DHC 3-25-96

Southern Rockies Business Unit

February 28, 1996

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

RECEIVED
MAR 4 1996
OIL CONSERVATION DIVISION

Application for Exception to Rule 303-C
Downhole Commingling
Helen Jackson #2E Well
1010'FNL & 1660' FEL, Unit B Section 33-T29N-R9W
Basin Dakota (Pool IDN 71599) and Otero Chacra (Pool IDN 82329) Pools
San Juan County, New Mexico

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Basin Dakota and Otero Chacra Pools in the Helen Jackson #2E well referenced above. The Helen Jackson #2E is currently a dual completion in the Dakota and Chacra formations. We plan to complete the well with both the Dakota and Chacra formations being downhole commingled in the wellbore. The two zones are expected to produce at a total commingled rate of about 119 MCFD with less than 1 BCPD. The ownership (WI, RI,ORI) of these pools is common in this wellbore. Downhole commingling will offer an economical method of production while protecting against reservoir damage, waste of reserves and violation of correlative rights. Offset operators to this well will receive a copy of this application by certified mail.

The allocation method that we plan to use for this commingled well is as follows. Both formations have been producing at stabilized rates for some time. We recommend that the Dakota and Chacra formations gas and condensate be allocated based on current rates. The Dakota is currently producing 44 MCFD with 0.36 BCPD while the Chacra is currently producing 75 MCFD with 0.47 BCPD. The recommended allocation percentages after downhole commingling would be set as a percentage of the total rate with the Dakota attributing 37% of gas production and 43 % of condensate production. The Chacra would be allocated at 63% of gas production and 57 % of condensate production. 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 are plats 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-079947) 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: Stan Kolodzie
Gail Jefferson
Wellfile
Proration files

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

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:	Helen Jackson
Well Number:	#2E
Well Location:	1010' FNL & 1660' FEL Unit B Section 33-T29N-R9W San Juan County, New Mexico
Pools Commingled:	Basin Dakota Pool Otero Chacra 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 Basin Dakota produced an average stabilized rate of 44 MCFD and 0.36 BCPD. The Otero Chacra zone produced at an average rate of about 75 MCFD and 0.47 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.

Otero Chacra Completion:	Historical production curve attached.
Basin Dakota 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 packer leakage test for the well. Estimated bottomhole pressure in the Chacra formation is 568 PSI while the estimated bottomhole pressure in the Dakota is 827 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 are expected to 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:

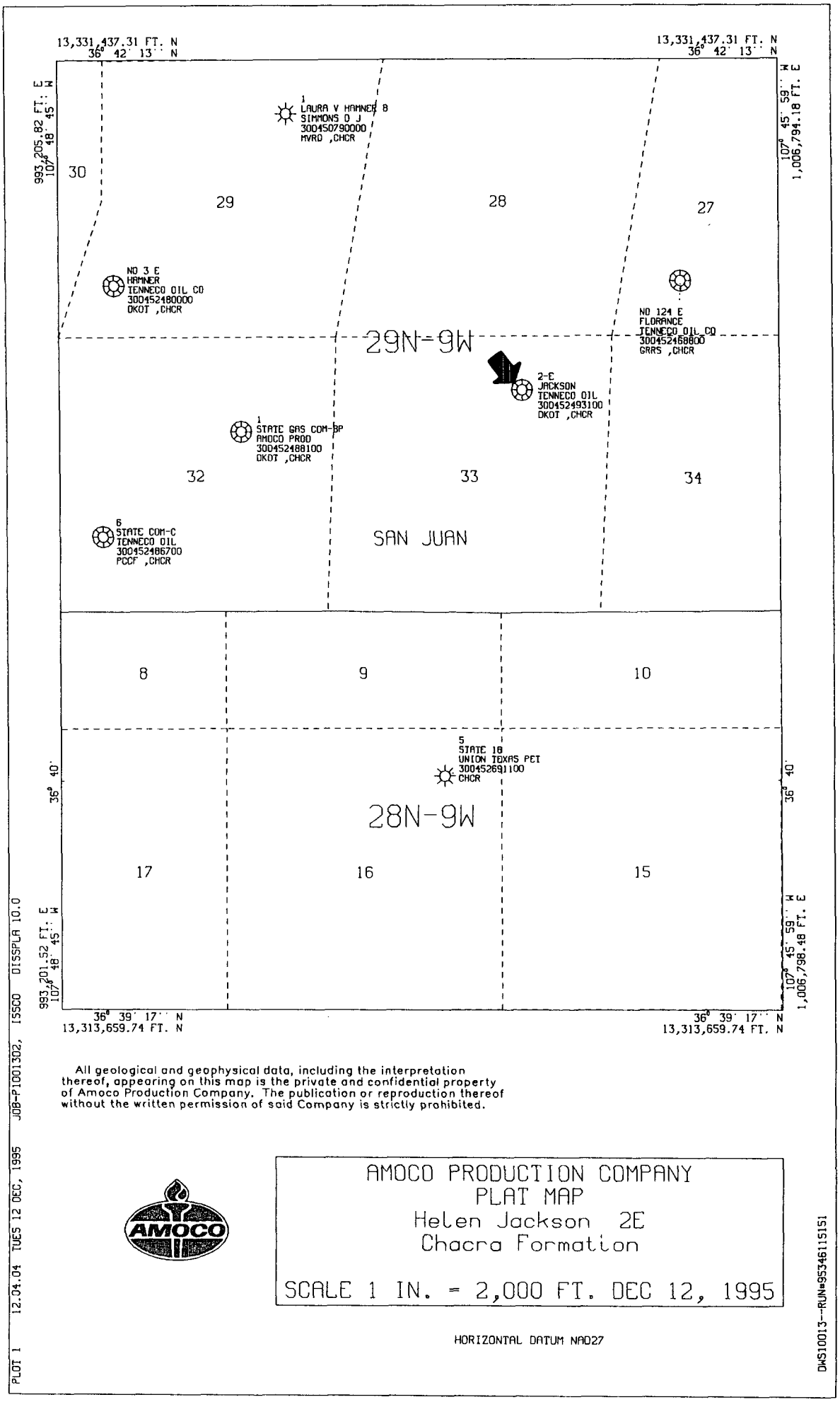
Since the BTU content of the produced gasses are very similar, we would expect the commingled production to have a similar value as the sum of the individual streams.

(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. Both formations have been producing at stabilized rates for some time. We recommend that the Dakota and Chacra formations gas and condensate be allocated based on current rates. The Dakota is currently producing 44 MCFD with 0.36 BCPD while the Chacra is currently producing 75 MCFD with 0.47 BCPD. The recommended allocation percentages after downhole commingling would be set as a percentage of the total rate with the Dakota attributing 37% of gas production and 43 % of condensate production. The Chacra would be allocated at 63% of gas production and 57 % of condensate production. 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.



AMOCO

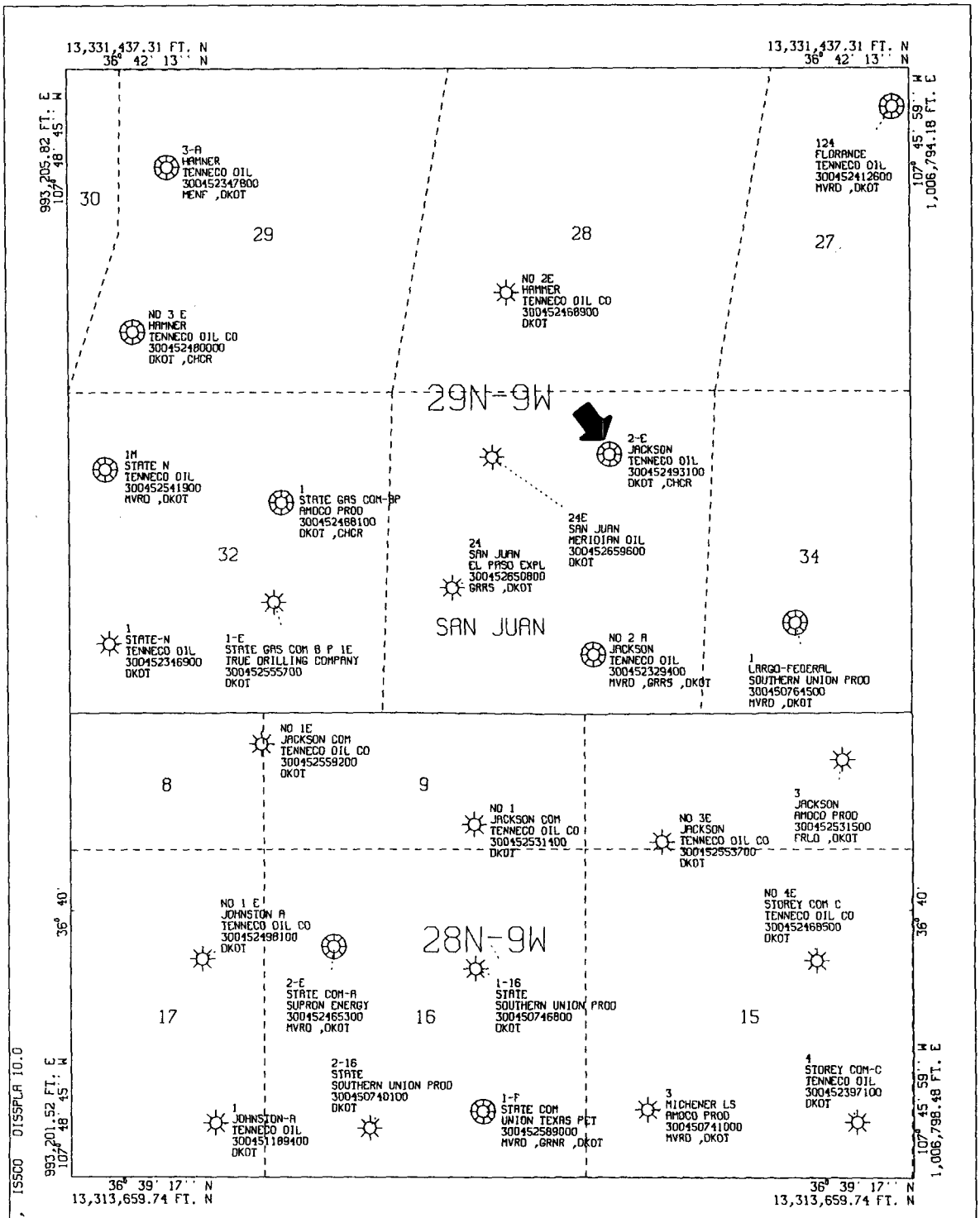
AMOCO PRODUCTION COMPANY
PLAT MAP
Helen Jackson 2E
Chacra Formation

SCALE 1 IN. = 2,000 FT. DEC 12, 1995

HORIZONTAL DATUM NAD27

PLOT 1 12.04.04 TUES 12 DEC, 1995 JOB-P1001302, ISSOD DISSPLA 10.0

DWS10013--RUN#95346115151



AMOCO

AMOCO PRODUCTION COMPANY
PLAT MAP
Helen Jackson 2E
Dakota Formation

SCALE 1 IN. = 2,000 FT. DEC 12, 1995

HORIZONTAL DATUM NAD27

PLOT 1 12.02.57 TUES 12 DEC, 1995 JOB-P10022D2, ISSCO DISSPLA 10.0

DWS10022--RUN#9534611475O

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

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

Form C-107
Revised 10-1-7

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

Operator	Lease	Well No.
TENNECO OIL COMPANY	JACKSON	2E

Unit Letter	Section	Township	Range	County
B	33	29N	9W	San Juan

Actual Footage Location of Well:
1010 feet from the North line and 1660 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
5902	Dakota	Basin Dakota	329 Acres

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

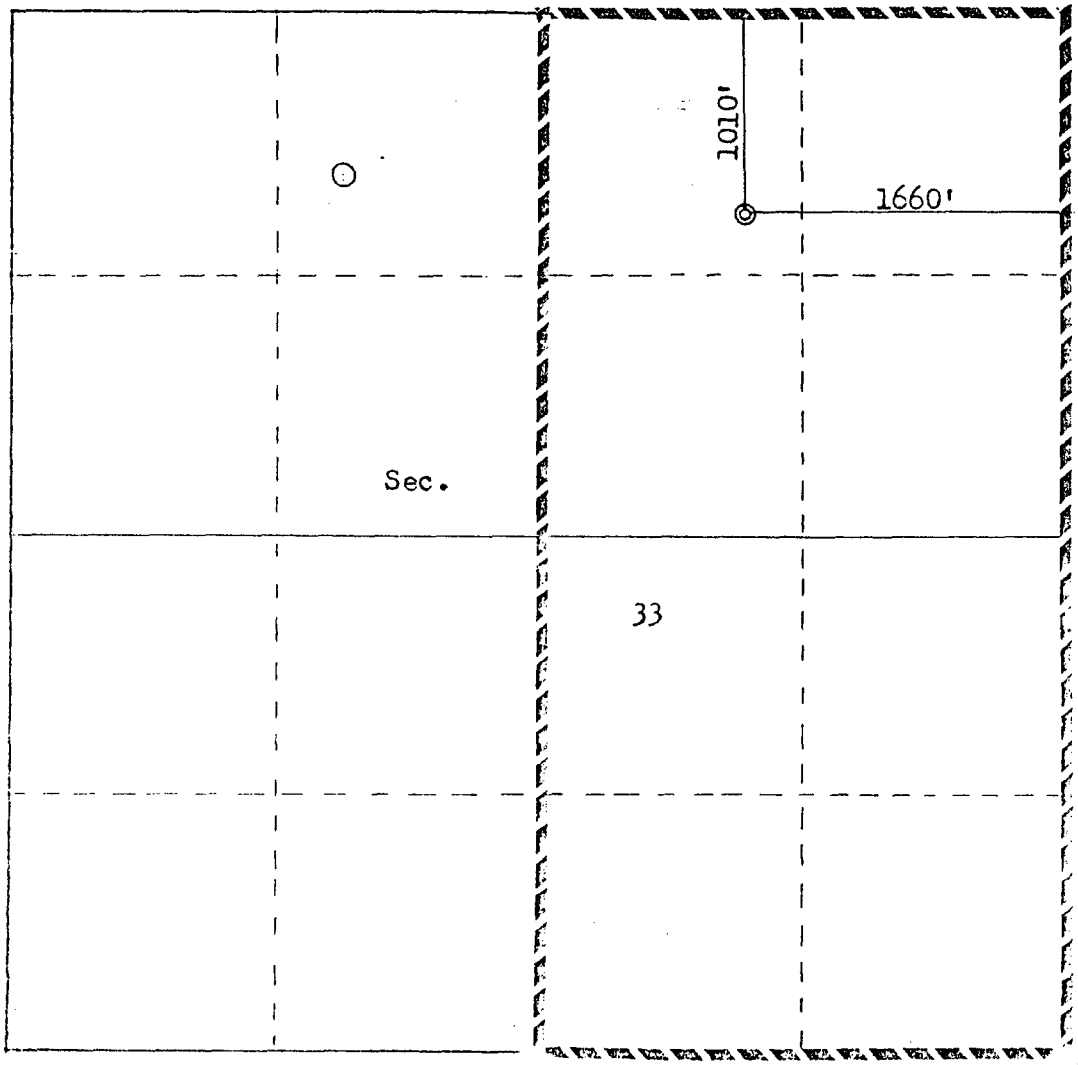
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



Scale: 1" = 1000'

CERTIFICATION

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

R. A. Mishler

Name: R. A. Mishler

Position: Sr. Production Analyst

Company: Tenneco Oil Company

Date: February 5, 1981

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: August 28, 1980

Registered Professional Engineer and / Land Surveyor

Fred B. Kerr, Jr.

Certificate No. 3950

FRED B. KERR, JR.
NEW MEXICO

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.
Tenneco Oil Company	Jackson	2E

Unit Letter	Section	Township	Range	County
B	33	29N	9W	San Juan

Actual Footage Location of Well:
1010 feet from the North line and 1660 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
5902'	Dakota/Chacra	Dakota/hacra	160 Acres

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

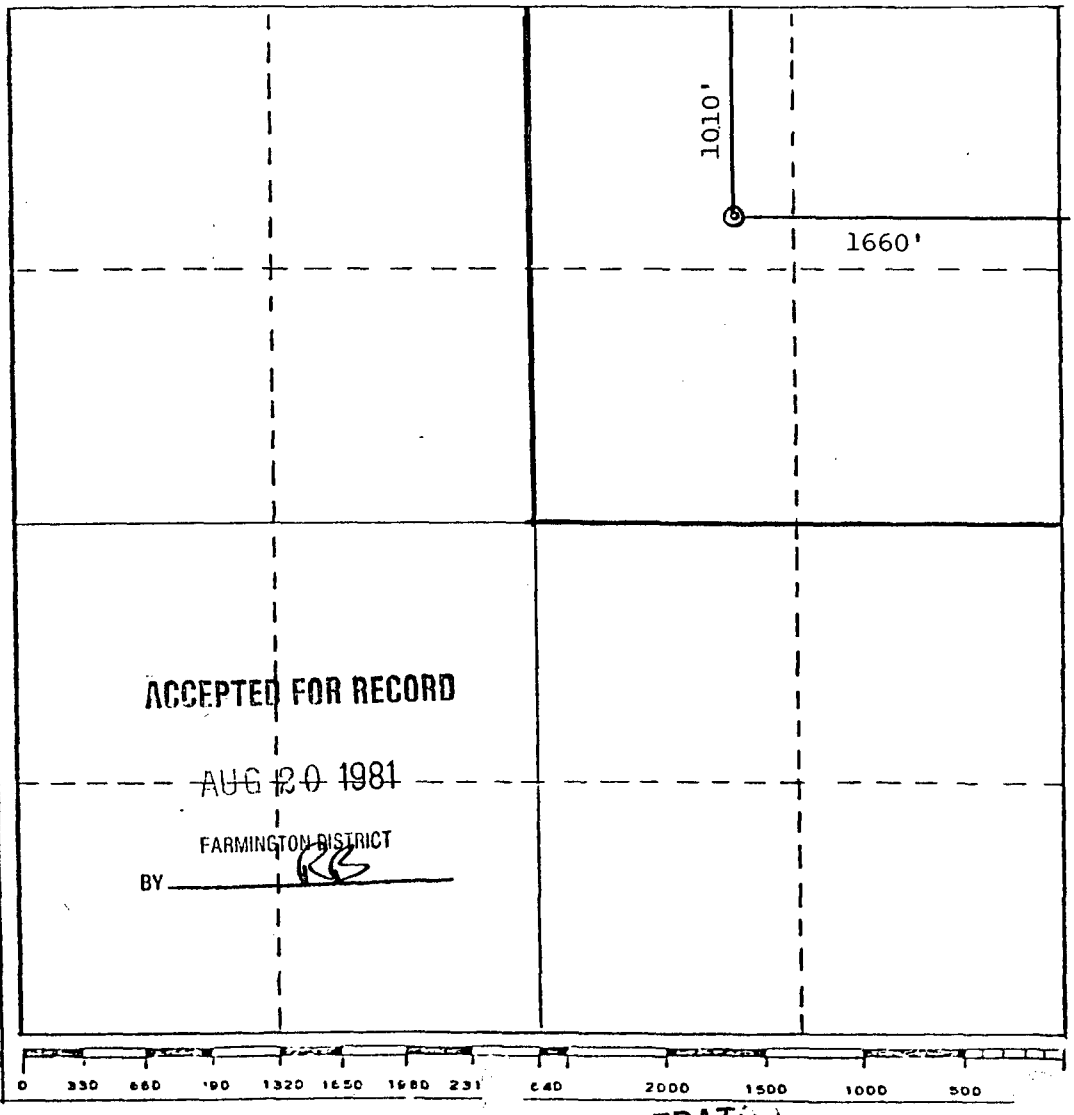
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



ACCEPTED FOR RECORD

AUG 20 1981

FARMINGTON DISTRICT

BY _____

OPERATOR

CERTIFICATION

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

Name: Production Analyst

Position: Tenneco Oil Company

Company: 8/3/81

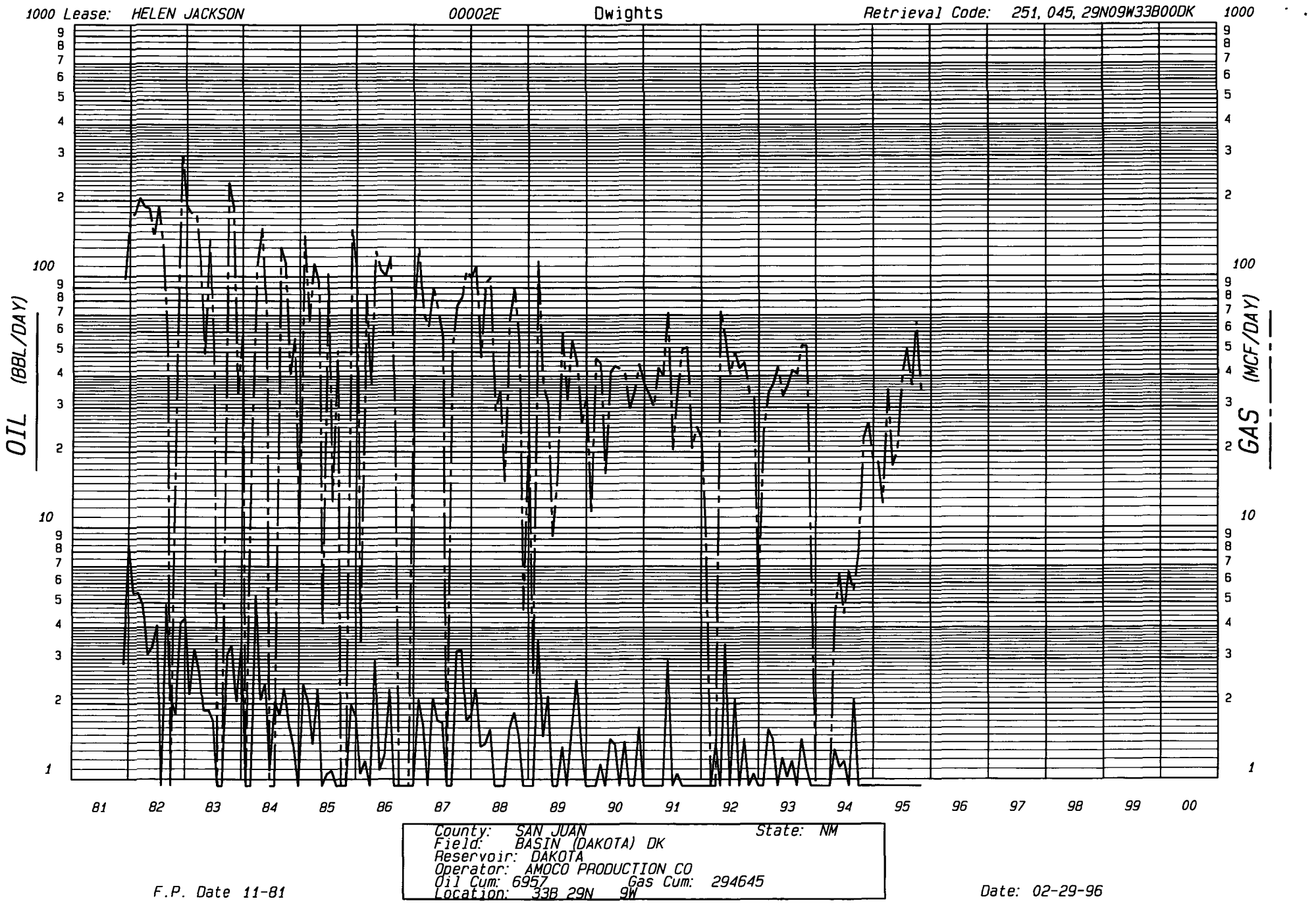
Date:

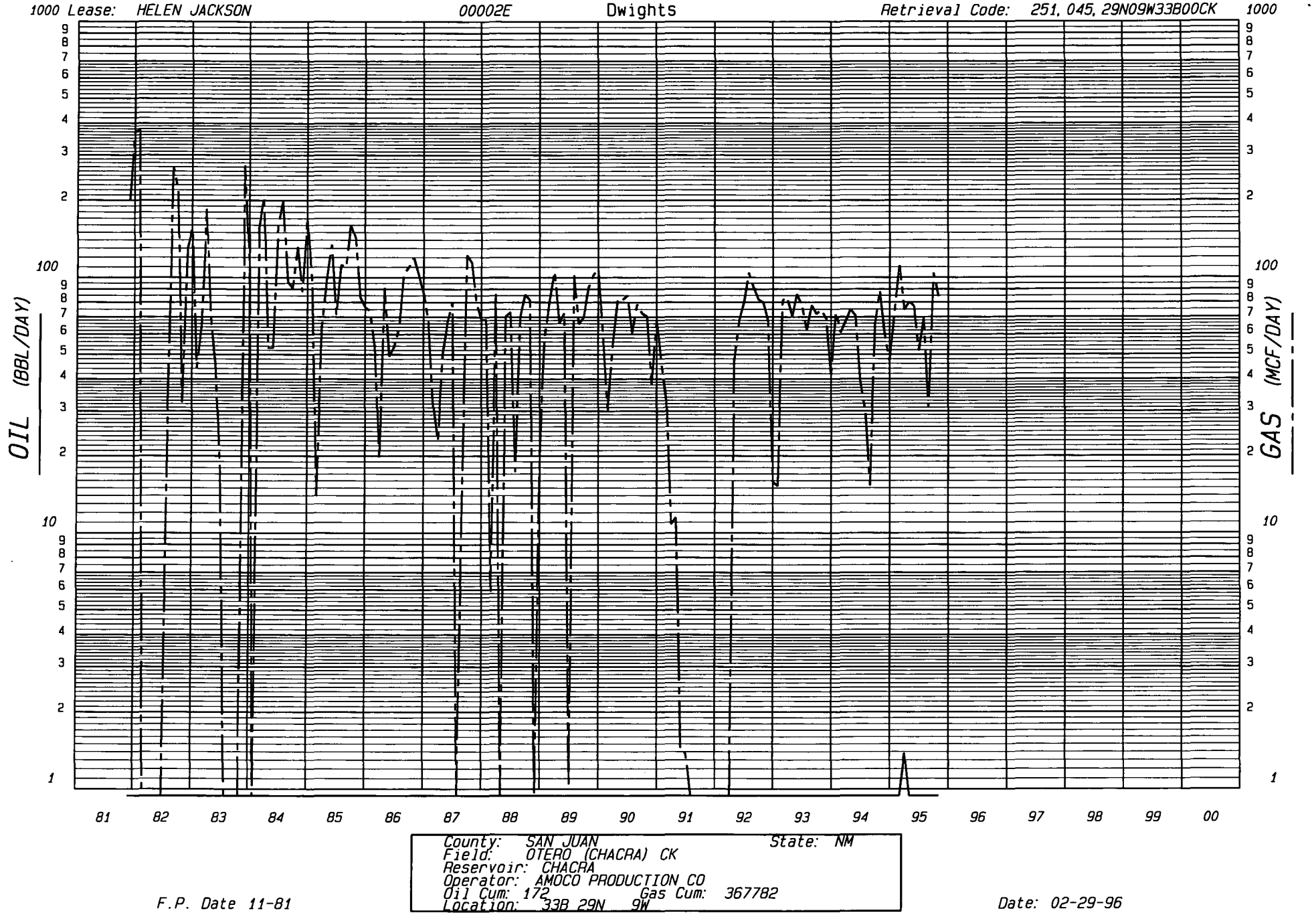
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.


1000 Lease: HELEN JACKSON
00002E
Dwights
Retrieval Code: 251, 045, 29N09W33B00DK
OIL (BBL/DAY)
GAS (MCF/DAY)
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00
County: SAN JUAN State: NM
Field: BASIN (DAKOTA) DK
Reservoir: DAKOTA
Operator: AMOCO PRODUCTION CO
Oil Cum: 6957 Gas Cum: 294645
Location: 33B 29N 9W
F.P. Date 11-81
Date: 02-29-96


1000 Lease: HELEN JACKSON
00002E
Dwights
Retrieval Code: 251, 045, 29N09W33B00CK
1000
OIL (BBL/DAY)
GAS (MCF/DAY)
100
10
1
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00
County: SAN JUAN
State: NM
Field: OTERO (CHACRA) CK
Reservoir: CHACRA
Operator: AMOCO PRODUCTION CO
Oil Cum: 172
Gas Cum: 367782
Location: 33B 29N 9W
F.P. Date 11-81
Date: 02-29-96

OFFSET OPERATORS

TOWNSHIP 29 NORTH, RANGE 9 WEST

SECTION 27	CHACRA	AMOCO	(27M)
	DAKOTA	AMOCO	(27C, 27M)
SECTION 28	DAKOTA	AMOCO	(28C, 28K)
	CHACRA	NONE	
SECTION 29 (NOT APP)	CHACRA	AMOCO	(29M)
		SIMMONS DJ CO LTD	(29B)
	DAKOTA	AMOCO	(29E, 29M)
SECTION 32 (NOT APP)	DAKOTA	CONOCO	(32D, 32M)
		AMOCO	(32G, 32J)
	CHACRA	CONOCO	(32L)
		AMOCO	(32G)
SECTION 33	CHACRA	AMOCO	(33B)
	DAKOTA	AMOCO	(33O, 33B)
		MERIDIAN	(33C, 33L)
SECTION 34	CHACRA	AMOCO	(34G)
	DAKOTA	AMOCO	(34G, 34O)
		MERIDIAN	(34K)

TOWNSHIP 28 NORTH, RANGE 9 WEST

SECTION 8 (NOT APP)	DAKOTA	AMOCO	(8I)
SECTION 9	DAKOTA	AMOCO	(9O)
SECTION 10	DAKOTA	AMOCO	(10I, 10M)

LIST OF ADDRESSES FOR OFFSET OPERATORS

Helen Jackson #2E

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

ESTIMATED BOTTOMHOLE PRESSURES
HELEN JACKSON 2E

CK	PERFORATIONS		TOP	3256	BOTTOM	3392	MIDPERF	3324	
DK	PERFORATIONS		TOP	6666	BOTTOM	6832	MIDPERF	6749	
	Oct-95	SHUT-IN PRESSURES							
		CK	=	302	PSIG				
		DK	=	287	PSIG				
	GRADIENT	= 0.8 PSI/FT							
	CK	**BHP =**	302	PSIG +	3324	X 0.08 PSIG			
		=	568	PSI					
	DK	**BHP =**	287	PSIG +	6749	X 0.08 PSIG			
		=	827	PSI					

Pam, best estimate of surface pressures. E-33-29-9 Stan K.

STATE OF NEW MEXICO
ENERGY and MINERALS DEPARTMENT

Location of Well: B332909 Page 1

OIL CONSERVATION DIVISION
NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator: AMOCO PRODUCTION COMPANY Lease/Well #:JACKSON, HELEN 002E
Meter #:93999 RTU: - - County:SAN JUAN

	NAME RESERVOIR OR POOL	TYPE PROD	METHOD PROD	MEDIUM PROD
UPR COMP	HELEN JACKSON 002E OCH 93999	GAS	FLOW	TBG
LWR COMP	HELEN JACKSON 002E DK 93998	GAS	FLOW	TBG

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour/Date Shut-In	Length of Time Shut-In	SI Press. PSIG	Stabilzed
UPR COMP Chacra	10/10/95	72 HRS	302	Y
LWR COMP Dakota	10/10/95	72 HRS	287	Y

FLOW TEST DATE NO.1

Commenced at (hour,date)* Zone Producing (Upr/Lwr)

TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE Upper	PRESSURE Lower	Prod Temp.	REMARKS
10/10/95	Day 1	325	335		Both Zones SI
10/11/95	Day 2	328	336		Both Zones SI
10/12/95	Day 3	328	339		Both Zones SI
10/13/95	Day 4	302	287		Flow Lower Zone
10/14/95	Day 5	293	276		" " "
10/15/95	Day 6	291	275		" " "

Production rate during test
Oil:_____ BOPD based on _____ BBLs in _____ Hrs _____ Grav___ GOR ___
Gas:_____ MFCPD:Tested theu (Orifice or Meter):METER

MID-TEST SHUT-IN PRESSURE DATA

	Hour,Date SI	Length of Time SI	SI Press. PSIG	Stabilized (yes/no)
UPR COMP				
LWR COMP				

(Continue on reverse side)