

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



2506

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [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 - Simultaneous Dedication
 NSL NSP SD
- Check One Only for [B] or [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** - Certification

I hereby certify that I, or personnel under my supervision, have reviewed the 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 managerial and/or supervisory capacity.

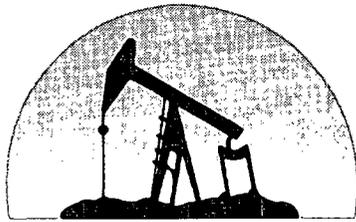
Dean Chumbley
 Print or Type Name

Dean Chumbley
 Signature

Authorized Agent
 Title

3-22-01
 Date

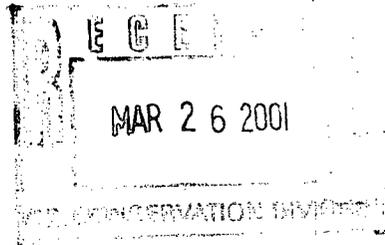
marbobland@hdc-nm.com
 e-mail Address



marbob
energy corporation

March 22, 2001

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



Attention: Engineering Bureau

RE: Application for Downhole Commingling

Gentlemen:

Marbob Energy Corporation respectfully requests approval to downhole commingle production in our "D" State No. 1 well. Enclosed, in triplicate, is the application 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 this application.

Sincerely,

Dean Chumbley
Land Department

DC/mm
Enclosures

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107A
Revised May 15, 2000

District II
811 South First Street, 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

APPLICATION FOR DOWNHOLE COMMINGLING

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

Operator Marbob Energy Corporation P. O. Box 227 Artesia, NM 88211-0227
Address
"D" State 1 M-25-17S-28E Eddy
Lease Well No. Unit Letter-Section-Township-Range County
OGRID No. 14049 Property Code 25375 API No. 30-015-31257 Lease Type: Federal State Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Artesia Queen 3230		Artesia Glorietta
Pool Code	Grayburg San Andres		Yeso 96830
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2770' - 3746' est.		3922' - 4120'
Method of Production (Flowing or Artificial Lift)	Oil (Artificial Lift)		Oil (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: Jan. 2001 Rates: 50 bopd/50 mcfd 85 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 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 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: _____

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 22 Mar 01

TYPE OR PRINT NAME Brian Collins TELEPHONE NO. (505) 748-3303

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

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

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0710

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

DISTRICT III
1000 Rio Brasos Rd., Araco, NM 87410

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 96830	Pool Name ARTESIA GLORIETTA YESO
Property Code 25375	Property Name "D" STATE	Well Number 1
OGRD No. 14049	Operator Name MARBOB ENERGY CORPORATION	Elevation 3660

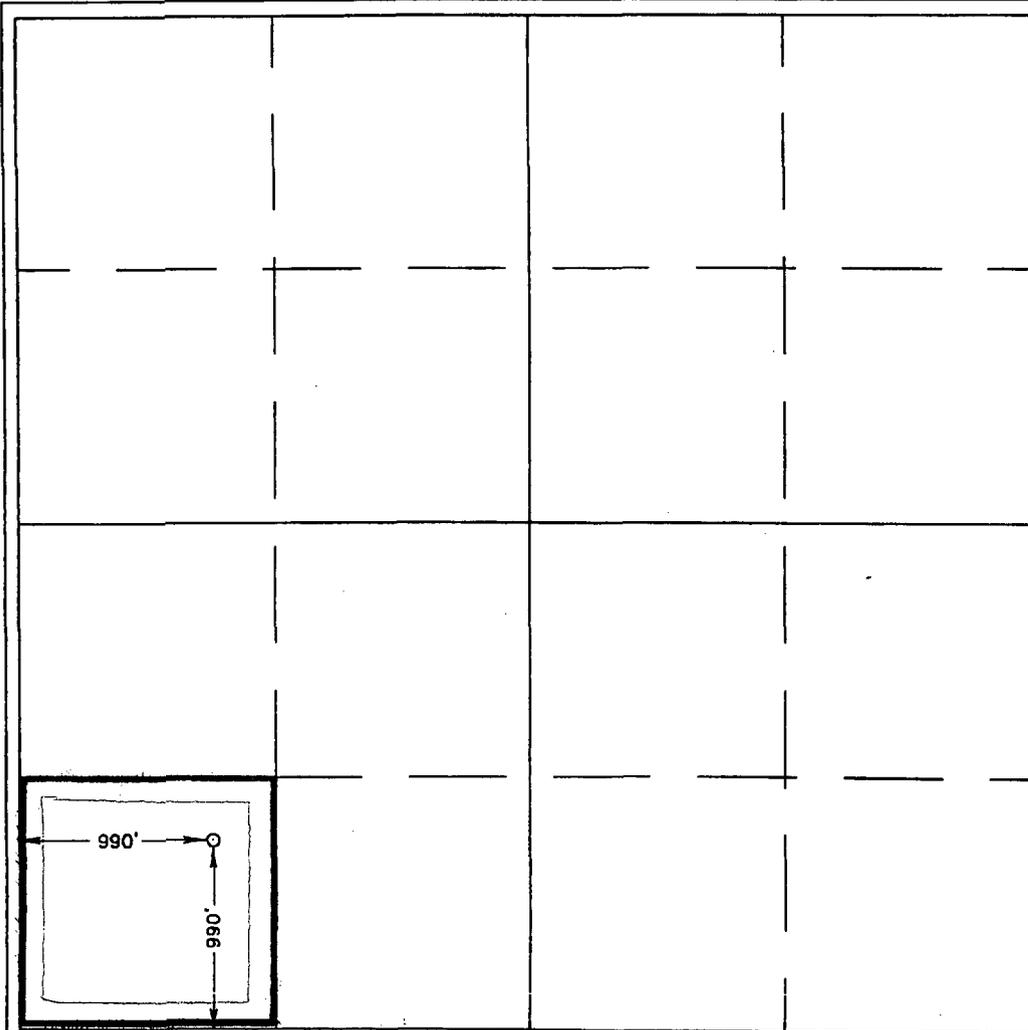
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	25	17 S	28 E		990	SOUTH	990	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.

Robin Cockrum
Signature

ROBIN COCKRUM
Printed Name

PRODUCTION ANALYST
Title

7/12/00
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 supervision, and that the same is true and correct to the best of my belief.

JULY 6, 2000
Date Surveyed

DC

Signature of Real Professional Surveyor
Ronald E. Eidsen

00-11-0851

Certificate No. RONALD E. EIDSON 3239
GARY EIDSON 12641
MCCON McDONALD 12185

District I
 PO Box 1980, Hobbs, NM 88241-1980
 District II
 811 South First, Artesia, NM 88210
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
 2040 South Pacheco
 Santa Fe, NM 87505

Form C-102
 Revised October 18, 1994
 Instructions on back
 Submit to Appropriate District Office
 State Lease - 4 Copies
 Fee Lease - 3 Copies

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-31257		² Pool Code 96830		³ Pool Name ARTESIA QUEEN, GRAYBURG, SAN ANDRES	
⁴ Property Code 25375		⁵ Property Name "D" STATE			⁶ Well Number 1
⁷ OGRID No. 14049		⁸ Operator Name MARBOB ENERGY CORPORATION			⁹ Elevation 3660

¹⁰ Surface Location

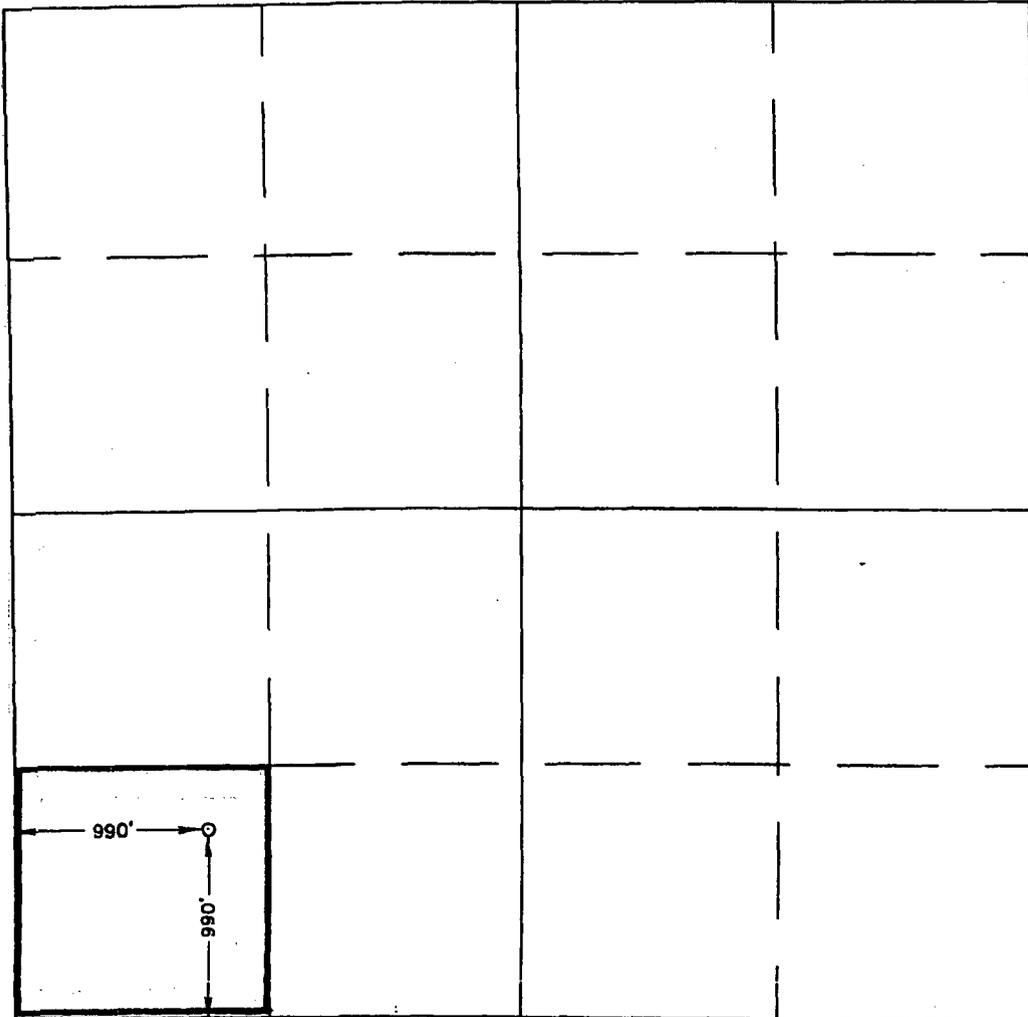
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	25	17S	28E		990	SOUTH	990	WEST	EDDY

¹¹ 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

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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



¹⁷ OPERATOR CERTIFICATION
 I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

[Signature]
 Signature
DEAN CHUMBLEY
 Printed Name
LAND DEPARTMENT
 Title
3-20-01
 Date

¹⁸ 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.

Date of Survey
 Signature and Seal of Professional Surveyer:

Certificate Number

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 = $97.8 \text{ MBO} / (97.8 \text{ MBO} + 33.9 \text{ MBO}) = 0.74$
OIL---SAN ANDRES = $33.9 \text{ MBO} / (97.8 \text{ MBO} + 33.9 \text{ MBO}) = 0.26$
GAS---YESO = $150.3 \text{ MMCF} / (150.3 \text{ MMCF} + 101.7 \text{ MMCF}) = 0.60$
GAS---SAN ANDRES = $101.7 \text{ MMCF} / (150.3 \text{ MMCF} + 101.7 \text{ MMCF}) = 0.40$

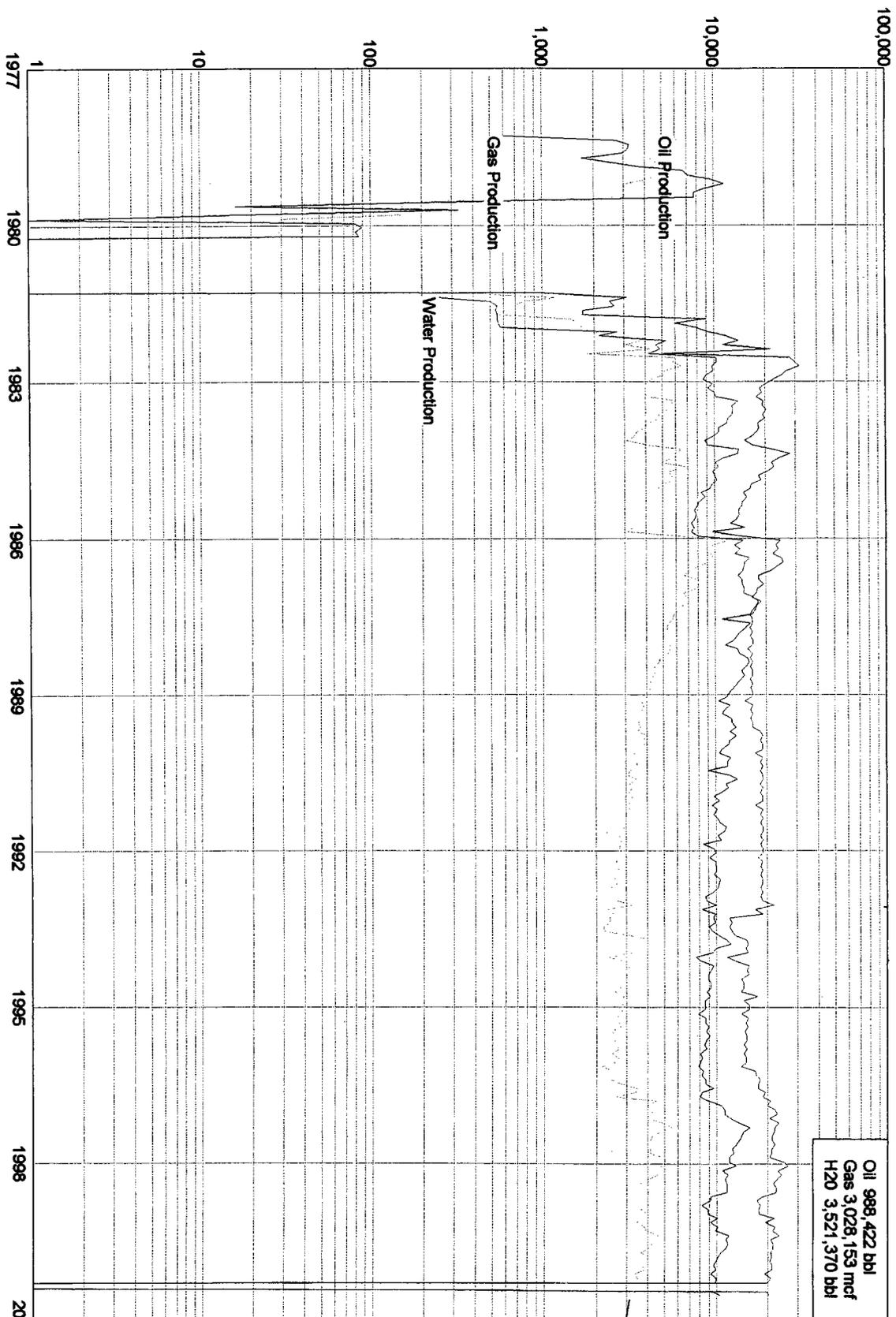
33 San Andres Wells
 Sec. 26, 27, 34 - 175-28e
 Eddy, NM

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

MULTIPLE - MULTIPLE

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

Production Rates



Oil 988,422 bbl
 Gas 3,028,153 mcf
 H2O 3,521,370 bbl

deep = 13%/yr.

Oil Production
 Gas Production
 Water Production

$$ROR = \frac{-365(Q_1 - Q_2)}{\ln(1-d)}$$

$$Q_1 = 110 \text{ bopd}$$

$$Q_2 = 60 \text{ bopd (33 wells)}$$

$$d = 13\%/yr$$

$$ROR = \frac{-365(110 - 60)}{\ln(1 - .13)}$$

$$= 131,048 \text{ bo}$$

$$EUR = 988,422$$

$$+ 131,048$$

$$1,119,470 \text{ BO}$$

$$EUR/well =$$

$$\frac{1,119,470 \text{ BO}}{33}$$

$$= 22,972 \text{ BO}$$

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:

B 440 FEDERAL - EMPIRE EAST

Avg. EUR per well = 100.2 MBO
 Yeso

Avg. GOR = 1350 (Avg 135.3 MMBF/well)

$$RUR = \frac{-365(Q_1 - Q_{11})}{\ln(1-d)}$$

Oil 141,004 bbl
 Gas 191,258 mcf
 H2O 372,615 bbl

$Q_1 = 230 \text{ bopd}$
 $Q_{11} = 10 \text{ bopd}$
 $d = 20\% / \text{yr}$

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

= 359,858 BD

EUR = 141,004

+ 359,858

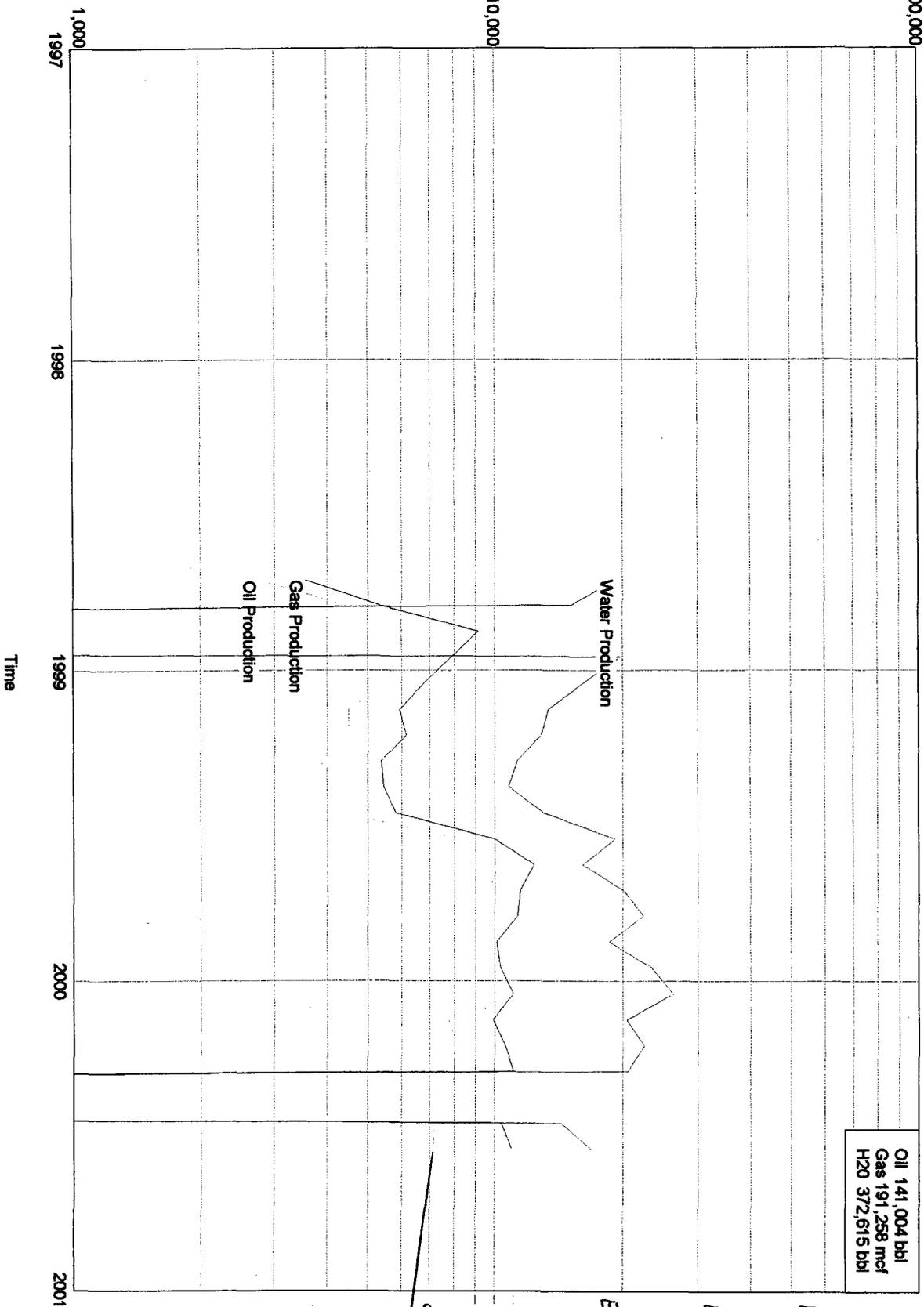
500,862 BD

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

= 100,172 BD

Oil Production
 Gas Production
 Water Production

$$d_{exp} = 20\% / \text{yr.}$$



Production Rates

Time

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:
 BR-549 STATE - EMPIRE EAST

Avg. EUR per well = 93.5 MBO
 Yeso

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

$ROR = \frac{-365(Q_1 - Q_2)}{\ln(1-d)}$

$Q_1 = 50 \text{ bopd}$
 $Q_2 = 2 \text{ bopd}$
 $d = \text{Assume } 20\%/yr$

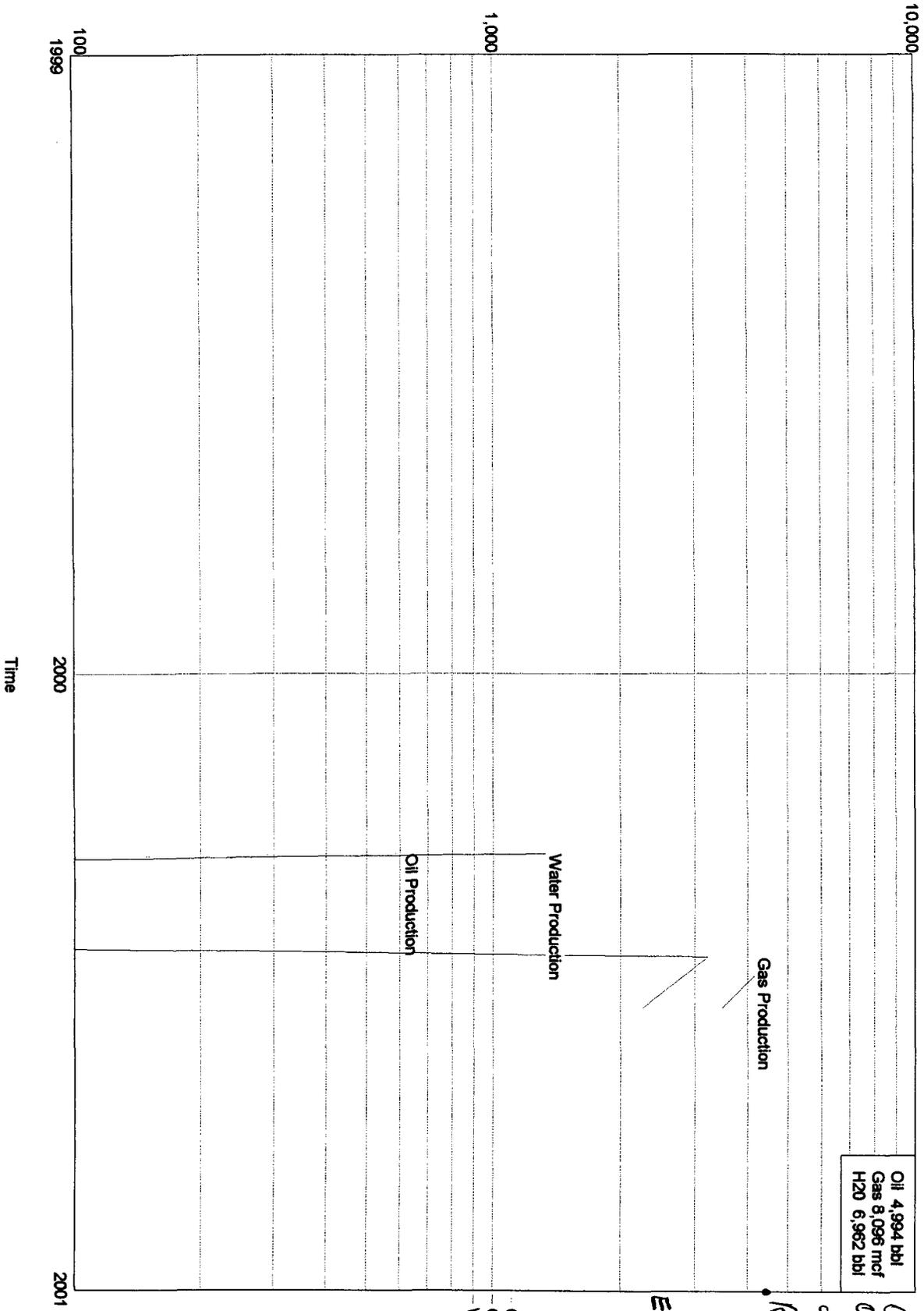
$ROR = \frac{-365(50-2)}{\ln(1-.2)}$
 = 78,515 BO

$EUR = 15,000 \text{ BO}$
 + 78,515 BO
 93,515 BO

Oil Production
 Gas Production
 Water Production

Oil 4,994 bbl
 Gas 8,096 mcf
 H2O 6,982 bbl

Production Rates



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:

MUSKEGON SOUTH STATE - EMPIRE EAST

Avg EUR per well = 98.4 MBO
 Yeso

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

$$RUR = \frac{-365 (q_1 - q_{d1})}{\ln(1-d)}$$

Oil 25,042 bbl
 Gas 39,157 mcf
 H2O 66,649 bbl

$q_1 = 110$ boepd
 $q_{d1} = 5$ boepd
 $d = 20\%/yr.$

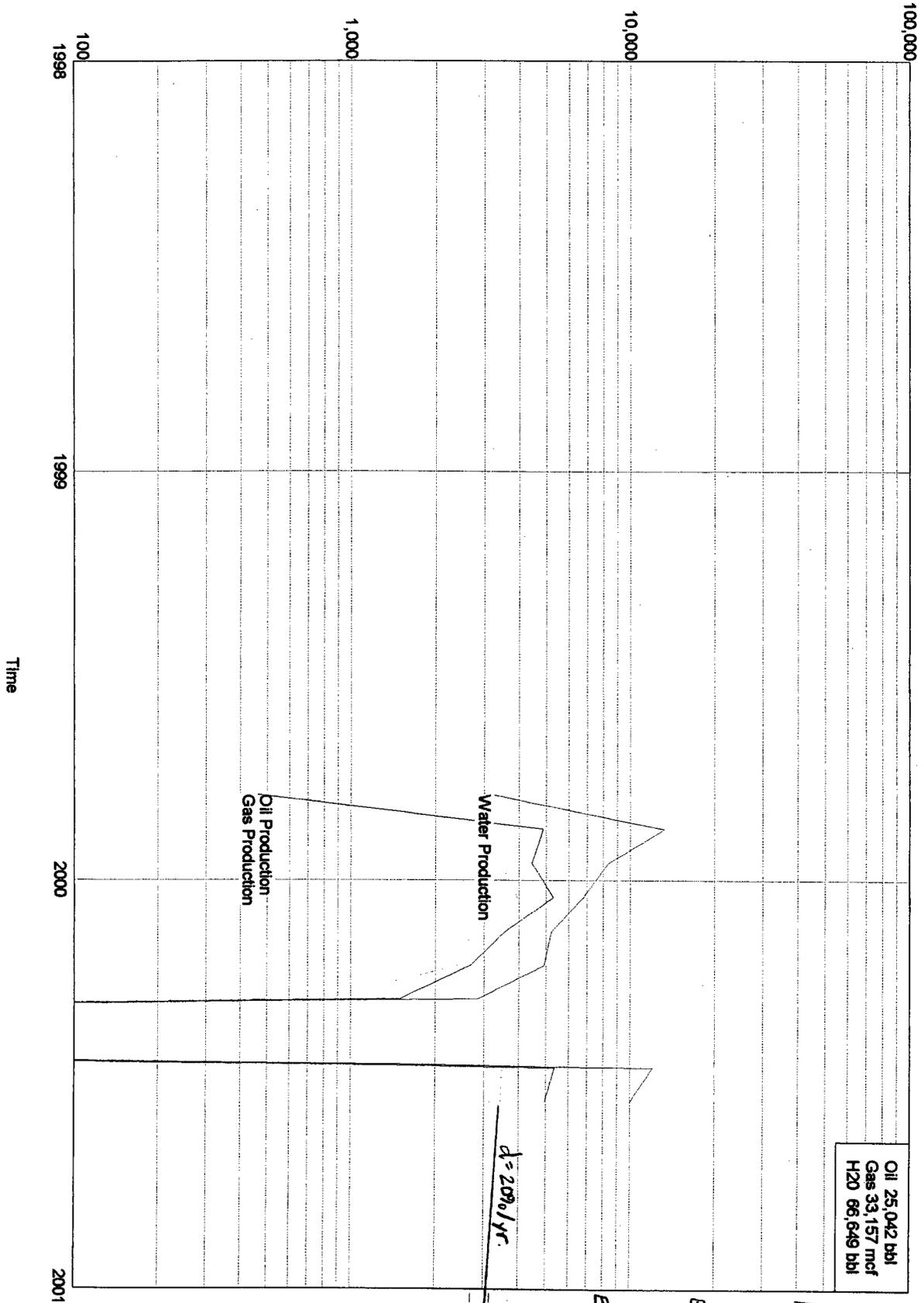
$$RUR = \frac{-365 (110-5)}{\ln(1-.2)} = 171,750 \text{ BO}$$

$$EUR = \frac{25,042 + 171,750}{2} = 98,396 \text{ BO}$$

$$EUR/well = \frac{196,792}{2} = 98,396 \text{ BO}$$

Oil Production
 Gas Production
 Water Production

$d = 20\%/yr.$



Production Rates

7.5

Recent Production
"D" State #1

OPERATOR: MARBOS ENERGY CORPORATION

OGRID: 014049

POOL NO. AND NAME PROPERTY NO. AND NAME WELL NO. AND U-I-S-T-R API NUMBER	INJECTION					PRODUCTION					DISPOSITION OF OIL, GAS, AND WATER					
	8 C O D E	9 C O D E	10 C O D E	11 C O D E	12 C O D E	13 C O D E	14 C O D E	15 C O D E	16 C O D E	17 C O D E	18 C O D E	19 C O D E	20 C O D E	21 C O D E	22 C O D E	23 C O D E
024886 T.H. STATE 001 F-34-178-288 30-015-30762	P				236	1311	525	31	O	2824488	38.7	1402	186	355	015694	67
025375 D SWANE 001 M-25-178-288 30-015-31257	P				1535	2637	1468	31	W					1311		
003 O-26-178-288 30-015-30976	P				1089	1663	884	31								
010 D-36-178-288 30-015-31165	P				1064	7136	1435	31								
018 L-35-178-288 30-015-30977	P				1014	8201	801	31								
021 I-25-178-288 30-015-30975	P				990	6911	934	31	O	2825596	39.2	637	6014	015694	315	
025702 LP STATE 001 E-05-188-288 30-015-31086	P				84	1588	176	31	G	2825597	1596	251	5522	001009		
003 M-06-188-288 30-015-31087	P				40	1536	42	30	O	2826075	38.4	251	181	034019	204	
96831 CEDAR LAKE; YESO 023300 IEE FEDERAL									G	2820676	1188		218	036785		

D.54.#1 3922-4120'