

120540668

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

2941

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.

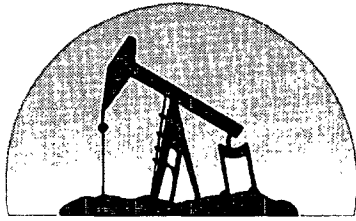
Note: Statement must be completed by an individual with supervisory capacity.

Brian Collins
Print or Type Name

Brian Collins
Signature

Engr.
Title

19 July 01
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

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

OIL CONSERVATION DIV.
01 JUL 23 PM 1:13

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

Form C-107A
Revised May 15, 2000

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
"D" State 7 C-35-17S-28E Eddy
Lease Well No. Unit Letter-Section-Township-Range County
OGRID No. 14049 Property Code 25375 API No. 30-015-31423 Lease Type: ☐ Federal ☒ State ☐ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Artesia Queen Grayburg San Andres		Artesia Glorieta Yeso
Pool Code	011 - 3230		011 - 96830
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2738' - 2939' est.		3832' - 4233'
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: 38 bopd, 78 bwpd, 27 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 Gas 26 % 40 %	Oil Gas % %	Oil Gas 74 % 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: 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 Don Collins TITLE Engvr DATE 19 July 01

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

DISTRICT II
P.O. Drawer 88, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Antec, 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 96830	Pool Name ARTESIA-GLORIETTA YESO
Property Code 25375	Property Name D STATE	Well Number 7
OGRID No. 14049	Operator Name MARBOB ENERGY CORPORATION	Elevation 3682

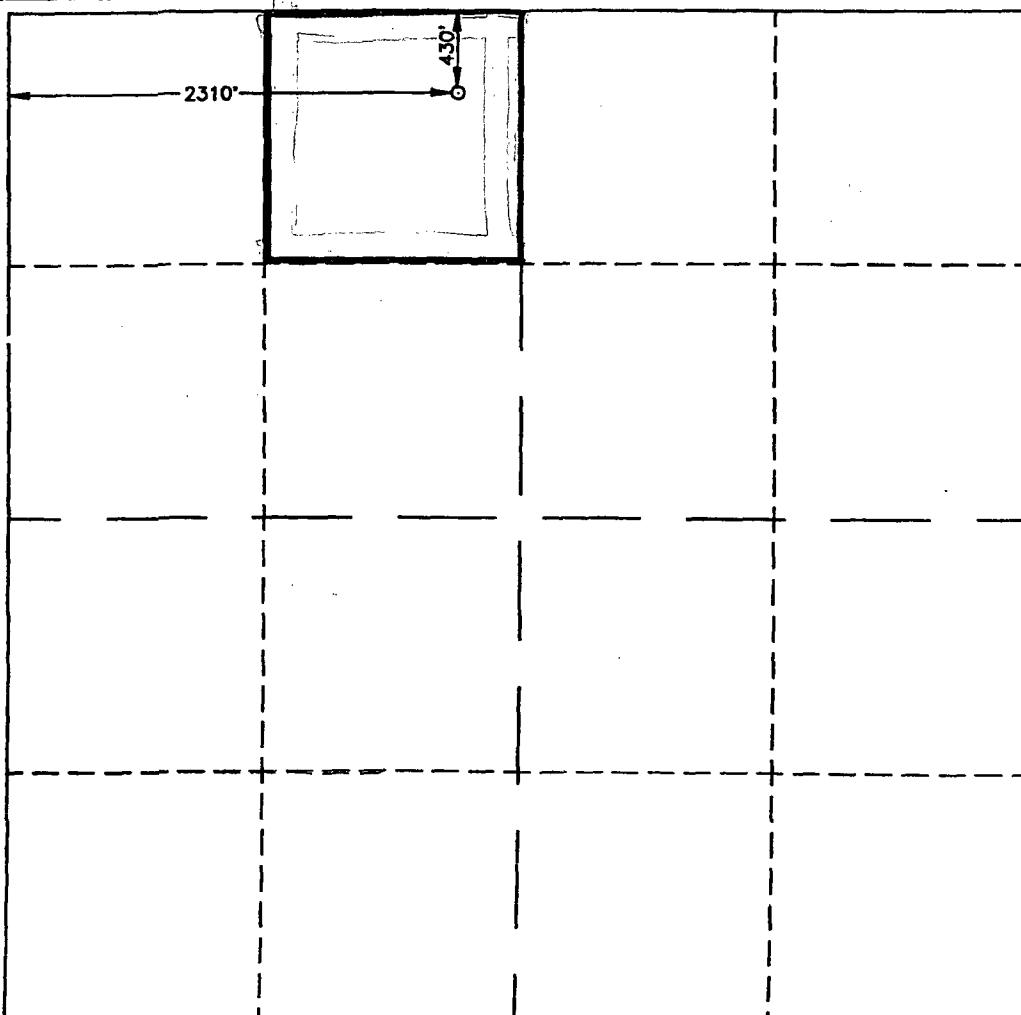
Surface Location

UL or lot No. C	Section 35	Township 17 S	Range 28 E	Lot Idn	Feet from the 430	North/South line NORTH	Feet from the 2310	East/West line WEST	County EDDY
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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

	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><u>Robin Cockrum</u> Signature ROBIN COCKRUM Printed Name PRODUCTION ANALYST Title 10/30/00 Date</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>OCTOBER 19, 2000 Date Surveyed Signature & Seal of Professional Surveyor <u>Ronald J. Edson</u> W.Q. Num 00-11-1201 Certificate No. RONALD J. EDSON, 3239 GARY G. EDSON, 12841</p>
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State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102
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P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 3230	Pool Name Artesia Queen Grayburg, San Andres
Property Code 25375	Property Name D STATE	Well Number 7
OGRID No. 14049	Operator Name MARBOB ENERGY CORPORATION	Elevation 3682

Surface Location

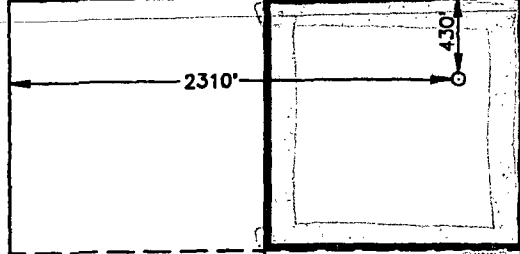
UL or lot No. C	Section 35	Township 17 S	Range 28 E	Lot Idn	Feet from the 430	North/South line NORTH	Feet from the 2310	East/West line WEST	County EDDY
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Bottom Hole Location If Different From Surface

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Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
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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 # WELLS (MMCF)
B440	100.2	135.3
BR549	93.5	187
MUSKEGON	98.4	132.8
2		
WEIGHTED	97.8	150.3
AVG. EUR		

SAN ANDRES WELL DATA:

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

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 = $101.7 \text{ MMCF} / (150.3 \text{ MMCF} + 101.7 \text{ MMCF}) = 0.40$

NOTE:

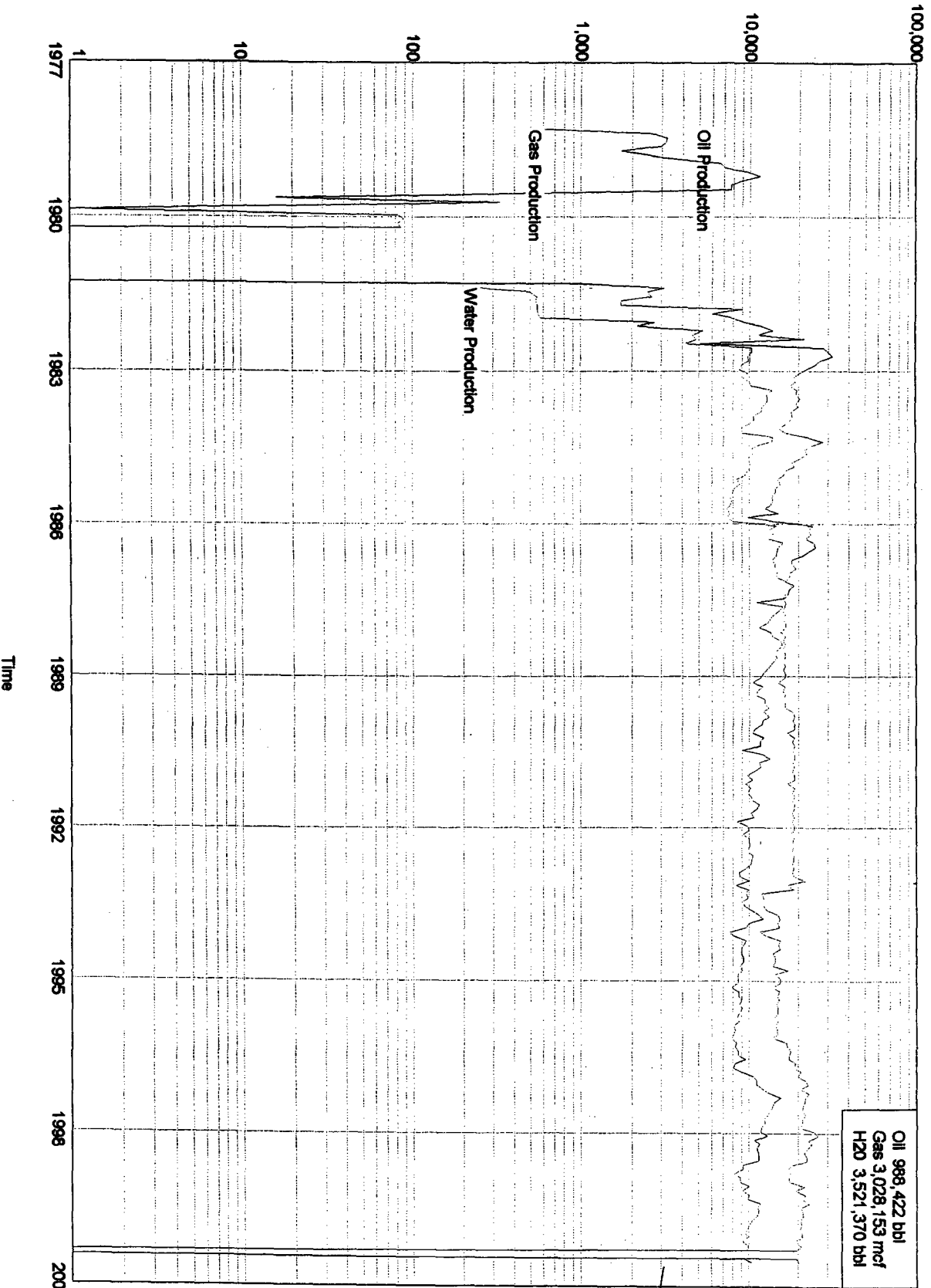
The "D" state Yeso wells have not been producing long enough to establish an accurate decline curve. Nearby Yeso wells are used as analogs for estimating reserves (attached).

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:

MULTIPLE - MULTIPLE

Aug. EUR per well = 33.9 MBO
San Andres
Aug. GOR = 3000 (Avg 10.7 MMBF/y)



depr = 13%/yr.

Oil Production
Gas Production
Water Production

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

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

$$Q_2 = 60 \text{ bopd (33\%)} \\ d = 13\%/yr$$

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

$$EUR = \frac{988,422}{1 + \frac{131,048}{1,119,470 \text{ BO}}} \\ = 33.923 \text{ BO}$$

$$EUR/well = \frac{1,119,470 \text{ BO}}{33} \\ = 33.923 \text{ BO}$$

5 Yesso Wells

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

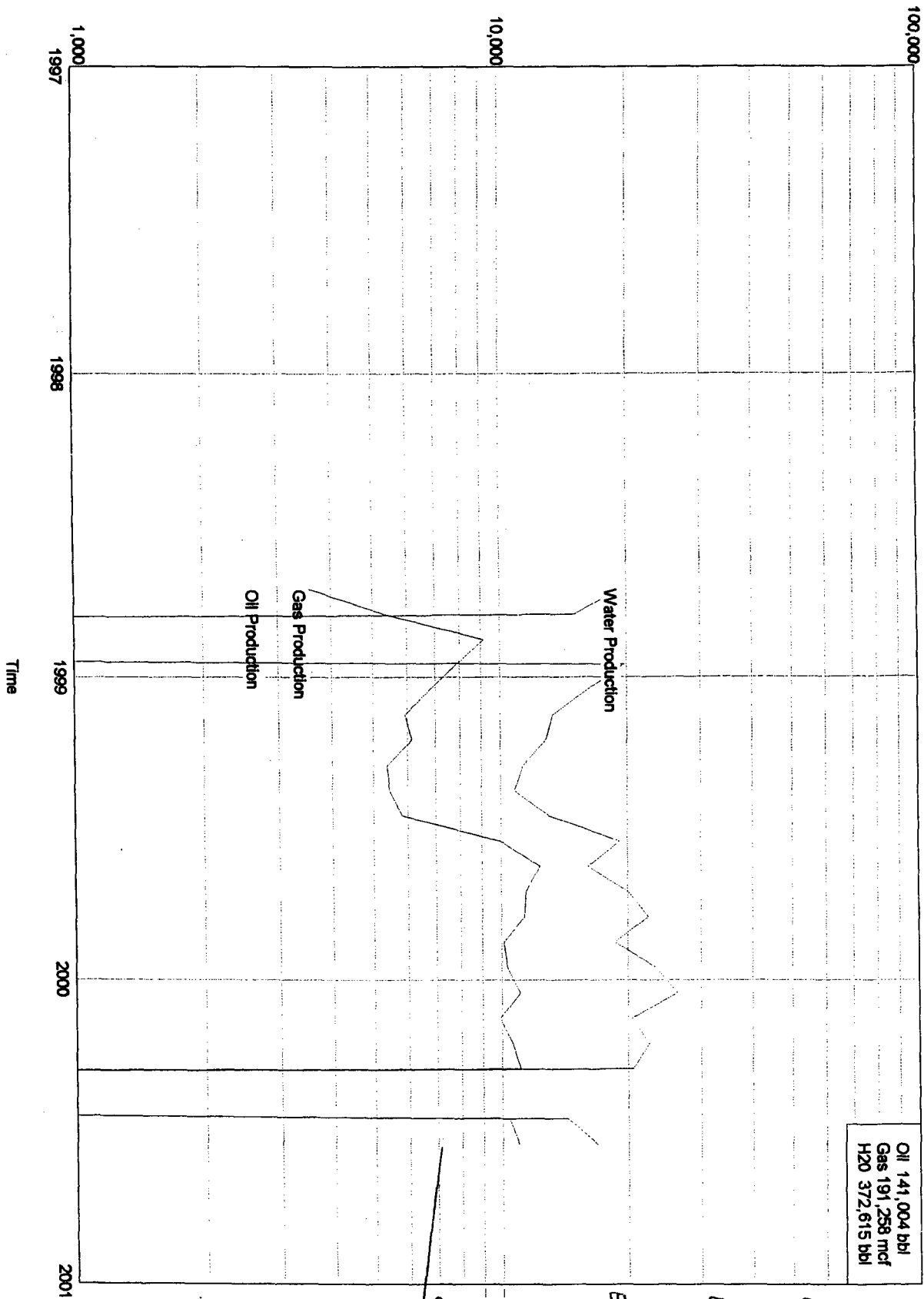
Lease Name: B 440 FEDERAL
County, State: EDDY, Unknown
Operator: MARBOB ENERGY CORPORATION
Field: EMPIRE EAST
Reservoir: YESO
Location:

B 440 FEDERAL - EMPIRE EAST

Avg. EUR per well = 100.2 MBO

Yesso

Avg. GOR = 1350 (Avg 135.3 MMTCF/w)



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

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

$$Q_1 = 230 \text{ bopd}$$

$$Q_2 = 10 \text{ bopd}$$

$$d = 20\%/yr$$

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

$$= 359,958 \text{ BO}$$

$$EUR = \frac{141,004}{5}$$

$$+ 359,858$$

$$500,862 \text{ BO}$$

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

$$= 100,172 \text{ B}$$

Oil Production
Gas Production
Water Production

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

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

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

BR-549 STATE - EMPIRE EAST

Aug. EUR per well = 13,000 mcf
 Yes
 Aug. GOR = 2000 (Avg. 187 MMCF/well)

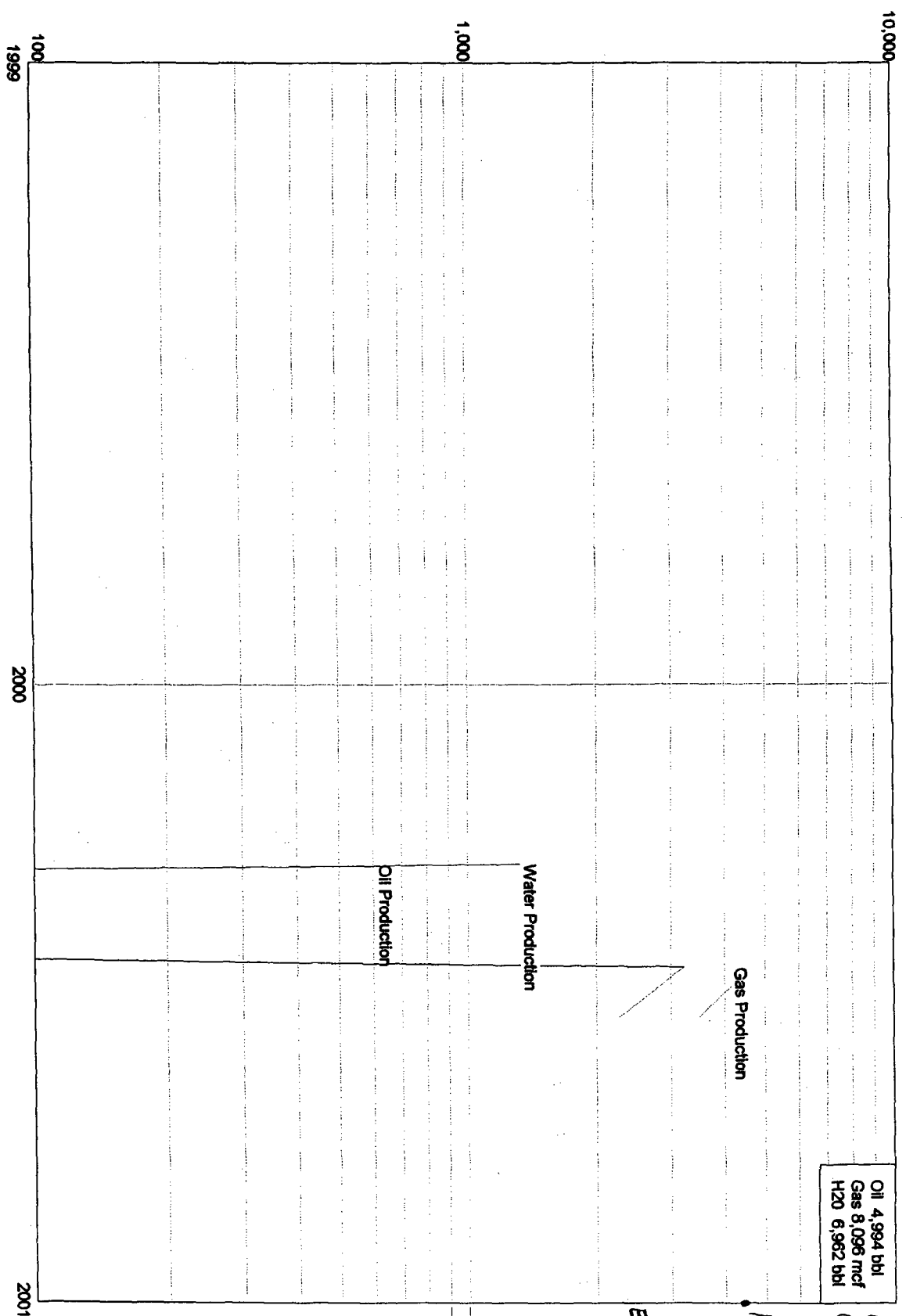
$$ROR = \frac{-365(Q_0, Q_{01})}{\ln(1-d)}$$

$$d = \frac{Q_1 - Q_0}{Q_0} = \frac{50 - 2}{2} = 24\%$$

$$ROR = \frac{-365(50-2)}{\ln(1-0.24)} = 78,515 \text{ bbl}$$

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

Oil 4,994 bbl
 Gas 8,096 mcf
 H2O 6,962 bbl



Oil Production
 Gas Production
 Water Production

Production analog to "D" state,

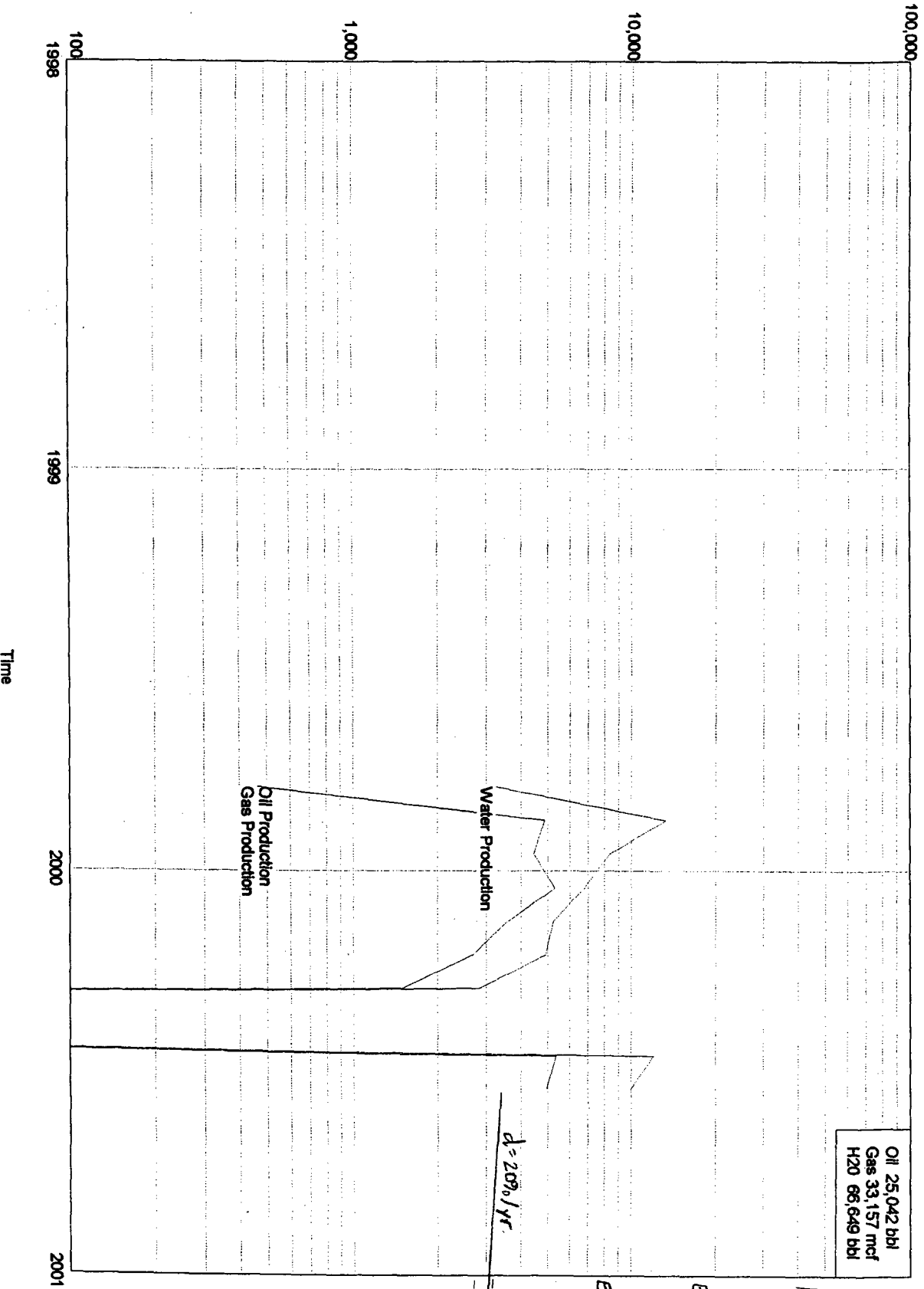
Lease Name: MUSKEGON SOUTH STATE
 County, State: EDDY, Unknown
 Operator: MARBOB ENERGY CORPORATION
 Field: EMPIRE EAST
 Reservoir: MULTIPLE
 Location:

MUSKEGON SOUTH STATE - EMPIRE EAST

Avg. EUR per well = 98.4 MBO
 Yeso

Avg. GOR = 1350 (Avg. 132.8 MMCF/M)

Production Rates



$$ROR = -365 (q_1 - q_2) / \ln (1-d)$$

$$q_1 = 110 \text{ bopd}$$

$$q_2 = 5 \text{ bopd}$$

$$d = 20\%/yr.$$

$$ROR = -365 (110-5) / \ln (1-.2)$$

$$= 171,750 \text{ BO}$$

$$EUR = 25,042$$

$$+ 171,750$$

$$196,792 \text{ BO}$$

$$EUR / well = 196,792$$

$$2$$

$$= 98,396 \text{ BO}$$

Oil Production
 Gas Production
 Water Production

D State # /

OPERATOR: MABOB ENERGY CORPORATION

OGRID: 014049

MONTH/YEAR 05/01

PAGE 60 OF 65

				INJECTION		PRODUCTION				DISPOSITION OF OIL, GAS, AND WATER							
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
POOL NO. AND NAME	C	C		C	BHLS OF	BHLS OF	GAS	DAYS	O	POINT OF	GAS BTU	OIL ON	VOLUME	TRANS-	O		
PROPERTY NO. AND NAME	D	D		D	ENSATE	WATER	PRODUCED	PRODUCED	D	DISPOSIT-	OR OIL	HAND AT	(BHLS/MCF)	PORTER	D		
WELL NO. AND U-I-S-E-R	E	E		E	PRODUCED	PRODUCED	(MCF)	PRODUCED	E	TION	API GRAV	OF MONTH		OGRID	E		
API NUMBER	1	2		2					3						4		
96811 RACE TRACK, DEVONIAN SE																	
02329 RIO BRAVO FEE																	
001 B-30-10S-28E	F				1124	0	0	31		2821527	42.1	545	1400	015694		265	
30-005-63171									O								
96830 ARTESIA GLORIETTA YESO																	
006533 SAMEBAN STATE																	
002 O-27-17S-28E	P				135	220	276	31		1267010	35.3	191	163	015694		16	
30-015-30773									O	1267030	1328		276	036785			
024888 T.H. STATE									W	1267050			220				
001 F-34-17S-28E	P				203	1210	417	31		2824488	35.7	174	173	015694		20	
30-015-30762									O	2824489	1403		417	036785			
025375 D STATE									W				1210		O		
001 M-25-17S-28E	P				1676	3941	1958	31									
30-015-31257																	
002 P-26-17S-28E	P				1136	2698	868	31									
30-015-31421																	
003 O-26-17S-28E	P				1189	2486	1179	31									
30-015-30976																	
005 M-26-17S-28E	P				1054	3008	690	31									
30-015-31422																	
007 C-35-17S-28E	P				1189	2412	823	31									
30-015-31423																	

#7

38 BMPD

78 BMPD

27 MCFD

OPERATOR: MARBOB ENERGY CORPORATION

OGHD: 014049

INJECTION

PRODUCTION

DISPOSITION OF OIL, GAS, AND WATER

[illegible]

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

Date Application Received:

7/23/01

Date of Preliminary Review:

(Note: Must be within 10-days of received date)

7/25/01

Results:

X

Application Complete

Application Incomplete

Date Incomplete Letter Sent:

Deadline to Submit Requested Information:

Phone Call Date:

(Note: Only applies if 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)