

RECEIVED  
BLM

Unocal Oil & Gas Division  
Unocal Corporation  
3300 North Butler Avenue  
Suite 200  
Farmington, New Mexico 87401  
Telephone (505) 326-7600  
Fax: (505) 326-6145

EXHIBIT

#1(A)

91 MAR 15 11:11:02  
**UNOCAL** 76  
019 FARMINGTON, N.M.

March 13, 1991

Farmington District

MINERAL BRANCH	
BRANCH CHIEF	_____
SOLIDS	_____
FLUIDS CAP	1/2
FLUIDS FILE	_____
FORM	_____
I & O	_____
I & B	_____
ALL SUPV	_____
FILES	_____

Bureau of Land Management  
1235 LaPlata Highway  
Farmington, NM 87401  
Attn: Errol Becher

SUBJECT:

Requesting Approval for  
Off-lease and Central Metering  
Navajo Leases  
San Juan County, New Mexico

On February 21, 1991, Ryan Canty and myself met with you and Mr. Ken Townsend to discuss a Union Oil Company of California, dba Unocal, proposal for a central metering facility for Unocal's Navajo leases, San Juan County, New Mexico. The following demonstrates how Unocal proposes to allocate gas production under the context of BLM Onshore Oil and Gas Order No. 5, Measurement of Gas.

Unocal currently operates seven Dakota gas wells on the leases shown on Exhibit #1 and described in Exhibits #2 & 3. The Navajo Indian leases are all on allotted lands. All leases carry a 1/6<sup>th</sup> royalty burden. The first wells on the leases were drilled in 1976. The wells were first delivered to Northwest Pipeline in 1977, attached please find well histories and production curves for the seven wells. Over the years the bottom-hole producing pressures have declined. The pressures have declined to the point that some of the wells have trouble overcoming the pipeline pressure. Recently, Unocal has employed wellhead compressors to test lowering the back-pressure on some on these wells. Results of these tests have proven that deliverability can be increased, in addition, the remaining life of the reserves can be extended.

Northwest Pipeline currently takes possession of the gas at sales meters, which are located at each of the wells. Unocal provides three phase separation of the produced stream just downstream of the wellhead. Downstream of the

*Errol Becher*

separator, Northwest provides dehydration services. The sales meter on each well is located downstream of these separation and dehydration facilities.

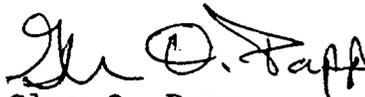
Unocal has recently been negotiating with Northwest to install a compressor on their H-21 gathering lateral in order to lower back-pressure on these seven Dakota producers. An agreement between Unocal and Northwest to provide this service is in its final stages. Under this arrangement, Northwest will set a central meter just downstream of the compressor, this meter will serve as the custody transfer point. The proposed site for the compressor and new central metering site are shown on Exhibit #1. Note that the site has been chosen such that, only the seven Unocal wells are upstream of the meter.

Under terms of the proposed agreement all the well-site facilities used to remove liquids, and meter gas will remain in place. In addition, a separator will be set in front of the compressor to ensure that only single phase flow exists. Pulsation dampening equipment on the compressor discharge will be used to ensure the accuracy of the central meter measurements.

Unocal is requesting from the BLM, who has been designated the responsibility to accept or deny such proposals for consolidated measurement points, approval of the following method for allocating the production from the central meter to the individual wells. Unocal will calculate a monthly allocation factor, as shown in Exhibit #4, part I. The allocation factor, will then be used as illustrated in Exhibit #4, part II, to determine individual meter volumes. To ensure the accuracy of the individual meters, Unocal will continue to calibrate, perform orifice plate inspections, and settlement tests as described in BLM Onshore Oil and Gas Order No. 5, Measurement of Gas.

Should you have any questions or need any additional information to process this request, please feel free to contact me at the above letterhead address or phone.

Very truly yours,



Glen O. Papp  
District Production Engineer

**APPROVED**

MAY 20 1991  
  
For **AREA MANAGER**

*02/26/91*

Unocal Oil & Gas Division  
Unocal Corporation  
3300 North Butler Avenue  
Suite 200  
Farmington, New Mexico 87401  
Telephone (505) 326-7600  
Fax: (505) 326-6145



April 2, 1991

Farmington District

RECEIVED

APR 3 1991

OIL CON. DIV  
DIST. 3

New Mexico Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, NM 87410  
Attention: Ernie Bush

**SUBJECT:**

Requesting Approval for  
Off-lease and Central  
Metering Navajo Leases  
San Juan County, New Mexico

Union Oil Company of California, dba Unocal, seeks NMOCD approval for a central metering facility for Unocal's Navajo leases, San Juan County, New Mexico. The following demonstrates how Unocal proposes to allocate gas production under the context of BLM Onshore Oil and Gas Order No. 5, Measurement of Gas. This request was approved by the BLM on March 20, 1991, see Exhibit #1(a).

Unocal currently operates seven Dakota gas wells on the leases shown on Exhibit #1(b) and described in Exhibits #2 & 3. The Navajo Indian leases are all on allotted lands. All leases carry a 1/6th royalty burden. The first wells on the leases were drilled in 1976. The wells were first delivered to Northwest Pipeline in 1977, attached please find well histories and production curves for the seven wells. Over the years the bottom-hole producing pressures have declined. The pressures have declined to the point that some of the wells have trouble overcoming the pipeline pressure. Recently, Unocal has employed wellhead compressor to test lowering the back-pressure on some on these wells. Results of these tests have proven that deliverability can be increased, in addition, the remaining life of the reserves can be extended.

Northwest Pipeline currently takes possession of the gas at sales meters, which are located at each of the wells. Unocal provides three phase separation of the produced stream just downstream of the wellhead. Downstream of the separator, Northwest provides

New Mexico Oil Conservation Division  
April 2, 1991  
Page 2

dehydration services. The sales meter on each well is located downstream of the separation and dehydration facilities.

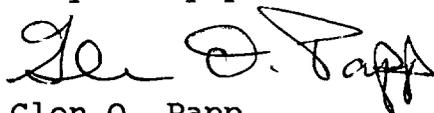
Unocal has recently been negotiating with Northwest to install a compressor on their H-21 gathering lateral in order to lower back-pressure on these seven Dakota producers. An agreement between Unocal and Northwest to provide this service is in its final stages. Under this arrangement, Northwest will set a central meter just downstream of the compressor, this meter will serve as the custody transfer point. The proposed site for the compressor and new central metering site are shown on Exhibit #1(b). Note that the site has been chosen such that, only the seven Unocal operated wells are upstream of the meter.

Under terms of the proposed agreement all the well-site facilities used to remove liquids, and meter gas will remain in place. In addition, a separator will be set in front of the compressor to ensure that only single phase flow exists. Pulsation dampening equipment on the compressor discharge will be used to ensure the accuracy of the central meter measurements.

Unocal is requesting from the NMOCD approval of the following method for allocating the production from the central meter to the individual wells. Unocal will calculate a monthly allocation factor, as shown in Exhibit #4, part I. The allocation factor, will then be used as illustrated in Exhibit #4, part II, to determine individual meter volumes. To ensure the accuracy of the individual meters, Unocal will continue to calibrate perform orifice plate inspections, and settlement tests as described in BLM Onshore Oil and Gas Order No. 5, Measurement of Gas.

Should you have any questions or need any additional information to process this request, please feel free to contact me at the above letterhead address or phone.

Very truly yours.



Glen O. Papp  
Dist. Production Engineer

bjt

Unocal Oil & Gas Division  
Unocal Corporation  
3300 North Butler Avenue  
Suite 200  
Farmington, New Mexico 87401  
Telephone (505) 326-7600  
Fax: (505) 326-6145

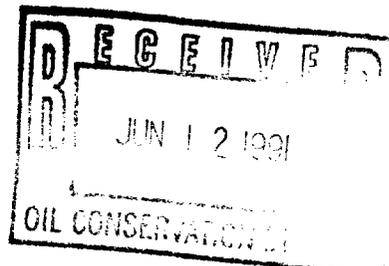
**UNOCAL** 

June 7, 1991

Farmington District

New Mexico Oil Conservation Division  
310 Old Santa Fe Trail  
Box 2088  
Santa Fe, NM 87504-2088

Attention: David Catanach



**SUBJECT:**

Additional Information  
Requested To Process Exception  
to Rule 303-A For Unocal's  
Navajo Leases  
San Juan County, New Mexico

In support of Unocal's request for an exception to Rule 303-A, dated April 2, 1991, please find attached a copy of the notification letter sent to the royalty administrator of the subject leases. Though, the subject leases are on allotted Navajo lands, the royalty is administered by the Mineral Management Services (MMS). Unocal makes monthly royalty payments to the MMS, who in turn distributes the funds accordingly.

Should you have any questions or need any additional information to process this request, please feel free to contact me at the above letterhead address or phone.

Very truly yours,

Union Oil Company of California  
dba UNOCAL

Glen O. Papp  
District Production Engineer

bjt

Unocal Oil & Gas Division  
Unocal Corporation  
3300 North Butler Avenue  
Suite 200  
Farmington, New Mexico 87401  
Telephone (505) 326-7600  
Fax: (505) 326-6145

**UNOCAL** 

June 5, 1991

Farmington District

Mineral Management Services  
Royalty Management Program-PAD  
P. O. Box 17100, MS300  
Denver, CO 80217

SUBJECT:

Off-lease and Central Metering  
For Navajo Lease  
San Juan County, New Mexico

Union Oil Company of California, dba Unocal, is proposing a compression and central metering facility for its Navajo leases, San Juan County, New Mexico, which are on allotted Navajo land. The facility will allow Unocal to produce more gas and extend the producing life of the leases. The wells and leases in question are described in Exhibit #1.

Since being drilled in the late 1970's, continued production has resulted in declining bottom-hole producing pressures. The pressures have declined to the point that the wells have trouble overcoming the pipeline pressure. Recently, Unocal employed wellhead compressors to remove excessive pressure on some of these wells. Results of these tests have proven that production can be increased, and the remaining life of the wells can be extended.

Unocal will install a compressor at a point which services all of its seven wells in the area. A new central meter will be installed at this point. This meter will serve as the custody transfer point. Unocal will continue to measure gas volumes at each of the wells. However, this new arrangement will transfer royalty payments from the individual well meter to the new central meter. Exhibit #2 shows this proposed configuration.

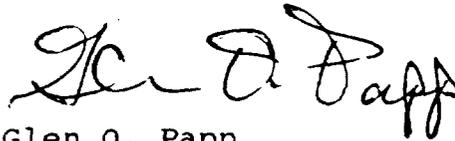
Each month, Unocal will allocate production from the central meter to the individual wells. The method for doing so is described in Exhibit #3. Unocal will calculate a monthly allocation factor, as shown in Exhibit #3, part I. The allocation factor, will then be used as illustrated in Exhibit #3, part II, to determine individual meter volumes. To ensure the accuracy of the individual meters, Unocal will continue to calibrate, perform orifice plate inspections, and settlement tests as described in BLM Onshore Oil and Gas Order No. 5, Measurement of Gas.

Navajo Lease  
June 5, 1991  
Page 2

The above proposal was approved by the Farmington office of the BLM on March 20, 1991. Should you have any questions or need any additional information to process this request, please feel free to contact me at the above letterhead address or phone.

Very truly yours,

Union Oil Company of California  
dba UNOCAL

A handwritten signature in cursive script, appearing to read "Glen O. Papp".

Glen O. Papp  
District Production Engineer

Send Certified Mail  
Return Receipt Requested

# EXHIBIT #1

## NAVAJO LEASES SAN JUAN COUNTY, NEW MEXICO

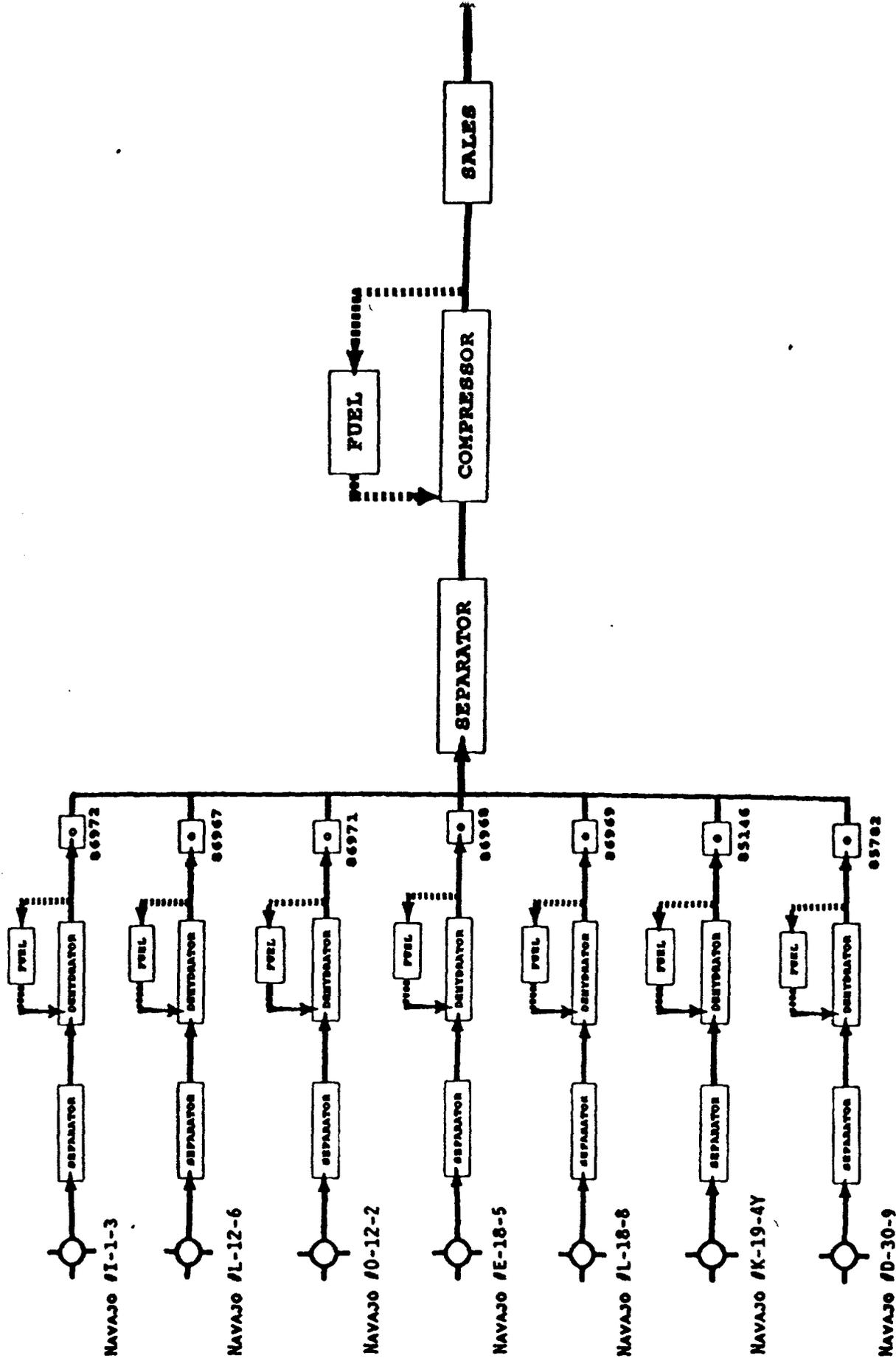
<u>WELL #</u>	<u>LEASE #</u>	<u>LOCATION</u>
Navajo I-1-3	N00-C-14-20-3778	SW SE SEC. 1 T-25-N R-11-W
Navajo L-12-6	N00-C-14-20-3780	NW SW SEC. 12 T-25-N R-11-W
Navajo O-12-2	N00-C-14-20-3781	NE SE SEC. 12 T-25-N R-11-W
Navajo E-18-5	N00-C-14-20-3772	NE NW SEC. 18 T-25-N R-10-W
Navajo L-18-8	N00-C-14-20-3773	SE SW SEC. 18 T-25-N R-10-W
Navajo K-19-4Y	N00-C-14-20-5195	SE SW SEC. 19 T-25-N R-10-W
Navajo D-30-9	N00-C-14-20-5197	NW NE SEC. 30 T-25-N R-10-W

# EXHIBIT #2

UNOCAL®

## GAS ACCOUNTING SCHEMATIC

NAVAJO LEASES, SAN JUAN COUNTY, NEW MEXICO



# EXHIBIT #3

## ALLOCATION CALCULATIONS

I) Allocation Factor (AF):

$$AF = \frac{\text{Integrated Central Meter Volume; BTU/MO}}{\sum_{i=1}^7 \text{Integrated Individual Meter Volumes, BTU/MO}}$$

II) Allocation To Individual Zones:

Well #	Integrated Individual Meter Volume (BTU/MO)	Monthly AF	Allotted Volume (BTU/MO)
1	Vol <sub>1</sub>	AF	Vol <sub>1</sub> x AF
2	Vol <sub>2</sub>	AF	Vol <sub>2</sub> x AF
3	Vol <sub>3</sub>	AF	Vol <sub>3</sub> x AF
4	Vol <sub>4</sub>	AF	Vol <sub>4</sub> x AF
5	Vol <sub>5</sub>	AF	Vol <sub>5</sub> x AF
6	Vol <sub>6</sub>	AF	Vol <sub>6</sub> x AF
7	Vol <sub>7</sub>	AF	Vol <sub>7</sub> x AF

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
 Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge)  
 2.  Restricted Delivery (Extra charge)

3. Article Addressed to:  MINERALS MANAGEMENT SERVICE ROYALTY MANAGEMENT PROGRAM-PAD P O BOX 17100, MS 300 DENVER CO 80217	4. Article Number  P 617 272 400
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and <u>DATE DELIVERED</u> .	
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery	

Thank you for using Return Receipt Service.

PS Form 3811, Apr. 1989

U.S.G.P.O. 1989-238-815

DOMESTIC RETURN RECEIPT



Sent to <b>MINERALS MANAGEMENT SVC.</b>	
Street & No <b>P O BOX 17100, MS 300</b>	
PO, State & ZIP Code <b>DENVER CO 80217</b>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date <b>6/7/91</b>	

PS Form 3800 June 1990

Fold at line over top of envelope to the right of the return address.

**CERTIFIED**

P 671 272 400

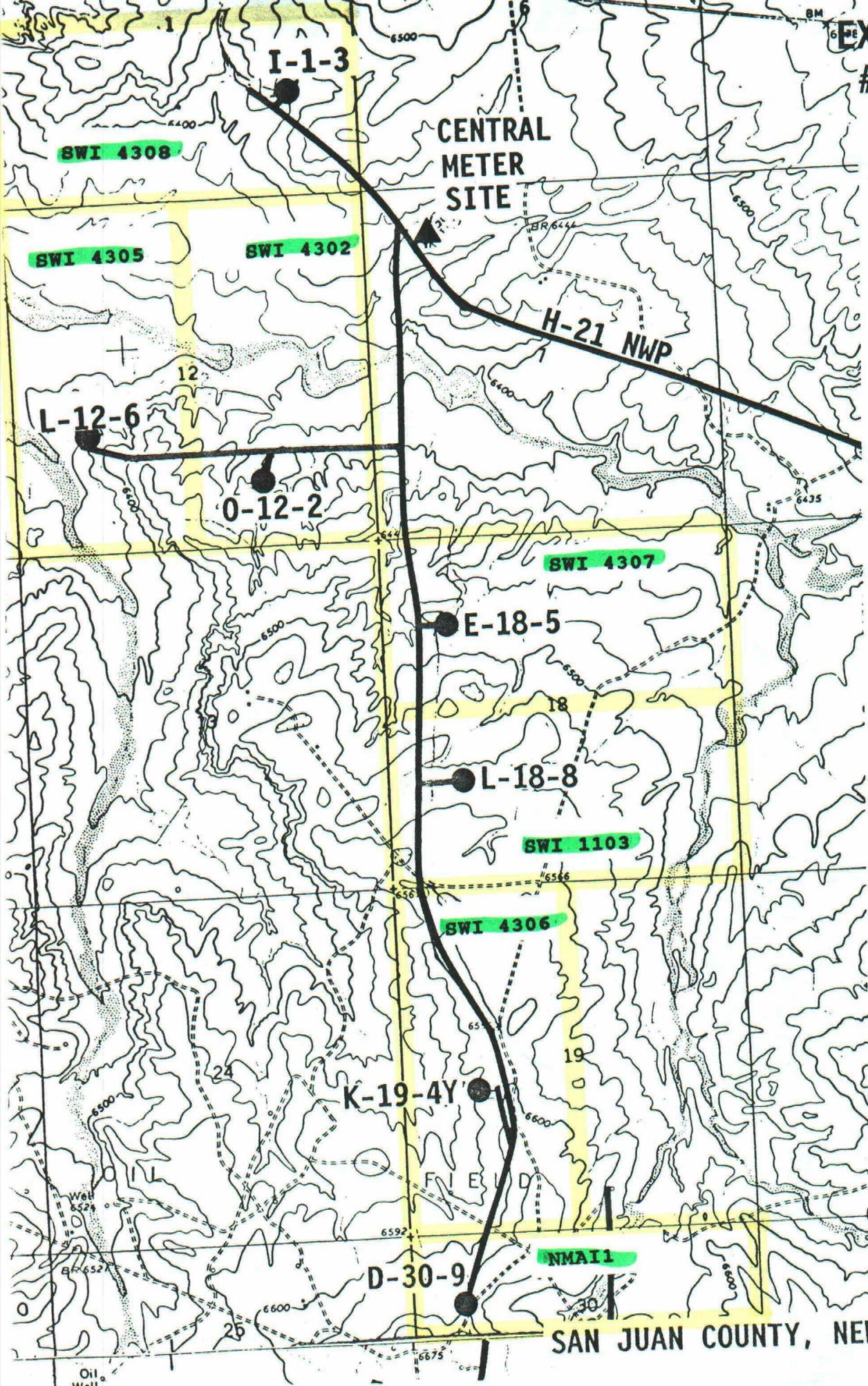
**MAIL**

# EXHIBIT #2 (A)

## NAVAJO LEASES SAN JUAN COUNTY, NEW MEXICO

<u>WELL #</u>	<u>LEASE #</u>	<u>LOCATION</u>
Navajo I-1-3	N00-C-14-20-3779	SW SEC. 1 T-25-N R-11-W
	N00-C-14-20-3778	SE SEC. 1 T-25-N R-11-W
Navajo L-12-6	N00-C-14-20-3782	NW SEC. 12 T-25-N R-11-W
	N00-C-14-20-3780	SW SEC. 12 T-25-N R-11-W
Navajo O-12-2	N00-C-14-20-3783	NE SEC. 12 T-25-N R-11-W
	N00-C-14-20-3781	SE SEC. 12 T-25-N R-11-W
Navajo E-18-5	N00-C-14-20-3772	NW SEC. 18 T-25-N R-10-W
	N00-C-14-20-3771	NE SEC. 18 T-25-N R-10-W
Navajo L-18-8	N00-C-14-20-3773	SW SEC. 18 T-25-N R-10-W
	NM-20307	SE SEC. 18 T-25-N R-10-W
Navajo K-19-4Y	N00-C-14-20-5195	SW SEC. 19 T-25-N R-10-W
	N00-C-14-20-5196	SE SEC. 19 T-25-N R-10-W
Navajo D-30-9	N00-C-14-20-5197	NW SEC. 30 T-25-N R-10-W
	N00-C-14-20-5198	NE SEC. 30 T-25-N R-10-W

**EXHIBIT  
#1(B)**



T-25-N

**SAN JUAN COUNTY, NEW MEXICO**

**EXHIBIT #2  
NAVAJO LEASES  
SAN JUAN COUNTY, NEW MEXICO**

<u>Lease Location</u>	<u>Indian Lease #</u>
T-25-N R-11-W Sec. 1 SW/4	525-003779-0-000
T-25-N R-11-W Sec. 1 SE/4	525-003778-0-000
T-25-N R-11-W Sec. 12 NE/4	525-003783-0-000
T-25-N R-11-W Sec. 12 NW/4	525-003782-0-000
T-25-N R-11-W Sec. 12 SW/4	525-003783-0-000
T-25-N R-11-W Sec. 12 SE/4	525-003781-0-000
T-25-N R-10-W Sec. 18 NW/4	525-003772-0-000
T-25-N R-10-W Sec. 18 NE/4	525-003771-0-000
T-25-N R-10-W Sec. 18 SW/4	525-003773-0-000
T-25-N R-10-W Sec. 19 SW/4	525-005195-0-00
T-25-N R-10-W Sec. 19 SE/4	525-005196-0-000
T-25-N R-10-W Sec. 30 NW/4	525-005197-0
T-25-N R-10-W Sec. 30 NE/4	525-005198-0

<u>Lease Location</u>	<u>Federeal Lease #</u>
T-25-N R-10-W Sec. 18 SE/4	NM-20307

**EXHIBIT #3**  
**NAVAJO WELLS**  
**SAN JUAN COUNTY, NEW MEXICO**

<u>WELL #</u>	<u>API #</u>	<u>AGREEMENT #</u>
NAVAJO E-18-5	30045 22029 00S1	SWI 4307
NAVAJO I-1-3	30045 22033 00S1	SWI 4308
NAVAJO K-19-4Y	30045 23186 00S1	SWI 4306
NAVAJO L-12-6	30045 22034 00S1	SWI 4305
NAVAJO L-18-8	30045 22030 00S1	SW 1103
NAVAJO O-12-2	30045 22035 00S1	SWI 4302
NAVAJO D-30-9	30045 25759 00S1	NMA11

PRODUCER: Union Oil Company of California, dba UNOCAL

PURCHASER: Northwest Pipeline Corporation

# EXHIBIT #4

## ALLOCATION CALCULATIONS

I) Allocation Factor (AF):

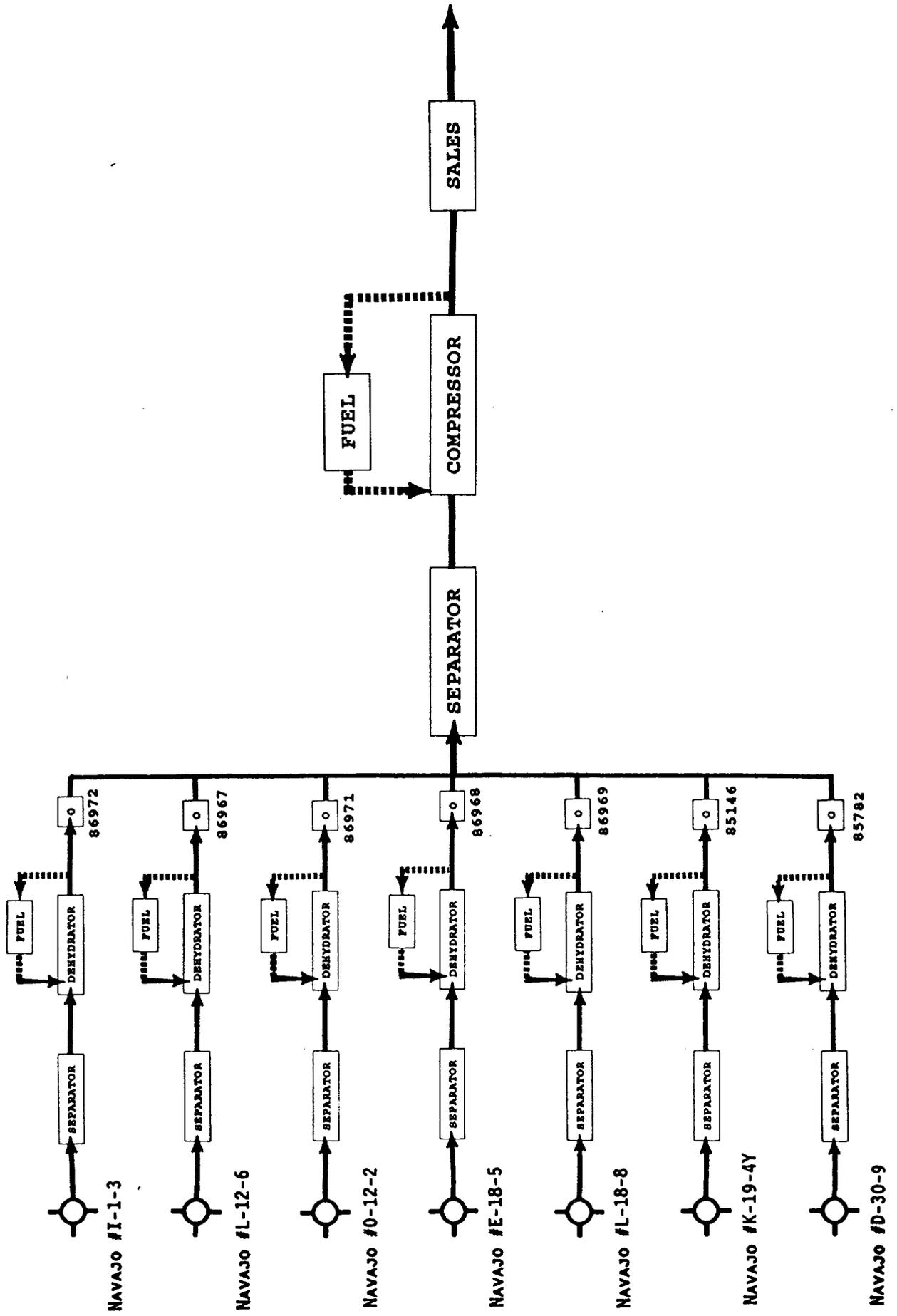
$$AF = \frac{\text{Intergrated Central Meter Volume; MCF/MO}}{\sum_{i=1}^3 \text{Integrated Individual Meter Volumes, MCF/MO}}$$

II) Allocation To Individual Wells:

Well #	Intergrated Individual Meter Volume (MCF/MO)	Monthly AF	Alloted Volume (MCF/MO)
1	Vol <sub>1</sub>	AF	Vol <sub>1</sub> x AF
2	Vol <sub>2</sub>	AF	Vol <sub>2</sub> x AF
3	Vol <sub>3</sub>	AF	Vol <sub>3</sub> x AF
4	Vol <sub>4</sub>	AF	Vol <sub>4</sub> x AF
5	Vol <sub>5</sub>	AF	Vol <sub>5</sub> x AF
6	Vol <sub>6</sub>	AF	Vol <sub>6</sub> x AF
7	Vol <sub>7</sub>	AF	Vol <sub>7</sub> x AF

GAS ACCOUNTING SCHEMATIC

NAVAJO LEASES, SAN JUAN COUNTY, NEW MEXICO



# NAVAJO #0-12-2

# WELL HISTORY

**Spud Date:** 7-8-76

**Location:** 990' FSL & 1,800' FEL, Section 12, T25N, R-11-W

**TD:** 6,157'

## Casing Depths:

8 5/8", 24#, K-55 @ 710'

CMT'd w/450 sxs Cl "A" + 2% Ca Cl<sub>2</sub> - Circulated

5 1/2", 15.5#, J-55 @ 6,156'

1st stage: 265 sxs Cl "B" 65-35 Pozmix F/B

100 sxs Cl "G"

DV Tool @ 4,173'

2nd stage: 650 sxs Cl "B" 50-50 Pozmix - circulated

**Perfs:** Dakota (5997-99', 6025-27', 6035-50' with 2 spf)

**No Core or DST's**

**Completion Test Date:** 7-27-76

**24 Hour Test:** Flowed 1,580 MCF + 20 BO + 0 BW on 16/64", FTP=1,810#

**Cumulative Production To 1/1/90:**

**Gas:** 869.1 MMCF

**Oil:** 9,078 BBLs

**Water:** 1,484 BBLs

**1990 Deliverability Test Data:**

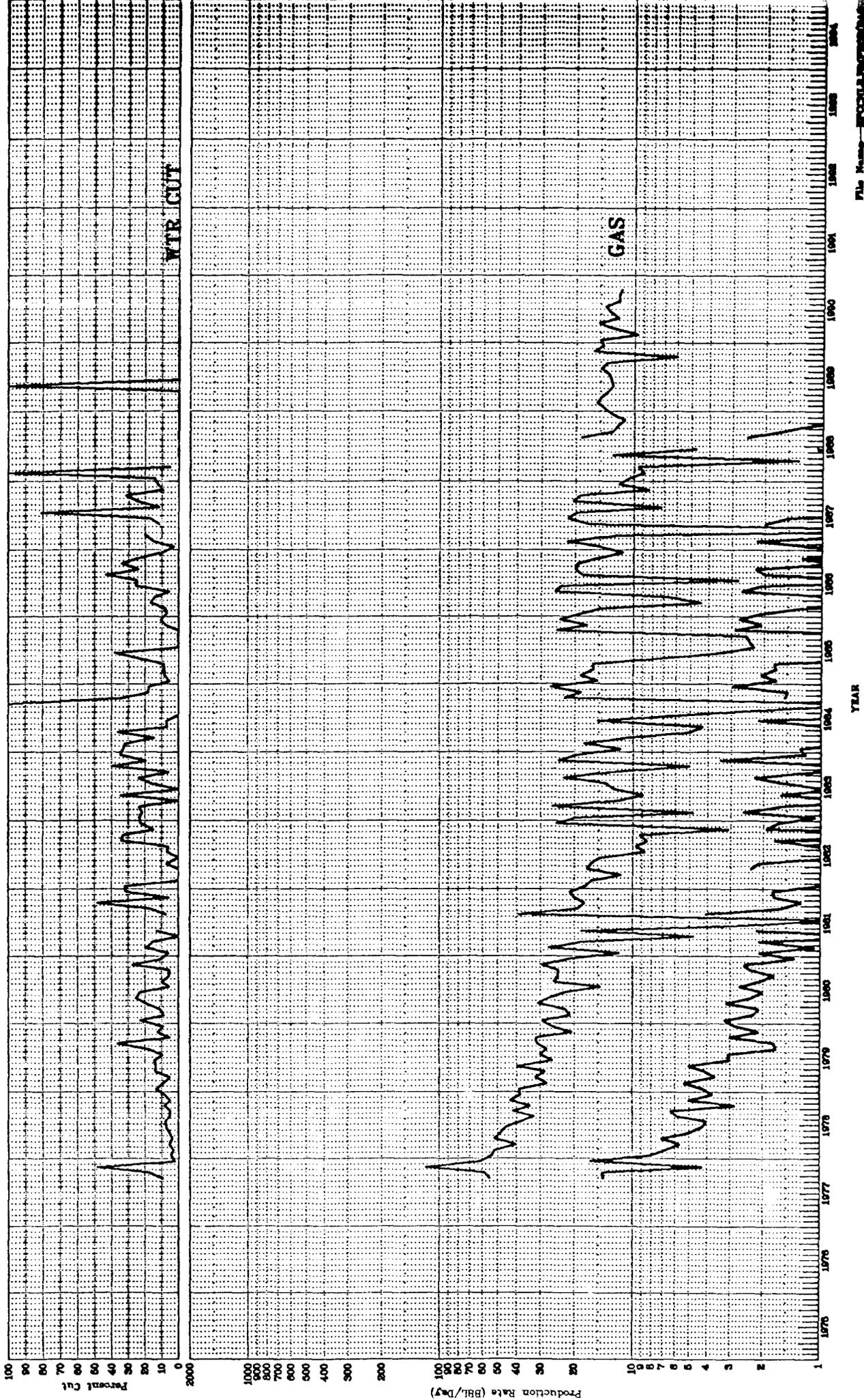
D=154 MCFD

P<sub>c</sub>=662#

FIELD--BASIN  
 FORMATION--DAKOTA  
 SAN JUAN COUNTY, NEW MEXICO

OPERATOR--UNOCAL  
 INTEREST--WI 100000 NI .833333

LEASE--N00-C-14-20-3761  
 WELL--NAVAJO NO. 2-012



# NAVAJO #I-1-3 WELL HISTORY

**Spud Date:** 5-10-76

**Location:** 1500' FSL & 1150' FEL, Section 1, T25N, R-11-W

**TD:** 6,330'

## Casing Depths:

8 5/8", 24#, J-55 @ 813'

CMT'd w/550 sxs Cl "A" w/2% Ca Cl<sub>2</sub> - Circulated

5 1/2", 15.5#, K-55 @ 6330'

1st stage: 200 sxs 65-35 Pozmix F/B  
100 sxs 50-50 Pozmix

DV Tool @ 4201'

2nd stage: 536 sxs Howco Light F/B  
100 sxs 50-50 Pozmix - did not circulate

**Perfs:** Dakota (6151-63', 6237-6244 w/2 spf)

**No Core or DST's**

**Completion Test Date:** 6/14/76

**24 Hour Test:** Flowed 385 MCF + 11 BO + 10 BW on 28/64", FTP=100#

## Subsequent Workovers:

10/79: Installed Plunger Lift

12/90: Acidized Scale Build-up w/1500 gals 15% HCl in 3-stages

## Cumulative Production To 1/1/90:

**Gas:** 300,314 MMCF

**Oil:** 2961 BBLS

**Water:** 4088 BBLS

## 1990 Deliverability Test Data:

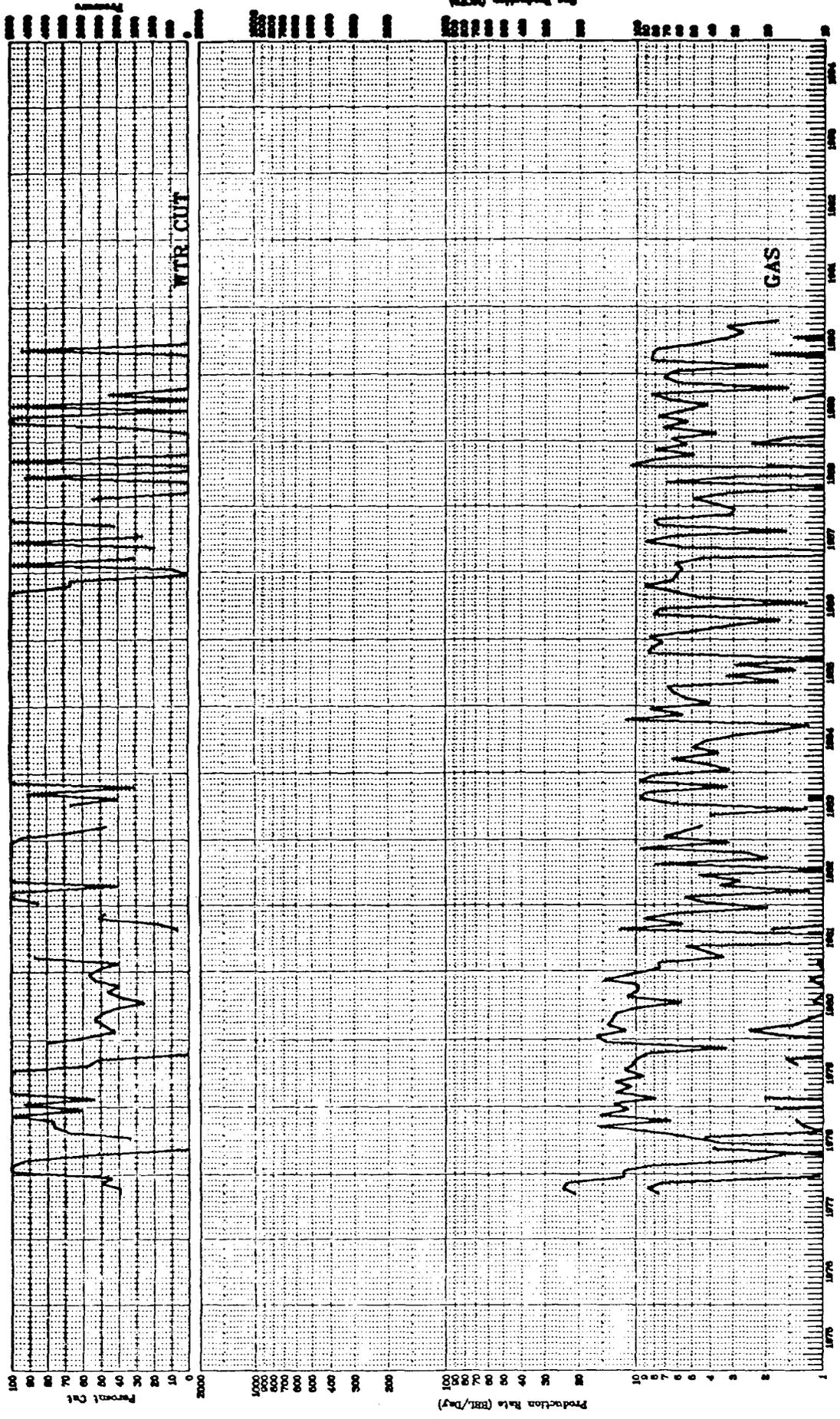
D=83 MCFD

P<sub>c</sub>=832#

LEASE—N00-C-14-20-5778  
WELL—NAVAJO NO. 3-II

FIELD—BASIN  
FORMATION—DAKOTA  
SAN JUAN COUNTY, NEW MEXICO

OPERATOR—UNOCAL  
INTEREST—WI 100000 NI .833333



File Name—WFO00111111111111111111  
Date Recvd—  
API No. — 0000000000000000

UNOCAL  
© 1985 FEB 15 1981

# NAVAJO #K-19-4Y WELL HISTORY

**Spud Date:** 9-25-78

**Location:** 1800' FSL & 790' FWL, Section 19, T25N, R-10-W

**TD:** 6,125'

## Casing Depths:

8 5/8", 24#, K-55 @ 743'

CMT'd w/500 sxs Cl "A" w/2% Ca Cl<sub>2</sub> - Circulated

5 1/2", 15.5#, K-55 @ 6124'

1st stage: 150 sxs 65-35 Pozmix F/B  
100 sxs 50-50 Pozmix

DV Tool @ 4249'

2nd stage: 500 sxs 65-35 Pozmix - Circulated

**Perfs:** Dakota (5965', 91, 6002', 05, 09, 13, 16, 21, 26' w/1 spf)

**No Core or DST's**

**Completion Test Date:** 10/17/78

**24 Hour Test:** Flowed 800 MCF + 0 BO + 74 BLW on 20/64", FTP=425#

## Subsequent Workovers:

5/89: Installed Plunger Lift

## Cumulative Production To 1/1/90:

**Gas:** 252,475 MMCF

**Oil:** 9363 BBLs

**Water:** 1492 BBLs

## 1990 Deliverability Test Data:

D=54 MCFD

P<sub>c</sub>=752#



# NAVAJO #E-18-5 WELL HISTORY

**Spud Date:** 5-23-76

**Location:** 1500' FNL & 1150' FWL, Section 18, T25N, R-10-W

**TD:** 6,315'

## Casing Depths:

8 5/8", 24#, K-55 @ 785'

CMT'd w/500 sxs Cl "A" w/2% Ca Cl<sub>2</sub> - Circulated

5 1/2", 15.5#, K-55 @ 6315'

1st stage: 150 sxs Cl "B" 65-35 Pozmix F/B  
100 sxs Cl "B" 50-50 Pozmix

DV Tool @ 4247'

2nd stage: 500 sxs 65-35 Pozmix F/B  
100 sxs 50-50 Pozmix - did not circulate

**Perfs:** Dakota (6065-67', 94-95', 6104-06', 6117-28' w/2 spf)

**No Core or DST's**

**Completion Test Date:**

**24 Hour Test:** Flowed 1680 MCF + 0 BO + 0 BW on 12/64", FTP=1025#

**Subsequent Workovers:**

5/89: Installed Plunger Lift

**Cumulative Production To 1/1/90:**

**Gas:** 611,825 MMCF

**Oil:** 9649 BBLs

**Water:** 2722 BBLs

**1990 Deliverability Test Data:**

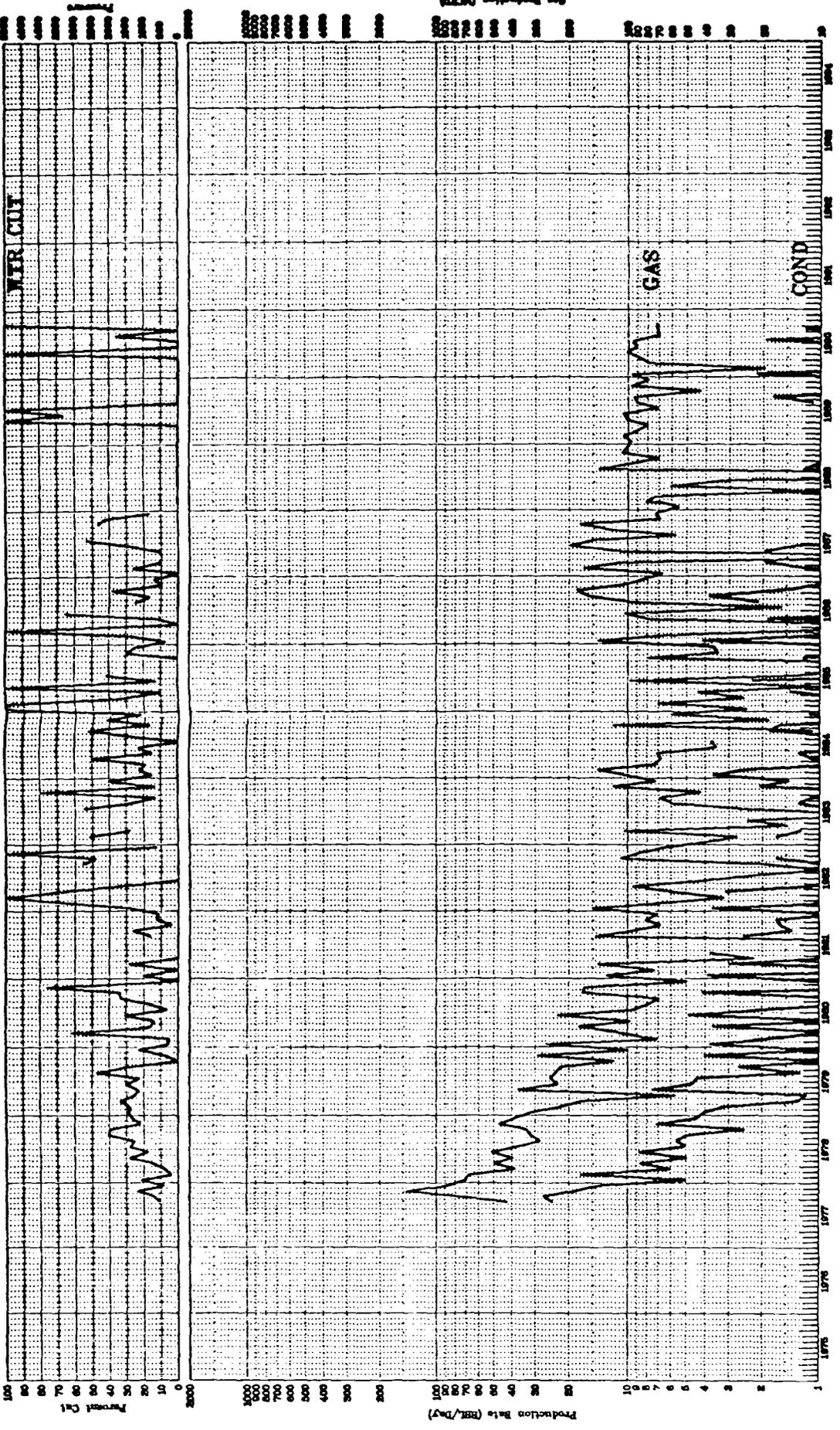
D=110 MCFD

P<sub>c</sub>=752#

LEASE—NOO-C-14-20-5772  
WELL—NAVALO NO. 6-218

FIELD—BASIN  
FORMATION—DAKOTA  
SAN JUAN COUNTY, NEW MEXICO

OPERATOR—UNOCAL  
INTEREST—WT 100000 NI 263333



YEAR

File Name—EFOOCHLUTURF0000000000  
Date Entered—  
API No. — 00000000000000000000

REPRODUCED FROM ORIGINAL RECORDS  
0004 FEB 13 1981

# NAVAJO #L-12-6 WELL HISTORY

**Spud Date:** 6-16-76

**Location:** 1650' FSL & 1150' FWL, Section 12, T25N, R-11-W

**TD:** 6,220'

## Casing Depths:

8 5/8", 24#, J-55 @ 700'

CMT'd w/450 sxs Regular Cement w/2% Ca Cl<sub>2</sub> - Circulated

5 1/2", 15.5#, J-55 @ 6220'

1st stage: 150 sxs 65-35 Pozmix F/B  
100 sxs 50-50 Pozmix

DV Tool @ 4213'

2nd stage: 500 sxs 65-35 Pozmix F/B  
100 sxs 50-50 Pozmix - did not circulate

**Perfs:** Dakota (5971-73', 5999-6002, 09-19, 25-31, 6037' w/2 spf)

**No Core or DST's**

**Completion Test Date:** 7/6/76

**24 Hour Test:** Flowed 1680 MCF + 20 BO + 0 BW on 17/64", FTP=1560#

**Cumulative Production To 1/1/90:**

**Gas:** 1,780,337 MMCF

**Oil:** 15,171 BBLs

**Water:** 1349 BBLs

**1990 Deliverability Test Data:**

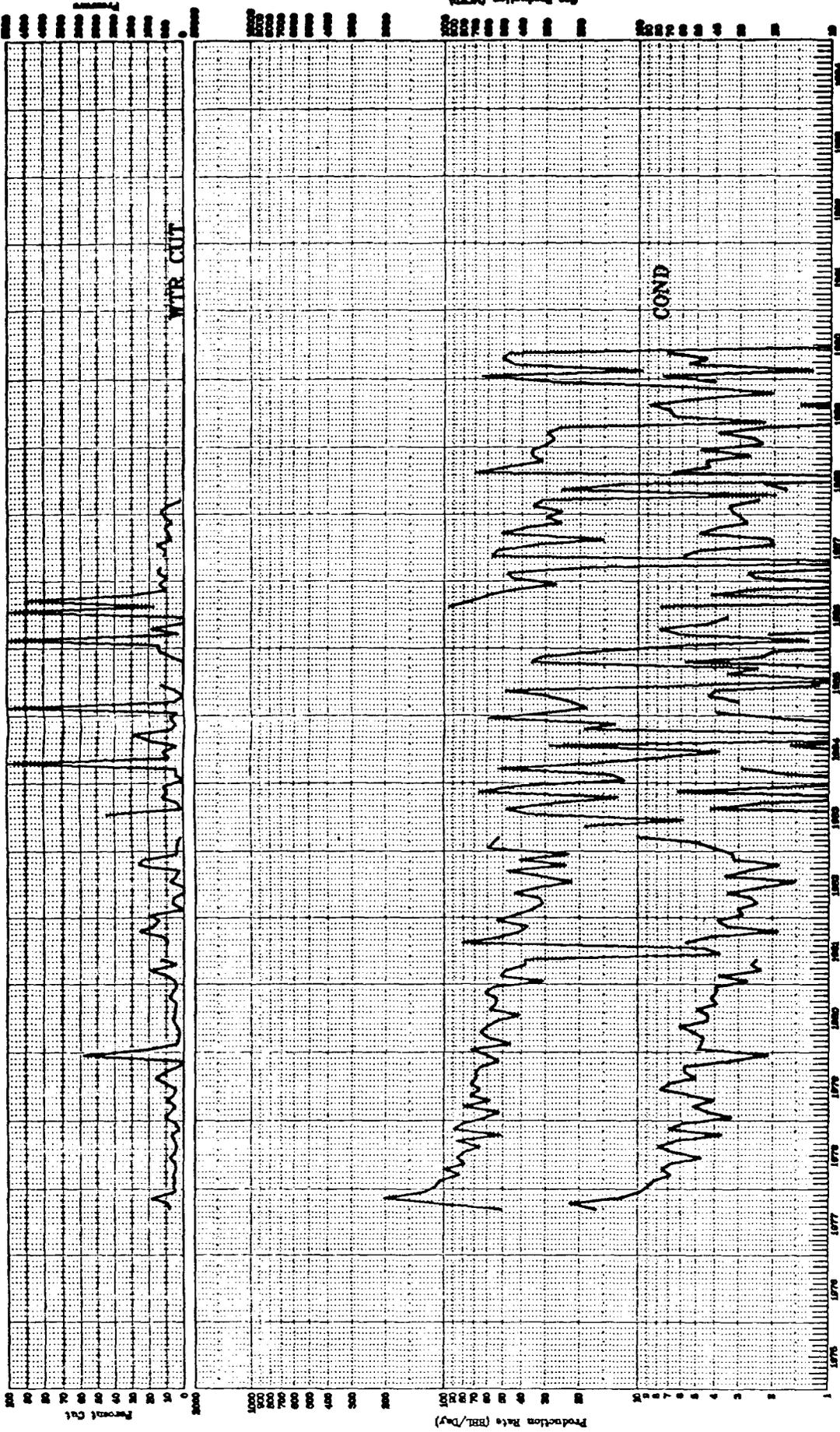
D=603 MCFD

P<sub>c</sub>=810#

**FIELD—BASIN**  
**FORMATION—DAKOTA**  
**SAN JUAN COUNTY, NEW MEXICO**

LEASE—N00-C-14-20-3760  
 WELL—NAVAJO NO. 6-112

OPERATOR—UNOCAL  
 INTEREST—WT 100000 NI 833633



File Name—E:\DATA\13707\20030401.dwg  
 Data Source—  
 API No. — 000000000000

YEAR

UNOCAL → 0005 FEB 15, 1981

# NAVAJO #L-18-8 WELL HISTORY

**Spud Date:** 6/27/76

**Location:** 1500' FSL & 1150' FWL, Section 18, T25N, R-10-W

**TD:** 6,225'

## Casing Depths:

8 5/8", 24#, J-55 @ 757'

CMT'd w/450 sxs Regular Cement - Circulated

5 1/2", 15.5#, J-55 & N-80 @ 6226'

1st stage: 150 sxs 65-35 Pozmix F/B  
100 sxs 50-50 Pozmix - did not circulate

DV Tool @ 4331'

2nd stage: 500 sxs 65-35 Pozmix F/B  
100 sxs 50-50 Pozmix - did not circulate

**Perfs:** Dakota (6063-64', w/2 spf, 6091-6110, 6124-33' w/1 spf)

**No Core or DST's**

**Completion Test Date:** 7/20/76

**24 Hour Test:** Flowed 1800 MCF + 0 BO + 70 BW on 15/64", FTP=1960#

## Subsequent Workovers:

5/89: Installed Plunger Lift

## Cumulative Production To 1/1/90:

**Gas:** 2,721,138 MMCF

**Oil:** 28,579 BBLs

**Water:** 4808 BBLs

## 1990 Deliverability Test Data:

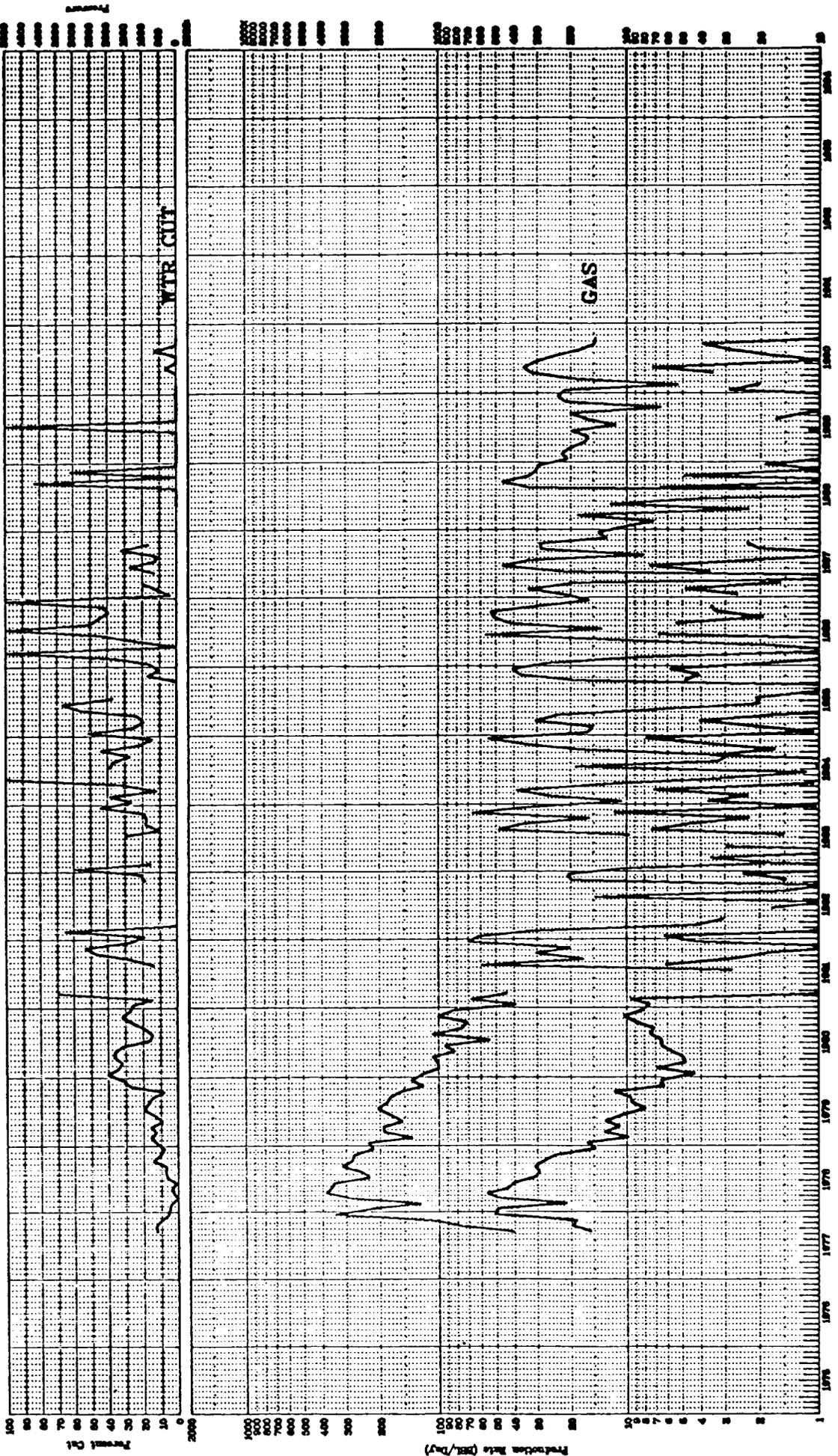
D=536 MCFD

P<sub>c</sub>=522#

LEASE—N00-C-14-20-3773  
WELL—NAVAJO NO. 8-L18

FIELD—BASIN  
FORMATION—DAKOTA  
SAN JUAN COUNTY, NEW MEXICO

OPERATOR—UNOCAL  
INTEREST—WI 100000 NI .833333



# NAVAJO #D-30-9 WELL HISTORY

**Spud Date:** 9/7/83

**Location:** 790' FNL & 1000' FWL, Section 30, T25N, R-10-W

**TD:** 6,126'

## Casing Depths:

8 5/8", 24#, K-55 @ 728'

CMT'd w/500 sxs Cl "B" w/2% CaCl<sub>2</sub> - Circulated

5 1/2", 15.5#, K-55 @ 6126'

1st stage: 230 sxs 65-35 Pozmix F/B  
130 sxs 50-50 Pozmix

DV Tool @ 4212'

2nd stage: 500 sxs 65-35 Pozmix F/B  
100 sxs 50-50 Pozmix - circulated

**Perfs:** Dakota (5978-82', 6004-06, 6020-36, 6040-46' w/1 spf)

**No Core or DST's**

**Completion Test Date:** 9/28/83

**24 Hour Test:** Flowed 323 MCF + 0 BW+ 70 BLW on 32/64", FTP=310#

**Cumulative Production To 1/1/90:**

**Gas:** 72,554 MMCF

**Oil:** 4120 BBLS

**Water:** 1531 BBLS

**1990 Deliverability Test Data:**

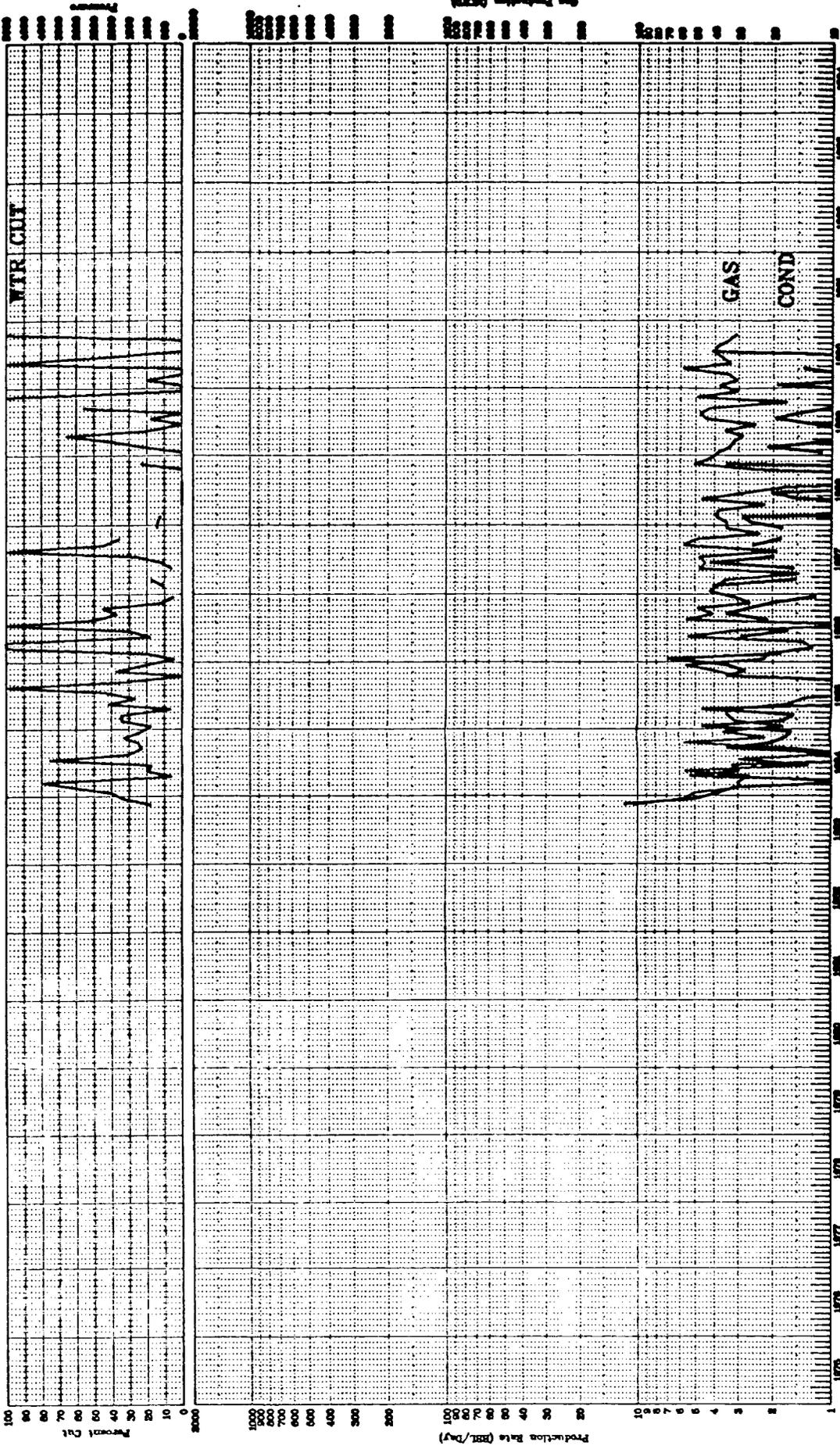
D=30 MCFD

P<sub>c</sub>=952#

FIELD--BASIN  
 FORMATION--DAKOTA  
 SAN JUAN COUNTY, NEW MEXICO

LEASE--N00-C-14-80-6197  
 WELL--NAVAJO NO. 9-130

OPERATOR--UNOCAL  
 INTEREST--WI 100000 NI .833333



File Name--SP0000000000000000  
 Data Source--