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DHC-3258

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107A
Revised June 10, 2003

MAR 15 2004

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

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

District III
1000 Rio Brazos Road, Aztec, NM 87410

OIL CONSERVATION
DIVISION

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

APPLICATION FOR DOWNHOLE COMMINGLING

MARBOB ENERGY CORPORATION P O BOX 227 ARTESIA, NM 88211
Operator Address
AAO FEDERAL #5 E-1-T18S-R27E EDDY COUNTY
Lease Well No. Unit Letter-Section-Township-Range County
OGRID No. 14049 Property Code 29793 API No. 30-015-32959 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)	2129-2789' PERFORATED		3380-3658' 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: 60 BOED 80 MCFD 250 BWPD
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 03/11/04
TYPE OR PRINT NAME BRIAN COLLINS TELEPHONE NO. (505) 748-3303
E-MAIL ADDRESS engineering@marbob.com

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number 30-015-32959	Pool Code 51300	Pool Name RED LAKE; QUEEN GRAYBURG SAN ANDRES
Property Code 29793	Property Name AAO FED.	Well Number 5
OGRID No. 14049	Operator Name MARBOB ENERGY CORPORATION	Elevation 3615'

Surface Location

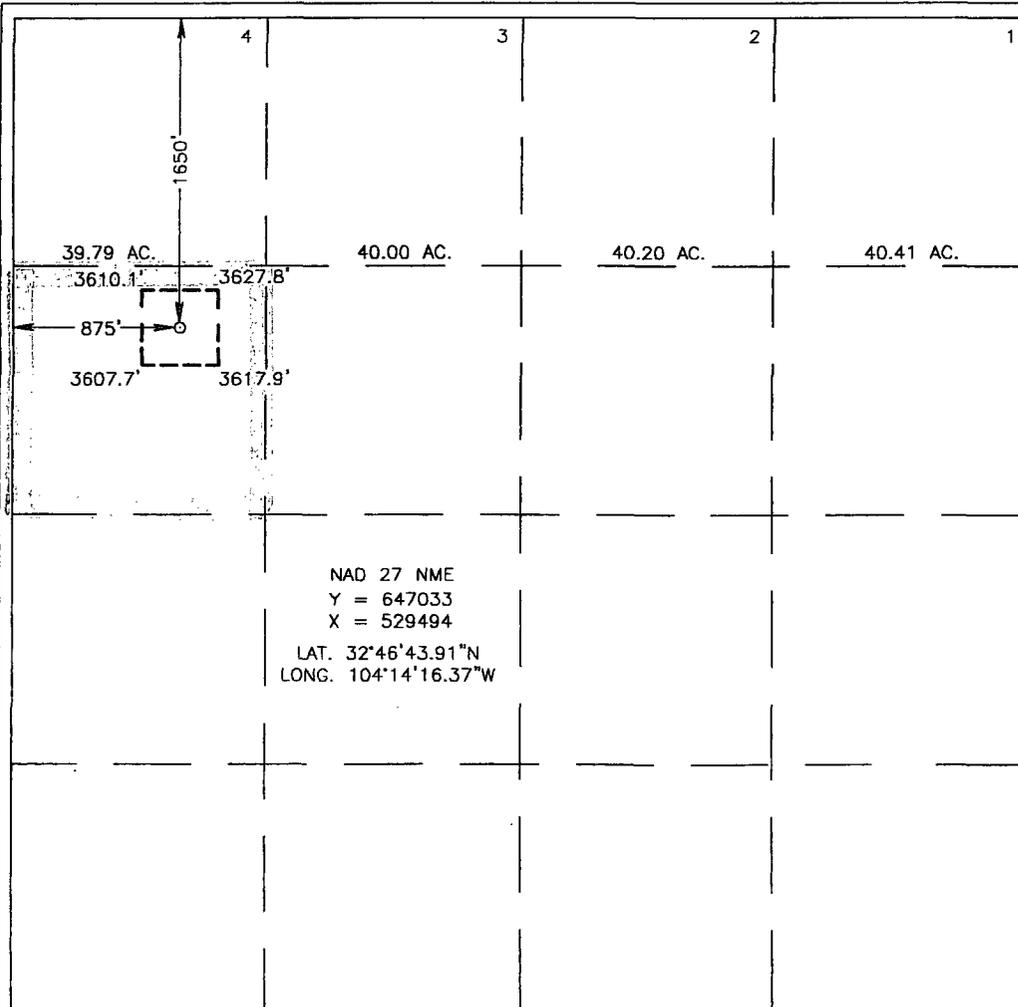
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	1	18-S	27-E		1650	NORTH	875	WEST	EDDY

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.

Diana J. Cannon
Signature

DIANA J. CANNON
Printed Name

PRODUCTION ANALYST
Title

MARCH 10, 2003
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.

JANUARY 9, 2003
Date Surveyed

Signature & Seal of Professional Surveyor
Ronald J. Eidson 1/10/03
03.11.0006

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12841

Engineering Summary
Form C-107A
Application for Downhole Commingling

Marbob Energy Corporation
AAO Federal No. 5 (Unit E, 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.)

Q_i = 90 bopd d=84%/yr.
 Q_{1yr} = 14 bopd d=35%/yr.
 Q_{el} = 1.5 bopd assumed

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

Q_i = 140 mcf/d d=84%/yr.
 Q_{1yr} = 22 mcf/d d=32%/yr.
 Q_{el} = 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.)

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

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

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

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

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

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

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

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

ARCO 26 A			MJ STATE							
WTR	ELK HORN	GPM	TP	LP	Gas PREV	Gas EST	TOTAL	OIL	WTR	
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	18114	140	-	11
178		120		25.9	233	234	18051	110	-	12
16.9		140		25.5	236	240	19193	98	-	13
217		134		21.5	238	249	19422	118	-	14
165		128		25.1	258	351	19681	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		21.0	257	229	20999	161	-	20
218		126		25.0	247	202	21236	174	-	21
300		135		25.5	250	241	21493	175	-	22
116		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

MJst.#2 San Andres IP $\approx 175 - 30 = 145$ BOPD
 $\approx 275 - 95 = 180$ MCFD

MJst.#1 Yeso IP ≈ 90 BOPD
 ≈ 140 MCFD (January 2002)

Yeso Only (MJst.#1)
 Yeso (MJ-1) + S. Andres (MJst.#2)



marbob
energy corporation

March 11, 2004

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

Attn: Mr. Armando Lopez

Re: Downhole Commingling Application
AAO Federal #5, Unit E, 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

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
 Revised May 08, 2003

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

WELL API NO. 30-015-32959
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 5
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 E : 1650 feet from the NORTH line and 875 feet from the WEST line
 Section 1 Township 18S Range 27E NMPM EDDY County NM

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
 3615' GR

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-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 3/11/04

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: