DATE IN 7/23/01 | SUSPENSE N/R | ENGINEER DC | LOGGED BY MV | TYPE DHC

120540915

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

2942

ADMINISTRATIVE APPLICATION COVER SHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling

☐ NSL ☐ NSP ☐ DD ☐ SD

Check One Only for [B] and [C]

[B] Commingling - Storage - Measurement

☒ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☒ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **INFORMATION / DATA SUBMITTED IS COMPLETE** - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data (including API numbers, pool codes, etc.), pertinent information and any required notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Brian Collins		Engr.	19 Jul, 01
Print or Type Name	Signature	Title	Date

marbob
energy corporation

July 19, 2001

New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Attention: Engineering Bureau

OIL CONSERVATION DIV.
01 JUL 23 PM 1:13

RE: Application for Downhole Commingling

Gentlemen:

Marbob Energy Corporation respectfully requests approval to downhole commingle production in our "D" State number 7, 8, 9, and 10 wells. Enclosed, in triplicate, is the applications and supporting documentation. The ownership is identical as to the zones being commingled. We hope we have submitted all the information needed to reach a decision. However, if you are in need of further data, please do not hesitate to contact us.

Thank you for reviewing these applications.

Sincerely,

Dean Chumbley
Land Department

DC/mm
Enclosures

P.O. Box 227 • Artesia, New Mexico 88211-0227 • (505) 748-3303 • Fax (505) 746-2523

District I
1625 N. French Drive, Hobbs, NM 88240
District II
811 South First Street, 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

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

APPLICATION FOR DOWNHOLE COMMINGLING

Form C-107A
Revised May 15, 2000

APPLICATION TYPE
X Single Well
___Establish Pre-Approved Pools
EXISTING WELLBORE
X Yes ___No

Marbob Energy Corporation | P. O. Box 227 | Artesia, NM 88211-0227
Operator | Address

"D" State | 8 | B-35-17S-28E | Eddy
Lease | Well No. | Unit Letter-Section-Township-Range | County

OGRID No. 14049 Property Code 25375 API No. 30-015-31424 Lease Type: ___Federal X State ___Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Artesia Queen Grayburg San Andres		Artesia Glorieta Yeso
Pool Code	Oil - 3230		Oil - 96830
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2772' - 2948' est.		3883' - 4222'
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)	1300 psi est.		1700 psi est.
Oil Gravity or Gas BTU (Degree API or Gas BTU)	36° API		39° API
Producing, Shut-In or New Zone	Not Tested Yet		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: May, 2001 Rates: 34 bopd, 328 bwpd 56 mcfd
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil 26 % Gas 40 %	Oil % Gas %	Oil 74 % Gas 60 %

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes X 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 X No

Will commingling decrease the value of production? Yes No X

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 X No

NMOCD Reference Case No. applicable to this well: Administrative Order DHC-2906

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 Rene Cullen TITLE Engr DATE 19 July 01

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, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	96830	ARTESIA GLORIETTA YESO

Property Code	Property Name	Well Number
25375	D STATE	8

OGRID No.	Operator Name	Elevation
14049	MARBOB ENERGY CORPORATION	3674

Surface Location

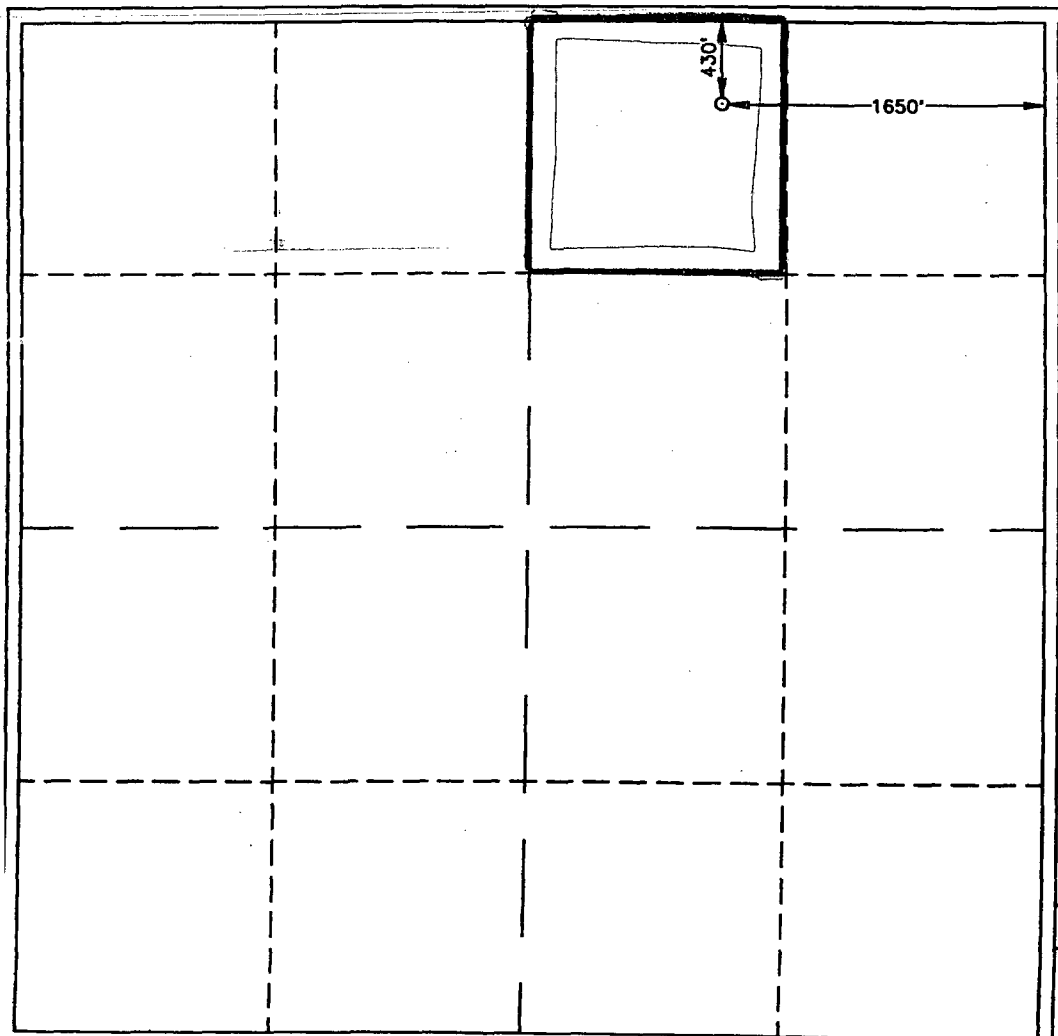
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	35	17 S	28 E		430	NORTH	1650	EAST	EDDY

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.

Robin Cockrum
Signature
ROBIN COCKRUM
Printed Name
PRODUCTION ANALYST
Title
10/30/00
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 supervison, and that the same is true and correct to the best of my belief.

OCTOBER 19, 2000
Date Surveyed JLP
Signature & Seal of Professional Surveyor
RONALD J. EIDSON
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR
Ronald J. Eidson 10/26/00
W.O. Num. 00-11-1202
Certificate No. RONALD J. EIDSON, 3239
GARY L. EIDSON, 12641

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

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

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P.O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	3230	Artesia Queen Grayburg, San Andres

Property Code	Property Name	Well Number
25375	D STATE	8

OGRID No.	Operator Name	Elevation
14049	MARBOB ENERGY CORPORATION	3674

Surface Location

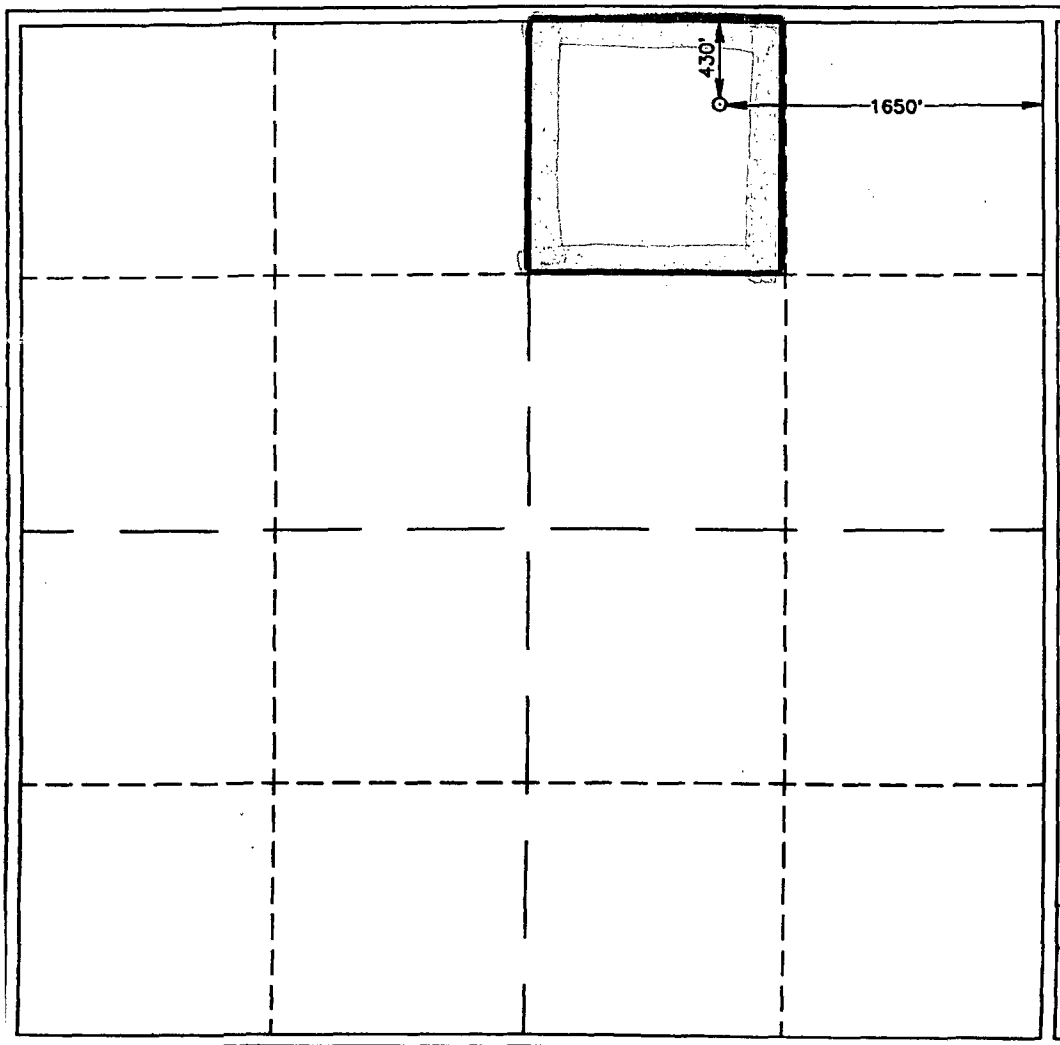
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	35	17 S	28 E		430	NORTH	1650	EAST	EDDY

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.

Robin Cockrum
Signature
ROBIN COCKRUM
Printed Name
PRODUCTION ANALYST
Title
10/30/00
Date

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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 supervison, and that the same is true and correct to the best of my belief.

OCTOBER 19, 2000
Date Surveyed JLP
Signature & Seal of Professional Surveyor

RONALD J. EIDSON
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR

Ronald J Eidson 10/20/00

W.O. Num. 00-11-1202

Certificate No. RONALD J. EIDSON, 3239
GARY L. EIDSON, 12641

APPLICATION FOR DOWNHOLE COMMINGLING
MARBOB ENERGY CORPORATION
"D" STATE NO. 1
M-25-17S-28E, EDDY COUNTY

DATA SUPPORTING OIL AND GAS ALLOCATION FOR EACH ZONE

FOR THE SAN ANDRES, 33 AREA WELLS WERE USED TO DERIVE AN AVERAGE EUR = 33.9 MBO, 101.7 MMCF (SEE ATTACHED PRODUCTION PLOT)
FOR THE YESO, 10 AREA WELLS WERE USED TO DERIVE AN AVERAGE EUR = 97.8 MBO, 150.3 MMCF (SEE ATTACHED PRODUCTION PLOTS)
PRODUCTION TO DATE ON THE "D" STATE LEASE INDICATES THAT THE ABOVE AVERAGE EUR IS REASONABLE IN THE YESO

YESO WELL DATA:

LEASE	EUR OIL (MBO)	EUR GAS (MMCF)	# WELLS
B440	100.2	135.3	5
BR549	93.5	187	3
MUSKEGON	98.4	132.8	2
WEIGHTED AVG. EUR	97.8	150.3	

SAN ANDRES WELL DATA:

	EUR OIL (MBO)	EUR GAS (MMCF)
33 MARBOB WELLS	33.9	101.7

ALLOCATION SUMMARY:

OIL—YESO = 97.8 MBO/(97.8 MBO + 33.9 MBO) = 0.74
OIL—SAN ANDRES = 33.9 MBO/(97.8 MBO + 33.9 MBO) = 0.26

GAS—YESO = 150.3 MMCF/(150.3 MMCF + 101.7 MMCF) = 0.60
GAS—SAN ANDRES = 101.7 MMCF/(150.3 MMCF + 101.7 MMCF) = 0.40

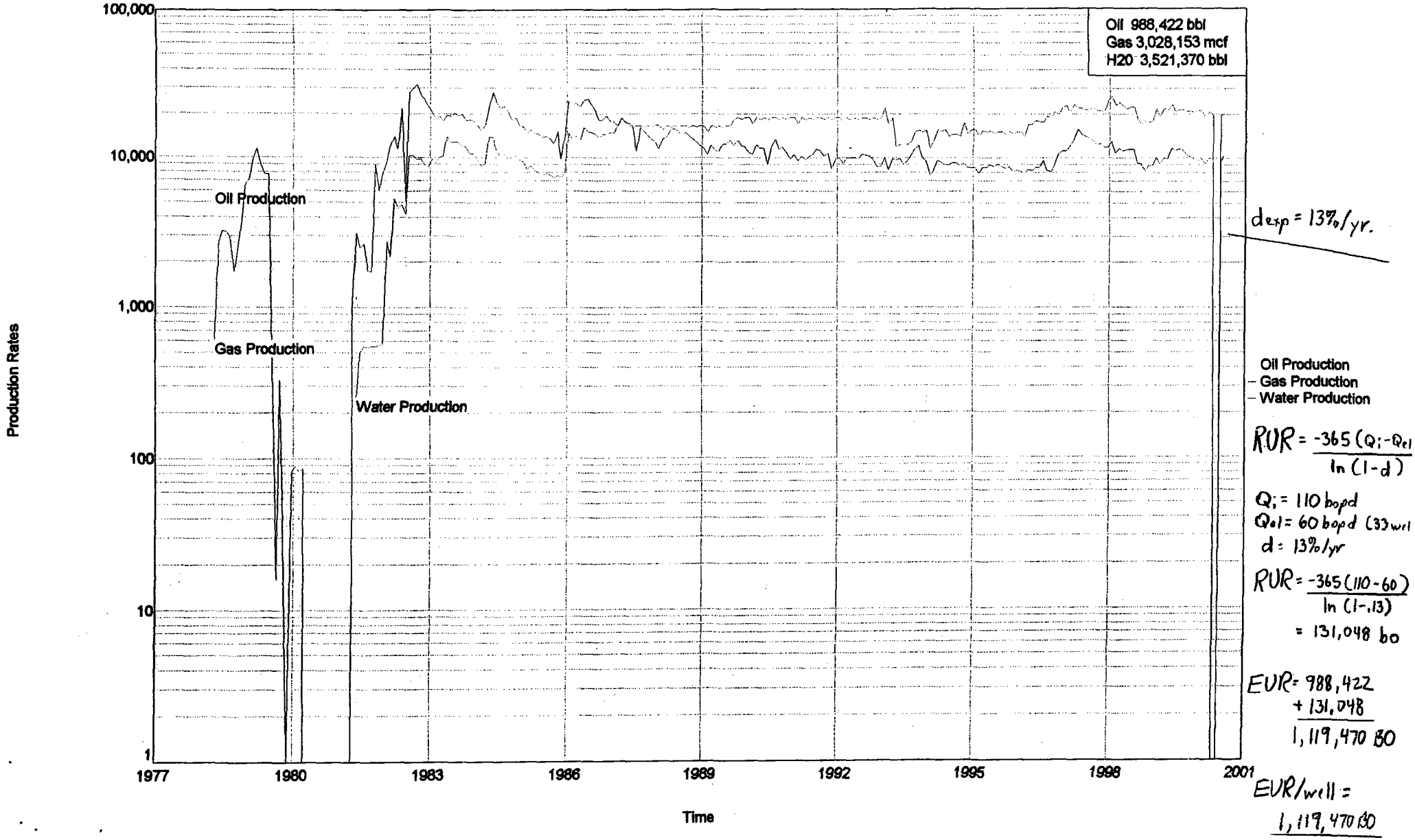
NOTE: The "D" State Yeso wells have not been producing long enough to establish an accurate decline curve. Nearby Yeso wells are used as analogs for estimating reserves (attached

33 San Andres Wells
Sec. 26, 27, 34 - 17s-28e
Eddy, NM

Lease Name: MULTIPLE
County, State: EDDY, Unknown
Operator: MARBOB ENERGY CORPORATION
Field: MULTIPLE
Reservoir: QUEEN-GRAYBURG-SAN A
Location:

Avg. EUR per well = 33.9 MBO
San Andres
Avg. GOR = 3000 (Avg 101.7 MMCF/well

MULTIPLE - MULTIPLE



$d_{exp} = 13\%/yr.$

$$RUR = \frac{-365\,(Q_i - Q_{el})}{\ln(1-d)}$$

$Q_i = 110$ bopd
$Q_{el} = 60$ bopd (33 wells)
$d = 13\%/yr$

$$RUR = \frac{-365\,(110-60)}{\ln(1-.13)} = 131{,}048 \text{ bo}$$

EUR = 988,422
+ 131,048
1,119,470 BO

EUR/well =
$\frac{1{,}119{,}470 \text{ BO}}{33}$
= 33,923 BO

5 Yeso Wells

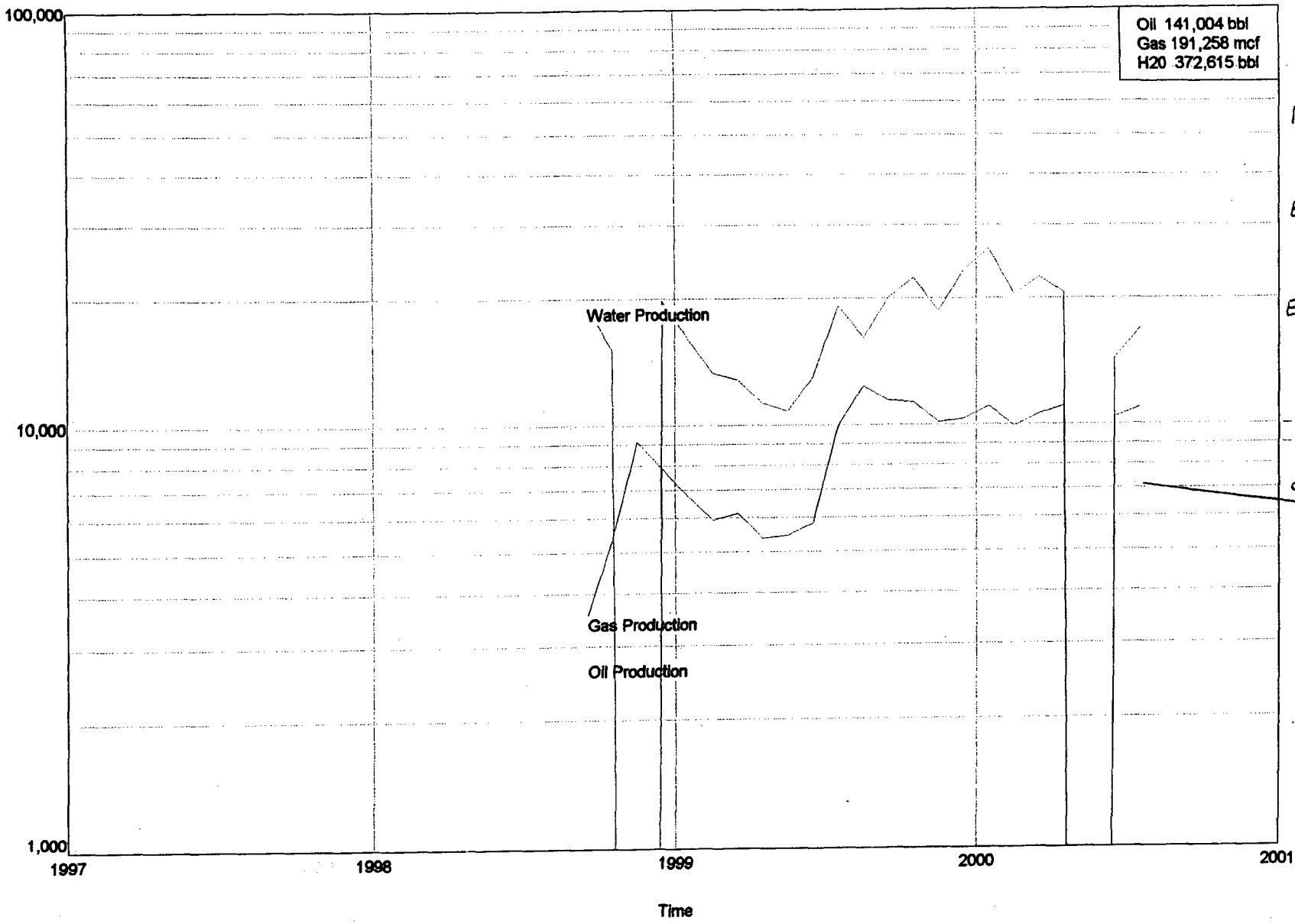
These wells are used as an analog to the "D" State Yeso wells because the "D" State doesn't have enough production history.

Lease Name: B 440 FEDERAL
County, State: EDDY, Unknown
Operator: MARBOB ENERGY CORPORATION
Field: EMPIRE EAST
Reservoir: YESO
Location:

Avg. EUR per well = 100.2 MBO
Yeso

Avg. GOR = 1350 (Avg. 135.3 MMCF/well

B 440 FEDERAL - EMPIRE EAST



$RUR = \frac{-365(Q_i - Q_{el})}{\ln(1-d)}$

Q_i = 230 bopd
Q_{el} = 10 bopd
d = 20%/yr

$RUR = \frac{-365(230-10)}{\ln(1-.20)}$
= 359,858 BO

EUR = 141,004
+ 359,858
500,862 BO

EUR/well = $\frac{500,862}{5}$
= 100,172 BO

Oil Production
Gas Production
Water Production

d_{exp} = 20%/yr.

3 Yeso Wells

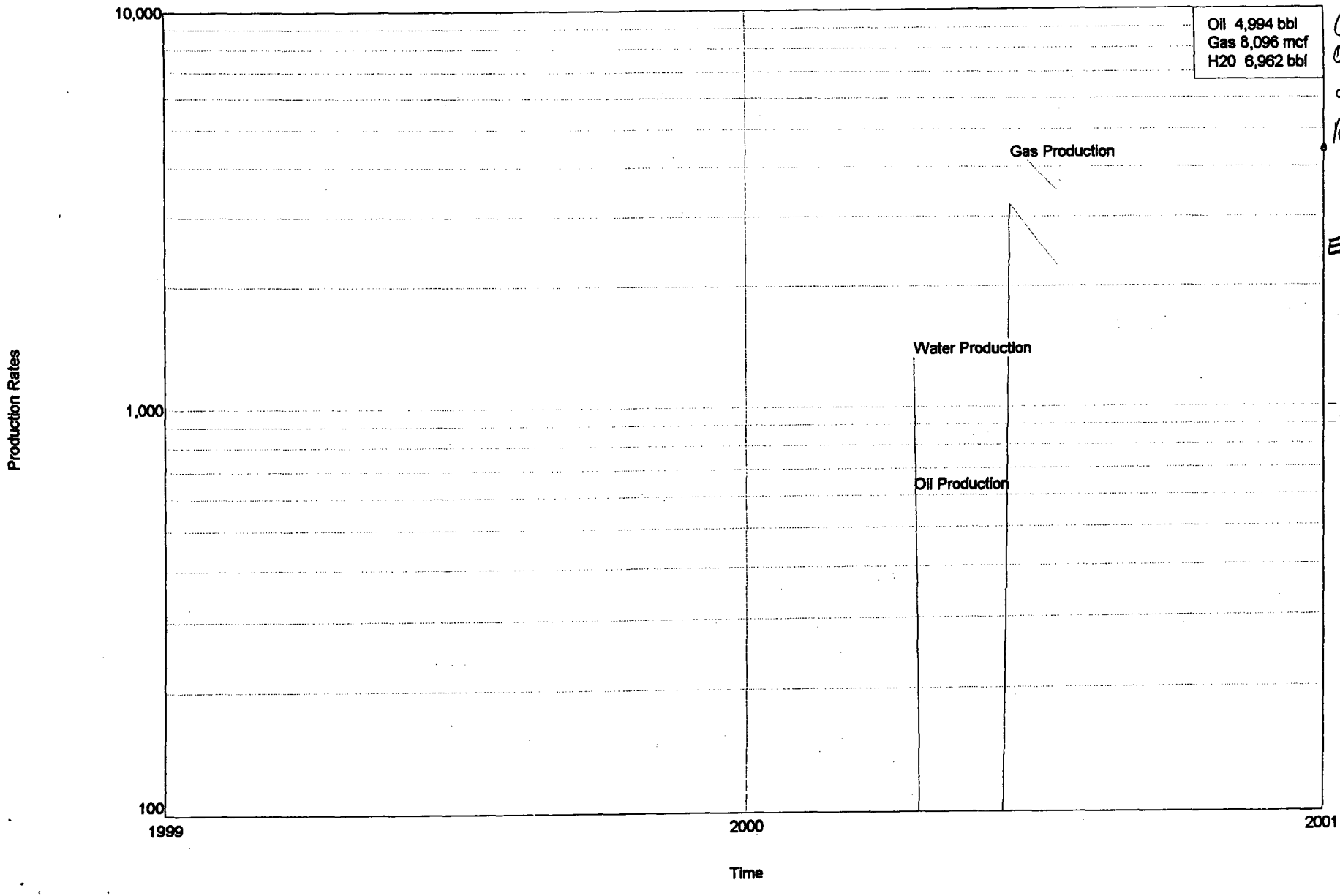
3 wells currently producing an average of 50 bopd per well (GOR = 2000)
Cumulative production to date (through Jan 01) = 45,000 BO (Avg. 15,000 BO per well)
Production analog to "D" State.

Lease Name: BR-549 STATE
County, State: EDDY, Unknown
Operator: MARBOB ENERGY CORPORATION
Field: EMPIRE EAST
Reservoir:
Location:

Avg. EUR per well = 75.5 MMBO
Yeso

Avg. GOR = 2000 (Avg. 187 MMCF/well)

BR-549 STATE - EMPIRE EAST



$RUR = \frac{-365(Q_i - Q_{el})}{\ln(1-d)}$

Q_i = 50 bopd
Q_{el} = 2 bopd
d = Assume 20%/yr

$RUR = \frac{-365(50-2)}{\ln(1-.2)}$
= 78,515 BO

EUR = 15,000 BO
+ 78,515 BO
93,515 BO

2 Yeso wells

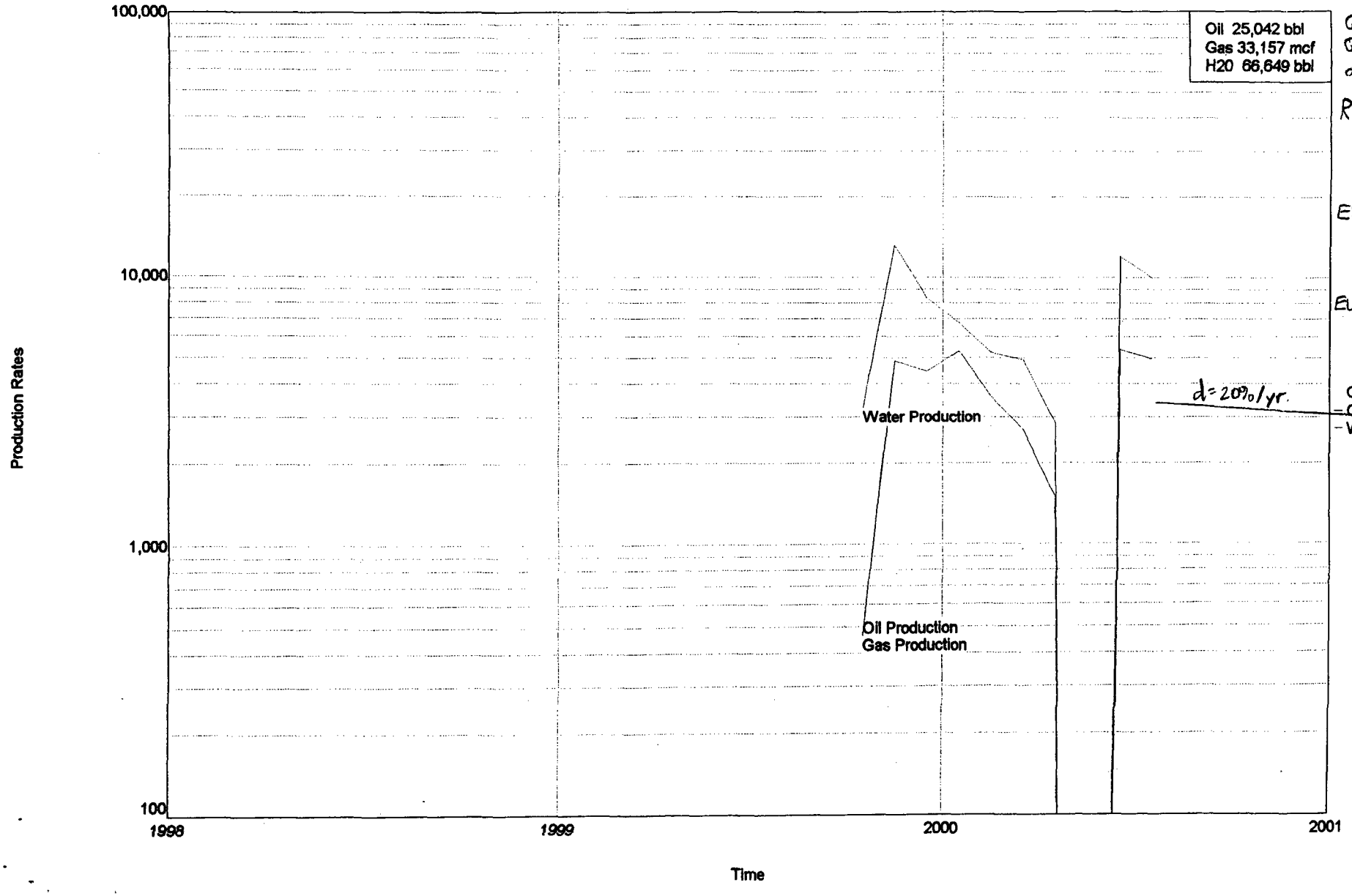
Production analog to "D" State.

Lease Name: MUSKEGON SOUTH STATE
County, State: EDDY, Unknown
Operator: MARBOB ENERGY CORPORATION
Field: EMPIRE EAST
Reservoir: MULTIPLE
Location:

Avg. EUR per well = 98.4 MBO
Yeso

Avg. GOR: 1350 (Avg. 132.8 MMCF/well)

MUSKEGON SOUTH STATE - EMPIRE EAST



$RUR = \frac{-365\,(Q_i - Q_{el})}{\ln(1-d)}$

Q_i = 110 bopd
Q_{el} = 5 bopd
d = 20%/yr.

$RUR = \frac{-365\,(110-5)}{\ln(1-.2)}$

= 171,750 BO

EUR: 25,042
+ 171,750
196,792 BO

$EUR/well = \frac{196,792}{2}$

= 98,396 BO

7

"D" State #8

FORM C-115- OPERATORS MONTHLY REPORT (CONTINUATION)

OPERATOR: MARBOB ENERGY CORPORATION | OGRID: 014049 | MONTH/YEAR 05/01 | PAGE 60 OF 65

7 POOL NO. AND NAME / PROPERTY NO. AND NAME / WELL NO. AND U-L-S-T-R / API NUMBER	INJECTION 8 CODE 1	INJECTION 9 VOLUME	INJECTION 10 PRESSURE	PRODUCTION 11 CODE 2	PRODUCTION 12 BBLS OF OIL/COND-ENSATE PRODUCED	PRODUCTION 13 BBLS OF WATER PRODUCED	PRODUCTION 14 GAS PRODUCED (MCF)	PRODUCTION 15 DAYS PRODUCED	DISPOSITION OF OIL, GAS, AND WATER 16 CODE 3	17 POINT OF DISPOSITION	18 GAS BTU OR OIL API GRAV	19 OIL ON HAND AT BEGINNING OF MONTH	20 VOLUME (BBLS/MCF)	21 TRANSPORTER OGRID	22 CODE 4	23 OIL ON HAND AT END OF MONTH
96811 RACE TRACK; DEVONIAN SE																
023299 RIO BRAVO FEE																
001 B-30-10S-28E																
30-005-63171	F				1124	0	0	31								
									O	2821527	42.1	545	1400	015694		269
96830 ARTESIA GLORIETTA YESO																
006533 SAMEDAN STATE																
002 O-27-17S-28E																
30-015-30773	P				135	220	276	31								
									O	1267010	35.3	191	163	015694		163
									G	1267030	1328		276	036785		
									W	1267050			220			
024888 T.H. STATE																
001 F-34-17S-28E																
30-015-30762	P				203	1210	417	31								
									O	2824488	35.7	174	173	015694		204
									G	2824489	1403		417	036785		
									W				1210		O	
025375 D STATE																
001 M-25-17S-28E																
30-015-31257	P				1676	3941	1958	31								
002 P-26-17S-28E																
30-015-31421	P				1136	2698	868	31								
003 O-26-17S-28E																
30-015-30976	P				1189	2486	1179	31								
005 M-26-17S-28E																
30-015-31422	P				1054	3008	690	31								
007 C-35-17S-28E																
30-015-31423	P				1189	2412	823	31								

FORM C-115- OPERATORS MONTHLY REPORT (CONTINUATION)

OPERATOR: MARBOB ENERGY CORPORATION | OGRID: 014049 | MONTH/YEAR 05/01 | PAGE 61 OF 65

7 POOL NO. AND NAME / PROPERTY NO. AND NAME / WELL NO. AND U-L-S-T-R / API NUMBER	INJECTION 8 COD E 1	9 VOLUME	10 PRESSURE	PRODUCTION 11 COD E 2	12 BBLS OF OIL/COND-ENSATE PRODUCED	13 BBLS OF WATER PRODUCED	14 GAS PRODUCED (MCF)	15 DAYS PRODUCED	DISPOSITION OF OIL, GAS, AND WATER 16 COD E 3	17 POINT OF DISPOSITION	18 GAS BTU OR OIL API GRAV	19 OIL ON HAND AT BEGINNING OF MONTH	20 VOLUME (BBLS/MCF)	21 TRANSPORTER OGRID	22 COD E 4	23 OIL ON HAND AT END OF MONTH
008 B-35-17S-28E #8										34 bopd / 328 bwpd / 56 mcfd						
30-015-31424	P				1054	10182	1735	31								
009 A-35-17S-28E																
30-015-31425	P				1676	3717	1624	31								
010 D-36-17S-28E																
30-015-31165	P				1163	10666	1913	31								
017 K-35-17S-28E																
30-015-31426	P				1379	11350	2314	31								
018 L-35-17S-28E																
30-015-30977	P				1108	12258	1068	31								
019 J-34-17S-28E																
30-015-31389	P				1432	3742	1535	31								
021 I-25-17S-28E																
30-015-30975	P				1082	10331	1246	31								
026 J-25-17S-28E																
30-015-31586	P				1704	3941	1936	31								
									O	2825596	38.8	416	16904	015694		354
									G	2825597	1041		18889	001009		
									W				80732		O	
025702 LP STATE																
001 E-05-18S-28E																
30-015-31086	P				241	2498	565	31								
003 M-06-18S-28E																
30-015-31087	P				121	2498	141	31								
									O	2826075	34.9	292	357	034019		297
									G	2820676	1188		706	036785		
									W				4996		O	
96831 CEDAR LAKE; YESO																
023300 LEE FEDERAL																

New Mexico Oil Conservation Division---Enginnering Bureau
Administrative Application Process Documentation

Date Application Received: 7/23/01

Date of Preliminary Review: 7/25/01
(Note: Must be within 10-days of received date)

Results: X **Application Complete** _____ **Application Incomplete**

Date Incomplete Letter Sent: _____

Deadline to Submit Requested Information: _____

Phone Call Date: _____
(Note: Only applies is requested data is not submitted within the 7-day deadline)

Phone Log Completed? _____ **Yes** _____ **No**

Date Application Processed: 7/25/01

Date Application Returned: _____
(Note: Only as a last resort & only after repeated attempts by the Division to obtain the necessary information to process the application)