EXXON COMPANY, U.S.A.
POST OFFICE BOX 1600 • MIDLAND, TEXAS 79702-1600

PRODUCTION DEPARTMENT
SOUTHWEST/ROCKY MOUNTAIN DIVISION

J.K. LYTLE
SENIOR TECHNICAL ADVISOR
REGULATORY AFFAIRS

December 23, 1985

Downhole Commingling Request
N.M. "V" State #8
Lea County, New Mexico

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

ATTENTION: Mr. David Catanach

Gentlemen:

Exxon respectfully requests NMOCD approval to downhole commingle the Blinebry and Drinkard formations in the N.M. "V" State #8. Permission to dually complete this well was authorized by administrative order MC-1405. If permission to downhole commingle is received, this well will be placed on sucker rod pump to effectively lift formation fluids from the wellbore resulting in increased flow rates, and increase ultimate recovery from these two oil zones.

The Blinebry quit flowing in 1974 and the Drinkard is currently flowing small amounts of oil and gas. Both zones have 2000-3000' of fluid on the formation face. Downhole commingling will enable Exxon to place the well on sucker rod pump to remove the formation fluids at an economical rate. If downhole commingling is not approved, one of the zones will be squeezed and the other will be placed on sucker rod pump. It is doubtful that it would be economical to re-enter the squeezed zone in the future due to the low potential. Downhole commingling is being requested to prevent this waste.

The Blinebry and Drinkard zones currently satisfy the requirements necessary to apply for downhole commingling (see Attachment 1). The items Exxon must submit to the Commission to obtain approval are listed on Attachment 2, and subsequent attachments contain the data noted in Attachments 1 and 2.

Please contact J. W. Jordan (915) 523-3650 if any further information is required.

Yours truly,

J. K. Lytle

J. K. Lytle

JKL:djc
Attachments

c: Offset Operators (Certified Mail)
District I - NMOCD, Hobbs, NM

ATTACHMENT 1

N. M. "V" State #8 - Downhole Commingling - Requirements

The Blinebry and Drinkard formations in the above well satisfy the requirements necessary for downhole commingling as follows:

1. *The total combined daily oil production from the oil zones before commingling does not exceed 40 BOPD. Currently neither zone is able to flow. 6670' is the depth of the bottom perforation in the Drinkard formation.*

2. *Oil zones require artificial lift, or, both zones are capable of flowing. Both zones now require artificial lift, which will be installed when the two zones are commingled.*

3. *Neither zone produces more than 40 BWPD. The Blinebry is not able to flow and the Drinkard only produces 1 BWPD.*

4. *The fluids from each zone are compatible with the fluids from the other, and combining the fluids will not result in the formation of precipitates which damage either reservoir. See attached data.*

5. *The total value of the crude will not be reduced by commingling. See attached data.*

6. *Ownership of the zones to be commingled is common (including working interest, royalty, and overriding royalty).*

7. *The commingling will not jeopardize the efficiency of present or future secondary recovery operations in either of the zones to be commingled. Current plans are to commingle these zones for waterflood in the proposed Blinebry-Drinkard Waterflood Unit.*

8. *The commingling is necessary to permit a zone or zones to be produced which would not otherwise be economically producible.*

9. *There will be no crossflow between zones to be commingled.*

10. *The bottomhole pressure of the lower pressure zone is not less than 50 percent of the bottomhole pressure of the higher pressure zone adjusted to a common datum. See attached data.*

ATTACHMENT 2

N. M. "V" State #8 - Downhole Commingling - Data Required

To obtain approval for downhole commingling, we have enclosed the following data pursuant to Rule 303(C)(2)(a through j):

1. *Exxon's name and address:*

   Exxon Corporation
   1700 West Broadway
   Andrews, TX 79714

2. *Lease name, well number, well location, and name of pools to be commingled:*

   New Mexico "V" State No. 8, 2100' FSL, 760' FEL, Section 10, T-21-S, R-37-E, Lea County, New Mexico. Pools to be commingled: Blinebry and Drinkard. Authorization to dually complete-Order No. MC-1405.

3. *A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases: Attached.*

4. *A 24-hour productivity test on Division Form C-116 showing the amount of oil, gas, and water produced from each zone: Attached.*

5. *A production decline curve for both zones showing that for a period of at least one year, a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes: Attached.*

6. *A current bottomhole pressure for each zone capable of flowing:*

   Measured BHP - Blinebry 993 psig. Estimated BHP - Drinkard 610 psig, based on measured BHP in the N. M. "V" State # 6, a direct offset. Common datum - mid perfs of Blinebry (5786').

   BHP Bomb data are attached.

7. *A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the wellbore:*

   See attached hydrocarbon analysis. Exxon has commingled these fluids at the surface and has encountered no incompatibility problems.

8. *A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams: Attached.*

9. *A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such a formula:*

Blinebry Pool: Oil Allocation = $\left[\frac{15e^{-(0.2095)t}}{15e^{-(0.5365)t}} + 1\right]^{-1} = 0.0194$

Gas Allocation = $\left[\frac{130e^{-(0.1377)t}}{200e^{-(0.3499)t}} + 1\right]^{-1} = 0.1076$

Where t = time between January 1, 1974 and January 1, 1986 = 12 years

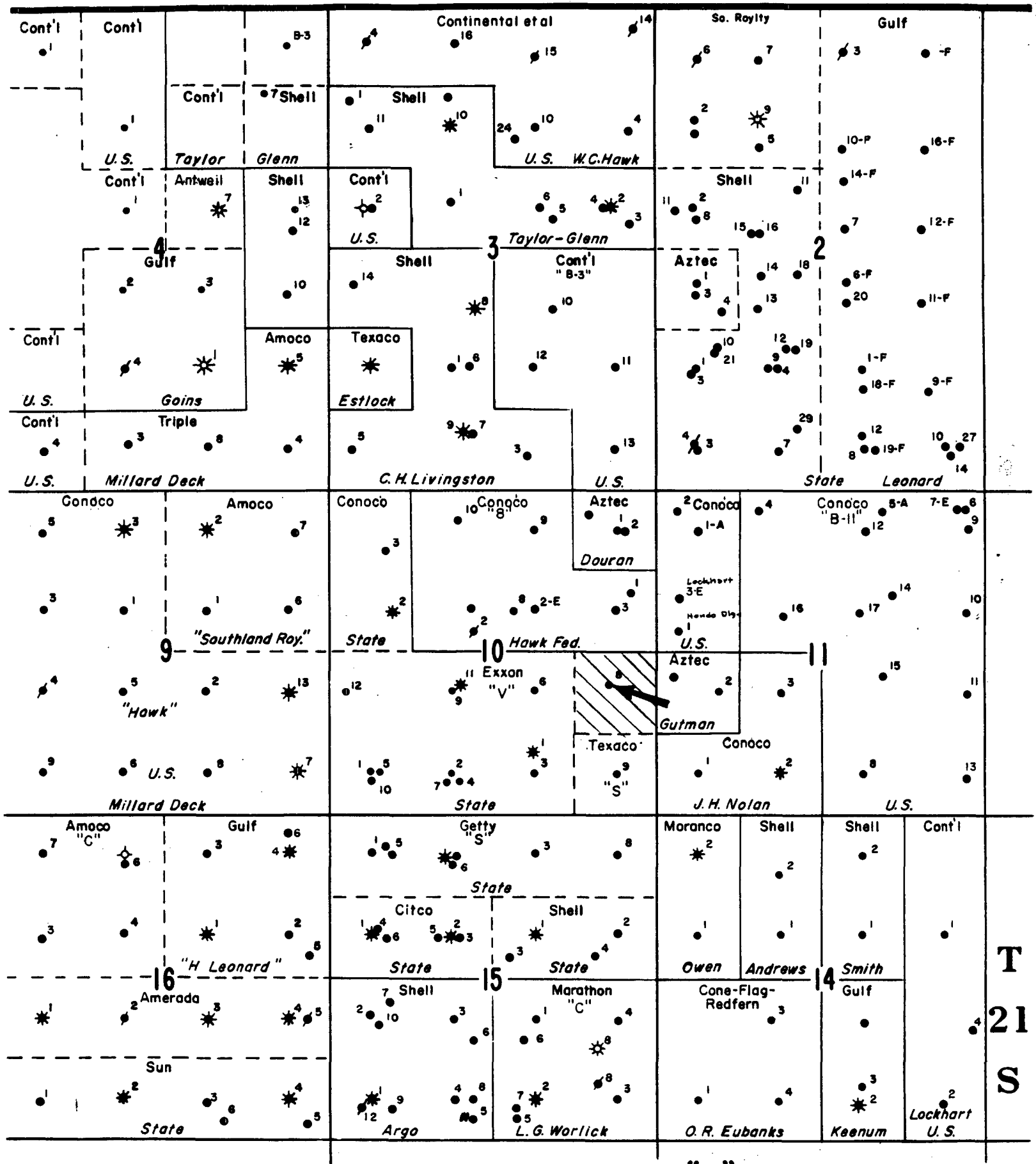
Drinkard Pool: Oil Allocation = 1 - Blinebry Oil Allocation = 0.9806
Gas Allocation = 1 - Blinebry Gas Allocation = 0.8924

Computations of the production allocations to each zone are attached.

10. A statement that all offset operators and, in case of a well on Federal land, the United States Geological Survey, has been notified in writing of the proposed commingling:

All offset operators (list attached) have been notified by copy of this application.

R 37 E



ACREAGE DEDICATED TO THE N.M. "V" STATE #8

116-0057E

INDIVIDUAL WELL TEST REPORT

DO NOT WRITE IN SHADED AREAS – DIVISION OFFICE USE ONLY

DATE 8-31-85

LEASE: N.M. "V" STATE

TYPE TEST: G.O.R.

FIELD: Blinebry oil

METHOD OF PRODUCTION (CHECK ONE): ☐ PUMP ☑ FLOW ☐ GAS LIFT

WELL NO.: 8

CAL DAY ALLOW.:

SCHED. DAY ALLOW.:

ARTIFICAL LIFT (CHECK ONE): ☐ CENT. ☐ ROD ☐ PLUNGER ☐ HYD. ☐ KOBE ☐ OTHER

PRIME MOVER (CHECK ONE): ☐ GAS ENG. ☐ ELEC. ☐ OTHER

FORS TAG INFORMATION

KP ONLY	RCD TYPE	BATT.	SUB BATT.	ZONE	COMPLETION NUMBER (RES. CODE)	COMPLETION NUMBER (WELL NO.)	DSC	TEST DATE MO	TEST DATE DAY	TEST DATE YR	ELAPSED TEST TIME HRS	ELAPSED TEST TIME MIN	STATUS	METHOD	TYPE TEST	ALLOW TYPE	DAYS OFF PROD
A01	1	8						8	31	85							

PUMPING WELLS ONLY

LENGTH OF STROKE	STROKES PER MINUTE	PUMP SIZE (INCHES)	TIME PUMPED DURING TEST HRS	TIME PUMPED DURING TEST MIN

OIL OR GAS WELL PRODUCTION

KP ONLY	TEST OIL OR CONDENSATE (BBLS)	TOTAL FLUID (BBLS)	TEST WATER (BBLS)	OIL OR COND. GRAV.	OIL OR COND. TEMP.	FLUID CHOKE SIZE	TUBING PRESSURE	BEGINNING CASING PRESSURE	ENDING CASING PRESSURE	TRAP PRESSURE	SHUT-IN WELLHEAD PRESSURE
A02											

OUTPUT GAS OR GAS WELL DATA

ENTER EITHER ITEM 30 THRU ITEM 35 OR ITEM 36 & 37

KP ONLY	LINE SIZE	PLATE SIZE	SPRING SIZE	DIFF. RANGE	AVG. RED (DIFF)	AVG. BLUE (STAT)	OUTPUT GAS VOLUME (MCF)	GAS GRAV.	ART. LIFT	PRIME MOVER	HIS COMMENTS
A03											

This zone Deso

INPUT GAS LIFT DATA

GAS LIFT CHOKE DATA

ENTER EITHER ITEM 54 THRU 59 OR ITEM 60

KP ONLY	INTERMITTER TIME HRS	INTERMITTER TIME MIN	INTERMITTER INTERVAL HRS	INTERMITTER INTERVAL MIN	INPUT LINE PRESSURE	CHOKE SIZE	LINE SIZE	PLATE SIZE	SPRING SIZE	DIFF. RANGE	AVG. RED (DIFF)	AVG. BLUE (STAT)	GAS LIFT VOLUME (MCF)	CONTROL TOTAL OR
A04														

FOR DISTRICT USE ONLY

HIS COMMENTS

CODES – 1-20 (LOOK AT FOR IMMEDIATE ACTION)
1 - Well going to water
2 - Well going high GOR
3 - Well flows and dies
4 - Rapid decrease in production
5 - Need to raise allowable
6 - Suspected well response
7 - Suspected tubing or casing leak
8 - Pump not operating properly
9 - Production restricted by surface facilities

CODES – 21-40 INFORMATION
21 - Well shut in; tested for information
22 - Flows by heads
23 - Flowing on intermitter
24 - Well pumps down
25 - High fluid level
26 - FRW test after workover
27 - Test after well work
28 - Test after hot oil treatment
29 - Suspected non-representative test

TYPE TEST

CODES –
OIL: 1 - Scheduled GO-2; 2 - Special GO-2; 3 - Routine GO-2; 4 - Potential or Repotential; 5 - Allocation; 6 - Information; 7 - Monthly GO-2
GAS: 50 - Initial G-2; 51 - Routine G-2; 52 - Special G-2; 53 - Routine G-3; 54 - Special G-3; 55 - Routine G-4; 56 - Special G-4; 57 - Information

ALLOWABLE TYPE

CODES –
1 - Prorated; 2 - Exempt; 3 - Marginal; 5 - Discovery

CHOKES

CODES –
7 - 2
8 - X

METHOD OF PROD.

CODES –
1 - Flow; 2 - Pump; 3 - Gas Lift; 4 - Gas Well-Wet; 5 - Gas Well-Dry

ARTIFICIAL LIFT

CODES –
1 - Centrifugal; 2 - Rod Pump; 3 - Plunger; 4 - Hydraulic; 5 - Kobe; 6 - Other

PRIME MOVER

CODES –
1 - Gas Engine; 2 - Electric Motor; 3 - Other

SIGNATURE: Ed Cellers

116-0057E

INDIVIDUAL WELL TEST REPORT

DO NOT WRITE IN SHADED AREAS – DIVISION OFFICE USE ONLY

DATE 8-31-85

LEASE N. M. "V" STATE

TYPE TEST G.O.R.

FIELD DRINKARD

METHOD OF PRODUCTION (CHECK ONE): ☐ PUMP ☑ FLOW ☐ GAS LIFT

WELL NO. 8

CAL DAY ALLOW. 4

SCHED. DAY ALLOW.

ARTIFICAL LIFT (CHECK ONE): ☐ CENT. ☐ ROD ☐ PLUNGER ☐ HYD. ☐ KOBE ☐ OTHER

PRIME MOVER (CHECK ONE): ☐ GAS ENG. ☐ ELEC. ☐ OTHER

FORS TAG INFORMATION / PUMPING WELLS ONLY

KP ONLY (1 2 3)	RCD TYPE (4 5)	BATT (6 7 8)	SUB BATT (9 10)	ITEM	ZONE (11 12)	ITEM	COMPLETION NUMBER SEQ. CODE (13 14)	WELL NO. (15 16 17 18)	ITEM	DSC (19)	ITEM	TEST DATE MO (20 21)	DAY (22 23)	YR (24 25)	ITEM	ELAPSED TEST TIME HRS (26 27)	MIN (28 29)	ITEM	STATUS (30)	METHOD (31)	TYPE TEST (32 33)	ITEM	ALLOW TYPE (34 35)	ITEM	DAYS OFF PROD. (36 37 38)	ITEM	LENGTH OF STROKE (39–43)	ITEM	STROKES PER MINUTE (44–47)	ITEM	PUMP SIZE INCHES (48–51)	ITEM	TIME PUMPED DURING TEST HRS (52 53)	MIN (54 55)	ITEM
A 0 1	1 6								+		00	8	27	85	01	21	00	02				03		04		05		06	.	07	.	08			09

OIL OR GAS WELL PRODUCTION

KP ONLY	TEST OIL OR CONDENSATE (BBLS) (26–31)	TOTAL FLUID (BBLS) (32–37)	TEST WATER (BBLS) (38–43)	OIL OR COND. GRAV. (44–46)	OIL OR COND. TEMP. (47–50)	FLUID CHOKE SIZE (51–54)	TUBING PRESSURE (55–59)	BEGINNING CASING PRESSURE (60–64)	ENDING CASING PRESSURE (65–69)	TRAP PRESSURE (70–74)	SHUT-IN WELLHEAD PRESSURE (75–80)
A 0 2	2.	3.	1.	.							

OUTPUT GAS OR GAS WELL DATA

ENTER EITHER ITEM 30 THRU ITEM 35 OR ITEM 36 & 37

KP ONLY	LINE SIZE (26–29)	PLATE SIZE (30–33)	SPRING SIZE (34–37)	DIFF. RANGE (38–41)	AVG. RED (DIFF) (42 43)	AVG. BLUE (STAT) (44 45)	OUTPUT GAS VOLUME (MCF) (46–50)	GAS GRAV. (51–53)	ART. LIFT	PRIME MOVER	HIS COMMENTS (56 57)
A 0 3	4.000	.750	100	100	~~1.8~~ 2.3	~~6.0~~ 5.8	43	.			

113.08 X 0.9804 X 1.2403 X 09m =

134.438 X 2.3 X 5.8 X 024 =

43042 / 2 = 21,521 GOR

INPUT GAS LIFT DATA

GAS LIFT CHOKE DATA — *ENTER EITHER ITEM 54 THRU 59 OR ITEM 60*

KP ONLY	INTER-MITTER TIME HRS (26 27)	MIN (28 29)	INTER-MITTER INTERVAL HRS (30 31)	MIN (32 33)	INPUT LINE PRESSURE (34–38)	CHOKE SIZE (39–42)	LINE SIZE (43–46)	PLATE SIZE (47–50)	SPRING SIZE (51–54)	DIFF. RANGE (55–59)	AVG. RED (DIFF) (60 61)	AVG. BLUE (STAT) (62 63)	GAS LIFT VOLUME (MCF) (64–68)	CONTROL TOTAL
A 0 4							.	.			.	.		

FOR DISTRICT USE ONLY

21,521 GOR

HIS COMMENTS — CODES – 1-20 (LOOK AT FOR IMMEDIATE ACTION) — 1. Well going to water 2. Well going high GOR 3. Well flows and dies 4. Rapid decrease in production 5. Need 24/day allowable 6. Suspected well requires 7. Suspected tubing or casing leak 8. Prime mover operating properly 9. Production restricted by surface facilities — CODES – 21-40 INFORMATION — 21 Well shut-in, tested for information 22 Flowed by heads 23 Pumping on intermitter 24 Well pumped down 25 High fluid level 26 FRW test after workover 27 Test after well work 28 Test after hot oil treatment 29 Suspected non-representative test

TYPE TEST — CODES — OIL: 1 Scheduled GO-2 2 Special GO-2 3 Routine GO-2 4 Potential or Requalified 5 Allocation 6 Information 7 Monthly GO-2 — GAS: 50 Initial 51 Routine 52 Special 53 Routine 54 Special 55 Routine 56 Special 57 Information

ALLOWABLE TYPE — CODES: 1 Prorated 2 Exempt 3 Marginal 5 Discovery

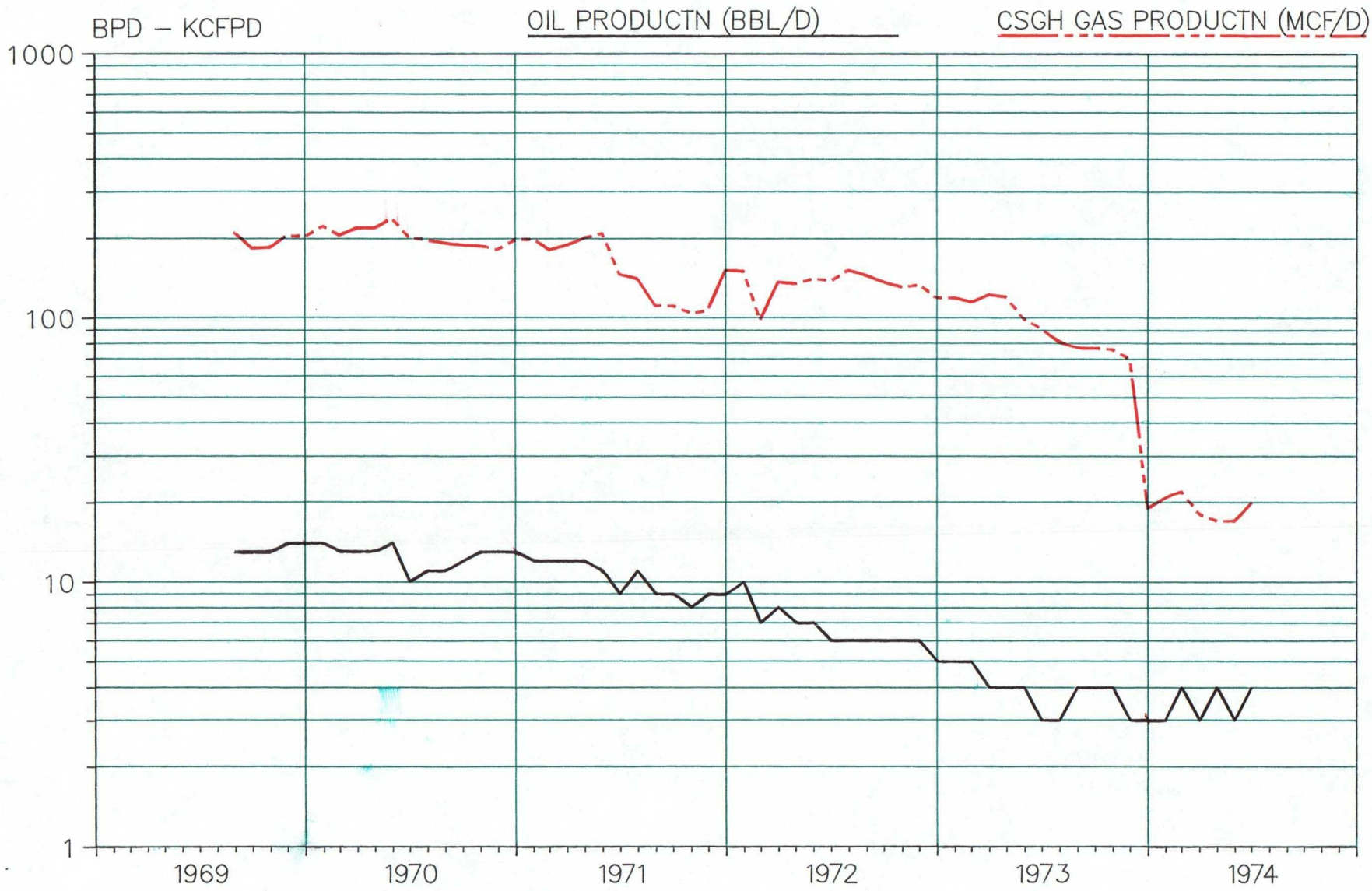
CHOKES — METHOD OF PRODUCTION — CODES: 1 Flow 2 Pump 3 Gas Lift 4 Gas Well Wet 5 Gas Well Dry

ARTIFICIAL LIFT — CODES: 1 Centrifugal 2 Rod Pump 3 Plunger 4 Hydraulic 5 Kobe 6 Other

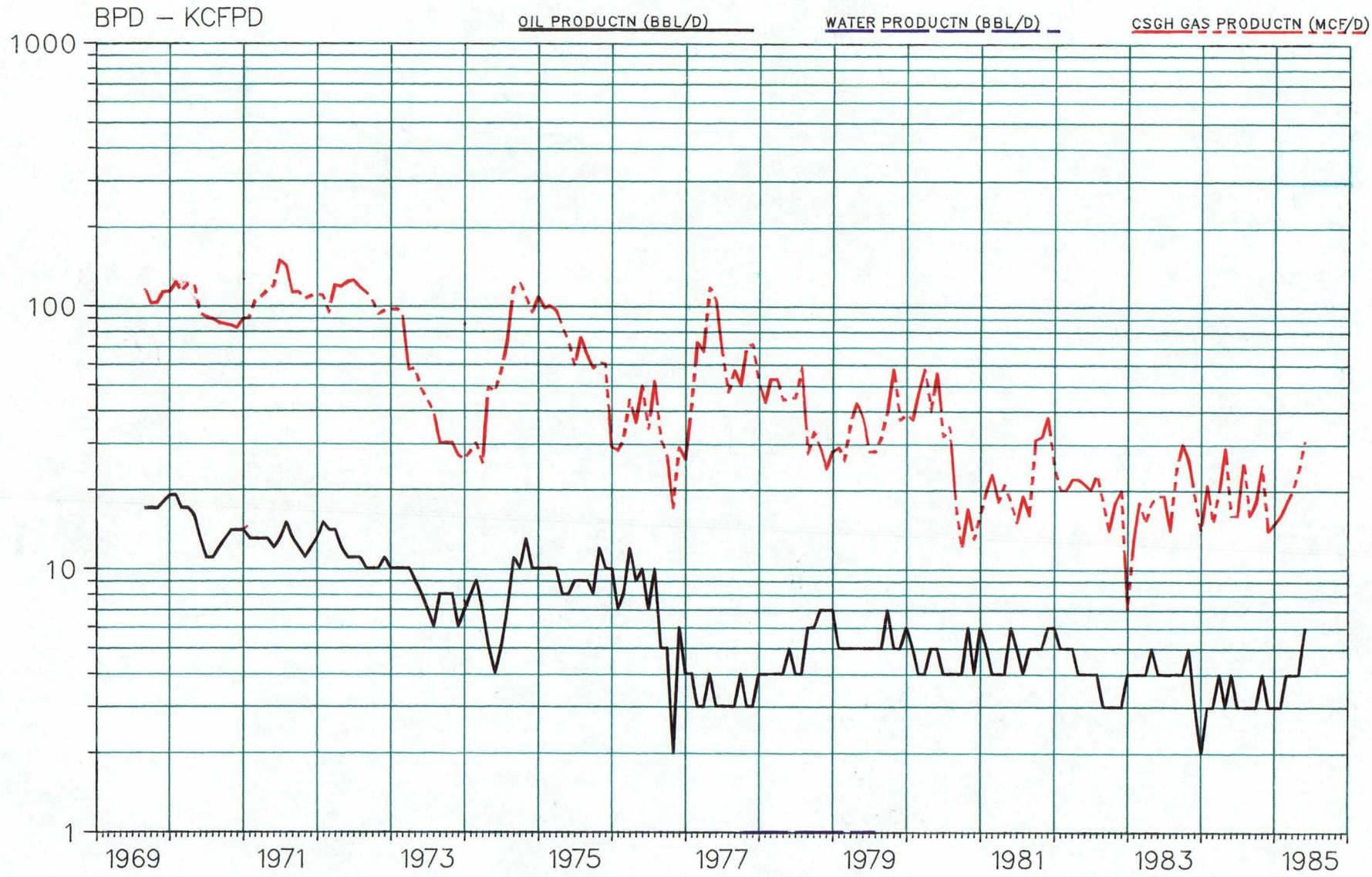
PRIME MOVER — CODES: 1 Gas Engine 2 Electric Motor 3 Other

SIGNATURE Ed Cellars

DISTRICT – 30 ANDREWS
FIELD – 3306 PADDOCK
RESERVOIR – 406 BLINEBRY
WELL– 0008 LSE–61992 NEW MEXICO V STATE



DISTRICT – 30 ANDREWS
FIELD – 3306 PADDOCK
RESERVOIR – 470 DRINKARD
WELL– 0008 LSE–61992 NEW MEXICO V STATE



JARREL SERVICES, INC.

POST OFFICE BOX 1654 PHONES 505 393-5396 — 393-8274

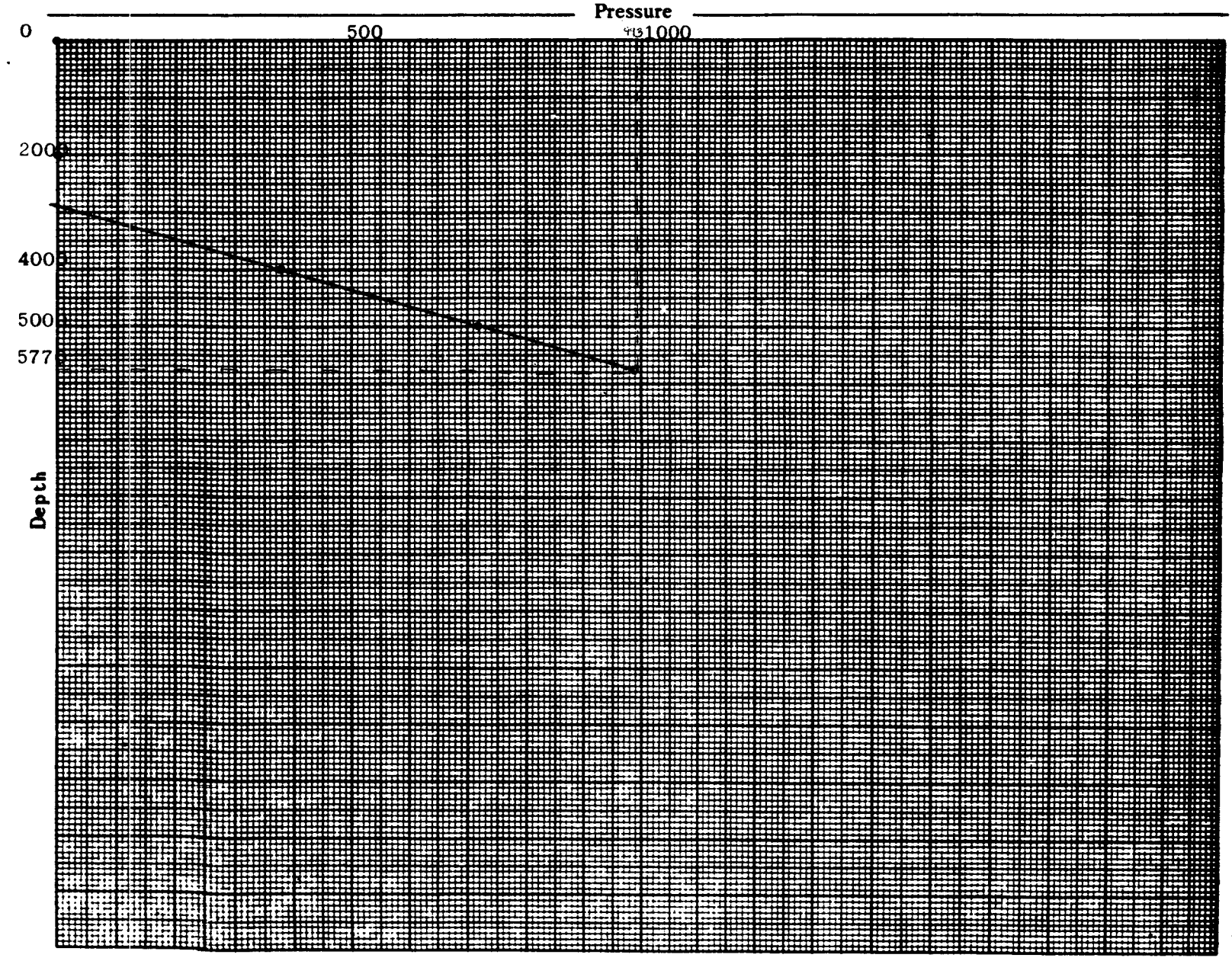
HOBBS, NEW MEXICO 88240

OPERATOR Exxon Company USA
FIELD B-D-T
FORMATION Blinebry
LEASE New Mexico State V WELL No. 8
COUNTY Lea STATE New Mexico
DATE 8/14/85 TIME 9:00 AN
Status Shut in
Test Depth 5770'
Time S. I. 7 days Last test date -
Tub Pres. 0 BHP last test -
Cas. Pres. Dual BHP change -
Elev. - Fluid top 2892'
Datum - Water top None
Temp. @ - Run by JSI #13
Cal. No. 42254 Chart No. 5

BOTTOM HOLE PRESSURE RECORD

Depth	Pressure	Gradient
0	0	-
2000	0	-
4000	378	.189
5000	719	.341
5770 +	987	.348
5786	993 * **	(.348)

\+ HIT OBSTRUCTION
* EXTRAPOLATED PRESSURE
** MIDPOINT OF CASING PERFORATIONS



JARREL SERVICES, INC.

POST OFFICE BOX 1654 PHONES 505 393-5396 — 393-8274

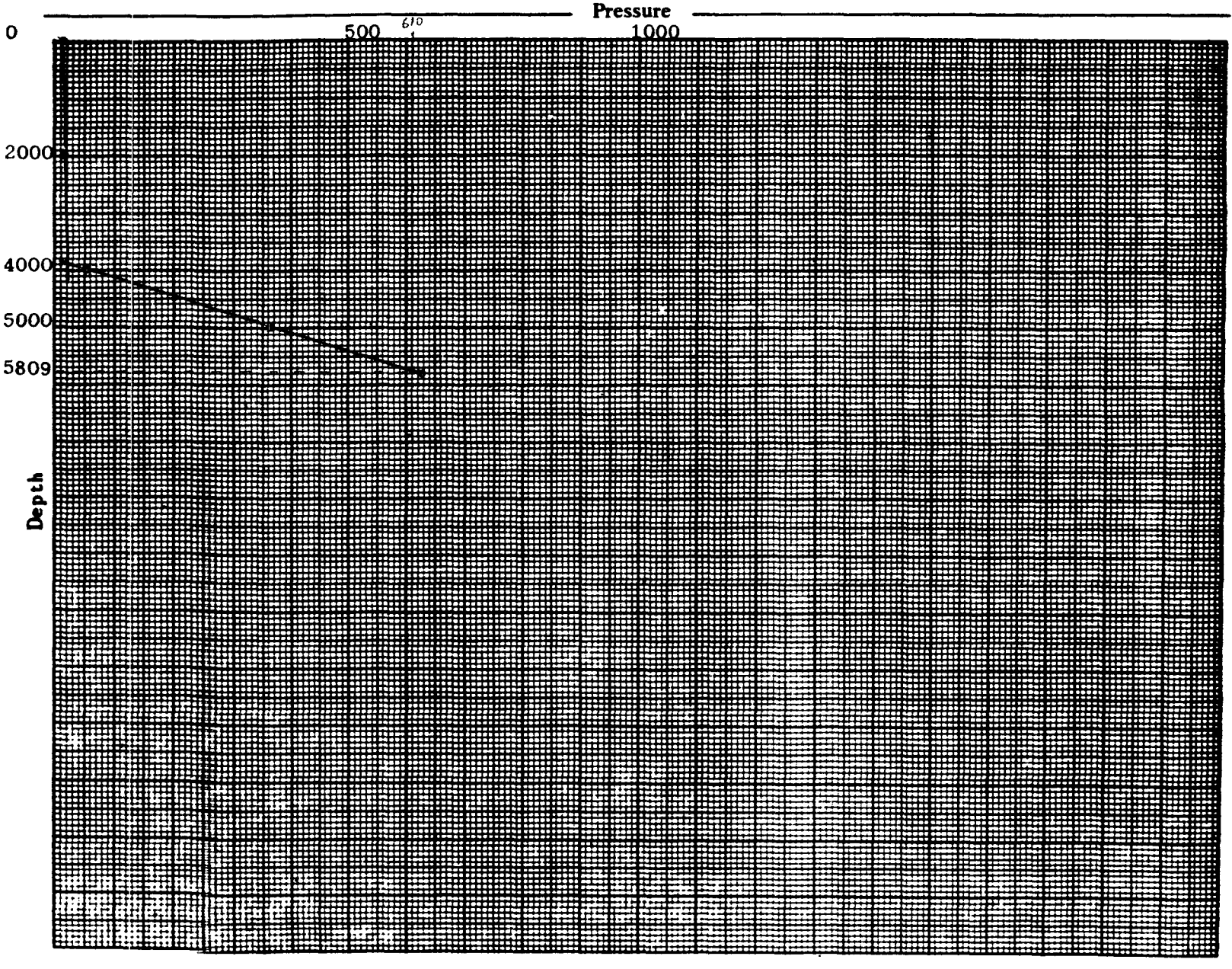
HOBBS, NEW MEXICO 88240

OPERATOR Exxon Company USA
FIELD B-D-T
FORMATION Drinkard
LEASE New Mexico V State WELL No. 6
COUNTY Lea STATE New Mexico
DATE 8/13/85 TIME 12:00 N
Status Shut in
Test Depth 5809' +
Time S. I. 7 days Last test date -
Tub Pres. 13 BHP last test -
Cas. Pres. Dual BHP change -
Elev. 3465'RDB Fluid top 3868'
Datum (-3133)** Water top None
Temp. @ - Run by JSI #13
Cal. No. 42254 Chart No. 3

BOTTOM HOLE PRESSURE RECORD

Depth	Pressure	Gradient
0	13	-
2000	16	.002
4000	51	.018
5000	364	.313
5809 +	627	.325
6598 (-3133)	883 * **	(.325)

\+ HIT OBSTRUCTION
* EXTRAPOLATED PRESSURE
** MIDPOINT OF CASING PERFORATIONS



NEW-TEX LAB

PHONE 505/393-3561 • P. O. BOX 1161 • 611 W. SNYDER • HOBBS, NEW MEXICO 88240

ANALYSIS CERTIFICATE

CLIENT:	EXXON COMPANY USA	ANALYSIS NUMBER:	7811
ADDRESS:	1700 W BROADWAY	DATE OF RUN:	8 12 85
CITY, STATE:	ANDREWS, TX 79714	DATE SECURED:	8 12 85

SAMPLE IDENT: "V" STATE #8 - BLINEBRY ZONE
SAMPLING PRESS:10 PSIG SAMPLING TEMP:90 DEG F

REMARKS: WELL SHUT IN INDEFINITE TIME; BLINEBRY
REMARKS: ZONE - NO OIL FOR SAMPLE
REMARKS: H2S - NONE DETECTED

********* GAS ANALYSIS *********

	MOLE PERCENT	GAL/ MCF
NITROGEN	2.019	
CARBON DIOXIDE	0.179	
METHANE	75.641	
ETHANE	8.903	2.374
PROPANE	6.034	1.656
ISO-BUTANE	0.981	0.320
NORMAL BUTANE	3.203	1.007
ISO-PENTANE	0.890	0.328
NORMAL PENTANE	1.016	0.367
HEXANES	1.134	0.465
TOTAL	100.000	6.517

PROPANE GPM:	1.66	BUTANES GPM:	1.33
ETHANE GPM:	2.37	PENTANES PLUS GPM:	1.16

SPECIFIC GRAV (CALC): 0.7919
MOLE WEIGHT: 22.93

HHV-BTU/CU FT PRESSURE (PSIA)	WET	DRY
14.696	1318	1342
14.650	1314	1338
14.730	1321	1345
14.735	1322	1345

DEANE SIMPSON

NEW-TEX LAB

PHONE 505/393-3561 • P. O. BOX 1161 • 611 W. SNYDER • HOBBS, NEW MEXICO 88240

ANALYSIS CERTIFICATE

CLIENT:	EXXON COMPNY USA	ANALYSIS NUMBER:	7806
ADDRESS:	1700 W BROADWAY	DATE OF RUN:	8 13 85
CITY, STATE:	ANDREWS, TX 79714	DATE SECURED:	8 12 85

SAMPLE IDENT: "V" STATE #8 - DRINKARD ZONE
SAMPLING PRESS:300 PSIG SAMPLING TEMP:90 DEG F

REMARKS: WELL SHUT IN INDEFINITE TIME;DRINKARD
REMARKS: ZONE
REMARKS: H2S - NONE DETECTED

********** GAS ANALYSIS **********

	MOLE PERCENT	GAL/ MCF
NITROGEN	1.245	
CARBON DIOXIDE	0.102	
METHANE	88.813	
ETHANE	7.766	2.071
PROPANE	1.612	0.442
ISO-BUTANE	0.124	0.040
NORMAL BUTANE	0.338	0.106
TOTAL	100.000	2.659

PROPANE GPM:	0.44	BUTANES GPM:	0.15
ETHANE GPM:	2.07	PENTANES PLUS GPM:	0.00

SPECIFIC GRAV (CALC): 0.6200
MOLE WEIGHT: 17.96

HHV-BTU/CU FT PRESSURE (PSIA)	WET	DRY
14.696	1071	1090
14.650	1068	1087
14.730	1073	1093
14.735	1074	1093

DEANE SIMPSON

Estimated Effects on the Value of
Total Production from Proposed
Down Hole Commingling[1]

New Mexico "V" State #8

Before Down Hole Commingling

	BPD Oil Volume	Oil Price	MCF/Day Gas Volume	Gas Price	Daily Oil and Gas Value
Blinbry	0	N/A	0	N/A	0
Drinkard	1.43	27.86	9	1.28	51.35
					$51.35

After Down Hole Commingling

BPD Oil Volume	Oil Price	MCF/Day Gas Volume	Gas[2] Price	Daily Oil And Gas Value	Difference in Daily Value
60	27.86	350	.84	1965.60	
				$1965.60	$1914.25

1. *Production volumes and prices based on September 1985 data*

2. *If gas split between two purchasers-assumed lower price prevails after commingling.*

Allocation of Oil Production To Each Zone

Equations Used:

Decline Rates (1) $q = q_i e^{-at}$

(2) $a_n = \frac{\ln (q_i/q)}{t}$

a_n = nominal decline, per yr.
q_i = initial rate, kcf/Day
q = later rates, kcf/Day
t = time between rates, yrs.

Decline Rate Computaions:

Blinebry Zone

q_i = 15 BOPD
q = 3 BOPD
t = 3 years

$a_n = \frac{\ln (15/3)}{3}$

a_n (Blinebry) = 0.5365/yr

Drinkard Zone

q_i = 15 BOPD
q = 8 BOPD
t = 3 years

$a_n = \frac{\ln (15/8)}{3}$

a_n (Drinkard) = 0.2095/yr

Actual Allocations:

x_b = Blinebry Allocation, fraction.
x_d = Drinkard Allocation, fraction.
q_b = Blinebry rate, BOPD.
q_d = Drinkard rate, BOPD.
q_{bi} = Blinebry initial rate, BOPD.
q_{di} = Drinkard initial rate, BOPD.

$$x_b = \frac{q_b}{q_d + q_b}$$

Substituting eq. (1)

$$x_b = \frac{q_{bi}e^{-a_b t}}{q_{di}e^{-a_d t} + q_{bi}e^{-a_b t}} = \left[\frac{q_{di}e^{-a_d t}}{q_{bi}e^{-a_b t}} + 1\right]^{-1}$$

q_{bi} = 15 BOPD
a_n (Blinebry) = 0.5365/yr.

q_{di} = 15 BOPD
a_n (Drinkard) = 0.2095/yr.

$$x_b = \left[\frac{15e^{-(0.2095)t}}{15e^{-(0.5365)t}} + 1\right]^{-1}$$

$$x_d = 1 - x_b$$

Where t = time between January, 1974 and current date, years.

Allocation Of Gas Production To Each Zone

Decline rate computations:

Blinebry Zone

q_i = 200 kcf/Day
q = 70 kcf/Day
t = 3 years

$$a_n = \frac{\ln (200/70)}{3}$$

a_n (Blinebry) = 0.3499/yr.

Drinkard Zone

q_i = 130 kcf/Day
q = 86 kcf/Day
t = 3 years

$$a_n = \frac{\ln (130/86)}{3}$$

a_n (Drinkard) = 0.1377/yr.

Actual Allocation:

q_{bi} = 200 kCF/Day
a_n (Blinebry) = 0.3499/yr.

q_{di} = 130 kCF/Day
a_n = 0.1377/yr.

$$x_b = \left[\frac{q_{di}e^{-a_d t}}{q_{bi}e^{-a_b t}} + 1\right]^{-1}$$

$$x_b = \left[\frac{130e^{-(0.1377)t}}{200e^{-(0.3499)t}} + 1\right]^{-1}$$

$$x_d = 1 - x_b$$

Where t = time between January 1, 1974 and current date, years.

OFFSET OPERATORS
TO EXXON'S N.M. "V" STATE LEASE
LEA COUNTY, NEW MEXICO

Conoco
P. O. Box 1959
Midland, Texas 79702

Aztec Energy Corp.
1206 E. 20th St.
Farmington, New Mexico 87401

Bravo Energy Inc.
P. O. Box 2160
Hobbs, New Mexico 88240

Texaco Producing Inc.
P. O. Box 3000
Tulsa, Oklahoma 74101

Chevron U.S.A., Inc.
Attn: J. C. Prindle
P. O. Box 670
Hobbs, New Mexico 88240

Amoco
P. O. Box 3092
Houston, Texas 77253

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

December 30, 1985

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:
MC_____
DHC X
NSL_____
NSP_____
SWD_____
WFX_____
PMX_____

Gentlemen:

I have examined the application for the:

Exxon Corp. New Mexico "V" State No. 8-I 10-21-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

O.K.----J.S.

Yours very truly,

Jerry Sexton
Supervisor, District 1

/mc