NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
GOVERNOR

AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178 Fax (505)334-6170

JENNIFER A. SALISBURY
CABINET SECRETARY

ADMINISTRATIVE ORDER RECOMMENDATION

Date: 2/28/96

New Mexico Oil Conservation Division
PO Box 2088
Santa Fe NM 87504-2088

RE:

Proposed MC_____	Proposed DHC X
Proposed NSL_____	Proposed SWD_____
Proposed WFX_____	Proposed PMX_____
Proposed NSP_____	Proposed DD_____

Gentlemen:

I have examined the application received on 2/21/96
for the Amoco Riddle Com A #1M
OPERATOR LEASE & WELL NUMBER
1-9-27N-9W and my recommendations are as follows:
UL-S-T-R
Approve

Yours truly,

Southern
Rockies
Business
Unit

February 13, 1996

Mr. William J. LeMay, Director
New Mexico Oil Conservation Division
2040 S. Pacheco Street
P. O. Box 6429
Santa Fe, NM 87505

RECEIVED
FEB 21 1996
OIL CON. DIV.
DIST. 3

Application for Exception to Rule 303-C
Downhole Commingling
Riddle Com A #1M Well
1590' FSL & 5700' FEL, Unit I Section 9-T27N-R9W
Blanco Mesaverde and Basin Dakota Pools
San Juan County, New Mexico

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Basin Dakota Pools in the Riddle Com A #1M well referenced above. The Riddle Com A #1M is currently a dual completion in the Mesaverde and Basin Dakota formations. We recently performed a Packer Leakage Test on this well and communication was noted between the Dakota and Mesaverde horizons. When we went in to repair the leakage, we were unable to reestablish the dual completion and decided to pull the packer and prepare for downhole commingling. We notified your Aztec District of our reasons for changing to a downhole commingling setup on this well. This well is currently shut-in awaiting your approval to downhole commingle. We plan to complete the well with both the Mesaverde and Dakota formations being downhole commingled in the wellbore. This commingling will allow both the Mesaverde and the Dakota formations to be produced through common surface equipment thus reducing operating costs and extending the well life. The two zones are expected to produce at a total commingled rate of about 55 MCFD with a very small amount of condensate (less than 1 BCPD) from each formation. Downhole commingling will offer an economical method of production while protecting against reservoir damage, waste of reserves and violation of correlative rights. The ownership (WI, RI,ORI) of these pools is not common in this wellbore. Offset operators to this well will receive a copy of this application by certified mail. All interest owners will also receive a copy of this application as their notice.

The allocation method that we plan to use for this commingled well is as follows. Since the well has been producing as a dual completion for some time, we would expect post commingling rates to be unchanged and therefore propose a percentage allocation. The Mesaverde is currently producing 10 MCFD and the Dakota is currently producing 55 MCFD. We therefore recommend that we allocate 15% of gas production to the Mesaverde and 85% of gas production to the Dakota. This well has produced a small amount of Condensate from each zone. The Dakota is currently producing

approximately 0.5 BCPD and the Mesaverde is currently producing 0.85 BCPD. Based on that production we recommend that 40 % of Condensate production be attributed to the Dakota and that 60 % of Condensate production be attributed to the Mesaverde. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

Attached to aid in your review is a plat showing the location of the well and offset wells in the same formation, a historical and recent production plot and a C-102 for each formation. This spacing unit is located on a federal lease (SF-078354) and we will send a copy of the application to the BLM as their notice. Should you have questions concerning this matter, please contact me at (303) 830-5344.

Sincerely,

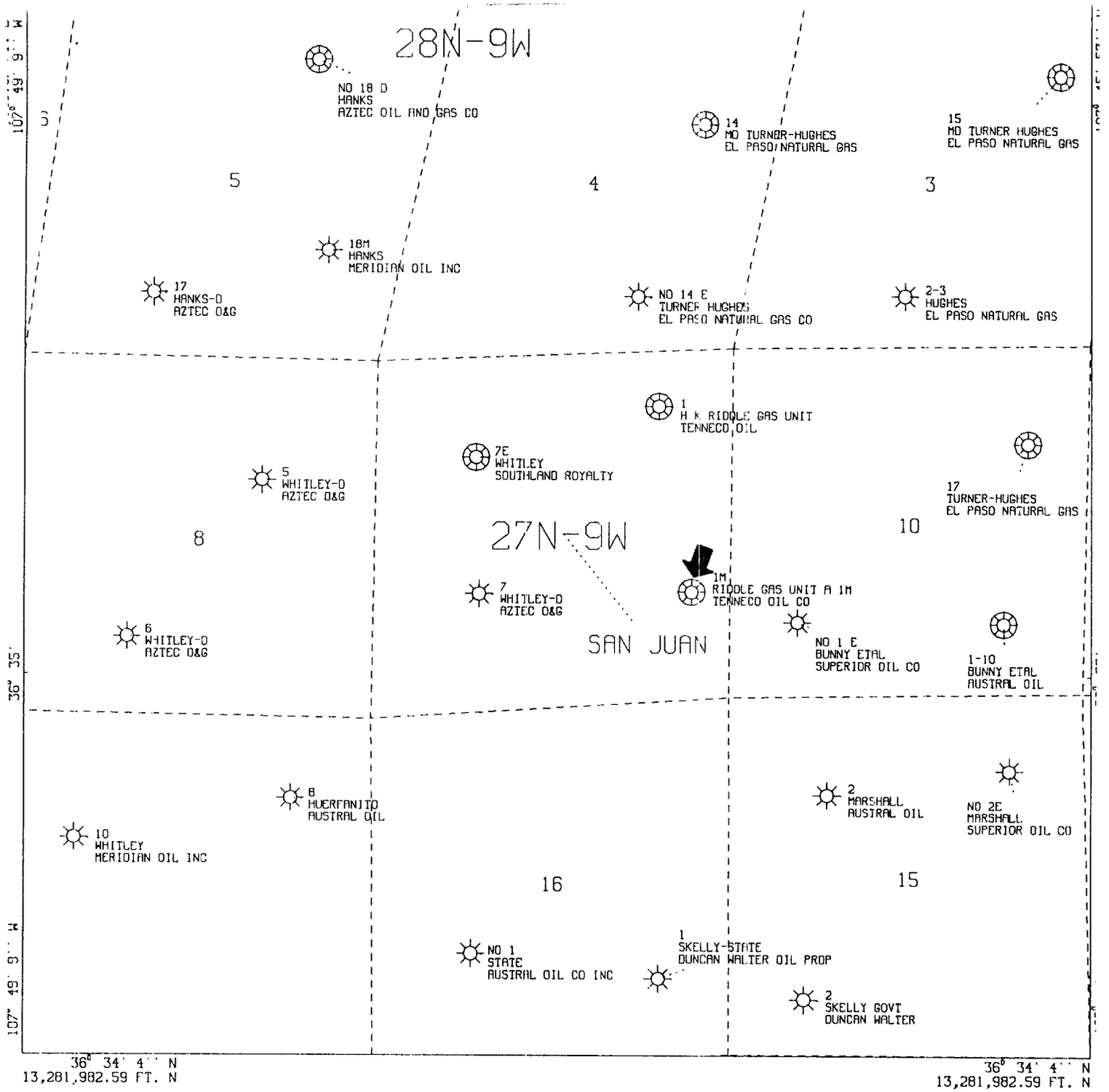
Pamela W. Staley

Enclosures

cc: Mark Rothenberg
Patty Haefele

Frank Chavez, Supervisor
NMOCD District III
1000 Rio Brazos Road
Aztec, NM 87410

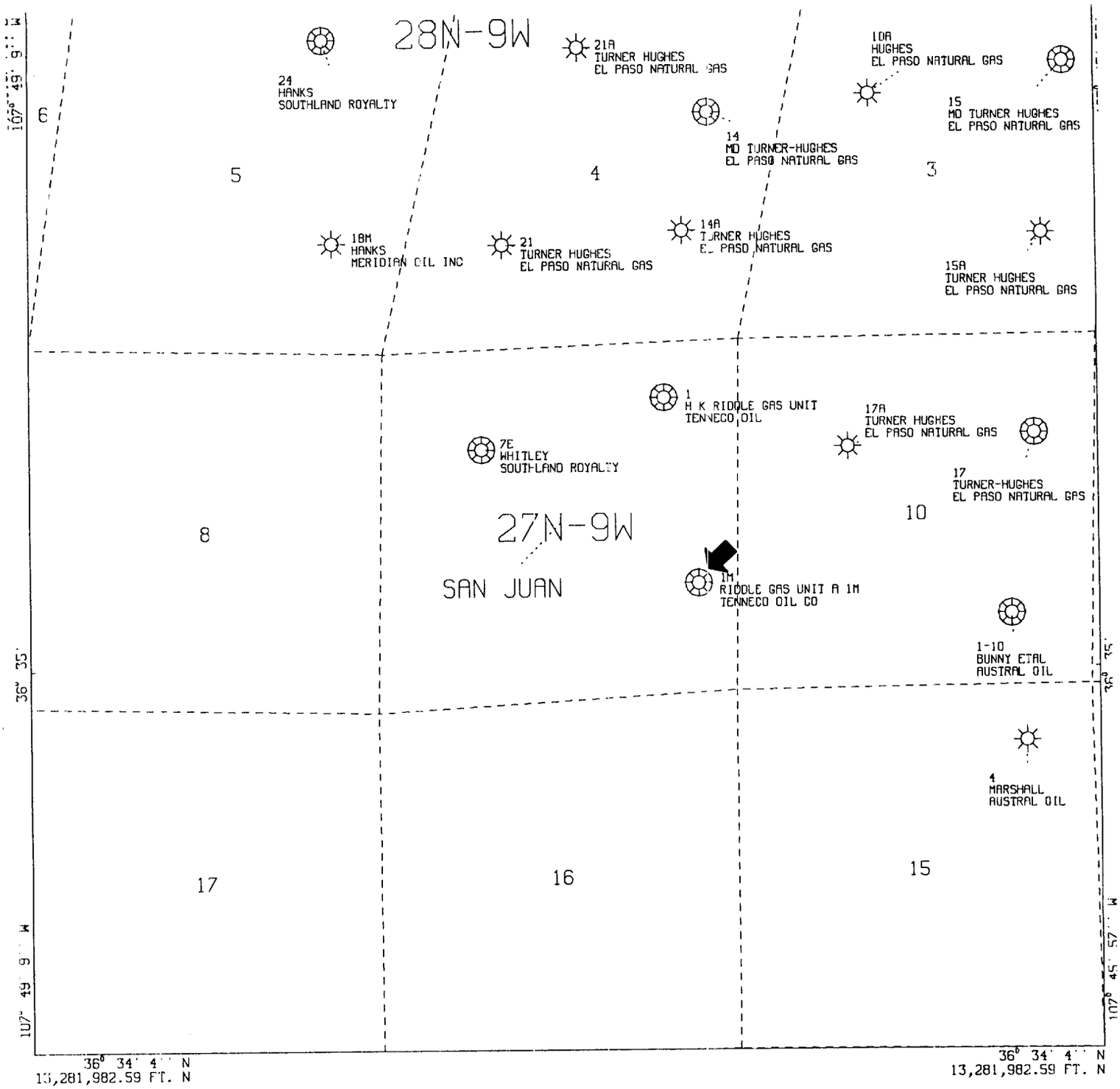
Duane Spencer
Bureau of Land Management
1235 La Plata Hwy
Farmington, NM 87401



POLYCONIC CENTRAL MERIDIAN - 107° 47' 33'' W LON
SPHEROID - 6

AMOCO PRODUCTION COMPANY
PLAT MAP
Riddle Com A 1M
Dakota Formation

SCALE 1 IN. = 2,000 FT. JAN 25, 1996



POLYCONIC CENTRAL MERIDIAN - 107° 47' 33" W LON
SPHEROID - 6

AMOCO PRODUCTION COMPANY
PLAT MAP
Riddle Com A 1M
Mesaverde Formation

SCALE 1 IN. = 2,000 FT. JAN 25, 1996

Application for Exception to Rule 303: SEGREGATION OF PRODUCTION FROM POOLS

Requirements:

(1) Name and address of the operator:

Amoco Production Company
P.O. Box 800
Denver, CO 80201

(2) Lease name, well number, well location, name of the pools to be commingled:

Lease Name:	Riddle Com A
Well Number:	#1M
Well Location:	1590' FSL & 5700' FEL Unit I Section 9-T27N-R9W San Juan County, New Mexico
Pools Commingled:	Blanco Mesaverde Pool Basin Dakota Pool

(3) A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

Attached

(4) A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas and water produced from each zone.

The Blanco Mesaverde produced an average stabilized rate of 10 MCFD and less than 1 BCPD. The Basin Dakota zone produced at an average rate of about 55 MCFD and less than 1 BCPD.

(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.

Basin Dakota Completion:	Historical production curve attached.
Blanco Mesaverde Completion:	Historical production curve attached.

(6) Estimated bottomhole pressure for each zone. A current (within 30 days) measured bottom hole pressure for each zone capable of flowing.

Bottomhole pressures were estimated from 72 hour shut-in pressures during a 1993 packer leakage test for the well. This test was prior to the communication between zones. Estimated bottomhole pressure in the

Mesaverde formation is 711 PSI while the estimated bottomhole pressure in the Dakota is 956 PSI. See attached calculations.

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

The two formations do not produce any fluids that, when combined, would prohibit commingling or promote the creation of emulsions or scale.

(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:

Since the BTU content of the produced gasses and the API gravities are very similar between formations, we would expect the commingled production to have a similar value as the sum of the individual streams.

(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 formula:

The allocation method that we plan to use for this commingled well is as follows. Since the well has been producing as a dual completion for some time, we would expect post commingling rates to be unchanged and therefore propose a percentage allocation. The Mesaverde is currently producing 10 MCFD and the Dakota is currently producing 55 MCFD. We therefore recommend that we allocate 15% of gas production to the Mesaverde and 85% of gas production to the Dakota. This well has produced a small amount of Condensate from each zone. The Dakota is currently producing approximately 0.5 BCPD and the Mesaverde is currently producing 0.85 BCPD. Based on that production we recommend that 40 % of Condensate production be attributed to the Dakota and that 60 % of Condensate production be attributed to the Mesaverde. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

(10) A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.

BLM will receive a copy of this application by certified mail. The offsetting operators listed on the attached sheet will receive a copy of this application by certified mail.

(11) Referencing NMOCD Order No. 10470 Rule 303 (D) (11): In a case where there is diversity of ownership between the zones to be commingled (including working royalty, or overriding royalty interest), the applicant shall submit a statement that all such interest owners have been notified in writing of the proposed commingling.

All interest owners in the two formations will receive a copy of this application by certified mail.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-102
Revised 10-1-

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

Operator	Lease	Well No.
TENNECO OIL COMPANY	RIDDLE GAS UNIT "A"	1M

Unit Letter	Section	Township	Range	County
I	9	27N	9W	San Juan

Actual Footage Location of Well: 1590 feet from the South line and 570 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
6158	Dakota/Mesaverde	Basin Dakota/Blanco Mesaverde	E 316.18 Acres

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

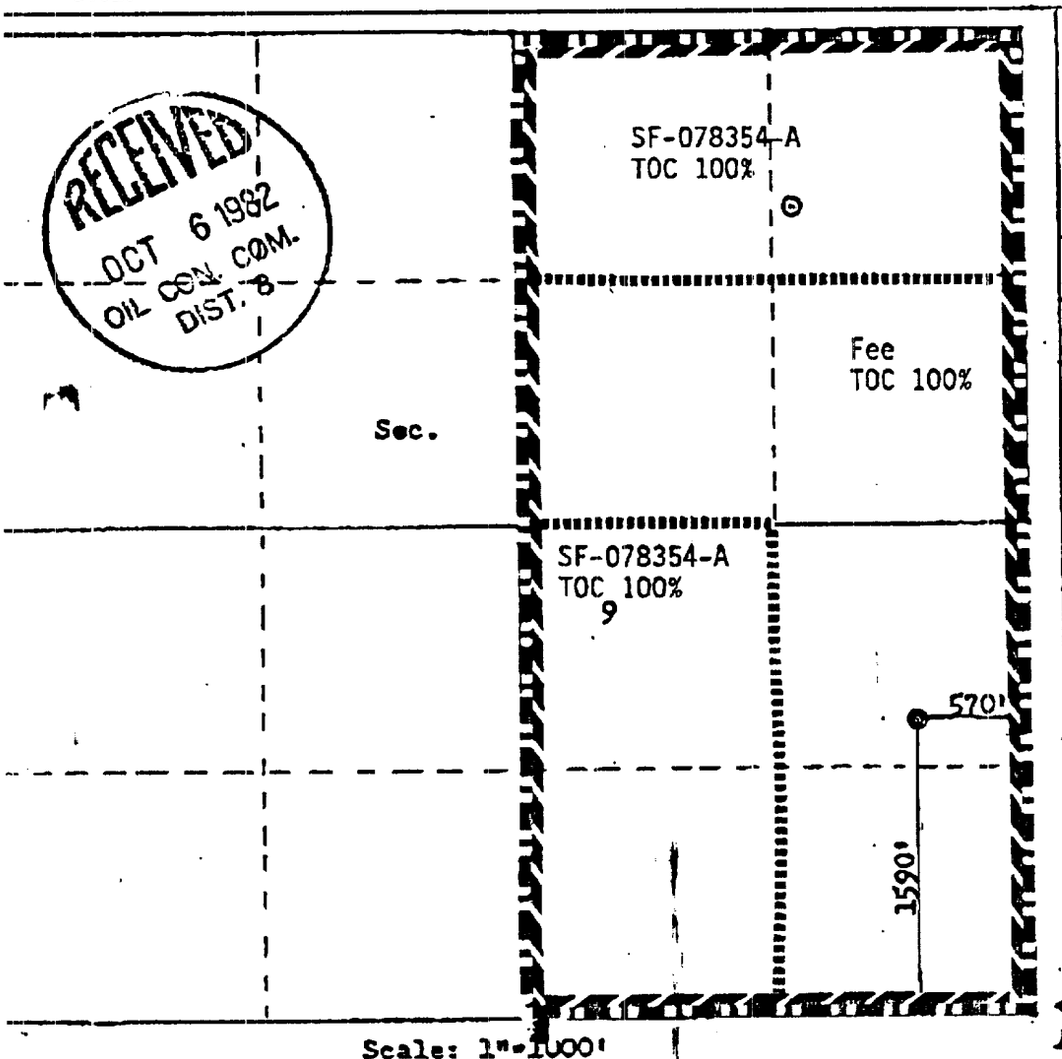
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



RECEIVED
OCT 6 1982
OIL CON. COM.
DIST. 8

CERTIFICATION

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

Name: Ken Russell

Position: Sr. Production Analyst

Company: Tenneco Oil Company

Date: September 7, 1982

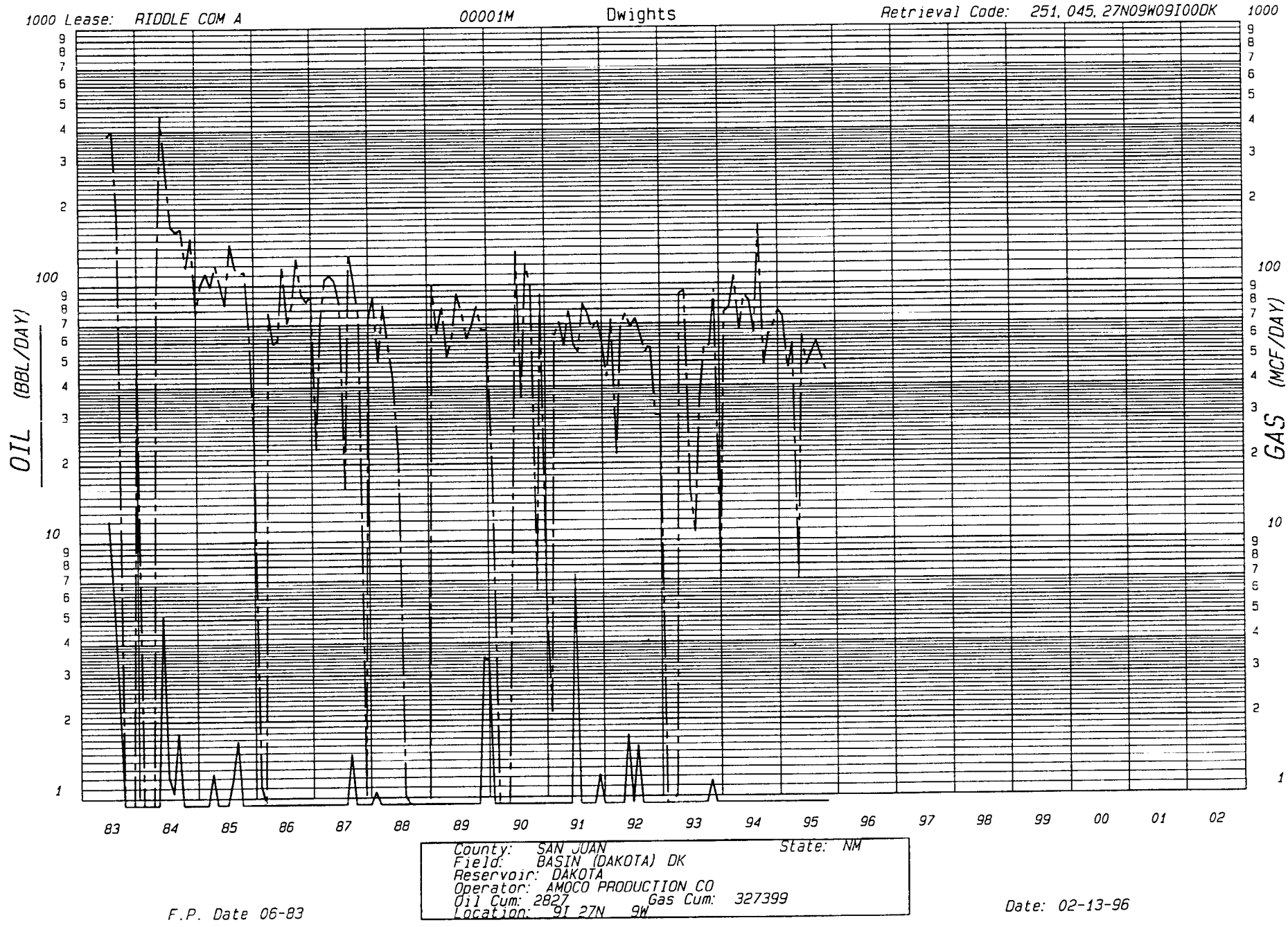
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

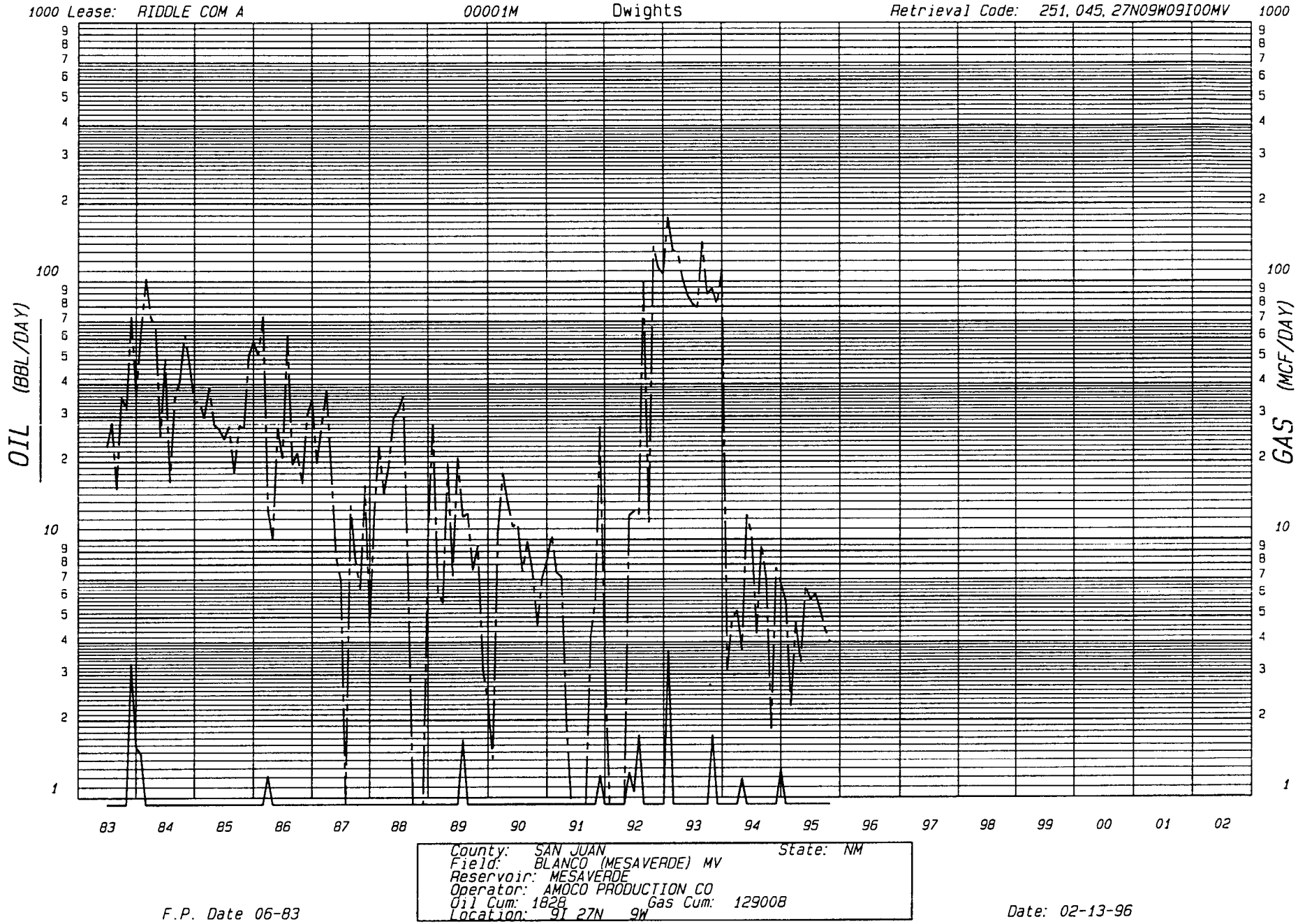
Date Surveyed: February 2, 1981

Registered Professional Engineer and Land Surveyor

Fred B. Kerr, Jr.

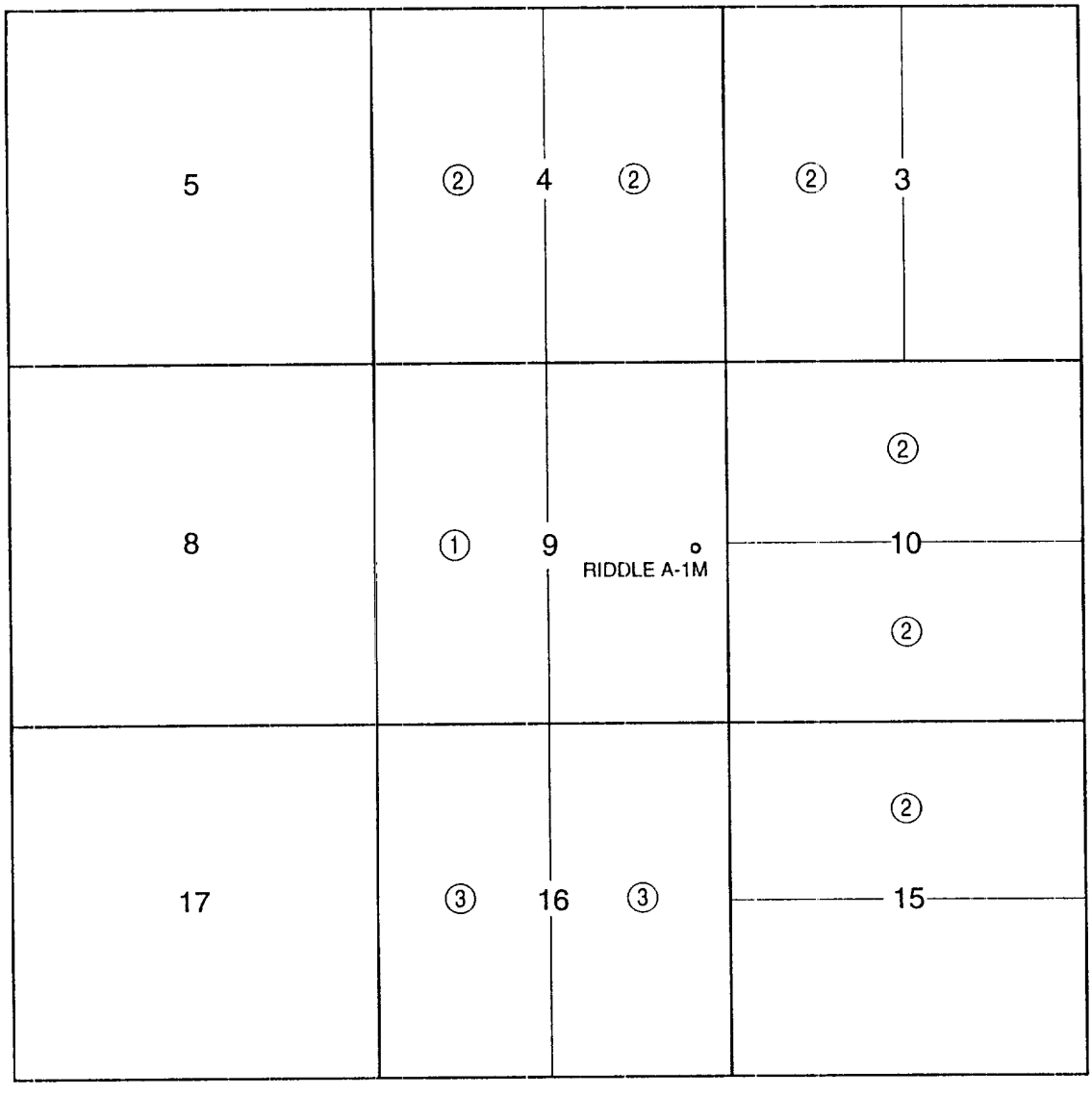
Certificate No. 3950


Lease: RIDDLE COM A
00001M
Dwights
Retrieval Code: 251, 045, 27N09W09I00DK
OIL (BBL/DAY)
GAS (MCF/DAY)
1000
100
10
1
83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02
County: SAN JUAN
State: NM
Field: BASIN (DAKOTA) DK
Reservoir: DAKOTA
Operator: AMOCO PRODUCTION CO
Oil Cum: 2827
Gas Cum: 327399
Location: 9I 27N 9W
F.P. Date 06-83
Date: 02-13-96


1000 Lease: RIDDLE COM A
00001M
Dwights
Retrieval Code: 251, 045, 27N09W09I00MV
OIL (BBL/DAY)
GAS (MCF/DAY)
83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02
County: SAN JUAN State: NM
Field: BLANCO (MESAVERDE) MV
Reservoir: MESAVERDE
Operator: AMOCO PRODUCTION CO
Oil Cum: 1828 Gas Cum: 129008
Location: 9I 27N 9W
F.P. Date 06-83
Date: 02-13-96

Amoco Production Company

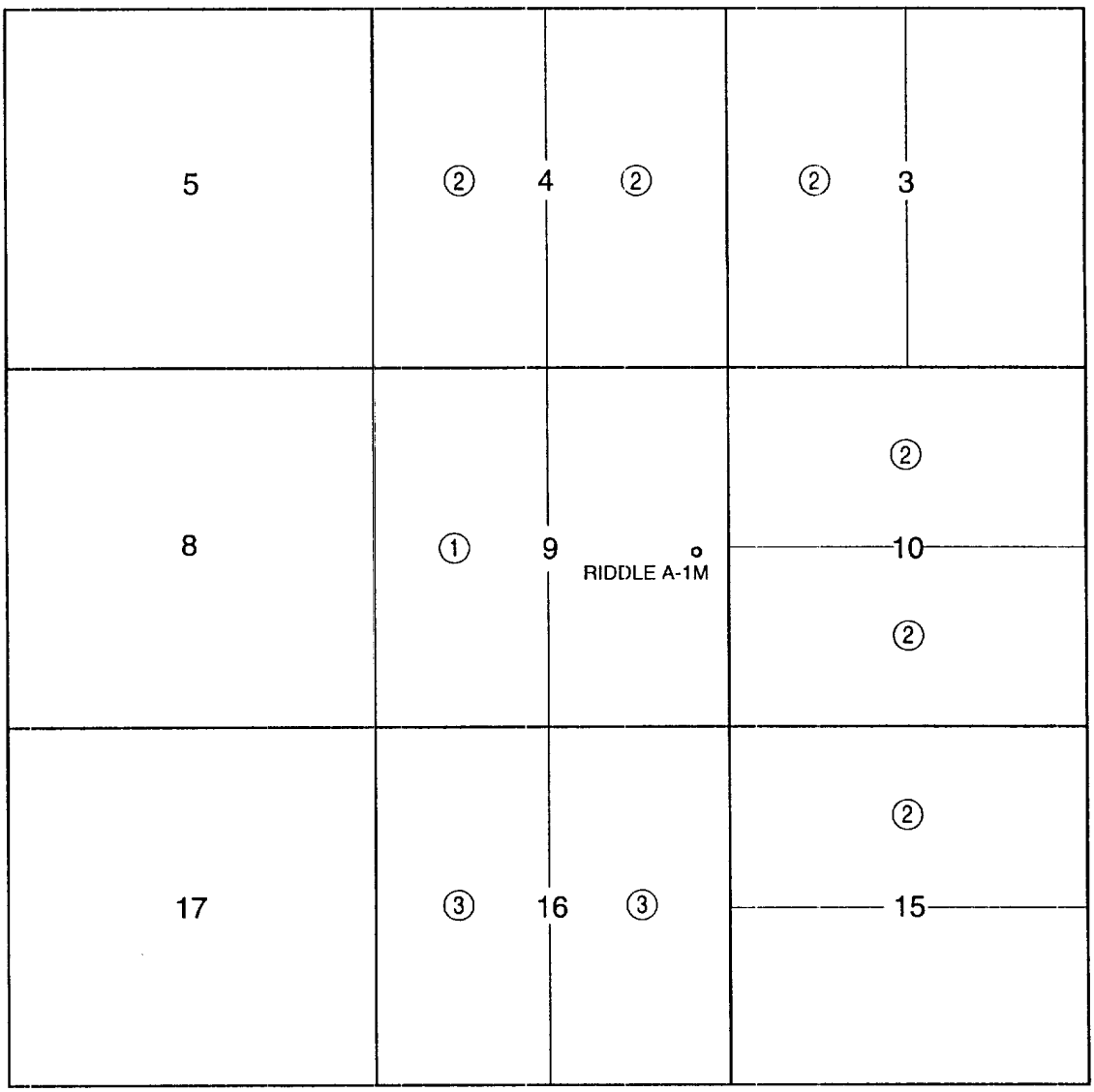
Offset Operator Plat
Riddle A-1M
T27N-R9W Sec. 9
1590' FSL & 570' FEL
Blanco Mesaverde Formation



① Southland Royalty Company
② Meridian Oil, Inc.
③ El Paso Production Company

Amoco Production Company

Offset Operator Plat
Riddle A-1M
T27N-R9W Sec. 9
1590' FSL & 570' FEL
Dakota Formation



(1) Southland Royalty Company
(2) Meridian Oil, Inc.
(3) El Paso Production Company

5355_9 PM5\0595

LIST OF ADDRESSES FOR OFFSET OPERATORS
RIDDLE COM A #1M

1 Meridian Oil, Inc.
P.O. Box 4289
Farmington, NM 87499

69827600 00001 ZJAM63
134698 00
CROSS TIMBERS OIL COMPANY
P O BOX 840287
DALLAS TX 75284-0287

69827600 00001 ZJAM63
617000 00
AMOCO PRODUCTION COMPANY
P O BOX 591
TULSA OK 74102-0591

69827600 00001 ZJAM63
682456 00
MARGUERITE SULLIVAN FRAME ESTATE
PAULA JAKUBANIS CONSERVATOR
C/O SANDY ELLIOT
HUTCHISON, HUGINS AND FREDERICK
P O BOX 2250
DURANGO CO 81302-2250

69946200 00001 ZJAM63
686967 01
TAMANACO OIL CORPORATION
P O BOX 13326
ALBUQUERQUE NM 87192-3326

69946200 00001 ZJAM63
710000 01
MINERALS MANAGEMENT SERVICE
ROYALTY MANAGEMENT PROGRAM
PO BOX 5810 TA
DENVER CO 80217-5810

69946200 00001 ZJAM63
926406 00
MABEL OTSTOT AND COMPANY
3096 WEST 109TH PLACE
WESTMINSTER CO 80030-6826

69946200 00001 ZJAM63
682455 00
R BRUCE SULLIVAN
MARY HELENE SULLIVAN SIKES ATTY-N-FACT
P O BOX 400
BLOOMFIELD NM 87413-0400

ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION
Riddle Com A #1M

MV Perforations at 4458' - 4618' midperf at 4538'
DK Perforations at 6704'-6782' midperf at 6743'

9/19/93 PACKER LEAKAGE TEST PRESSURE DATA
6/94 shut in pressures --- MV = 348 PSIG
DK =417 PSIG

GRADIENT = 0.08 PSI/FT

MV BHP = 348 PSIG + 4538' X 0.08 PSIG
= 711 PSIG

DK BHP = 417 psig +6743' X 0.08 PSIG
= 956 PSIG