STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

ADMINISTRATIVE ORDER
NFL-133

INFILL DRILLING FINDINGS AND WELL-SPACING WAIVER
MADE PURSUANT TO SECTION 271.305(b) OF THE
FEDERAL ENERGY REGULATORY COMMISSION REGULATIONS,
NATURAL GAS POLICY ACT OF 1978 AND OIL CONSERVATION DIVISION
ORDER NO. R-6013

I.

Operator Sun Exploration and Production Company Well Name and No. State "A" A/C-2 Well No. 67

Location: Unit K Sec. 9 Twp. 22 South Rng. 36 East Cty. Lea

II.

THE DIVISION FINDS:

(1) That Section 271.305(b) of the Federal Energy Regulatory Commission Interim Regulations promulgated pursuant to the Natural Gas Policy Act of 1978 provides that, in order for an infill well to qualify as a new onshore production well under Section 103 of said Act, the Division must find, prior to the commencement of drilling, that the well is necessary to effectively and efficiently drain a portion of the reservoir covered by the proration unit which cannot be so drained by any existing well within that unit, and must grant a waiver of existing well-spacing requirements.

(2) That by Order No. R-6013, dated June 7, 1979, the Division established an administrative procedure whereby the Division Director and the Division Examiners are empowered to act for the Division and find that an infill well is necessary.

(3) That the well for which a finding is sought is to be completed in the South Eunice (Seven Rivers-Queen) Pool, and the standard spacing unit in said pool is 40 acres.

(4) That a 40 -acre proration unit comprising the NE/4 SW/4 of Sec. 9, Twp. 22 South, Rng. 36 East, is currently dedicated to the applicant's State "A" A/C-2 Well No. 59 located in Unit K of said section.

(5) That this proration unit is (x) standard ( ) nonstandard; if nonstandard, said unit was previously approved by Order No. NA.

(6) That said proration unit is not being effectively and efficiently drained by the existing well(s) on the unit.

(7) That the drilling and completion of the well for which a finding is sought should result in the production of an additional 157,500 MCF of gas from the proration unit which would not otherwise be recovered.

(8) That all the requirements of Order No. R-6013 have been complied with, and that the well for which a finding is sought is necessary to effectively and efficiently drain a portion of the reservoir covered by said proration unit which cannot be so drained by any existing well within the unit.

(9) That in order to permit effective and efficient drainage of said proration unit, the subject application should be approved as an exception to the standard well spacing requirements for the pool.

IT IS THEREFORE ORDERED:

(1) That the applicant is hereby authorized to drill the well described in Section I above as an infill well on the existing proration unit described in Section II(4) above. The authorization for infill drilling granted by this order is an exception to applicable well spacing requirements and is necessary to permit the drainage of a portion of the reservoir covered by said proration unit which cannot be effectively and efficiently drained by any existing well thereon.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on this 24th day of March, 19 86.

Michael E. Stogner

DIVISION DIRECTOR ___ EXAMINER ✓

Received June 7, 1984
Release 3/19/86
M.S.

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

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

ADMINISTRATIVE ORDER
NFL 138

INFILL DRILLING FINDINGS AND WELL-SPACING WAIVER
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NATURAL GAS POLICY ACT OF 1978 AND OIL CONSERVATION DIVISION
ORDER NO. R-6013

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Operator Sun Exploration and Production Company Well Name and No. State "A" A/C-2 Well No. 67

Location: Unit K Sec. 9 Twp. 22 South Rng. 36 East Cty. Lea

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(3) That the well for which a finding is sought is to be completed in the South Eunice (Seven Rivers-Queen) Pool, and the standard spacing unit in said pool is 40 acres.

(4) That a 40 -acre proration unit comprising the NE/4 SW/4 of Sec. 9, Twp. 22 South, Rng. 36 East, is currently dedicated to the applicant's State "A" A/C-2 Well No. 59 located in Unit K of said section.

(5) That this proration unit is (✓ standard ( ) nonstandard; if nonstandard, said unit was previously approved by Order No. NA.

(6) That said proration unit is not being effectively and efficiently drained by the existing well(s) on the unit.

(7) That the drilling and completion of the well for which a finding is sought should result in the production of an additional 157,500 MCF of gas from the proration unit which would not otherwise be recovered.

(8) That all the requirements of Order No. R-6013 have been complied with, and that the well for which a finding is sought is necessary to effectively and efficiently drain a portion of the reservoir covered by said proration unit which cannot be so drained by any existing well within the unit.

(9) That in order to permit effective and efficient drainage of said proration unit, the subject application should be approved as an exception to the standard well spacing requirements for the pool.

IT IS THEREFORE ORDERED:

(1) That the applicant is hereby authorized to drill the well described in Section I above as an infill well on the existing proration unit described in Section II(4) above. The authorization for infill drilling granted by this order is an exception to applicable well spacing requirements and is necessary to permit the drainage of a portion of the reservoir covered by said proration unit which cannot be effectively and efficiently drained by any existing well thereon.

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DONE at Santa Fe, New Mexico, on this _____ day of March, 1986.

DIVISION DIRECTOR ___ EXAMINER ✓

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY – DIRECTOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

JUN 7 1984
RECEIVED

SUN EXPLORATION & PRODUCTION COMPANY
P.O. Box 2880-North Park IV-Room 1689
Dallas, Texas 75221-2880
Attention: Gloria Dixon
Analyst, NGPA Compliance

RE: Well head price ceiling determination, NGPA of 1978

Gentlemen:

The New Mexico Oil Conservation Division has received your application for a wellhead price ceiling category determination under the sections(s) of the Natural Gas Policy Act of 1978 indicated below if your application is incomplete, forms are attached hereto, indicating the documents and further information which must be filed before your application can be considered. If your application is complete, it will be acted upon administratively unless written objection is received within 15 days of its filing.

WELL NAME AND LOCATION State "A" A/C #2 9-22S-36E #67-K LEA N.M.

SECTION(S) APPLIED FOR 103

DATE APPLICATION RECEIVED February 10, 1984

APPLICATION INCOMPLETE This well appears to be an infill-well to well No. 31 also located on the SE/4 NW/4 40-acre spacing and proration unit. Therefore please file for an Infill-WELL Finding pursuant to NMOCD Order No. R-6013-A.

Sincerely,

Michael E. Stogner

DATE: February 27, 1984

NOTE:

THIS FORM LETTER MUST ACCOMPANY TWO COPIES OF THE SUPPLEMENTARY INFORMATION.

RECEIVED

Sun Exploration and Production Company
Four NorthPark East
5656 Blackwell
P O Box 2880
Dallas TX 75221-2880
214 890 6000

June 1, 1984

Department of Energy & Minerals
New Mexico Oil Conservation Division
Attn: Michael E. Stogner
P O Box 2088
Santa Fe, New Mexico 87501

Re: Your Request for Additional Information
Well Name/No. State "A" A/C 2 No. 67
County/State Lea/New Mexico
API No. N/A
9-22S-36E

Dear Mr. Stogner:

The following information is being furnished in response to your request dated February 27, 1984, regarding the subject well. Should you require further information, you may contact me at the address above or by telephone at (214) 890-6479.

Attached is an affidavit for the subject well which was prepared by Sun's Staff Reservoir Engineer in the Midland, Texas office.

Sincerely,

Gloria Dixon
Analyst, NGPA Compliance

Attachments

BEFORE ENERGY AND MINERALS DEPARTMENT OF THE STATE OF NEW MEXICO

APPLICANT: SUN EXPLORATION & PRODUCTION COMPANY

Application for a finding pursuant to 18 C.F.R. 271.305 that the State of New Mexico "A" Acct. 2, No. 67 is necessary to effectively and efficiently drain a portion of the South Eunice Field covered by the proration unit which cannot be effectively and efficiently drained by any well within the proration unit.

A F F I D A V I T

STATE OF TEXAS)
) S.S.
COUNTY OF DALLAS)

I, J. Brad Browning, hereby state that I am employed by Sun Exploration & Production Company in the capacity of Staff Reservoir Engineer and that the area addressed by this application for a finding pursuant to 18 C.F.R. 271.305 is within the area of my responsibility and all attached exhibits were prepared by me or under my supervision.

I further state the following:

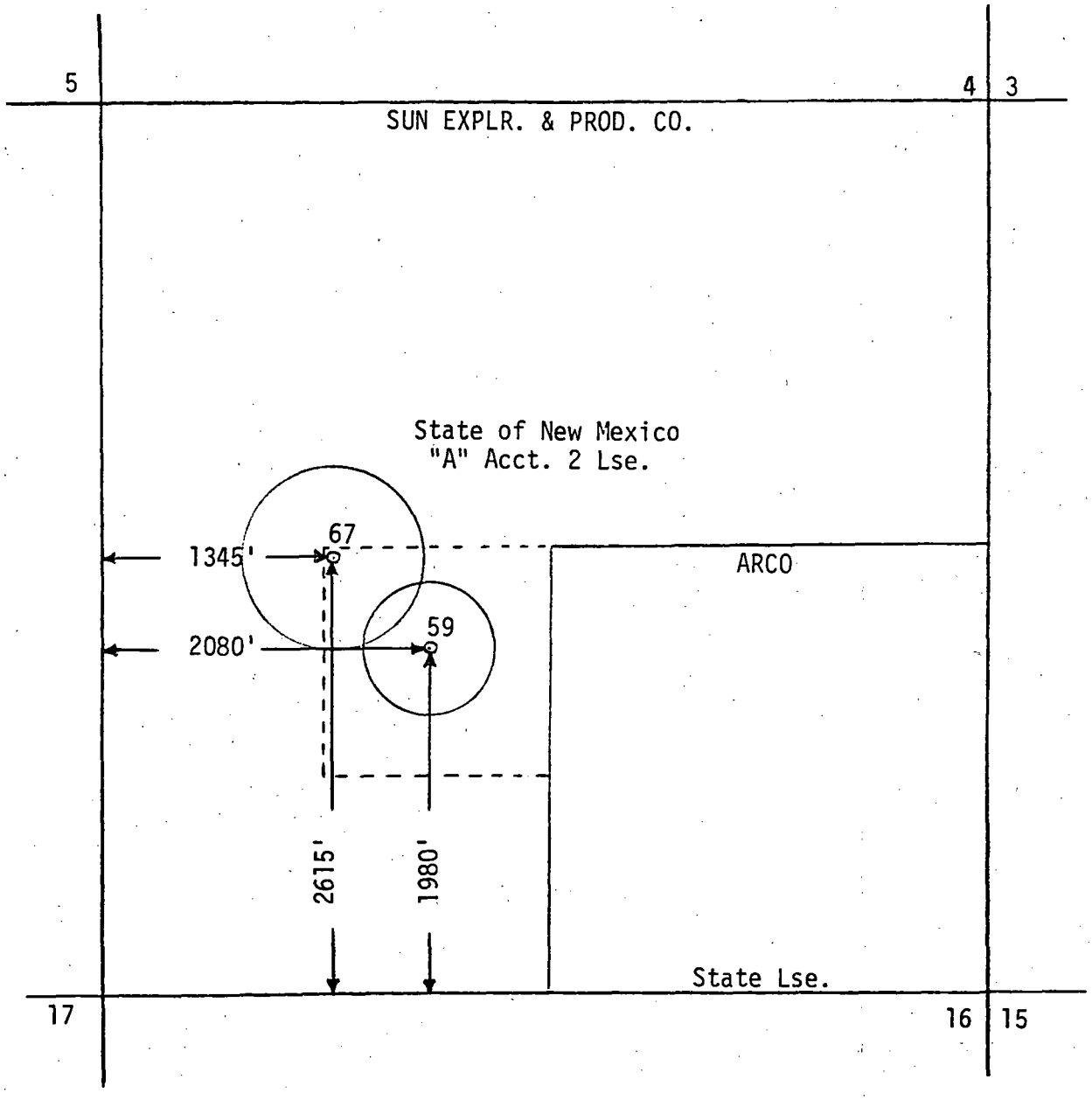
1. The State of New Mexico "A" Acct. 2, No. 67, a South Eunice Field producer, is located 2615' FSL and 1345' FWL, Section 9, in T-22-S R-36-3, Lea County, New Mexico as shown on Exhibit 1. Docket No. _____.

2. The separator gas originally in place in the Seven-Rivers Queen reservoir under the proration unit was 393.2 MMCF as noted in Exhibit 2.

3. The reserves data in Exhibit 2 are based on volumetric calculations and projected ultimate recovery.

4. The State "A" Acct. 2 Wells No. 59 and 67 had effective drainage radii of 396' and 549' or 11.3 acres and 21.75 acres. Drainage calculations are shown in Exhibit 4 and drainage radii denoted in

EXHIBIT 1
DOCKET NO. ____
DRAINAGE RADIUS



SUN EXPLORATION & PRODUCTION CO.

State of New Mexico "A" Acct. 2 Lse.

Sec. 9 T-22-S R-36-E

Lea County, New Mexico

Scale: 1" = 1000'

EXHIBIT 2

DOCKET NO. _____
DATA SUMMARY

	No. 59	No. 67	TOTAL/AVG.
UNIT AREA, ACRES	--	--	40
* NET PAY, Ø-FT	--	--	4.80
** WATER SATURATION, %	35	35	35
** PERMEABILITY, MD.	6.7	6.7	6.7
** POROSITY, %	14.5	14.5	14.5
GAS ORIGINALLY IN PLACE, MMCF	--	--	393.2
GAS ORIGINALLY IN PLACE, MMCF/ACRE	--	--	9.83
CUMULATIVE PRODUCTION, MMCF	83.8	3.1	86.9
***ESTIMATED ULTIMATE RECOVERY, MMCF	83.8	160.6	243.2
GAS REMAINING TO BE RECOVERED, MMCF	0	157.5	150.0

* Net pay for the unit is calculated from the attached isovol map (Exhibit 5).

** Reservoir rock properties are averaged data for the lease obtained from core and log analysis.

***Calculation of ult. recoveries is made in Exhibit 3.

BB/mcn
5/11/84

EXHIBIT 3

DOCKET NO. _____
CALCULATION OF RECOVERIES

1. CALCULATION OF THE ORIGINAL-GAS-IN-PLACE WITHIN THE 40-ACRE PRORATION UNIT.

* N = (7758) Ø h A (1-Sw)/Boi

= (7758) (191.80) (1-.35)/(1.23)

= 786,333 STB

G = N * Rs

= 786,333 * .500

= 393,167 MCF or 9,829 MCF/Acre

2. CALCULATION OF RECOVERABLE GAS DUE TO PRIMARY DEPLETION OF NET OIL PAY.

RECOVERY FACTOR BASED ON TARNER MATERIAL BALANCE ANALYSIS = 12.14%

** Boi = 1.23, BO = 1.08, Rsi = .500, Rs = .121, Swc = .35, Bg = 15.58

$$Sg = 1 - So - Swc$$

$$= 1 - (1 - RF)\frac{BO}{Boi}(1 - Swc) - Swc$$

$$= 1 - (1 - .1214)\left[\frac{1.08}{1.23}\right] \quad [(1 - .35) - .35]$$

$$= .149$$

Gp @ Abandonment = N Rsi - (N - RF*N) Rs - (Sg N Boi)/ [Bg (1 - Swc)]

= N (1.50) - (N - .1214N) (.121) - (.149)(N)(1.23)/[15.58 (1 - .35)]

= .3756N or 3.0939 Np MCF/STB

JBB/mcn
5/11/84

EXHIBIT 3 CONT.

DOCKET NO._____
CALCULATION OF RECOVERIES

3. CALCULATION OF EXPECTED GAS RECOVERY FROM THE 40-ACRE PRORATION UNIT.

WELL NO. 59 LAST PRODUCED @ 1 BOPD IN THE MONTH OF OCTOBER AND IS ESSENTIALLY DEPLETED.

ULTIMATE PRIMARY OIL RECOVERY = 27,078 STB

*** ESTIMATED ULT. PRIMARY GAS RECOVERY = 3.0939 Np = 83,737 MCF

WELL NO. 67 IS CURRENTLY PRODUCING AT ABOUT 30 BOPD. CUMULATIVE RECOVERY TO DATE IS 6,107 STB. REMAINING PRIMARY RECOVERY IS DETERMINED USING THE FIELD AVERAGE EXPONENTIAL DECLINE OF 20% AND AN ECONOMIC LIMIT OF 2 BOPD.

ULTIMATE PRIMARY OIL RECOVERY = 51,921 STB

*** ULTIMATE PRIMARY GAS RECOVERY = 3.0939 Np = 160,638 MCF

* The Ø.h.A production is obtained from the composite isoval map (Exhibit 5)

** The fluid properties and the Tarner material balance analysis are based on a PVT analysis of the equivalent Eumont Penrose fluid.

*** Ultimate primary gas recovery is based on the material balance calculations; since the cumulative of the original well includes an undetermined, large amount of gas-cap recovery.

JBB/mcn
5/11/84

EXHIBIT 4

DOCKET NO._____
ESTIMATION OF DRAINAGE RADIUS

1. ESTIMATED RECOVERY FOR CONTINUOUS RESERVOIR POROSITY MEMBERS:

   ORIGINAL OIL-IN-PLACE FOR THE 40-ACRE UNIT = 786,333 STB

   ULTIMATE GAS RECOVERY = .3756 N

   = (.3756) (786,333)

   = 295,346 MCF OR 7,384 MCF/ACRE

2. EFFECTIVE DRAINAGE RADIUS FOR WELL NO. 59 AT ABANDONMENT:

$$\text{AREA} = \frac{83{,}737 \text{ MCF EST. ULT. FROM EXH. 3}}{7{,}384 \text{ MCF/ACRE}} = 11.34 \text{ ACRES}$$

$$\text{RADIUS} = \left[\frac{11.34 \text{ ACRES} * 43{,}560 \text{ FT}^2/\text{ACRE}}{\pi}\right]^{\frac{1}{2}} = 396 \text{ FT}$$

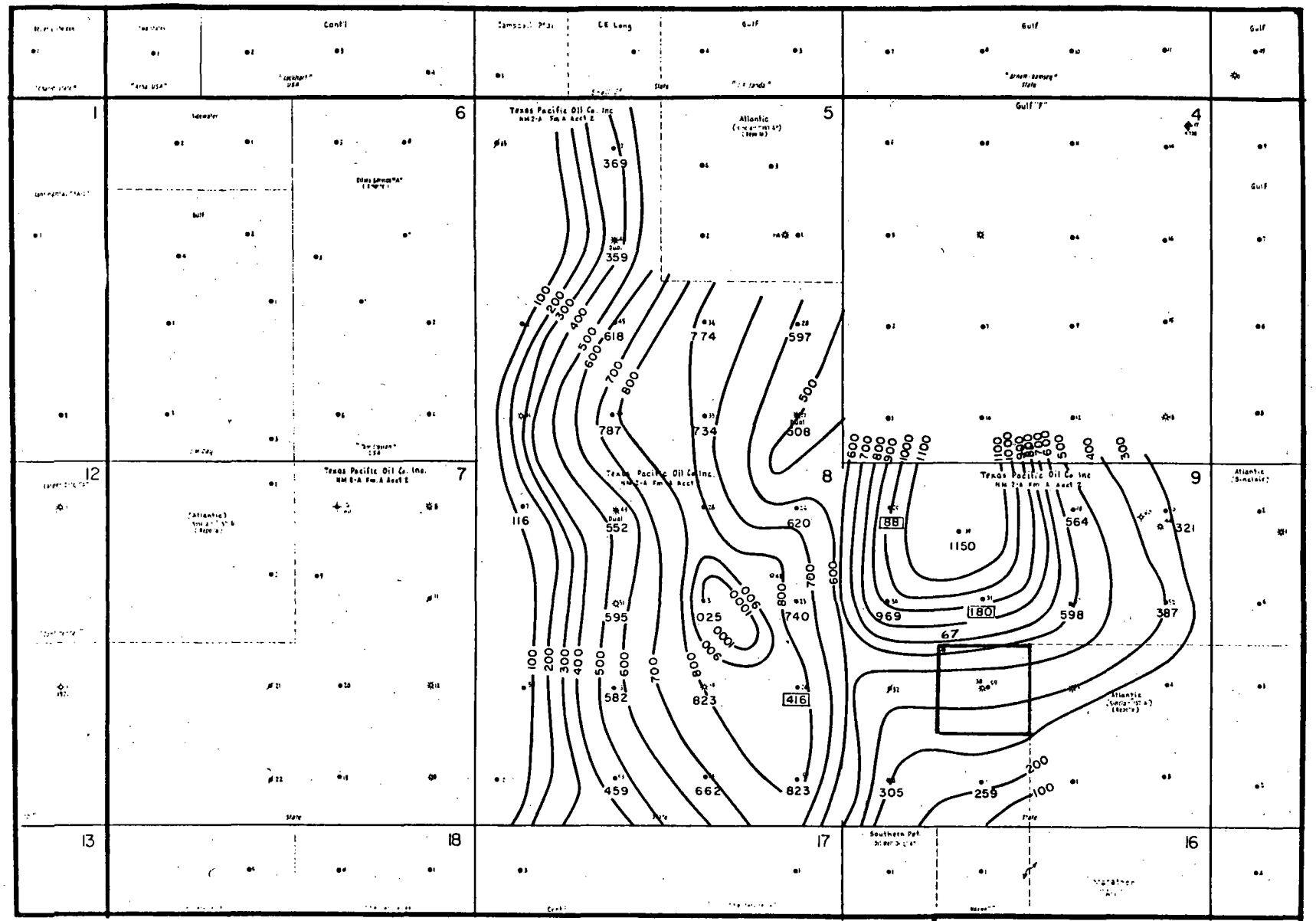
3. EFFECTIVE DRAINAGE RADIUS FOR WELL NO. 59 AT ABANDONMENT:

$$\text{AREA} = \left[\frac{160{,}638 \text{ MCF EST. ULT. FROM EXH. 3}}{7{,}384 \text{ MCF/ACRE}}\right] = 21.75 \text{ ACRES}$$

$$\text{RADIUS} = \left[\frac{21.75 \text{ ACRES} * 43{,}500 \text{ FT}^2/\text{ACRE}}{\pi}\right]^{\frac{1}{2}} = 549 \text{ FT}$$

4. THE EFFECTIVE DRAINAGE RADIUS FOR EACH WELL IS DRAWN ON EXHIBIT 1.

JBB/mcn
5/11/84



DATA POINT NOT HONORED

Unit Boundary

EXHIBIT 5

DOCKET NO. _____

TEXAS PACIFIC OIL COMPANY, INC.

State "A" Acct. No. 2
T-22-S - R-36-E
Lea County New Mexico

WATERFLOOD FEASIBILITY STUDY

0 1000 2000 3000

COMPOSITE
ϕh MAP

JULY 1969
CI: 100 % FT.

BY R.N.B.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

SUN EXPLORATION & PRODUCTION COMPANY
P.O. Box 2880-North Park IV-Room 1689
Dallas, Texas 75221-2880
Attention: Gloria Dixon
Analyst, NGPA Compliance

JUN 7 1984
RECEIVED

RE: Well head price ceiling determination, NGPA of 1978

Gentlemen:

The New Mexico Oil Conservation Division has received your application for a wellhead price ceiling category determination under the sections(s) of the Natural Gas Policy Act of 1978 indicated below if your application is incomplete, forms are attached hereto, indicating the documents and further information which must be filed before your application can be considered. If your application is complete, it will be acted upon administratively unless written objection is received within 15 days of its filing.

WELL NAME AND LOCATION State "A" A/C #2 9-22S-36E #67-K LEA/N.M.

SECTION(S) APPLIED FOR 103

DATE APPLICATION RECEIVED February 10, 1984

APPLICATION INCOMPLETE This well appears to be an infill-well to Well No. 31 also located on the SE/4 NW/4 40-acre spacing and proration unit. Therefore please file for an Infill-WELL Finding pursuant to NMOCD Order No. R-6013-A.

Sincerely,

Michael E. Stogner

DATE: February 27, 1984

NOTE:

THIS FORM LETTER MUST ACCOMPANY TWO COPIES OF THE SUPPLEMENTARY INFORMATION.

RECEIVED

Sun Exploration and Production Company
Four NorthPark East
5656 Blackwell
P O Box 2880
Dallas TX 75221-2880
214 890 6000

June 1, 1984

Department of Energy & Minerals
New Mexico Oil Conservation Division
Attn: Michael E. Stogner
P O Box 2088
Santa Fe, New Mexico 87501

Re: Your Request for Additional Information
Well Name/No. State "A" A/C 2 No. 67
County/State Lea/New Mexico
API No. N/A
9-22S-36E

Dear Mr. Stogner:

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A F F I D A V I T

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COUNTY OF DALLAS)

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2. The separator gas originally in place in the Seven-Rivers Queen reservoir under the proration unit was 393.2 MMCF as noted in Exhibit 2.

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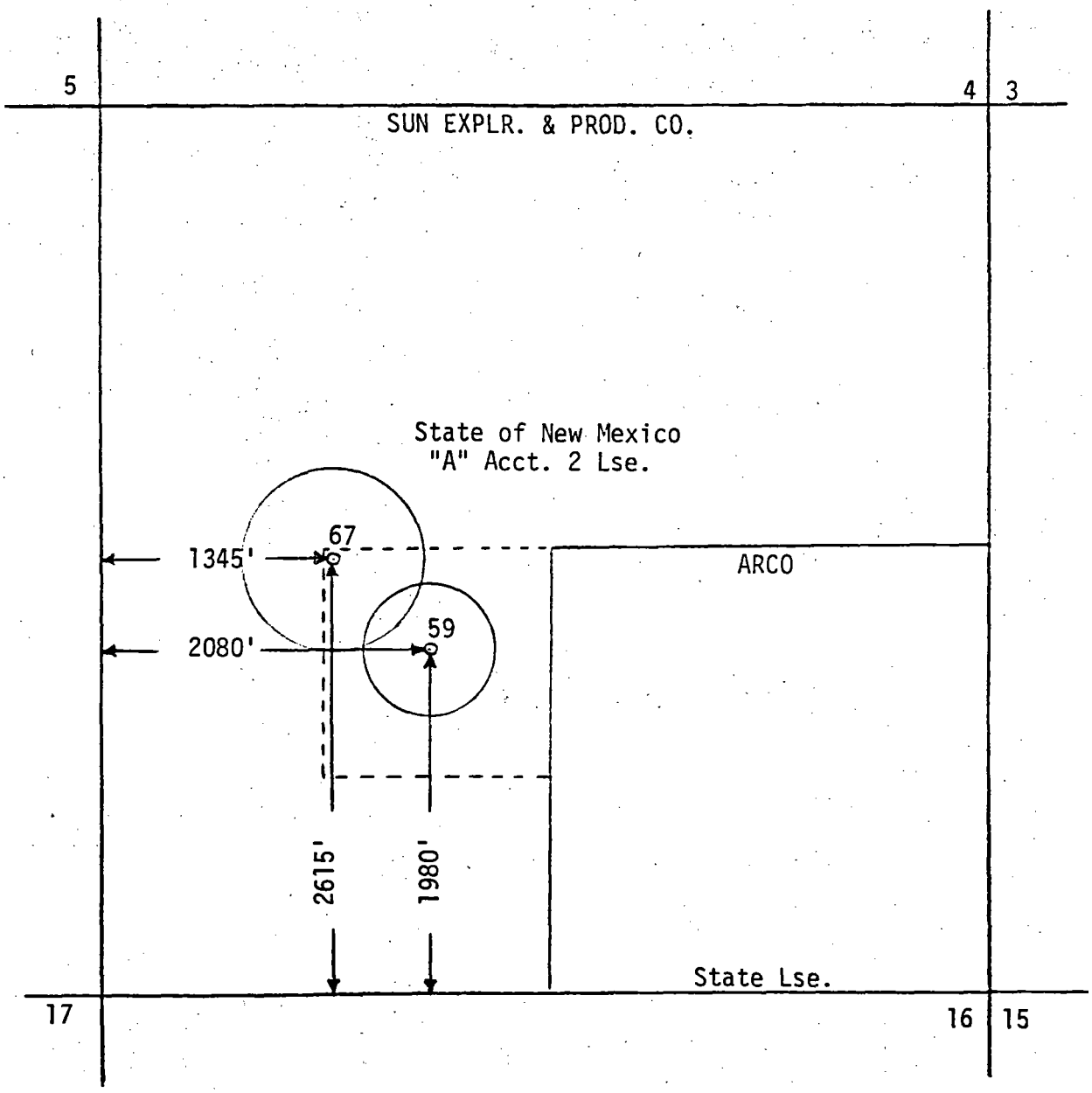
DRAINAGE RADIUS



SUN EXPLORATION & PRODUCTION CO.

State of New Mexico "A" Acct. 2 Lse.

Sec. 9 T-22-S R-36-E

Lea County, New Mexico

Scale: 1" = 1000'

EXHIBIT 2

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BB/mcn
5/11/84

EXHIBIT 3

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JBB/mcn
5/11/84

EXHIBIT 3 CONT.

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JBB/mcn
5/11/84

EXHIBIT 4

DOCKET NO._____
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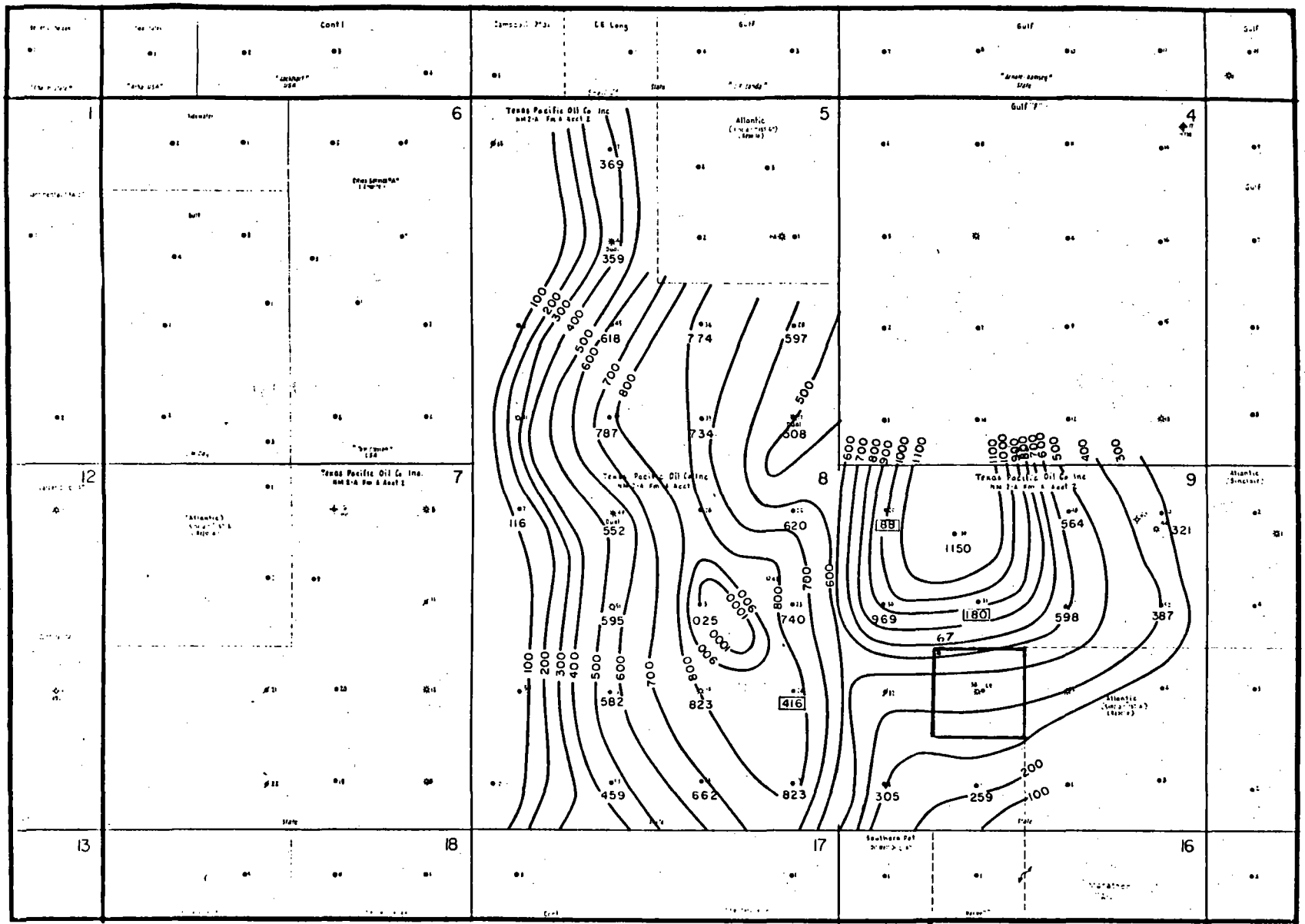
4. THE EFFECTIVE DRAINAGE RADIUS FOR EACH WELL IS DRAWN ON EXHIBIT 1.

JBB/mcn
5/11/84



DATA POINT NOT HONORED

Unit Boundary

EXHIBIT 5

DOCKET NO. _____

TEXAS PACIFIC OIL COMPANY, INC.

State "A" Acct. No. 2
T-22-S - R-36-E
Lea County New Mexico

WATERFLOOD FEASIBILITY STUDY

0 1000 2000 3000

COMPOSITE
Φh MAP

JULY 1969
CI: 100 % FT.

BY R.N.B.

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

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.
Sun Exploration & Producing Company	State "A" A/C 2	67 W/W

Unit Letter	Section	Township	Range	County
K	9	22 South	36 East	Lea County

Actual Footage Location of Well: 2615 feet from the South line and 1345 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3579.8	Queen	Eunice Seven Rivers Queen South	____ Acres

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

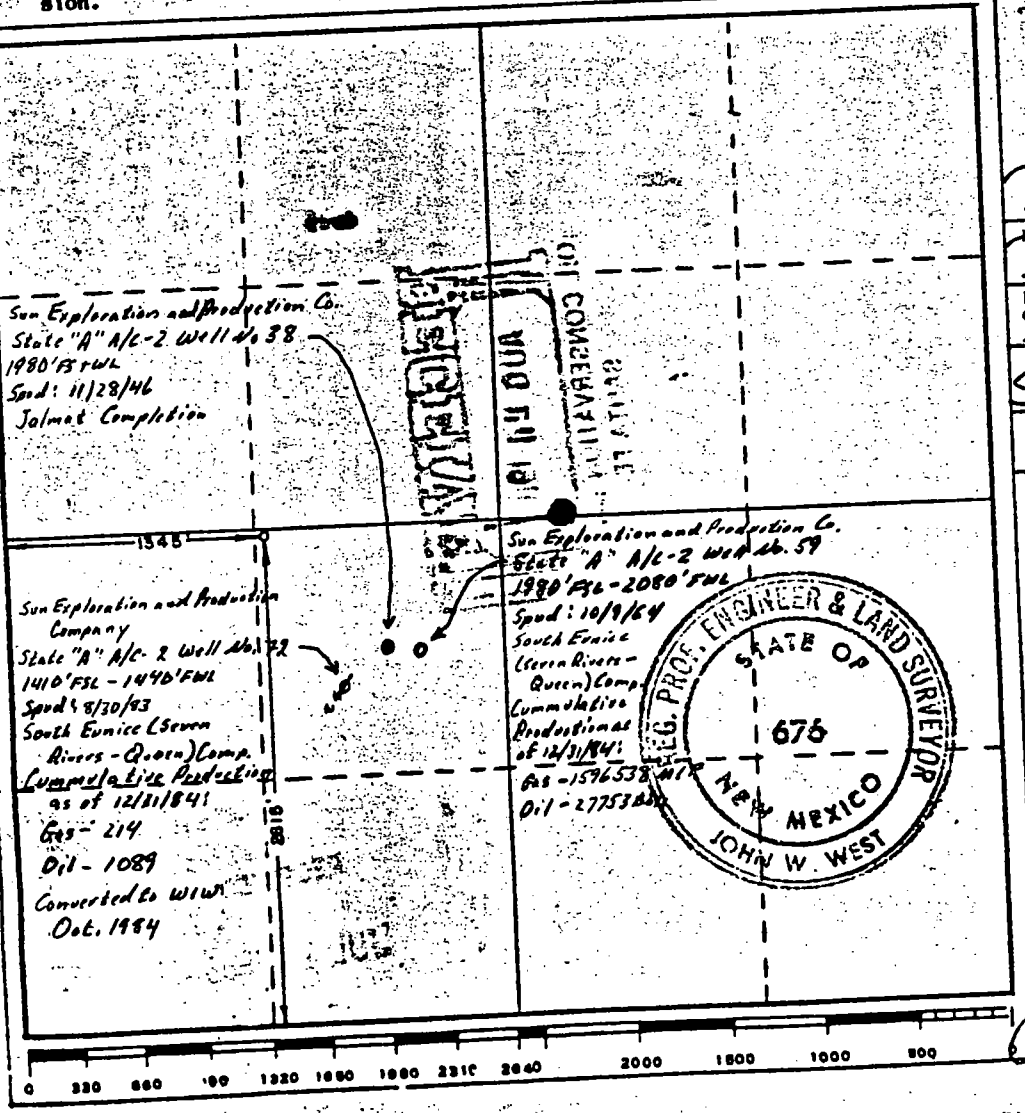
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.

Dee Ann Kemp

Name: Dee Ann Kemp

Position: Senior Acct. Asst.

Company: Sun Exploration & Production Co.

Date: 7-12-83

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: June 25, 1983

Registered Professional Engineer and/or Land Surveyor

John W West

Certificate No. JOHN W WEST, 676
RONALD J. EIDSON, 3239