



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

JERRY APODACA
GOVERNOR

NICK FRANKLIN
SECRETARY

October 18, 1978

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

HNG Oil Company
P. O. Box 2267
Midland, Texas 79701

Attention: Betty A Gildon

Administrative Order TX-59

Gentlemen:

Reference is made to your request for an exception to the tubing setting requirements as contained in Division Rule 107 (d) (3) for the below-named well.

Pursuant to the authority granted me by Rule 107 (d) (4), you are hereby authorized to set tubing at 10,108 feet in the following well:

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT</u>	<u>S-T-R</u>
Woods 9 Com	2	B	9-24S-38E

The Division reserves the right to rescind this authority in the event that waste appears to be resulting therefrom.

Very truly yours,

JOE D. RAMEY
Division Director

JDR/DSN/og

cc: Oil Conservation Division - Artesia

SCANNED

PV2V 2004338536

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

SEP 5 1978

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 7/18/78			
Company H. N. G. Oil Co.				Connection El Paso Natural Gas			
Pool Malaga West				Formation Morrow Gas			
Completion Date 7/5/78		Total Depth 12750		Plug Back TD 12694		Elevation 2997 G.L.	
Farm or Lease Name Woods 9 Com		Well No. 2		Unit B		Sec. Twp. Rge. 9 24S 28E	
Csg. Size 4 1/2	Wt. 18#	Set At 12,739	Perforations: From 12450 To 12554				
Tbg. Size 2 7/8	Wt. 6.5#	Set At 10,108	Perforations: From To				
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At Seal Assembly		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 189 @ 12,544'	Mean Annual Temp. °F 68°		Baro. Press. - P _a 13.2		State New Mexico
L 10108	H 10108	Gg .63	% CO ₂ None	% N ₂ None	% H ₂ S None	Prover	Meter Run 6.040 Taps Flange

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
SI						70°	4107	70	Pkr	
1.	6"	x	1.250	210	7.5	94	3922	70	Pkr	60 min.
2.	6"	x	1.250	285	11	87	3679	71	Pkr	60 min.
3.	6"	x	1.250	420	14	78	3373	72	Pkr	60 min.
4.	6"	x	1.250	430	24	68	2921	72	Pkr	60 min.
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	7.405	40.91	223.2	.9688	1.260	1.017	376
2	7.405	57.27	298.2	.9750	1.260	1.024	534
3	7.405	77.87	433.2	.9831	1.260	1.139	814
4	7.405	103.13	433.2	.9924	1.260	1.040	993
5.							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio None	Mcf/bbl.
1.	.33	554	1.5	.966	A.P.I. Gravity of Liquid Hydrocarbons None	Deg.
2.	.45	547	1.49	.954	Specific Gravity Separator Gas .63	XXXXXXXXXX
3.	.65	538	1.46	.926	Specific Gravity Flowing Fluid XXXXX	
4.	.66	528	1.43	.925	Critical Pressure 670 P.S.I.A.	P.S.I.A.
5.					Critical Temperature 368 R	R

P _c 5260.2 P _c ² 27670						
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.1425$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.5086$
1		5046.2	25464	2206		
2		4761.2	22669	5001		
3		4319.2	18655	9015		
4		3841.2	14755	12915		
5						

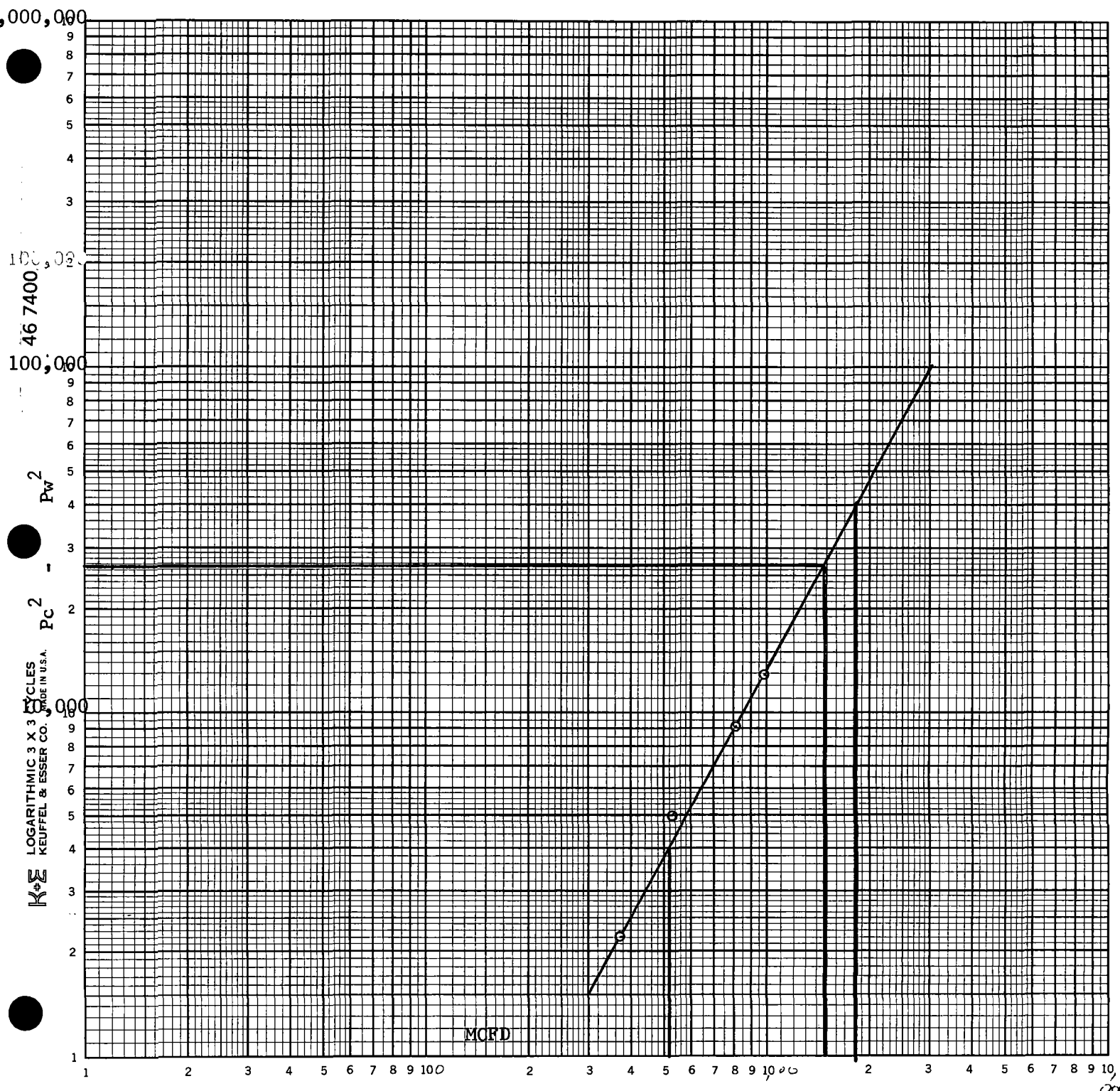
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1498$

Absolute Open Flow 1,498 Mcfd @ 15.025 Angle of Slope θ 62 Slope, n .53927

Remarks: P.W. Substituted for PT Measured Amerada Instrument No. 34683

Approved By Commission:	Conducted By: <i>Richburg</i>	Calculated By: <i>Spurlock</i>	Checked By: <i>Richburg</i>
-------------------------	----------------------------------	-----------------------------------	--------------------------------

H. N. G. Oil Company
 Woods 9 No. 2
 Absolute Open Flow
 7-18-78



$$Q_1 = 1,800$$

$$Q_2 = 520$$

$$\text{Log } Q_1 = 3.25527 \quad 1,498$$

$$\text{Log } Q_2 = 2.71600$$

$$N = .53927$$



Company	H. N. G. Oil Co.	Field	Wildcat
Well	Woods 9 No. 2	Pay	Morrow
		S.G. (Liquid)	S. G. (Gas)
Meter Run		Orifice Size	1.250
		Coefficient of Orifice	7.405

		WELL HEAD INFO.			SEPARATOR INFO.		METER RUN			FLUID MEASUREMENTS				
Date	Time	TBG Pres.	CSG Pres.	Temp.	Temp.	Choke	Pres.	Dif.	Volume	Inches	Inches Per Hr.	BBLS Per Hr.	BBLS Per Day	BBLS Per MMCF
7-18-78	09:00	4107	Pkr	70	70	4/64	Start	of 1st	Rate					
	09:30	3956		70	92		210	7.5	385					
	10:00	3922		70	94		210	7.5	376 MCFO		0			
	10:00		Opened Choke to			5/64	Start	of 2nd	Rate					
	10:30	3724		71	89		295	13	589					
	11:00	3679		72	87		285	11	534 MCFO		0			
	11:00		Opened Choke to			6/64	Start	of 3rd	Rate					
	11:30	3417		72	80		425	16.5	887					
	12:00	3345		72	78		420	14	814 MCFO		0			
	12:00		Opened Choke to			8/64	Start	of 4th	Rate					
	12:30	3068		72	72		430	28	1069					
	13:00	2921		72	68		430	24	993		0			



JOHN KUYKENDALL WIRELINE SERVICE Co., Inc.
P. O. Box 184 / A/C 915 337-5241 / ODESSA, TEXAS 79760

BOTTOM HOLE PRESSURE REPORT

Operator H. N. G. Oil Co. Lease Woods 9 Well No. 2
Field Wildcat Reservoir Morrow Datum 12,544
Test Date 7-8-78 Well Status Shut In Hours Shut In 120
Tubing 2 7/8 Depth 10,108 End _____ Packer _____ S. N. _____
Casing 4 1/2 Depth _____ Perf. 12,534 - 12,554 Total Depth 13,000

	Depth	Press. Lbs/Sq. In.	Δ Press.	Gradient Lbs/Ft.
Tubing Press. <u>4107 DWG</u>	-0-	4106		
Casing Press.	5000	4567	461	.092
Top of Fluid. <u>None</u>	10000	5020	452	.091
Top of Water.				
Temp. @ <u>12,544 F. 189</u>	12044	5202	182	.089
Elev. KB. <u>GI</u>	12544	5247	45	.090
Last Test Date. <u>Initial</u>				
Press. Last Test.				
Change. <u>Per Day</u>				
Inst. No. <u>34683</u> Cal.				
Tested By. <u>Richburg</u>				
Calcu. By. <u>Richburg</u>				
Prod. Index. <u>Bbls/day/lb.</u>				
Drop.				
Cumulative prod.				

Remarks:



JOHN KUYKENDALL WIRELINE SERVICE Co., Inc.
P. O. Box 184 / A/C 915 337-5241 / ODESSA, TEXAS 79760

STATIC-FLOWING-B. H. PRESSURES

COMPANY H. N. G. Oil Co. Well & No. Woods 9 No. 2
FIELD Wildcat Date 7-18-78 Instrument No. 34683 0-7000#

DATE	STATUS	SERV. TIME	ELAPSED TIME		D. W. T. TP	BHP PSIG @ 12,594
			HRS.	MIN		
7-18-78	Instrument on Bottom	08:45			4107	5247
	Opened Well to Separator	09:00	00	00	4107	5247
	Start of 4-Point 4/64	09:15	00	15	3992	5138
		09:30	00	30	3956	5078
		09:45	00	45	3935	5051
	Flowing 376 MCFD	10:00	01	00	3922	5033
	Start of 2nd Rate 5/64	10:00	00	00		
		10:15	00	15	3780	4880
		10:30	00	30	3724	4804
		10:45	00	45	3695	4766
	Flowing 534 MCFD	11:00	01	00	3679	4748
	Start of 3rd Rate 6/64	11:00	00	00		
		11:15	00	15	3522	4541
		11:30	00	30	3417	4436
		11:45	00	45	3373	4357
	Flowing 814 MCFD	12:00	01	00	3345	4306
	Start of 4th Rate 8/64	12:00	00	00		
		12:15	00	15	3139	4157
		12:30	00	30	3068	3992
		12:45	00	45	2965	3904
	Flowing 993 MCFD	13:00	01	00	2921	3828

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

SEP 5 1978

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

SUNDRY NOTICES AND REPORTS ON WELLS DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO RE-ENTER OR RE-LEASE TO A DIFFERENT RESERVOIR. USE APPLICATION FOR PERMIT - (FORM C-101) FOR SUCH PROPOSALS.		5a. Indicate Type of Lease State ☐ Fee ☒
1. ☐ OIL WELL ☒ GAS WELL ☐ OTHER-		5. State Oil & Gas Lease No.
2. Name of Operator HNG Oil Company		7. Unit Agreement Name
3. Address of Operator P.O. Box 2267, Midland, Texas 79702		8. Farm or Lease Name Woods Com 9
4. Location of Well UNIT LETTER <u>B</u> <u>990</u> FEET FROM THE <u>North</u> LINE AND <u>1980</u> FEET FROM THE <u>East</u> LINE, SECTION <u>9</u> TOWNSHIP <u>24S</u> RANGE <u>28E</u> NMPM.		9. Well No. 2
10. Field and Pool, or Wildcat Malaga West (Morrow)		11. County Eddy
12. Elevation (Show whether DF, RT, CR, etc.) 2997 GL		13. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

13. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐ TEMPORARILY ABANDON ☐ PULL OR ALTER CASING ☐ OTHER ☐	PLUG AND ABANDON ☐ CHANGE PLANS ☐	REMEDIAL WORK ☐ COMMENCE DRILLING OPNS. ☐ CASING TEST AND CEMENT JOBS ☒ OTHER ☐	ALTERING CASING ☐ PLUG AND ABANDONMENT ☐

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

6-9-78 Set 10,248' of 7" 23# S-95 LT&C cemented with 800 sx TLW & 500 sx CLC ND Stack
 NU Cameron head & tested to 2000#
 NU & raise choke manifold. Test stack to 5000#

6-27-78 Set 12,739' of 4-1/2" 13.5# N-80 LT&C R-3
 Cemented with 425 sx CIH
 Top of 4-1/2" liner at 10,108.95'

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

SIGNATURE Betty A. Gildon TITLE Regulatory Clerk DATE 9/1/78

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

Form C-105
Revised 11-1-76

SEP 5 1978

1a. TYPE OF WELL		5a. Indicate Type of Lease State ☐ Fee ☒	
b. TYPE OF COMPLETION NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ OTHER ☐		5. State Oil & Gas Lease No.	
2. Name of Operator HNG Oil Company		7. Unit Agreement Name	
3. Address of Operator P.O. Box 2267, Midland, Texas 79702		8. Farm or Lease Name Woods 9 Com	
4. Location of Well UNIT LETTER <u>B</u> LOCATED <u>990</u> FEET FROM THE <u>North</u> LINE AND <u>1980</u> FEET FROM <u>THE East</u> LINE OF SEC. <u>9</u> TWP. <u>24S</u> RGE. <u>28E</u> NMMPM		9. Well No. 2	
		10. Field and Pool, or Wildcat Malaga West (Morrow)	
		12. County Eddy	
15. Date Spudded 4-29-78	16. Date T.D. Reached 6-29-78	17. Date Compl. (Ready to Prod.) 7-5-78	18. Elevations (DF, RKB, RT, GR, etc.) 2997 GL
20. Total Depth 12,750'	21. Plug Back T.D. 12,694	22. If Multiple Compl., How Many	23. Intervals Drilled By Rotary Tools 0-12,750
24. Producing Interval(s), of this completion - Top, Bottom, Name 12,450-12,457 12,534-12,537 12,551-12,554 Morrow Sands			25. Was Directional Survey Made No
26. Type Electric and Other Logs Run Neutron-Density (Dresser-Atlas)			27. Was Well Cored No
28. CASING RECORD (Report all strings set in well)			
CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE
13-3/8"	48#	666'	17-1/2"
9-5/8"	36#	2465'	12-1/4"
7"	23#	10,248'	8-1/8"
29. LINER RECORD		30. TUBING RECORD	
SIZE	TOP	BOTTOM	SACKS CEMENT
4-1/2"	10,108.95'	12,739'	425 sx
31. Perforation Record (Interval, size and number) 12450-12457-8, .41" holes 12534-12537-4, .41" holes 12551-12554-4, .41" holes		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. DEPTH INTERVAL 12450-12554 AMOUNT AND KIND MATERIAL USED 5000 gals. 10% Monoco-Flo acid in 5 stages w/7/8" RCP ball sealers (20) between stages.	
33. PRODUCTION			
Date First Production 7-18-78	Production Method (Flowing, gas lift, pumping - Size and type pump) Flowing		Well Status (Prod. or Shut-in) Shut-in
Date of Test 7/18/78	Hours Tested 4	Choke Size 4/64 to 8/64	Prod'n. For Test Period None
Flow Tubing Press. 2921	Casing Pressure PKR	Calculated 24-Hour Rate None	Oil - Bbl. 1498 AOF
		Gas - MCF None	Water - Bbl. None
		Oil Gravity - API (Corr.) None	
34. Disposition of Gas (Sold, used for fuel, vented, etc.) Vented			Test Witnessed By Spruell
35. List of Attachments Neutron - Density Log			
36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.			
SIGNED Betty A. Gildon		TITLE Regulatory Clerk	
		DATE 9/1/78	

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

Northwestern New Mexico

T. Anhy <u>0907</u>	T. Canyon	T. Ojo Alamo	T. Penn. "B"
T. Salt	T. Strawn <u>11275</u>	T. Kirtland-Fruitland	T. Penn. "C"
B. Salt	T. Atoka <u>11520</u>	T. Pictured Cliffs	T. Penn. "D"
T. Yates	T. Miss	T. Cliff House	T. Leadville
T. 7 Rivers	T. Devonian	T. Menefee	T. Madison
T. Queen	T. Silurian	T. Point Lookout	T. Elbert
T. Grayburg	T. Montoya	T. Mancos	T. McCracken
T. San Andres	T. Simpson	T. Gallup	T. Ignacio Qtzte
T. Glorieta	T. McKee	Base Greenhorn	T. Granite
T. Paddock	T. Ellenburger	T. Dakota	T.
T. Blinebry	T. Gr. Wash	T. Morrison	T.
T. Tubb	T. Granite	T. Todilto	T.
T. Drinkard	T. Delaware Sand	T. Entrada	T.
T. Abo	T. Bone Springs	T. Wingate	T.
T. Wolfcamp <u>9343</u>	T.	T. Chinle	T.
T. Penn.	T.	T. Permian	T.
T. Cisco (Bough C)	T.	T. Penn. "A"	T.

OIL OR GAS SANDS OR ZONES

No. 1, from <u>12449</u> to <u>12556</u>	No. 4, from _____ to _____
No. 2, from _____ to _____	No. 5, from _____ to _____
No. 3, from _____ to _____	No. 6, from _____ to _____

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from <u>None</u> to _____ feet.
No. 2, from _____ to _____ feet.
No. 3, from _____ to _____ feet.
No. 4, from _____ to _____ feet.

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
2530	6160	3630	Delaware				
6160	9343	3283	Bone Springs				
9343	-		Wolfcamp				
11275	11520	245	Strawn				
11520	12040	520	Atoka				
12040	TD		Morrow				

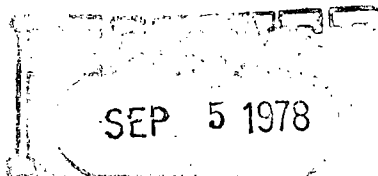


P. O. BOX 2267, MIDLAND, TEXAS 79701

(915) 683-4871

September 1, 1978

Oil Conservation Commission
State of New Mexico
P.O. Box 2088
Santa Fe, New Mexico 87501



ATTN: Joe D. Ramey
Secretary-Director

RE: Woods Com 9 Well #2
Malaga, West (Morrow)
Eddy County

Dear Mr. Ramey:

Tubing for the above-named well has been set at 10,108 feet,
and casing perforated from 12,450 to 12,554 feet.

This office requests administrative exception to Rule 107d.

Very truly yours,

HNG OIL COMPANY

Betty A. Gildon

Betty A. Gildon

BAG/mjc

*Supplementary Data
in Well File*

NEW MEXICO OIL CONSERVATION COMMISSION
REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Form C-104
Supersedes Old C-104 and C-110
Effective 1-1-65

SEP 5 1978

DISTRIBUTION			
ANTA FE			
ILE			
S.G.S.			
LAND OFFICE			
TRANSPORTER	OIL		
	GAS		
OPERATOR			
PRORATION OFFICE			

Operator HNG Oil Company	
Address P.O. Box 2267, Midland, Texas 79702	
Reason(s) for filing (Check proper box)	Other (Please explain)
New Well ☒	Change in Transporter of:
Recompletion ☐	Oil ☐ Dry Gas ☐
Change in Ownership ☐	Casinghead Gas ☐ Condensate ☐

If change of ownership give name
and address of previous owner

II. DESCRIPTION OF WELL AND LEASE

Lease Name Woods Com 9	Well No. 2	Pool Name, including Formation Malaga, West (Morrow)	Kind of Lease State, Federal or Fee	Lease No. Fee
Location Unit Letter <u>B</u> ; <u>990</u> Feet From The <u>North</u> Line and <u>1980</u> Feet From The <u>East</u> Line of Section <u>9</u> Township <u>24S</u> Range <u>28E</u> , NMPM, <u>Eddy</u> County				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil ☐ or Condensate ☐	Address (Give address to which approved copy of this form is to be sent)	
Name of Authorized Transporter of Casinghead Gas ☐ or Dry Gas ☒	Address (Give address to which approved copy of this form is to be sent)	
El Paso Natural Gas	P.O. Box 1492, El Paso, Texas 79978	
If well produces oil or liquids, give location of tanks.	Unit	Sec.
	Twp.	Rge.
	Is gas actually connected? When	
	9-1-78 Pending Commission approval	

If this production is commingled with that from any other lease or pool, give commingling order number:

IV. COMPLETION DATA

Designate Type of Completion - (X)	Oil Well	Gas Well	New Well	Workover	Deepen	Plug Back	Same Res'v.	Diff. Res'v.
		X	X					
Date Spudded 4-29-78	Date Compl. Ready to Prod. 7-4-78	Total Depth 12,750	P.B.T.D. 12,694					
Elevations (DF, RKB, RT, GR, etc.) 2997-1 GR	Name of Producing Formation Morrow	Top Oil/Gas Pay	Tubing Depth 10,108					
Perforations 12,450 to 12,554	Depth Casing Shoe							

TUBING, CASING, AND CEMENTING RECORD

HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT
17-1/2	13-3/8"	666'	450 sx TLW & 200 sx C10
12-1/4	9-5/8"	2465'	1300 sx TLW & 300 sx C10
8-1/2	7"	10,248'	800 sx TLW & 500 sx C10
6-1/8	5"	12,739'	425 sx C1H

V. TEST DATA AND REQUEST FOR ALLOWABLE OIL WELL

(Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours)

Date First New Oil Run To Tanks	Date of Test	Producing Method (Flow, pump, gas lift, etc.)	
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
Actual Prod. During Test	Oil-Bbls.	Water-Bbls.	Gas-MCF

GAS WELL

Actual Prod. Test-MCF/D 113	Length of Test 4 hours	Bbls. Condensate/MMCF Dry	Gravity of Condensate -
Testing Method (pilot, back pr.) Positive Choke	Tubing Pressure (shut-in) 4107	Casing Pressure (shut-in) Packer	Choke Size 4/64

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Commission have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Betty A. Gildon Betty A. Gildon
(Signature)

Regulatory Clerk

(Title)

9/1/78

(Date)

OIL CONSERVATION COMMISSION

APPROVED _____, 19____

BY _____

TITLE _____

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.