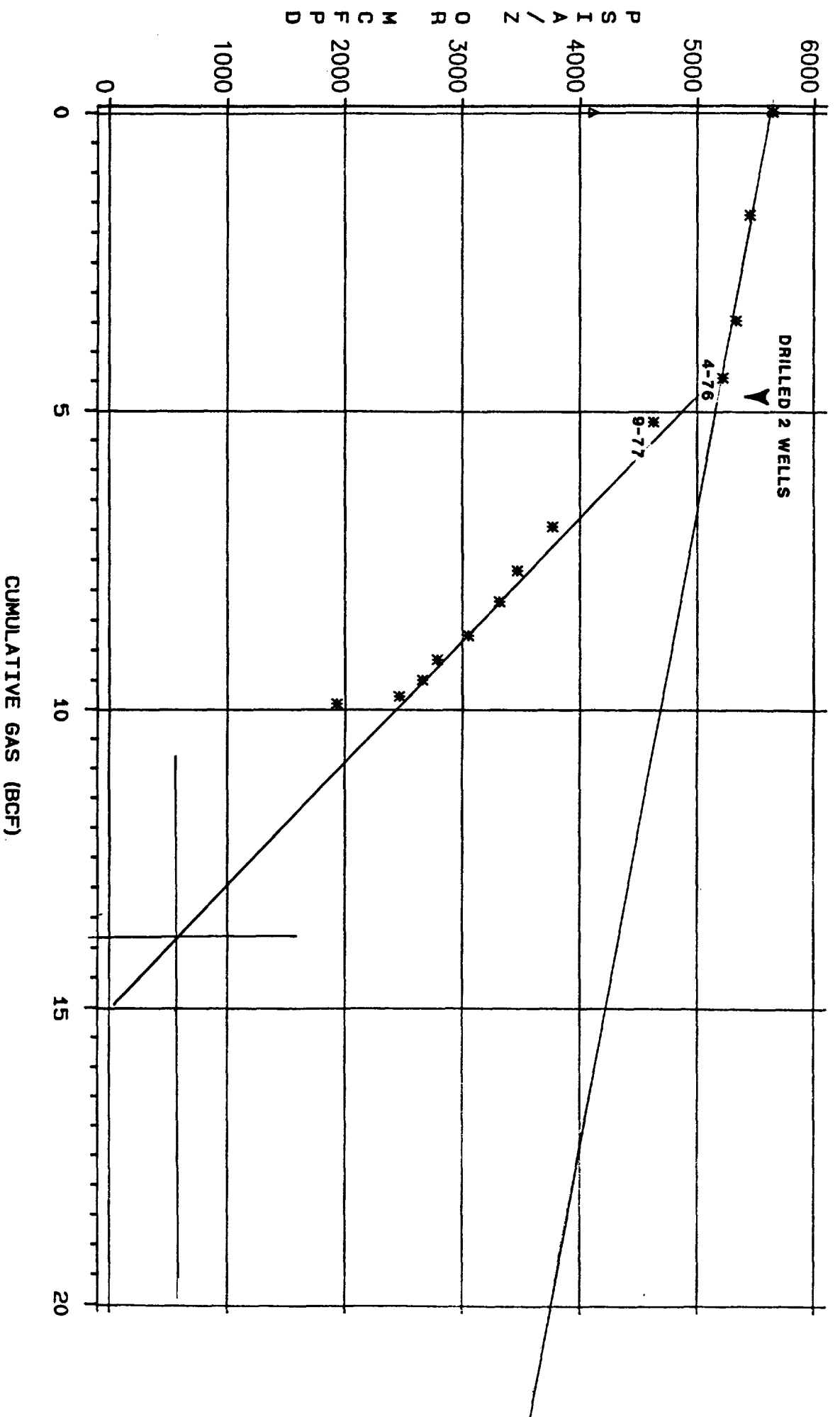


PRESSURE HISTORY
SHOE BAR ATOKA FIELD

<u>Date</u>	<u>Well</u>	<u>Cum Gas (MMCF)</u>		<u>Static BHP (psia)</u>	<u>SITP (psia)</u>
		<u>Well</u>	<u>Reservoir</u>		
11-84	Shoe Bar 14 State Comm #1	0	0	5806	
01-86	New Mexico AC State #1	0	132	5469	
12-08-87	Shoe Bar State Comm #1	0	3600	2879	2097
02-27-88	Shoe Bar State Comm #1	0	4140		1923
04-04-88	Shoe Bar State Comm #1	0	4320	2564	

BEFORE THE OIL CONSERVATION COMMISSION	
Santa Fe, New Mexico	
Case No. <u>9331, 9429,</u>	Exhibit No. <u>1</u>
Submitted by <u>SUN</u>	
Hearing Date <u>JULY 14, 1988</u>	

OPER-TEXACO PRODUCING INC LEASE-NEW MEXICO DK STATE COM WELL_ID=000001 FIELD-VACUUM ATOKA MORROW.



**** BHP/Z AAA CAP. MCFPD XXXX WHP

DRAINAGE CALCULATIONS

NEW MEXICO DK STATE COM #1
VACUUM ATOKA MORROW FIELD
T-17-S, R-37-E, Sec. 18

Estimates prior to drilling State Sec. 7 Com #1 and State NN Com #1 (1976):

P/Z vs. Cum Gas Plot: Ult. Rec. = 57 BCF

Drainage Volume = $57 \text{ BCF} / 1070 \text{ MCF/A}^\circ\text{F} = 53,271 \text{ A}^\circ\text{F}$

Drainage Area w/30' Avg. Net Pay = 1776 Acres

Current Estimates:

P/Z vs. Cum Gas Plot: Ult. Rec. = 13.7 BCF

Drainage Volume = $13.7 \text{ BCF} / 1070 \text{ MCF/A}^\circ\text{F} = 12,804 \text{ A}^\circ\text{F}$

Drainage Area w/30' Avg. Net Pay = 427 Acres

16

15

14

13

3984 88 1
12158
3-8072 (17/17)
1-NDE

21

22

23

24

30

11-87
3960
12248
3-8128 (30/26)
4-NDE

HBP

HBP

HBP

TYPE LOG

11-87
3960
12248
3-8128 (30/26)
4-NDE

3-8060 (2 1/2 E)
4-8277 (0 0)
5-8359 (0 0)
4-NDE

WEEKLY
1058 D.A.
R.D. 88
11-87
3960
12248
3-8128 (30/26)
4-NDE

*Is this
Shoe Bar
low?*

28

27

26

25

E. VACUUM (GB-SA)
UNIT PHILLIPS (OPER)

VACUUM (ABO) UNIT
PHILLIPS (OPER)

Shoe Bar Field
Net Pay

Drainage Area

LEA COUNTY, NEW MEXICO
SCALE: 1"=2000'

33

34

35

36

DRAINAGE VOLUME CALCULATIONS

SHOE BAR ATOKA FIELD

$$P_i = 5806 \text{ psia} \quad Z_i = 1.065$$

$$B_{gi} = \frac{35.4 (5806)}{1.065 (662)} = 292 \text{ SCF/ft}^3$$

$$P_{ab} = 525 \text{ psia} \quad Z_{ab} = .96$$

$$B_{gab} = \frac{35.4 (525)}{.96 (662)} = 29 \text{ SCF/ft}^3$$

$$\text{Recovery Factor} = \frac{292-29}{292} = .90$$

$$\text{Porosity} = .11$$

$$S_w = .15$$

$$\text{Recoverable GIP/A}^\circ\text{F} = 43,560 (.11)(1-.15)(292)(.9) = 1,070 \text{ MCF/A}^\circ\text{F}$$

New Mexico AC State No. 1

$$P/Z \text{ vs. Cum gas plot: Ult. Rec.} = 7.4 \text{ BCF}$$

$$\text{Drainage Volume} = 7.4 \text{ BCF}/1,070 \text{ MCF/A}^\circ\text{F} = 6,916 \text{ A}^\circ\text{F}$$

Shoe Bar 14 State Comm #1

$$\text{Cum} = 289 \text{ MMCF}$$

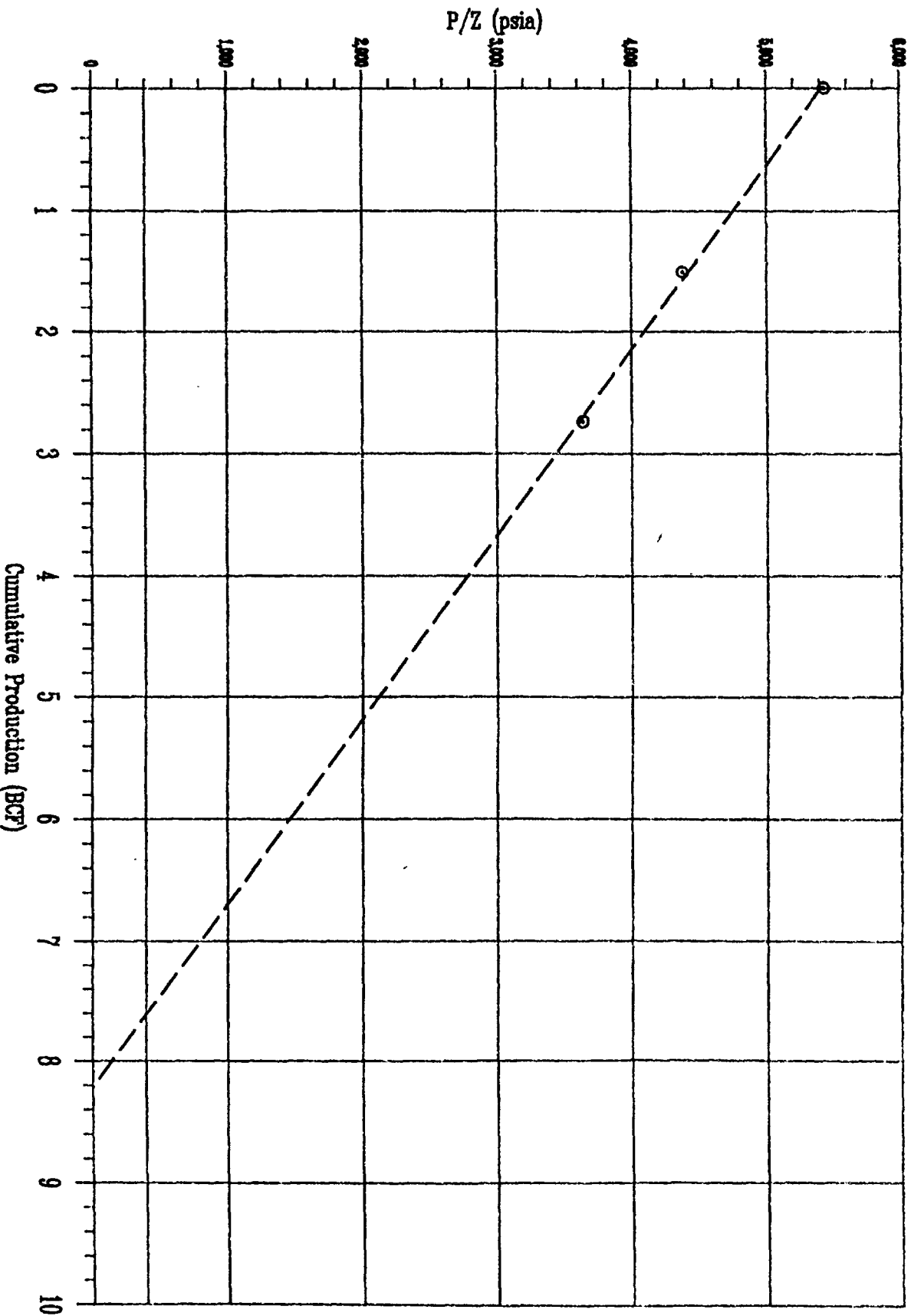
$$Q = 220 \text{ MCFD}, Q_f = 20 \text{ MCFD}, 9\% \text{ decline, Reserves} = 774 \text{ MMCF}$$

$$\text{Ult. Rec.} = 1.1 \text{ BCF}$$

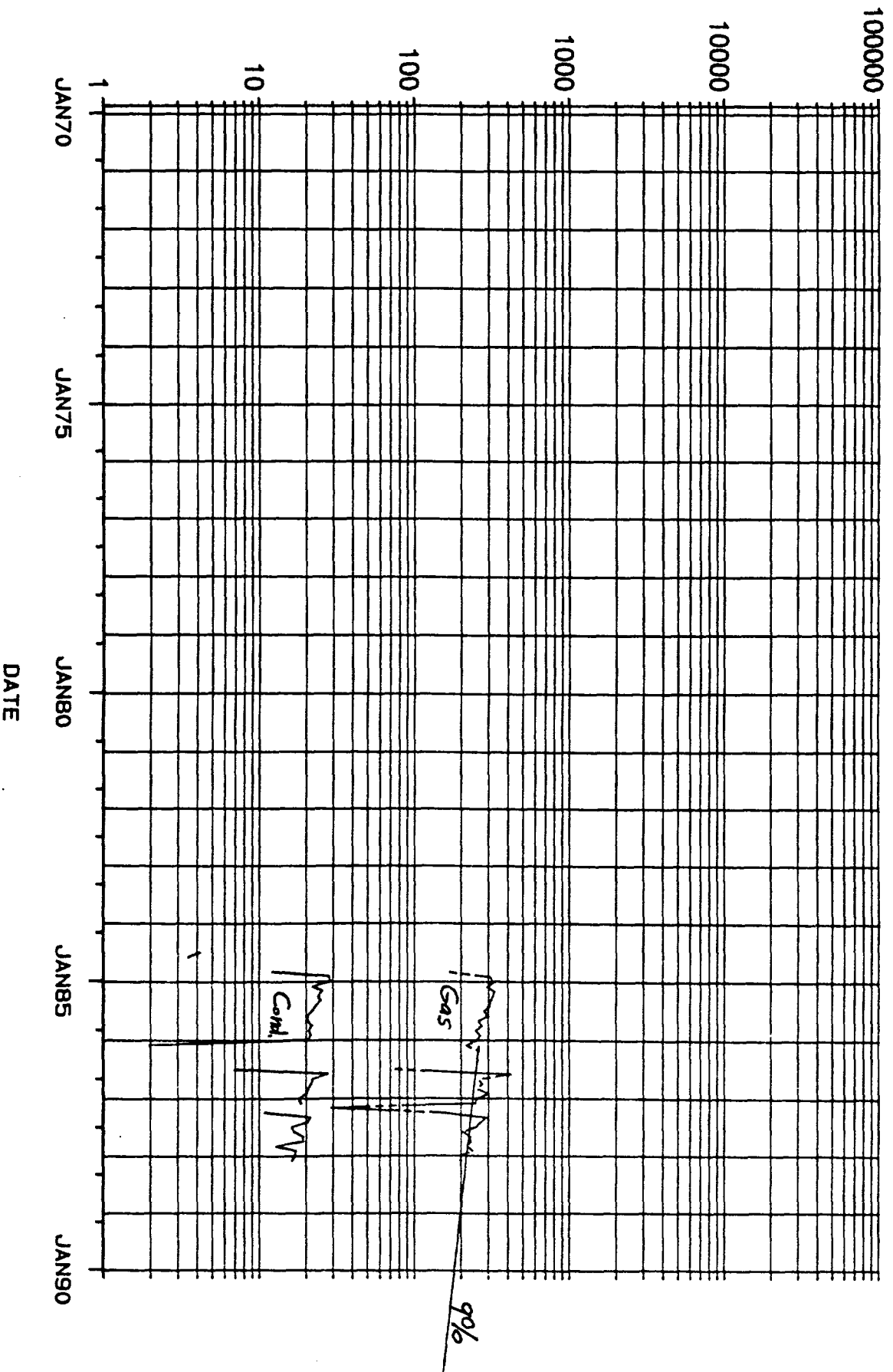
$$\text{Drainage Volume} = 1.1 \text{ BCF}/1,070 \text{ MCF/A}^\circ\text{F} = 1,028 \text{ A}^\circ\text{F}$$

T. H. McElvain New Mexico AC State No. 1
 Lea County, New Mexico

BEFORE EXAMINER CATANACH	
OIL CONSERVATION DIVISION	
Philas	EXHIBIT NO. 9
CASE NO. 9331	



OPER=ENRON OIL & GAS CO FIELD=SHOE BAR ATOKA, SOUTH (GAS) LEASE=SHOE BAR 14 STATE COM WELL_ID=000001



B O P D O R M C F P D

OIL

WELLS

GAS

DATE