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

PRODUCTION DEPARTMENT
SOUTHWESTERN DIVISION

RECEIVED
SEP 5 1990
OIL CONSERVATION DIVISION

September 4, 1990

Downhole Commingling
New Mexico "S" State No. 30
Unit I, Section 2, T22S, R37E
Lea County, New Mexico

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

Attention: Mr. David R. Catanach

Exxon Corporation requests an exception to New Mexico Oil Conservation Division Rule 303-A to permit downhole commingling of production from the Drinkard, Wantz Abo, and Wantz Granite Wash Pools in the captioned wellbore. This well is a dual producer which flows the Drinkard through the upper tubing string. The Wantz Granite Wash is being pumped below a packer in the long tubing string. The well, currently producing a total of 1 BOPD and 8 mcf/d, is at its economic limit. The Wantz Abo has potential reserves behind pipe. Downhole commingling is necessary to produce the remaining Drinkard and Wantz Granite Wash reserves which we estimate to be an additional 2246 BO and 17,968 mcf that would not otherwise be recovered (see Attachment 3 for the calculation).

Exxon proposes to pull the current dual production equipment, add pay in the Wantz Abo and Wantz Granite Wash, and artificially lift the remaining reserves out of all three zones simultaneously in a single completion. All three zones will be artificially lifted with the pump set across the deepest zone to prevent crossflow.

We believe separate tests on each regulatory zone are unnecessary in this situation. The Wantz Granite Wash and the Drinkard have several years of production to establish their contribution. The minimal remaining reserves from the Drinkard and Wantz Granite Wash cannot economically justify separate testing in this well. The Wantz Abo contribution can be determined by the difference in the total rate before and after commingling.

All offset operators have been notified by copy of this letter and its attachments. Please call Bill Duncan at 915/688-7538 if you need additional information.

Sincerely,

William T. Duncan, Jr.

for Michael W. Andrews
Compliance Supervisor

MWA:dbm
Attachments

c: Offset Operators
Mr. Jerry Sexton, NMOCD - Hobbs
2 copies to addressee

Attachment 1
Offset Operators
Exxon's New Mexico "S" State Lease

Arco Oil and Gas Company
P. O. Box 1610
Midland, Texas 79702

Chevron U.S.A., Inc.
P. O. Box 670
Hobbs, New Mexico 88240

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

ORYX Energy Company
P. O. Box 1861
Midland, Texas 79702

Attachment 2
New Mexico "S" State #30
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
   P. O. Box 1600
   Midland, TX 79702

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

   New Mexico "S" State No. 30, Unit I, Section 2, T-22-S, R-37-E, Lea County, New Mexico. Pools to be commingled: Drinkard, Wantz Abo, and Wantz Granite Wash.

3. A plat of the area showing the acreage dedicated to the well and 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:

   Tests for the Drinkard and Wantz Granite Wash are attached.

5. A production decline curve for 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:

   Decline curves for the Drinkard and Wantz Granite Wash are attached.

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

   Measured shut-in bottomhole pressure is 685 psia for the Drinkard (measured by static downhole pressure bomb in the New Mexico "S" State #30), 914 psia for the Wantz Abo (measured by static downhole pressure bom in the New Mexico "S" State #31), and 610 psia for the Wantz Granite Wash (measured by static downhole pressure bomb in the New Mexico "S" State #33). When adjusted to a common average datum of 3438 feet subsea, the Drinkard pressure is 848 psia, the Wantz Abo pressure is 915 psia, and the Wantz Granite Wash pressure is 602 psia.

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

   Produced fluids are already surface commingled with no compatibility problems.

NEW MEXICO "S" STATE #30
DOWNHOLE COMMINGLING APPLICATION

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:

   All of the crude and condensate currently produced from the Drinkard, Wantz Abo, and Wantz Granite Wash is already being surface commingled into one common stock tank, and sold as a mixture.

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:

   The Drinkard has produced an average of 5 mcfpd during the 12 months prior to March 1990. The Wantz Granite Wash has produced an average of 1 bopd and 3 mcfpd during the same time period. Pay will be added in the Wantz Abo (it has never been perforated in this well before). The contribution from the Wantz Abo will be determined by subtracting the prior combined rate of 1 bopd and 8 mcfpd from the Drinkard and Wantz Granite Wash from the total commingled rate. A test period of 2 to 3 weeks will be used to obtain a stabilized rate prior to submitting the allocation formula.

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.

    By copy of this letter, we are notifying the offset operators of this proposed commingling.

11. In addition, working interest and royalty interest ownership in all zones are the same.

ATTACHMENT 3

NEW MEXICO "S" STATE #30

ADDITIONAL RECOVERY CALCULATION

Wantz Granite Wash and Drinkard

Combined Total Rate = 1 BOPD, 8 MCFPD (GOR = 8000 SCF/bbl)

Decline Rate = 15% per year

Additional Reserves Recovered by Downhole Commingling

Oil: $N = \frac{(Q-Qi)\ 365}{\ln(1-d)} = \frac{(Q-1)365}{\ln(1-.15)} =$ 2246 BO

Gas:

G = 2246 BO * 8000 SCF/bbl = 17,968 MCF

Submit 2 copies to Appropriate District Office.
DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

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-116
Revised 1/1/89

GAS - OIL RATIO TEST Test Period - Jan., Feb., March, April

Operator: Exxon Co., U.S.A. Operations Acctg. P.C. #3
Pool: Drinkard Gas
County: Lea
Address: P. O. Box 1600 Midland, TX 79702
TYPE OF TEST - (X): Scheduled [X] Completion [ ] Special [ ]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT/BBL.
New Mexico "S" State	12 L	A	2	22	37	2-25-90	F	32	71		24	0		0	1	
	13 L	B				1-19-90	F	48	56		24	0		1	426	426,000
	14 L	C				3-26-90	F	34	61		24	0		0	48	
	16	D				SHUT IN										
	20 L	E				2-19-90	F	32			24	0		0	25	
	22 L	M				1-30-90	F	22	74		24	0		0	9	
	24 U	J				1-27-90	F	18			24	0		0	1	
	25 U	N				2-26-90	F	16	74		24	0		0	27	
	27 L	K				2-9-90	F	32			24	0		0	3	

Instructions:

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

(See Rule 301, Rule 1116 & appropriate pool rules.)

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Anita R. Douglass
Signature

Anita R. Douglass, Sr. Staff Ofc. Asst.
Printed name and title

4-27-90 915/688-7627
Date Telephone No.

Submit 2 copies to Appropriate District Office.
DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

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-116
Revised 1/1/89

GAS - OIL RATIO TEST

Test Period - Jan., Feb., March, April

Operator: Exxon Co., U.S.A. Operations Acctg. P.C. #3
Pool: Drinkard Gas
County: Lea
Address: P. O. Box 1600 Midland, TX 79702
TYPE OF TEST - (X): Scheduled [X] Completion [ ] Special [ ]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT/BBL.
New Mexico "S" State	28 U	F	2	22	37	SHUT-IN										
	29 U	L				2-27-90	F	32	71		24	0		0	1	
	30 U	I				3-25-90	F	32	71		24	0		0	7	
	31 U	H				1-28-90	F				24	0		0	0	
	32 U	G				1-12-90	F	32	62		24	0		0	1	
	33 U	P				2-16-90	F	32	81		24	0		0	176	
	34 U	D				3-26-90	F	32	70		24	0		0	1	

Instructions:

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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-116
Revised 1/1/89

GAS - OIL RATIO TEST

Test Period - April

Operator: Exxon Co., U.S.A. Operations Acctg. P.C. #3
Pool: Wantz Granite Wash
County: Lea
Address: P. O. Box 1600 Midland, TX 79702
TYPE OF TEST - (X): Scheduled [X] Completion [ ] Special [ ]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT/BBL.
New Mexico "S" State	30 L	I	2	22	37	4-26-90	P				24	0		1	3	3000
	32	G				S.I.										
	33 L	P				4-27-90	P				24	0		4	132	33000
	35 L	A				4-25-90	P				24	0		1	6	6000
	36 L	B				S.I										
	37 L	C				S.I										
	38 L	E				S.I										
	24 J	J				4-22-90	P				24	0		0	12	

Instructions:

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

(See Rule 301, Rule 1116 & appropriate pool rules.)

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Anita R. Douglass
Signature

Anita R. Douglass, Sr. Staff Ofc. Asst.
Printed name and title

5-11-90 915/688-7627
Date Telephone No.

Exxon Lse. No. _____ NEW MEXICO OIL CONSERVATION COMMISSION

State Lse. No. B-934 WELL LOCATION AND ACREAGE DEDICATION PLAT

Federal Lse. No. _____

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
Exxon Corporation	New Mexico "S" State	30

Unit Letter	Section	Township	Range	County
I	2	22 South	37 East	Lea

Actual Footage Location of Well: 2160 feet from the South line and 690 feet from the ~~West~~ East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
	Drinkard and Abo	Drinkard and Wantz Abo	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

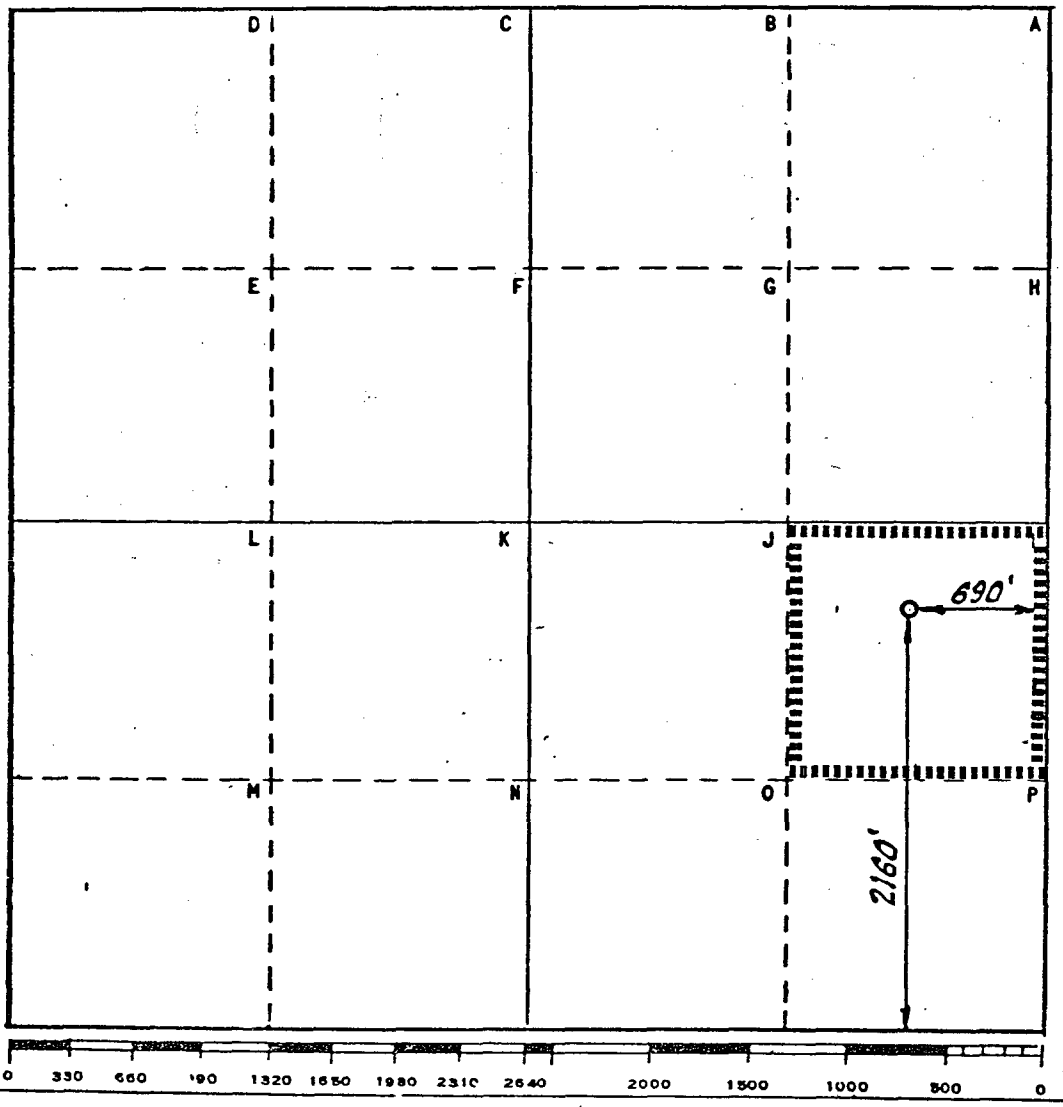
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Name: Melba Knipling

Position: Proration Specialist

Company: Exxon Corporation

Box 1600 Midland, Texas

Date: 5-11-76

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 knowledge and belief.

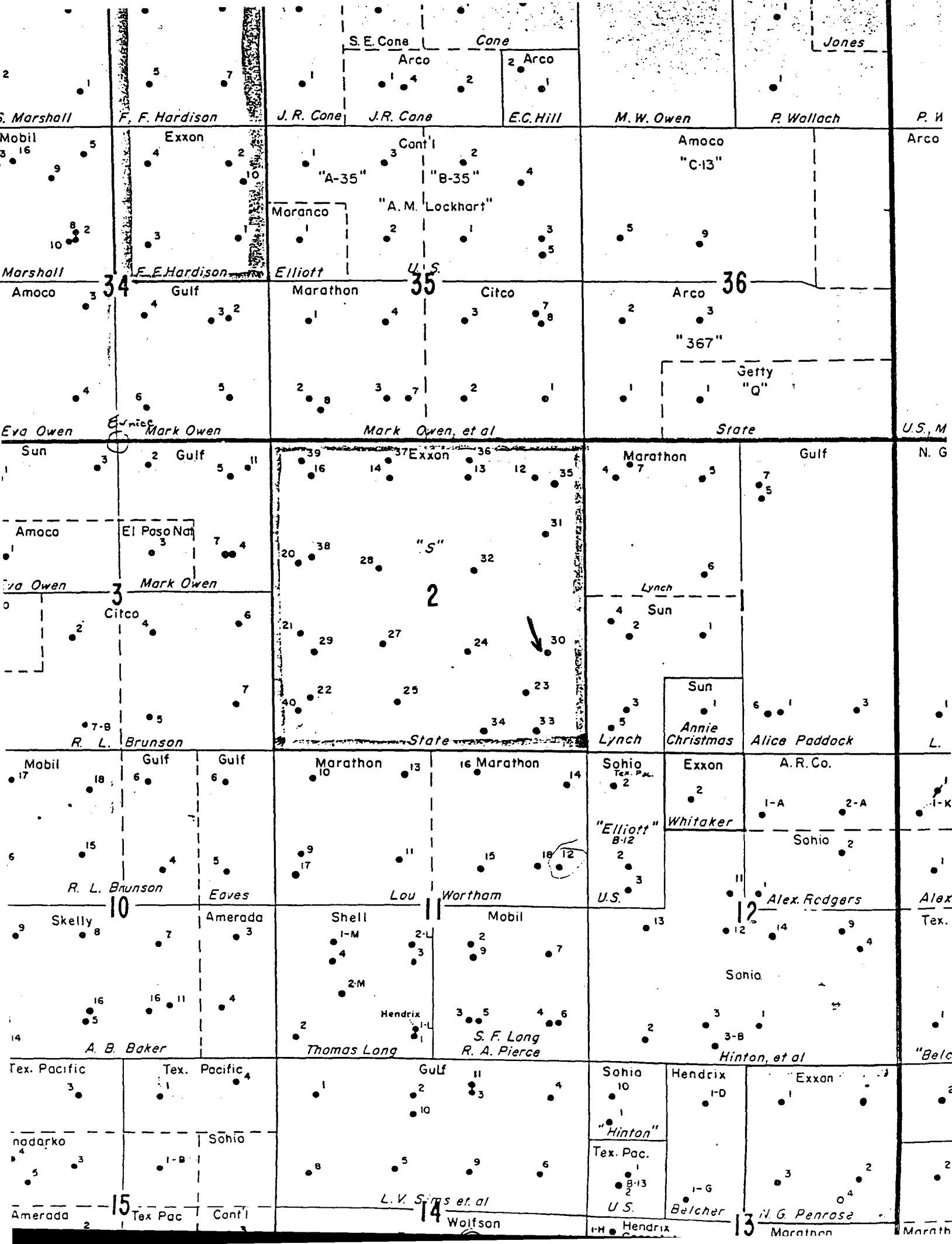
Date Surveyed: 5-10/76

Registered Professional Engineer and/or Land Surveyor: W. D. Westfield

Certificate No. 1382

2 Miles SE of Eunice, New Mexico

C.E. Sec. File No. A-6877 C


S. E. Cone
Cone
Arco
Arco
Jones
S. Marshall
F. F. Hardison
J. R. Cone
J.R. Cone
E.C. Hill
M. W. Owen
P. Wallach
P. W
Mobil
Exxon
Cont'l
"A-35"
"B-35"
"A. M. Lockhart"
Moranco
Amoco
"C-13"
Arco
Marshall
F. E. Hardison
Elliott
U. S.
34
35
36
Amoco
Gulf
Marathon
Citco
Arco
"367"
Getty
"Q"
Eva Owen
Eunice Mark Owen
Mark Owen, et al
State
U.S., M
Sun
Gulf
Exxon
Marathon
Gulf
N. G
"S"
Amoco
El Paso Nat
Eva Owen
Mark Owen
3
2
Lynch
Sun
Citco
R. L. Brunson
State
Lynch
Sun
Annie Christmas
Alice Paddock
L.
Mobil
Gulf
Gulf
Marathon
Marathon
Sohio
Exxon
A.R.Co.
"Elliott" B-12
Whitaker
Sohio
R. L. Brunson
Eaves
Lou
Wortham
U.S.
Alex. Rodgers
Alex
10
11
12
Skelly
Amerada
Shell
Mobil
Sohio
Tex.
A. B. Baker
Hendrix
Thomas Long
S. F. Long
R. A. Pierce
Hinton, et al
Tex. Pacific
Tex. Pacific
Gulf
Sohio
Hendrix
Exxon
"Hinton"
Tex. Pac.
Sohio
L. V. Sims et al
Belcher
N. G. Penrose
15
14
13
Amerada
Tex Pac
Cont'l
Wolfson
Marathon

Wellbore Sketch

Date: 4/20/90 Lease, Well: New Mexico "S" State #3

Elev. 3370' KB, _____

above _____

H2S 0 PPM

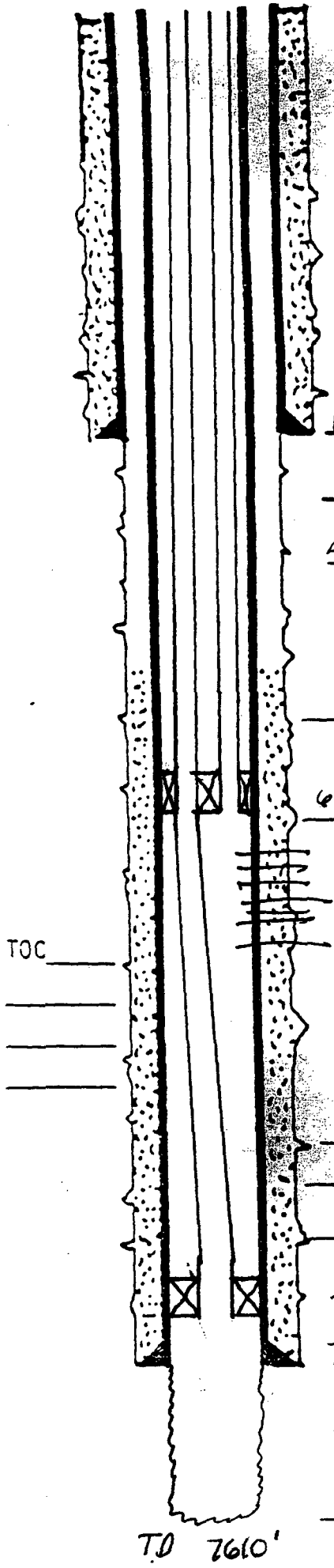
Field: BDT

Field Supt: McBee

Tubing Size 2 3/8" Grade _____

Bottom Hole Arrangement

CURRENT COMPLETION CONFIGURATION



Well history:

10/76 D&C as dual comp in Drinkard & Granite Wash. Perf Drinkard, Acidize w/100 gal 20% Frac'd w/ 7500 gals K-1 pad & 8500 gal 20% HCl, 3000 gal water flush. Drinkard IP - 0 BO, 646 KCFD Acidize G/W w/ 7000 gals gelled 15% HCl w/ 3.5 gal corexit 7652. G/W IP'd - 56 BOPD, 0 BWPD, 50 KCFD.

DRINKARD - FLOWING

GRANITE WASH - PUMPING

Wellbore Sketch

Date: 4/20/90

Lease, Well: NEW MEXICO "S" STATE #30

Field: BDT

Field Supt: McBEE

Tubing Size 2 3/8" Grade _____

Bottom Hole Arrangement

_____

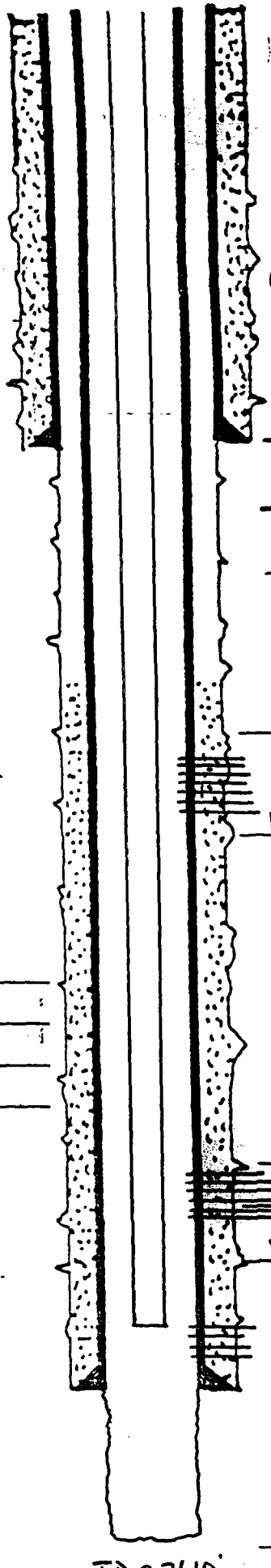
_____

Elev. 3370' KB, _____

above _____

H2S 0 PPM

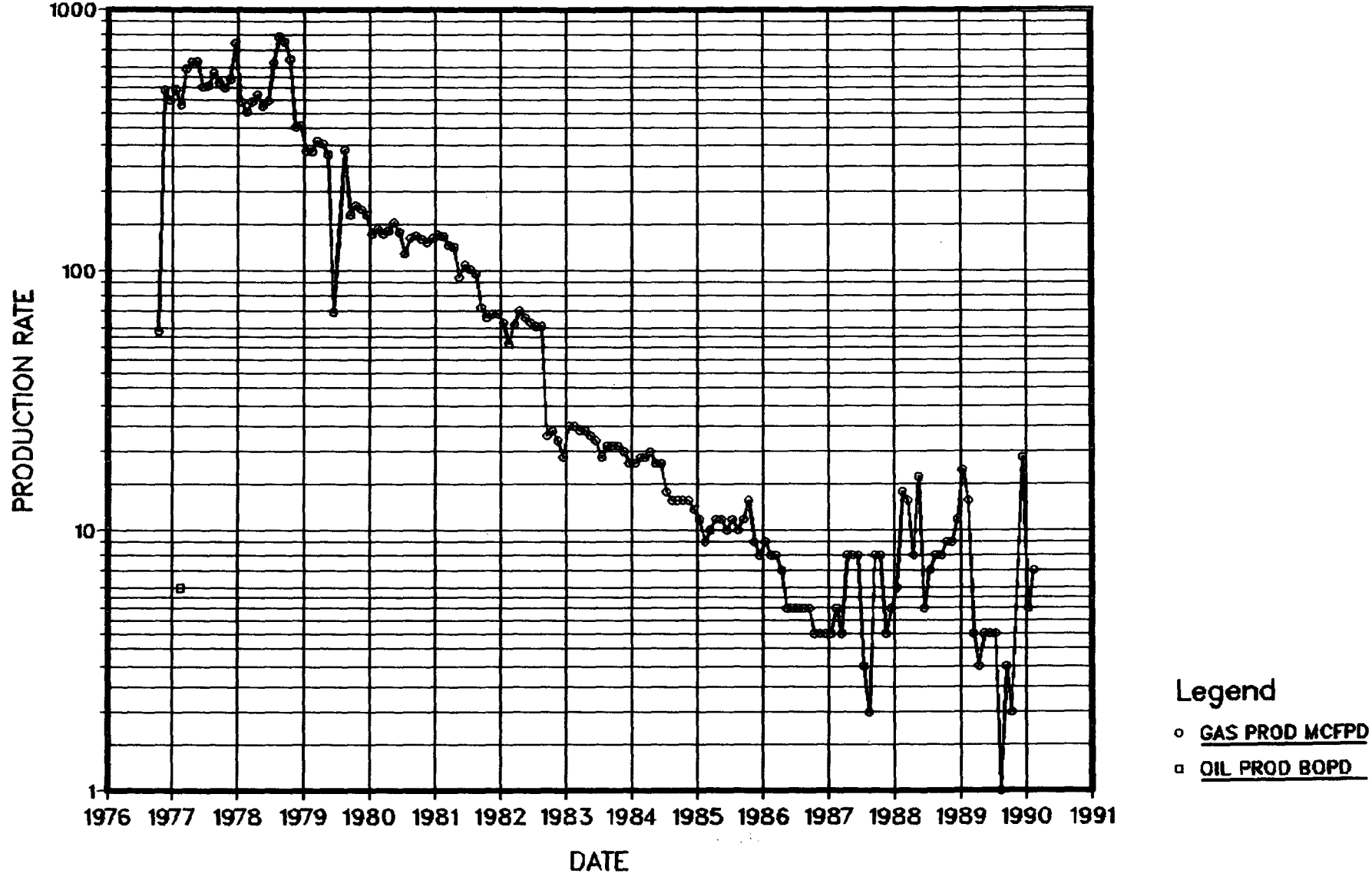
AFTER COMMINGLING WELLBORE CONFIGURATION



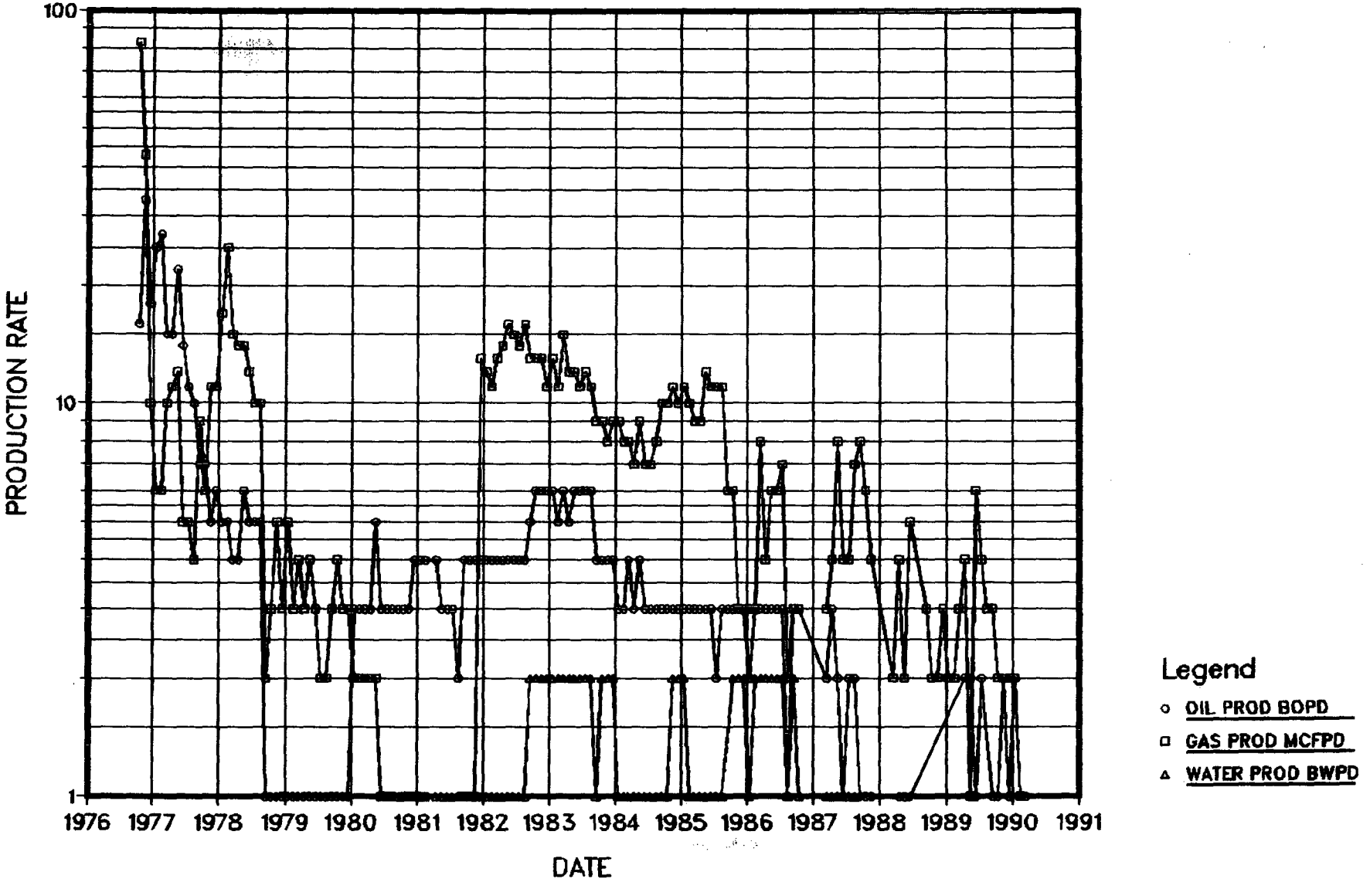
Well history:

SEE "BEFORE" SKETCH FOR WELL HISTORY.

NEW MEXICO S STATE #30
DRINKARD PRODUCTION



NEW MEXICO S STATE #30
WANTZ GRANITE WASH PRODUCTION



OIL CONSERVATION DIVISION '90 SEP 13 AM 9 30

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

9-7-90

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(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 S State # 30-I 2-22-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed