

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 88211-0227

Operator

Address

TDF STATE #2

F-2-18S-27E

EDDY COUNTY

Lease

Well No.

Unit Letter-Section-Township-Range

County

OGRID No. 14049 Property Code 29595 API No. 30-015-32900 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)	2024-2933' PERFORATED		3237-3512' 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	RECEIVED DEC 18 2003	EST 100 PSI PRODUCING BHP
Oil Gravity or Gas BTU (Degree API or Gas BTU)	38.5°	OCD-ARTESIA	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: Rates: N/A	Date: Rates:	Date: 11/27/03 Rates: 33 BOPD 69 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 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 15 Dec 03

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

E-MAIL ADDRESS ENGINEERING@MARBOB.COM

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
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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

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.)		WELL API NO. 30-015-32900
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 checked="" type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator MARBOB ENERGY CORPORATION		6. State Oil & Gas Lease No. B-7244
3. Address of Operator P O BOX 227, ARTESIA, NM 88211-0227		7. Lease Name or Unit Agreement Name TDF STATE
4. Well Location Unit Letter F : 1650 feet from the NORTH line and 2305 feet from the WEST line Section 2 Township 18S Range 27E NMPM EDDY County NM		8. Well Number 2
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3571' GR		9. OGRID Number 14049
		10. Pool name or Wildcat RED LAKE GLORIETA YESO NE

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data	
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
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"/> PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPLETION <input type="checkbox"/>	CASING TEST AND 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-1363 PRE-APPROVED POOLS

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

RECEIVED

DEC 18 2003

OCD-ARTESIA

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 12/11/03

Type or print name BRIAN COLLINS Telephone No. (505) 748-3303

(This space for State use)
APPROVED BY Jim W. Seem TITLE SUPERVISOR, DISTRICT II DATE DEC 19 2003

Conditions of approval, if any:

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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

RECEIVED

DEC 18 2003

OCD-ARTESIA**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number	Pool Name RED LAKE; GLORIETA YESO, NORTHEAST	Pool Code 96836
Property Code 29595	Property Name TDF STATE	Well No. 002
OGRID No. 14049	Operator Name Marbob Energy Corporation	Elevation 3571

Surface And Bottom Hole Location

UL or Lot F	Section 2	Township 18S	Range 27E	Lot Idn	Feet From 1650	N/S Line N	Feet From 2305	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
TDF State #2 (Unit F, 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 is currently completed in the Yeso and will be used as a "typical" Yeso well. The MJ State No. 2 is currently completed in the San Andres and 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.)

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

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

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

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

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

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

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

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

E'S LEASES

June 2002

MONTH:

June 2002

ARCO 26 A			MJ STATE							WTR	
WTR	ELK HORN	GPM	TP	LP	Gas PREV	Gas EST	TOTAL	OIL			
302		124	—	24.9	94	92	17474	30	—	1	
170		130	—	24.5	96	90	17570	30	—	2	
220		126	—	24.1	95	90	17666	32	—	3	
213		130	—	24.7	96	103	17771	32	—	4	
357		130	—	23.1	95	94	17862	28	—	5	
205		126	—	25	94	93	17952	28	—	6	
193		126	—	25	94	92	18043	26	—	7	
200		126		25.3	95	93	18150	32	—	8	
220		124		24.2	151	115	18302	85	—	9	
115		124		25.1	189	203	18443	106	—	10	
267		124		25.2	220	229	18414	140	—	11	
178		120		25.9	233	234	18451	110	—	12	
169		140		25.5	236	240	19193	98	—	13	
217		124		27.5	238	249	19422	118	—	14	
165		128		25.7	258	351	19686	127	—	15	
309		130		24.7	266	264	19948	172	—	16	
201		135		25.1	265	274	20224	182	—	17	
235		135		26.0	264	265	20478	175	—	18	
204		135		25.3	263	255	20752	177	—	19	
199		135		27.0	257	229	20999	161	—	20	
215		126		25.0	247	202	21236	174	—	21	
300		135		25.5	250	241	21493	175	—	22	
176		130		26.0	276	273	21781	174	540	23	
113		130		26.0	282	272	22053	173		24	
											25
											26
											27
											28
											29
											30
											31

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 (MJ-1) + S. Andres (MJ St. #2)

Yeso Only (MJ St. #1)

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)