

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

RECEIVED
State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107A
Revised June 10, 2003

APR 08 2004
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505
OIL CONSERVATION DIVISION
APPLICATION FOR DOWNHOLE COMMINGLING

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

MARBOB ENERGY CORPORATION P O BOX 227 ARTESIA, NM 88211-0027
Operator Address
BM STATE #1 K-2-T18S-R27E EDDY COUNTY, NM
Lease Well No. Unit Letter-Section-Township-Range County
OGRID No. 14049 Property Code 32598 API No. 30-015-32899 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)	2051-2896' PERFORATED		3295-3590' 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		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: MARCH 10, 2004 Rates: 44 BOPD 522 BWPD 37 MCFPD
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil 71 % Gas 68 %	Oil % Gas %	Oil 29 % Gas 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 Brian Collins TITLE ENGINEER DATE 6 Apr 04
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

Form C-102

Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-15-32899	Pool Name RED LAKE; GLORIETA YESO, NORTHEAST	Pool Code 96836
Property Code 32598	Property Name BM STATE	Well No. 001
OGRID No. 14049	Operator Name Marbob Energy Corporation	Elevation 3535

Surface And Bottom Hole Location

UL or Lot K	Section 2	Township 18S	Range 27E	Lot Idn	Feet From 2310	N/S Line S	Feet From 2310	E/W Line W	County Eddy
Dedicated Acres 40		Joint or Infill		Consolidation Code		Order No.			

	■		

OPERATOR CERTIFICATION

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

Electronically Signed By: Diana Cannon

Title: Production Analyst

Date: 7/21/2003

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.

Electronically Signed By: Ronald Eidson

Date of Survey: 7/15/2003

Certificate Number: 3239

Engineering Summary
Form C-107A
Application for Downhole Commingling

Marbob Energy Corporation
BM State No. 1 (Unit K, Sec. 2-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

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

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

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

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.)

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

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

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

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

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

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

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

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

LEASES

June 2002) MONTH: June 2002

ARCO 26 A			MJ STATE						
TR	ELK HORN	GPM	TP	LP	^{Gas} PREV	^{Gas} EST	TOTAL	OIL	WTR
2		124	—	24.9	94	92	17474	30	—
10		130	—	24.5	96	90	17570	30	—
20		126	—	24.1	95	90	17666	32	—
13		130	—	24.7	96	103	17771	32	—
27		130	—	23.1	95	94	17862	28	—
35		126	—	25	94	93	17952	28	—
13		126	—	25	94	92	18043	26	—
60		126		25.3	95	93	18150	32	—
20		124		24.2	151	115	18302	85	—
15		124		25.1	189	203	18443	106	—
67		124		25.2	220	229	18414	140	—
78		120		25.9	233	234	18511	110	—
69		140		25.5	236	240	19193	98	—
217		124		24.5	238	249	19422	118	—
65		128		25.7	258	351	19686	127	—
09		130		24.7	266	264	19948	172	—
201		135		25.1	265	274	20234	182	—
235		135		26.0	264	265	20478	175	—
234		135		25.3	263	255	20752	177	—
199		135		24.0	257	229	20999	161	—
218		126		25.0	247	202	21236	174	—
300		135		25.5	250	241	21493	175	—
176		130		26.0	276	273	21781	174	540
113		130		26.0	282	272	22053	173	—
MJ St. #2 San Andres IP $\approx 175 - 30 = 145$ BOPD									
$\approx 275 - 95 = 180$ MCFD									
MJ St. #1 Yeso IP ≈ 90 BOPD									
≈ 140 MCFD (January 2002)									

→ Yeso Only (MJ St. #1)

Yeso (MJ-1) + San Andres (MJ St. #2)

Submit 3 Copies To Appropriate District
Office
District I
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District II
1301 W. Grand Ave., Artesia, NM 88210
District III
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87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised May 08, 2003

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

WELL API NO. 30-015-32899
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. B-8814
7. Lease Name or Unit Agreement Name BM STATE
8. Well Number 1
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 ☒ Gas Well ☐ Other ☐

2. Name of Operator MARBOB ENERGY CORPORATION

3. Address of Operator P O BOX 227, ARTESIA, NM 88211-0227

4. Well Location
Unit Letter K : 2310 feet from the SOUTH line and 2310 feet from the WEST line
Section 2 Township 18S Range 27E NMPM EDDY County NM

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3535' GR

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

OTHER: DOWNHOLE COMMINGLING ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS ☐ PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

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%

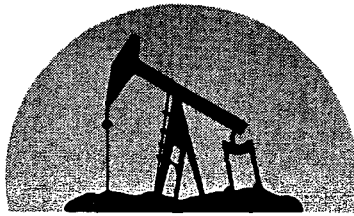
NEW ALLOCATIONS WILL BE SUBMITTED IF ACTUAL WELL PRODUCTION IS SIGNIFICANTLY DIFFERENT THAN THAT ABOVE.

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

SIGNATURE Brian Collins TITLE ENGINEER DATE 4/6/04

Type or print name BRIAN COLLINS Telephone No. (505) 748-3303
(This space for State use)

APPROVED BY _____ TITLE _____ DATE _____
Conditions of approval, if any:



marbob
energy corporation

April 6, 2004

New Mexico State Land Office
Oil, Gas & Minerals Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Attn: Ms. Jamie Bailey

Re: C-107A Downhole Commingling Application
BM State #1
Township 18 South, Range 27 East, NMPM
Section 2: Unit K
Eddy County, New Mexico

Dear Ms. Bailey:

Enclosed is the \$30.00 application fee and copy of Form C-107A Application for Downhole Commingling that we submitted to the NMOCD for the BM State #1 well located in Eddy County.

We are seeking approval to downhole commingle the San Andres and Yeso zones to extend the economic life of the well and maximize the financial benefit to the State of New Mexico.

If you have any questions, please call me at 505-748-3303.

Sincerely,

Brian Collins
Petroleum Engineer

BC/dlw
enclosures