PRODUCTION VS TIME

STATE: NEW MEXICO
FIELD: MALAGA ATOKA gas
SPOT: E , T-243, R-28-E, Sec. 13

PROPERTY: CRAFT
PROPERTY NO: 148180
OPER.: SANTA FE ENERGY CO.

BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION
Applicant EXHIBIT NO. 7
CASE NO. 8580

d = 19% Exp decline

Gas produced (9/84) = 715,846 mcf

Gas remaining = 3,219,684 mcf

(1776 MCF/d - 100 mcf/d)

ULTIMATE = 3,935,530 MCF

21 APR 85

△ CRUDE (BBLS)

× GAS (MCF)

□ WATER (BBLS)

DRAINAGE CALCULATIONS
SANTA FE ENERGY COMPANY
CRAFT WELL NO. 1
MALAGA (ATOKA) GAS POOL
EDDY COUNTY, NEW MEXICO

INITIAL SURFACE SHUT-IN PRESSURE - 4937 psi
INITIAL BOTTOM HOLE PRESSURE - 6214 psi
GAS GRAVITY .57
ABANDONMENT PRESSURE - 1000 psi
TEMPERATURE @ FORMATION - 165.4° F

B_{gi} = .003184 FT^3/SCF = 314.1 SCF/FT^3

B_{gab} = .016779 FT^3/SCF = 59.6 SCF/FT^3

RECOVERY FACTOR = 81%

$$\text{Recoverable Gas-in-Place} = \frac{43{,}560\ (A)(h)(\phi)(1-SW)(RF)}{Bg}$$

$$\text{Recoverable Gas-in-Place} = \frac{43{,}560\ (320)(15')(.055)(1-.3)(.81)}{(.003184)}$$

(Standard 320 Acre Unit)

Recoverable Gas-in-Place = 2,047,867 MCF

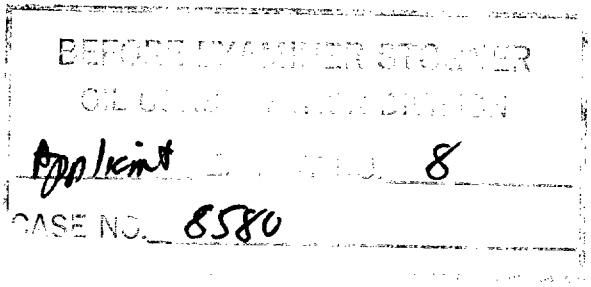
AREA ULTIMATELY DRAINED

ESTIMATED ULTIMATE RECOVERY = 3,935,530 mcf

$$\text{Area Ultimately Drained} = \frac{3{,}935{,}530{,}000\ (.003184)}{43{,}560\ (15)(.055)(1-.3)(.81)}$$

Area Ultimately Drained = 615.0 Acres

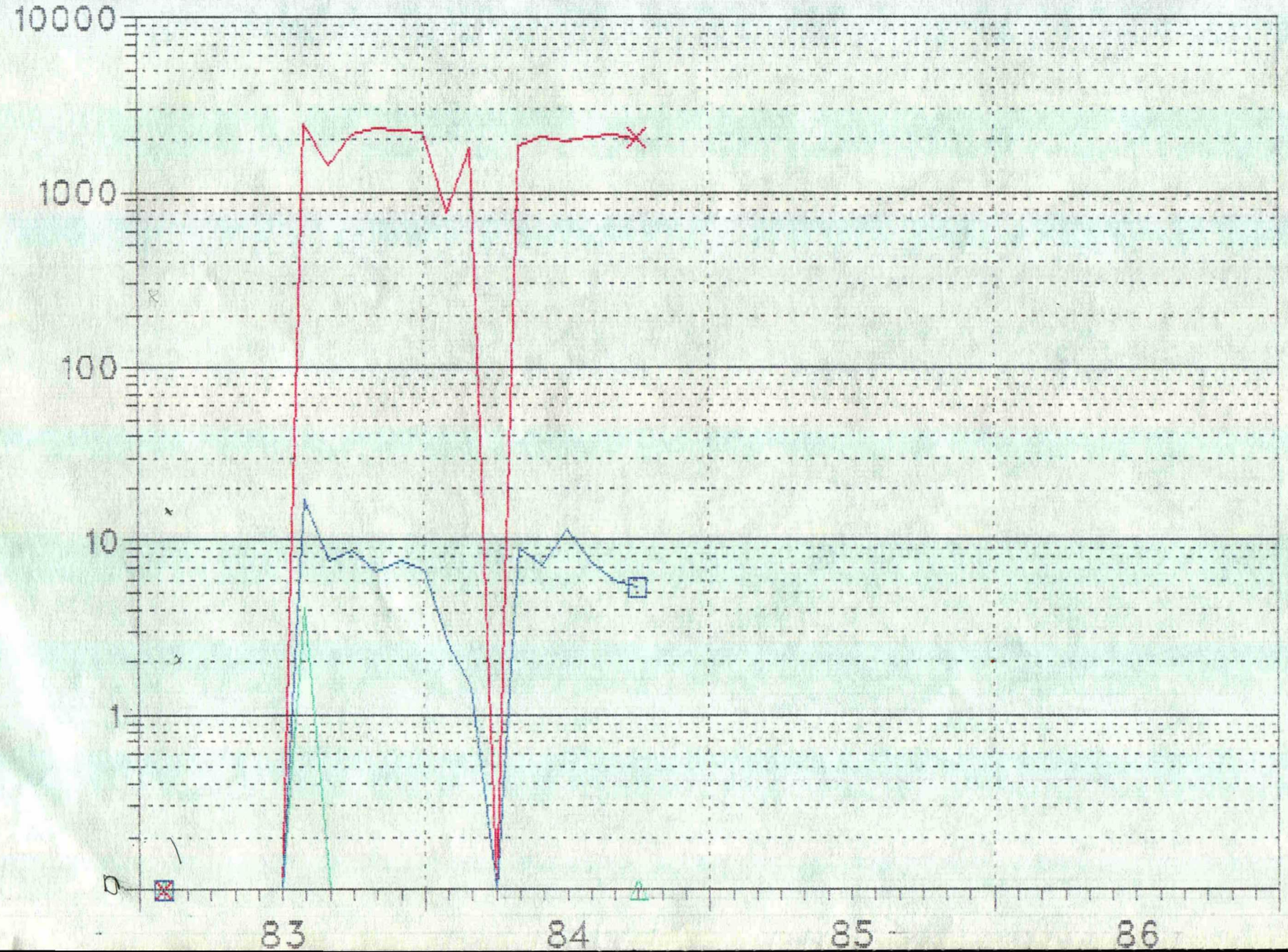
Ultimate Drainage Radius = 2,920'



PRODUCTION VS TIME

STATE: NEW MEXICO
FIELD: EDDY UNDES ATOKA gas
SPOT: G

PROPERTY: QUEEN LAKE 19 FEDERAL
PROPERTY NO: 596040
OPER.: HNG OIL COMPANY



BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION
Applicant EXHIBIT NO. 9
CASE NO. 8580

18 APR 85

△ CRUDE (BBLS)
× GAS (MCF)
□ WATER (BBLS)

SUPPORTIVE DATA - P/Z PLOT
HNG OIL COMPANY'S
QUEEN LAKE 19 FEDERAL LEASE
WELL NO. 1
EDDY UNDESIGNATED ATOKA FIELD
EDDY COUNTY, NEW MEXICO

Original Shut-in Wellhead Pressure (7-25-83) = 5850 psi

Estimated Bottom-hole Pressure (@ 12,155') = 7404 psi

Z = 1.19 P/Z = 6217.5

Current Shut-in Wellhead Pressure (3-1-85) = 4300 psi

Estimated Bottom-hole Pressure (@ 12,155') = 5442 psi

Z = 1.04 P/Z = 5209.4

Estimate of Production to 3-1-85

Cummulative to 1-1-85 - 936,972 MCF

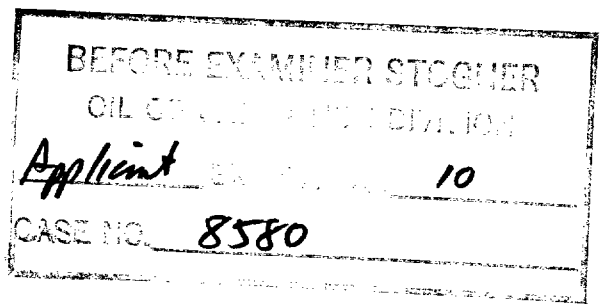
Jan. 1985 and Feb. 1985 Production
Estimated @ 1.9 mmscf/d = 112,100 MCF

Estimated Cummulative to 3-1-85 = 1,049,072

Estimated Abandonment Pressure - 1000 psi

Z (ab) = .94

Abandonment P/Z = 1066.9

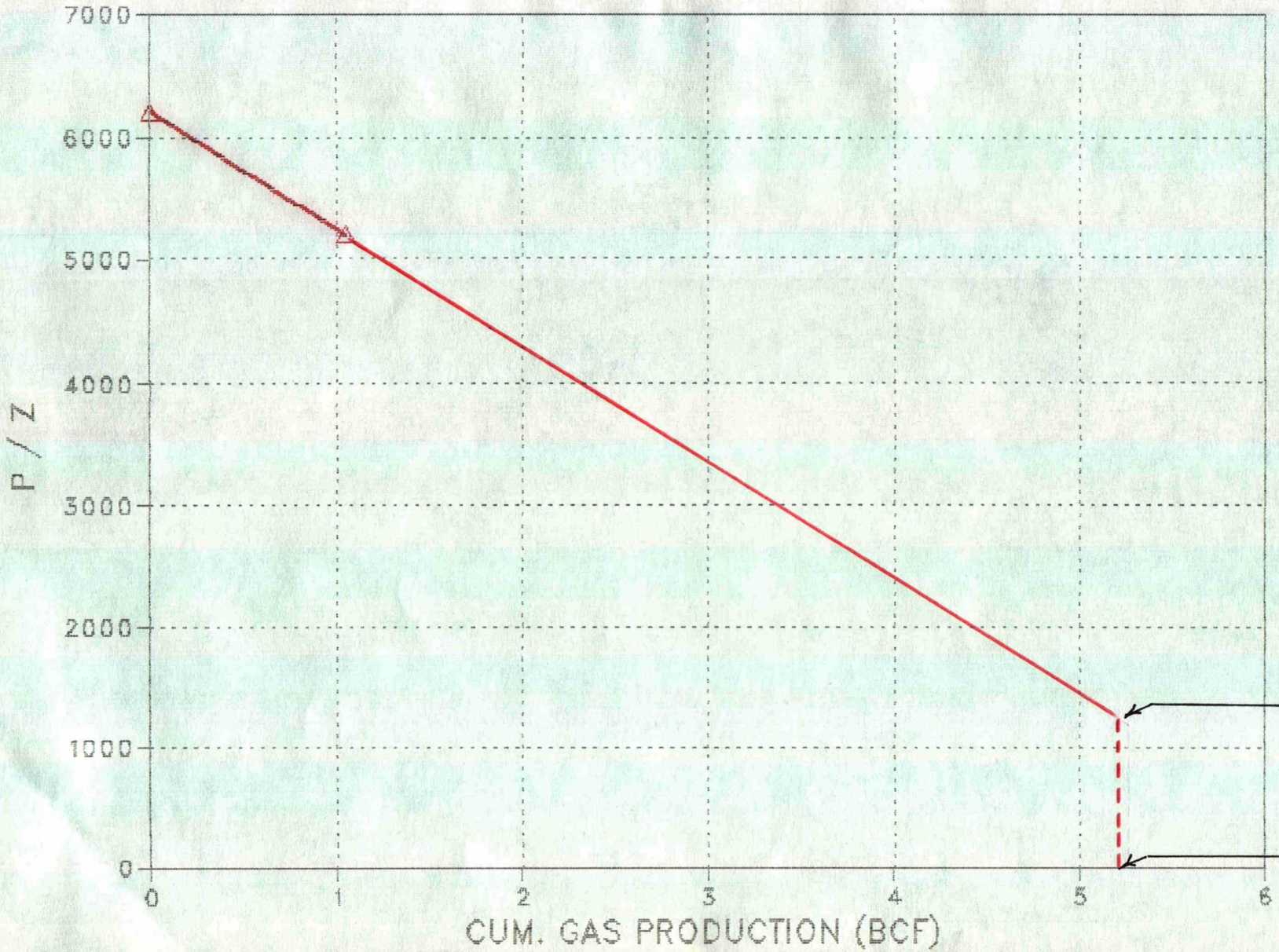


P/Z VS CUM. GAS PRODUCTION

SEC 19 T24S 29E SPOT G
FIELD: EDDY UNDESIGNATED ATOKA
RESERVOIR: ATOKA

PROPERTY: QUEEN LAKE 19 FEDERAL NO 1

OPER.: HNG OIL CO INC.



BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION
Applicant EXHIBIT NO. 11
CASE NO. 8580

DRAINAGE CALCULATIONS
HNG OIL COMPANY
QUEEN LAKE 19 FEDERAL WELL NO. 1
UNDESIGNATED ATOKA GAS
EDDY COUNTY, NEW MEXICO

INITIAL SURFACE SHUT-IN PRESSURE - 5850 psi
INITIAL BOTTOM HOLE PRESSURE - 7403 psi
GAS GRAVITY - .57
ABANDONMENT PRESSURE - 1000 psi
TEMPERATURE @ FORMATION - 185.1° F

Bgi = .002999 FT^3/SCF = 333.5 SCF/FT^3

Bgab = .017467 FT^3/SCF = 57.3 SCF/FT^3

RECOVERY FACTOR = 83%

$$\text{Recoverable Gas-in-Place} = \frac{43{,}560\ (A)(h)(\phi)(1-SW)(RF)}{Bg}$$

$$\text{Recoverable Gas-in-Place (Standard 320 Acre Unit)} = \frac{43{,}560\ (320)(12)(.02)(1-.3)(.83)}{.002999}$$

Recoverable Gas-in-Place = 648,110 MCF

AREA ULTIMATELY DRAINED

$$\text{Area Ultimately Drained} = \frac{5{,}210{,}000{,}000\ (.002999)}{43{,}560\ (12)(.02)(1-.3)(.83)}$$

Area Ultimately Drained = 2572 Acres

Ultimate Drainage Radius = 5972'

BEFORE EXAMINER STOGNER
OIL CONSERVATION DIVISION
Applicant EXHIBIT NO. 12
CASE NO. 8580

Dresser Atlas

DRESSER

Dual Induction Focused Log

R

COMPANY GETTY OIL COMPANY

WELL

FIELD WILDCAT

COUNTY EDDY STATE NEW MEXICO

DISTRICT FILE

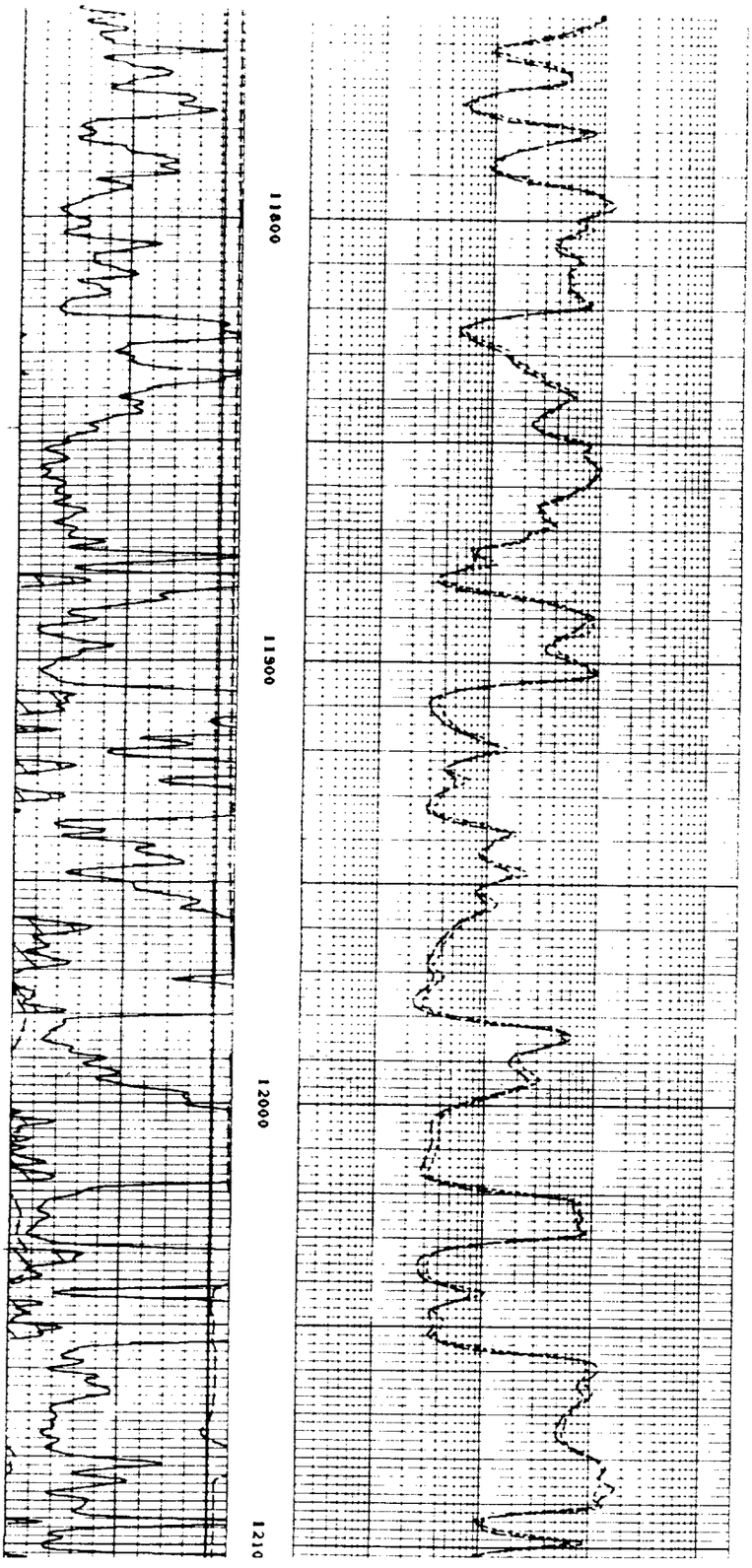
LOCATION 1980 FNL & 1880' FWL

SEC 6 TWP 24-S RGE 29-E

Other Services: CN/CDL/GR, BHC AL/GR, DLL/MLL/GR, PROLOG

Permanent Datum	GROUND LEVEL	Elev. 3000	Elev. KB 3022, DF, GL 3000
Log Measured from	K. B.	22 Ft. Above Permanent Datum	
Drilling Measured from	K. B.		

Date	2-25-82	3-13-82
Run No.	ONE	TWO
Service Order	19007	19097
Depth - Driller	12,580	13,300
Depth - Logger	12,571	13,305
Bottom Logged Interval	12,570	13,297
Top Logged Interval	10,300	12,564
Casing - Driller	9 5/8 @ 10400	7" @ 12571
Casing - Logger	10396	12564
Bit Size	8 1/2"	6 1/8"
Type Fluid in Hole	UNIVERT (OIL BASE)	
Density and Viscosity	13.2 38	TO TUB
pH and Fluid Loss	10.2 cc	7.8 cc
Source of Sample	FLOWLINE	FLOWLINE
Rm @ Meas. Temp.	7.9 @ 62 °F	@ °F @ °F @ °F
Rmf @ Meas. Temp.	6.7 @ 62 °F	@ °F @ °F @ °F
Rmc @ Meas. Temp.	@ °F	@ °F @ °F @ °F
Source of Rmf and Rmc	MEAS.	
Rm @ BHT	3.0 @ 163 °F	@ °F @ °F @ °F
Time Since Circ.	15 HOURS	13 HOURS
Max. Rec. Temp. Deg. F	163°	171 °F °F
Equip. No. and Location	6328 HOBBS	6328 HOBBS
Recorded By	MCLEROY	WILBAND
Witnessed By	RIKLI	RIKLI



Dresser Atlas

DRESSER

Compensated Densilog
Compensated Neutron
Gamma Ray

COMPANY GETTY OIL COMPANY

WELL

FIELD WILDCAT

COUNTY EDDY STATE NEW MEXICO

LOCATION

1980'FNL & 1880'FWL

SEC 6 TWP 24-S RGE 29-E

OTHER SERVICES: BHC AL GR, DLL/MLL/GR, DIL/GR

GROUND LEVEL ELEV. 3000

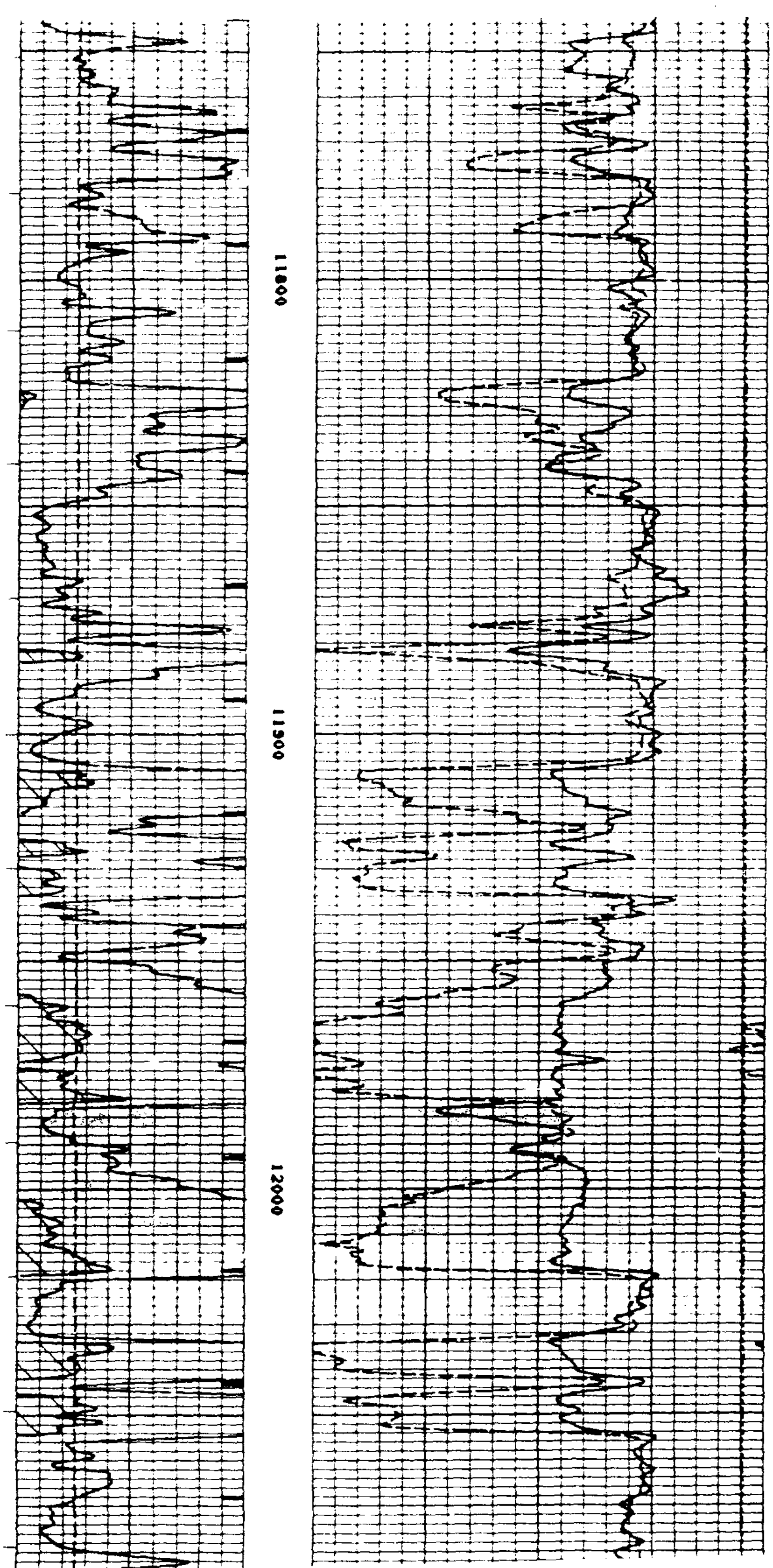
K. B. 22

K. B.

K.B. 3022

G.L. 3000

2-1-82	2-25-82	3-13-82	
ONE	TWO	THREE	
38116	19007	19097	
10,400	12,580	13,300	
10,400	12,571	13,305	
10,397	12,568	13,302	
2,753	10,300	12,564	
13 3/8 762 2753	9 5/8 10400 10396	7" 12521 12,564	
12 1/4"	8 1/2"	6 1/8"	
BRINE	OMNIVERT	OMNIVERT	
9.3 28	13.2 48	10 48	
10 -	- 10.2	- 7.8	
FLOWLINE	FLOWLINE	FLOWLINE	
.067 65	2.9 62	-	
.054 65	6.7 62	-	
-	-	-	
MEAS.	MEAS.		
.032 150	3.0 163		
16 HOURS	5 HOURS	10 HOURS	
150	163	171	
6273 HOBBS	6328 HOBBS	6328 HOBBS	
WILBAND-BROWN	MCLEROY	WILBANKS	
RIKLI	RIKLI	RIKLI	



Schlumberger

COMPOSITE OF DUAL INDUCTION AND DUAL LATEROLOG.

COMPANY HNG OIL COMPANY

WELL QUEEN LAKE "19" FEDERAL #1

FIELD WILDCAT

COUNTY EDDY STATE NEW MEXICO

LOCATION 1950' FNL & 1980' FEL

Other Services: CNL/FDC/LDT

API SERIAL NO. | SEC 19 | TWP 24-S | RANGE 29-E

COUNTY EDDY FIELD WILDCAT LOCATION WELL QUEEN LAKE "19" FEDERAL #1 COMPANY HNG OIL COMPANY

Permanent Datum: G.L. Elev.: 2956
Log Measured From K.B. 20 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 2976
D.F.
G.L. 2956

Date	11-20-82	12-21-82	
Run No.	ONE (DLL)	TWO (OIL)	
Depth—Driller	11200	13499 (STRAP)	
Depth—Logger (Schl.)	11185	13493	
Btm. Log Interval	11178	13484	
Top Log Interval	2628	11186	
Casing—Driller	9 5/8@2630	7 @11190	@ @
Casing—Logger	2628	11186	
Bit Size	8 1/2	6 1/8	
Type Fluid in Hole	BRINE	OIL E-2	
Dens. / Visc	9.7 / 30	11.7 / 55	
pH / Fluid Loss	10 / ml	4.8ml	ml / ml
Source of Sample	PIT	MUD PIT	
Rm @ Meas. Temp.	.06 @62 °F	@ °F	@ °F / @ °F
Rmf @ meas. Temp.	@ °F	@ °F	@ °F / @ °F
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F / @ °F
Source: Rmf / Rmc			
Rm @ BHT	.024 @165 °F	@ °F	@ °F / @ °F
TIME Circulation Stopped	0700	0530	
TIME Logger on Bottom	1700	2115	
Max. Rec. Temp.	165 °F	199 °F	°F / °F
Equip. / Location	8185 / RSWL	8215 / RSWL	/
Recorded By	GARVIN	CROFUT	
Witnessed By	BROTEN	THOMAS	

RECEIVED
JAN 11 1983
OIL & GAS
MINERALS MGMT SERVICE
ROSWELL, NEW MEXICO

The well name, location and borehole reference data were furnished by the customer

11900

12000

12100

COMPENSATED NEUTRON-LITHO DENSITY

COMPANY MNG OIL COMPANY

WELL QUEEN LAKE "19" FEDERAL #1

FIELD WILDCAT

COUNTY EDDY STATE NEW MEXICO

LOCATION 1950' FNL & 1980' FEL

Other Services: DLL/DIL

API SERIAL NO | SEC 19 | TWP 24-S | RANGE 29-E

Permanent Datum: G.L. Elev.: 2956

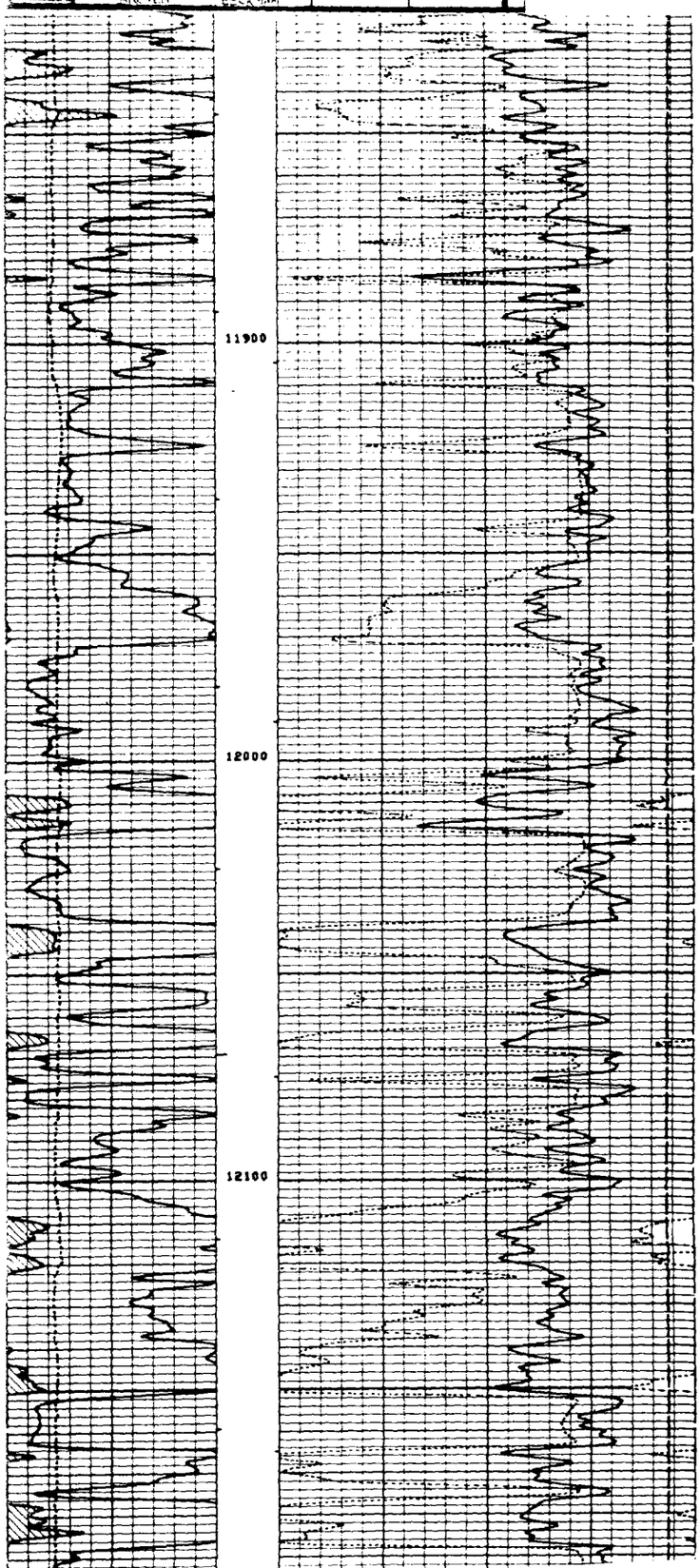
Log Measured From K.B. 20 Ft. Above Perm. Datum

Drilling Measured From K.B.

Elev.: K.B. 2976 D.F. G.L. 2956

Date	11-20-82	12-21-82			
Run No.	ONE (LDT)	TWO (FDC)			
Depth-Driller	11200	13499 (STRAP)			
Depth-Logger	11185	13493			
Btm. Log Interval	11182	13490			
Top Log Interval	SURFACE	11186			
Casing-Driller	9 5/8@2630	7 @11190	@	@	
Casing-Logger	2628	11186			
Bit Size	8 1/2	6 1/8			
Type Fluid in Hole	BRINE	OIL E-2			
Dens. / Visc.	9.7 / 30	11.7 / 55			
pH / Fluid Loss	10 ml	4.8 ml	ml	ml	
Source of Sample	PIT	MUD PIT			
Rm @ Meas. Temp.	.06 @62 °F	@ °F	@ °F	@ °F	
Rmf @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F	
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F	
Source: Rmf / Rmc					
Rm @ BHT	.024 @165 °F	@ °F	@ °F	@ °F	
Time Circulation Stopped	0730	0553			
Time Logger on Bottom	1308	1115			
Max. Rec. Temp.	165 °F	178 °F	°F	°F	
Equip. Location	8185 - ASML	8215 ASML			
Recorded By	CARVIN	CROFUT			
Witnessed By	SKOYEN	RESAMAN			

The well name, location and borehole reference data were furnished by the customer.



L CONSERVATION DIVISION
SE NO. 8558
RIL 24, 1985
XACO EXHIBIT NO. _____

N.[illegible] MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATIO[illegible] PLAT

Form C-102
Supersedes C-1[illegible]
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
HNG OIL CO.	QUEEN LAKE 19-FEDERAL	1

Unit Letter	Section	Township	Range	County
G	19	24 SOUTH	29 EAST	EDDY

Actual Footage Location of Well:
1980 feet from the EAST line and ~~1980~~ 1850 feet from the NORTH line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
2956'	Morrow	Wildcat	320 Acres

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

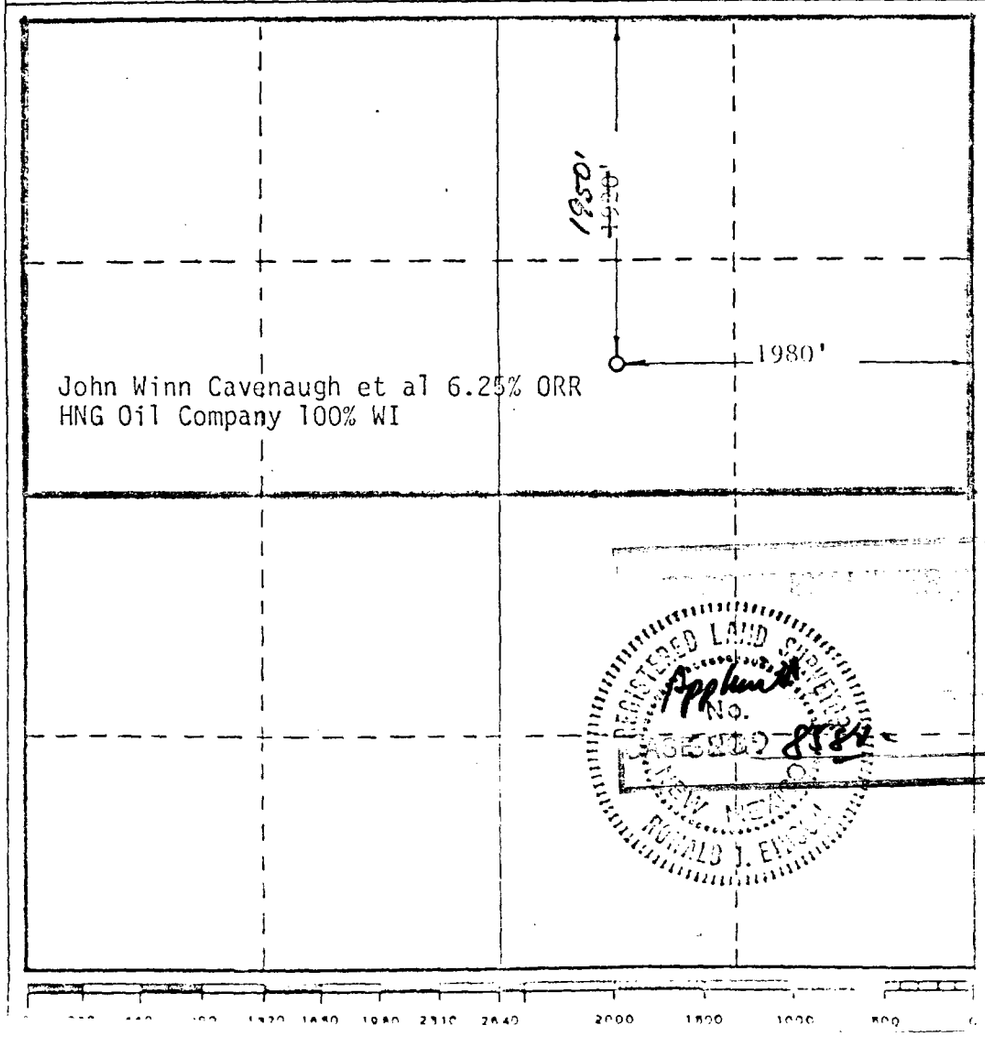
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to workin interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consoli dated 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 o 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 Commis sion.



CERTIFICATION

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

Name
Betty Gildon

Position
Regulatory Analyst

Company
HNG OIL COMPANY

Date
9/22/82

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

Date Surveyed
[illegible], 1982

Registered Professional Engineer and/or Land Surveyor

Certificate No. JOHN W. WEST
PATRICK A. ROMERO
RONALD J. EIDSON