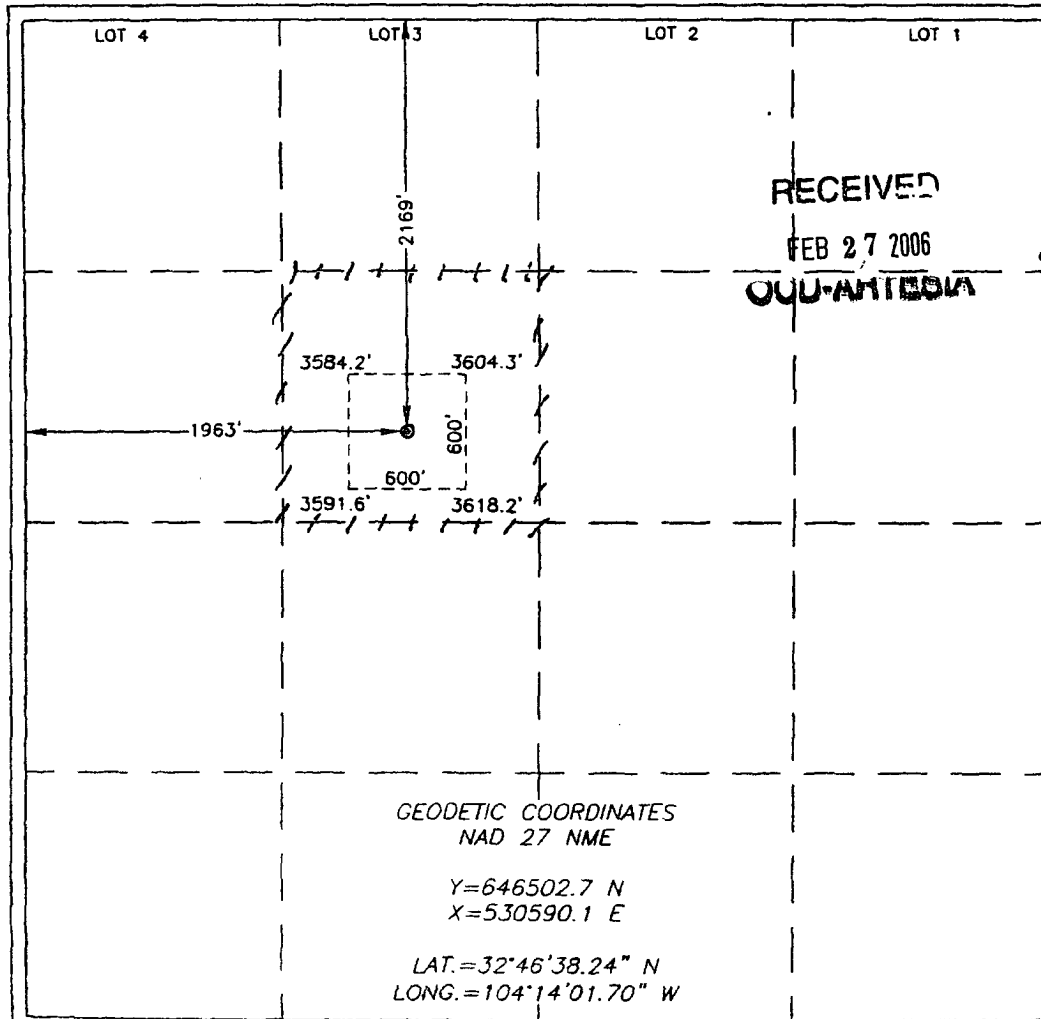
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	1	18-S	27-E		2169	NORTH	1963	WEST	EDDY

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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



OPERATOR CERTIFICATION

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

*Melanie J. Parker*  
Signature

Melanie J. Parker

Printed Name

Land Department

Title

February 15, 2005

Date

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.

NOVEMBER 18, 2004

Date Surveyed JR

Signature & Seal of Professional Surveyor

*Gary E. Eidsen* 11/23/04  
04.11.1526

Certificate No. GARY EIDSON

12841

Submit 3 Copies To Appropriate District  
Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-34071
1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator MARBOB ENERGY CORPORATION		6. State Oil & Gas Lease No.
3. Address of Operator P O BOX 227 ARTESIA, NM 88211-0227		7. Lease Name or Unit Agreement Name AAO FEDERAL
4. Well Location Unit Letter <u>F</u> : <u>2169</u> feet from the <u>NORTH</u> line and <u>1963</u> feet from the <u>WEST</u> line Section <u>1</u> Township <u>18S</u> Range <u>27E</u> NMPM <u>EDDY</u> County <u>NM</u>		8. Well Number <u>6</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3596' GR		9. OGRID Number 14049
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>		10. Pool name or Wildcat RED LAKE GLORIETA/YESO NE
Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____ Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

<b>NOTICE OF INTENTION TO:</b>		<b>SUBSEQUENT REPORT OF:</b>	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
OTHER: DOWNHOLE COMMINGLING <input checked="" type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

SEE ATTACHED C-107A APPLICATION FOR DOWNHOLE COMMINGLING  
DIVISION ORDER #R-11363 PRE-APPROVED POOLS

THE PROPOSED ALLOCATION IS: REDLAKE Q-GR-SA 51300 - OIL 71% - GAS 68%  
REDLAKE GLORIETA/YESO NE 96836 - OIL 29% - GAS 32%

NEW ALLOCATIONS WILL BE SUBMITTED IF ACTUAL WELL PRODUCTION IS SIGNIFICANTLY  
DIFFERENT THAN THAT ABOVE.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Brian Collins TITLE ENGINEER DATE 02/13/06

Type or print name BRIAN COLLINS E-mail address: engineering@marbob.com Telephone No. 748-3303  
For State Use Only

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
Conditions of Approval (if any): \_\_\_\_\_

**Engineering Summary**  
**Form C-107A**  
**Application for Downhole Commingling**

**Marbob Energy Corporation**  
**AAO Federal No. 6 (Unit F, Sec. 1-T18S-R27E)**

Marbob Energy proposes to downhole commingle the San Andres (Red Lake Q-GB-SA 51300) and the Yeso (Red Lake Glorieta Yeso, NE 96836) in the captioned well. This proposal is identical to the downhole comminglings that Devon Energy has done offsetting the captioned wells (Orders R-11363, DHC-2390, DHC-2685, DHC-2701).

No crossflow will occur because this well will be rod pumped in a pumped down condition. The MJ State No. 1, when completed in the Yeso, will be used as a "typical" Yeso well. The MJ State No. 2, when completed in the San Andres, will be used as a "typical" San Andres well. The proposed zonal allocation is described below.

Yeso: Production declines exponentially at 84%/yr. for one year, followed by 35%/yr. for oil and 32%/yr. for gas. (Best engineering estimate using the production history of nearby Devon wells.)

Qi	= 90 bopd	d=84%/yr.
Q1yr	= 14 bopd	d=35%/yr.
Qel	= 1.5 bopd	assumed

$$\text{EUR} = \frac{-365 (90-14)}{\ln (1-.84)} + \frac{-365 (14-1.5)}{\ln(1-.35)} = 25.7 \text{ MBO}$$

Qi	= 140 mcf/d	d=84%/yr.
Q1yr	= 22 mcf/d	d=32%/yr.
Qel	= 5 mcf/d	assumed

$$\text{EUR} = \frac{-365 (140-22)}{\ln (1-.84)} + \frac{-365 (22-5)}{\ln (1-.32)} = 39.6 \text{ MMCF}$$

San Andres: Production declines exponentially at 80%/yr. for one year, followed by 24%/yr. for oil and 20%/yr. for gas. (Best engineering estimate using the production history of nearby Devon wells.)

$Q_i = 145 \text{ bopd}$        $d=80\%/yr.$   
 $Q_{1yr} = 29 \text{ bopd}$        $d=24\%/yr.$   
 $Q_{el} = 1.5 \text{ bopd}$       assumed

$$EUR = \frac{-365 (145-29)}{\ln (1-.80)} + \frac{-365 (29-1.5)}{\ln (1-.24)} = 62.9 \text{ MBO}$$

$Q_i = 180 \text{ mcf/d}$        $d=80\%/yr.$   
 $Q_{1yr} = 36 \text{ mcf/d}$        $d=20\%/yr.$   
 $Q_{el} = 5 \text{ mcf/d}$       assumed

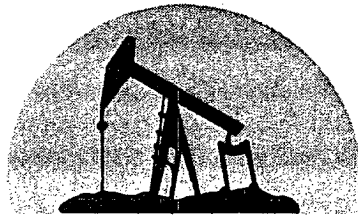
$$EUR = \frac{-365 (180-36)}{\ln (1-.80)} + \frac{-365 (36-5)}{\ln (1-.20)} = 83.4 \text{ MMCF}$$

$$\text{Yeso Oil} = \frac{25.7 \text{ MBO}}{25.7 + 62.9} = .29 = 29\%$$

$$\text{San Andres Oil} = 1-.29 = .71 = 71\%$$

$$\text{Yeso Gas} = \frac{39.6 \text{ MMCF}}{39.6 + 83.4} = .32 = 32\%$$

$$\text{San Andres Gas} = 1-.32 = .68 = 68\%$$



NMOCD

**marbob**  
energy corporation

February 10, 2006

RECEIVED

FEB 27 2006  
OCD-ARTESIA

Bureau of Land Management  
2909 W. 2<sup>nd</sup> St.  
Roswell, NM 88201

Attn: Mr. Armando Lopez

Re: Downhole Commingling Application  
AAO Federal #6 - Unit F, Sec. 1-T18S-R27E  
Eddy County, New Mexico

NM 0557371

Dear Mr. Lopez:

Enclosed is a copy of the downhole commingling application submitted to the NMOCD for the captioned well.

Please contact me at 505-748-3303 if you have any questions.

Sincerely,

Brian Collins  
Petroleum Engineer

BC/dlw  
enclosure

Bureau of Land  
Management

FEB 14 2006  
Carlsbad Field Office  
Carlsbad, NM

APPROVED

FEB 23 2006

ALEXIS C. SWOBODA  
PETROLEUM ENGINEER



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

Administrative Order DHC-3645

Marbob Energy Corporation

P.O. Box 227

Artesia, NM 88211

Attention: Brian Collins

**RECEIVED**

**FEB 27 2006**

**UCU-ARTEZIA**

AAO Federal Well No. 6

API No. 30-015-34071

Unit F, Section 1, Township 18 South, Range 27 East, NMPM,

Eddy County, New Mexico

Red Lake-Queen Grayburg San Andres (51300), and

Northeast Red Lake-Glorieta Yeso (96836) Pools

Dear Mr. Collins:

Reference is made to your recent application for an exception to Rule 303.A. of the Division Rules and Regulations to permit the above-described well to commingle production from the subject pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303.C., and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion or otherwise required separation of the zones is hereby placed in abeyance.

In accordance with Division 303C.(1)(f), the production attributed to any commingled pool within the well shall not exceed the allowable applicable to that pool.

Assignment of allowable to the well and allocation of production from the well shall be as follows.

Northeast Red Lake-Glorieta Yeso Pool	Oil-29%	Gas-32%
Red Lake-Queen Grayburg San Andres Pool	Oil-71%	Gas-68%

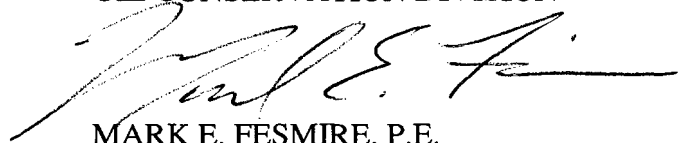
These percentages shall be amended only with written permission of the Division.

REMARKS: The operator shall notify the Artesia District Office of the Division upon implementation of commingling operations.

Pursuant to Rule 303C(2), the commingling authority granted herein may be rescinded by the Division Director if conservation is not being best served by such commingling.

Approved at Santa Fe, New Mexico on February 17, 2006.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



MARK E. FESMIRE, P.E.  
Director

cc: Oil Conservation Division – Artesia  
Bureau of Land Management - Carlsbad