

District I
1625 N. French Drive, Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos 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

Form C-107A
Revised June 10, 2003

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

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 #9 L-1-18S-27E EDDY COUNTY, NEW MEXICO
Lease Well No. Unit Letter-Section-Township-Range County
OGRID No. 14049 Property Code 29793 API No. 30-015-34387 Lease Type: ☒ Federal ☐ State ☐ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	RED LAKE Q-GB-SA		RED LAKE GLORIETA YESO NE
Pool Code	51300		96836
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2182-2557'	RECEIVED FEB 15 2006 OCD-ARTESIA	3457-3714' 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)	38.5°		41.8°
Producing, Shut-In or New Zone	NEW ZONE		NEW ZONE
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: N/A Rates:
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? Yes ☒ No ☐
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? 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  TITLE ENGINEER DATE 2/10/06

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

E-MAIL ADDRESS engineering@marbob.com

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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-1

Revised JUNE 10, 20

Submit to Appropriate District Off

State Lease - 4 Cop

Fee Lease - 3 Cop

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPO

API Number		Pool Code 96836	Pool Name RED LAKE; GLORIETA YESO NORTHEAST
Property Code	Property Name A A O FEDERAL		Well Number 9
GRID No. 14049	Operator Name MARBOB ENERGY CORPORATION		Elevation 3571'

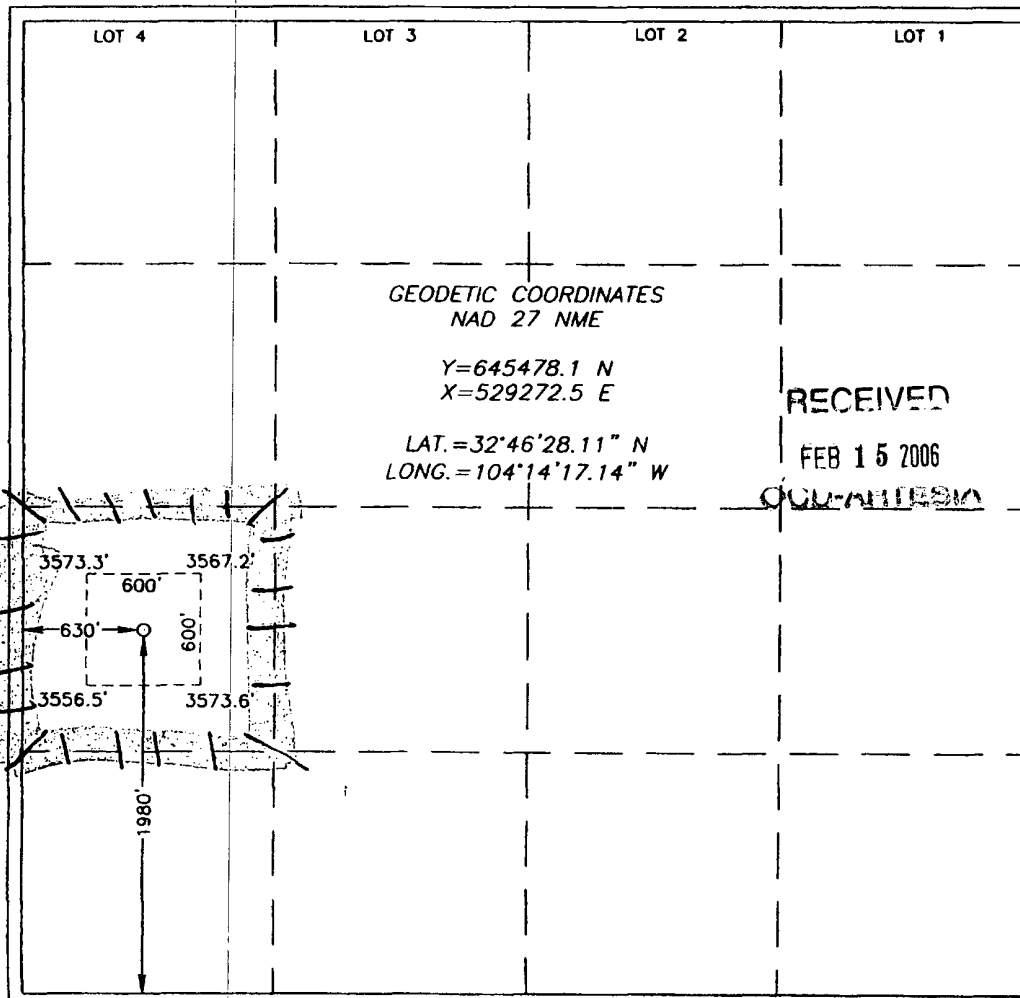
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	1	18-S	27-E		1980	SOUTH	630	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 40	Joint or Infill	Consolidation Code	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



OPERATOR CERTIFICATION

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

[Signature]
Signature

AMY REID
Printed Name

LAND DEPARTMENT

Title

JULY 29, 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.

JULY 5, 2005

Date Surveyed

JR

Signature & Seal of

Professional Surveyor

GARY EIDSON

NEW MEXICO

06.11.048

2/4/05

Certified 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
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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

WELL API NO. 30-015-34387
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name AAO FEDERAL
8. Well Number #9
9. OGRID Number 14049
10. Pool name or Wildcat RED LAKE GLORIETA/YESO NE

SUNDRY NOTICES AND REPORTS ON WELLS (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.)	
1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>	RECEIVED
2. Name of Operator MARBOB ENERGY CORPORATION	FEB 15 2006
3. Address of Operator P O BOX 227 ARTESIA, NM 88211-0227	OCD-ARTESIA
4. Well Location Unit Letter L : 1980 feet from the SOUTH line and 630 feet from the WEST line Section 1 Township 18S Range 27E NMPM EDDY County NM	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3571' GR	
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>	
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

NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/> OTHER: DOWNHOLE COMMINGLING <input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF: REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/> COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/> OTHER: <input type="checkbox"/>
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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 NMOC guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE *Kevin Collins* TITLE ENGINEER DATE 02/13/06

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

APPROVED BY: _____ TITLE _____ DATE FEB 15 2006
Conditions of Approval (if any): _____

Engineering Summary
Form C-107A
Application for Downhole Commingling

Marbob Energy Corporation
AAO Federal No. 9 (Unit L, 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.)

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

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

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

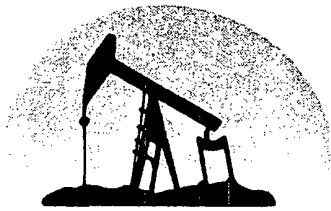
$$EUR = \frac{-365 (180-36)}{\ln (1-.80)} + \frac{-365 (36-5)}{\ln (1-.20)} = 83.4 \text{ MMCF}$$

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

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

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

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



marbob
energy corporation

February 10, 2006

Bureau of Land Management
2909 W. 2nd St.
Roswell, NM 88201

Attn: Mr. Armando Lopez

Re: Downhole Commingling Application
AAO Federal #9 - Unit L, Sec. 1-T18S-R27E
Eddy County, New Mexico

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

RECEIVED
FEB 15 2006
OCD-ARTESIA