

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 10/22/85	
Company HNG Oil Co.			Connection Trans Western		
Pool Pitchfork Ranch			Formation Morrow		Unit
Completion Date 4/23/85		Total Depth 15,440		Plug Back TD 14,974	
				Elevation 3341	
Farm or Lease Name Chapparel 10					
Coq. Size 4 1/2	Wt. 15&10	d 3.826	Set At 15,440	Perforations: From 14,905 To 14,939	
Thq. Size 2 7/8	Wt. 6.5	d 2.441	Set At 12964	Perforations: From OPEN To END	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 13,924	
Producing Thru Tbg.		Reservoir Temp. °F 223 @ 14932		Mean Annual Temp. °F 60	
				Baro. Press. - P _a 13.2	
State New Mexico					
L 14,932	H 14,932	G _q .5707	% CO ₂ .442	% N ₂ .306	% H ₂ S
Prover		Meter Run 2.067		Taps Flg.	

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							6935		2425	
1.	2.067 X 1.125			850	5	87	5750		2425	
2.	2.067 X 1.125			850	8	104	4950		2410	
3.	2.067 X 1.125			850	14	100	4200		2400	
4.	2.067 X 1.125			850	20	98	3420		2400	
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	6.393	65.70	863.2	.9750	1.323	1.055	572
2	6.393	83.10	863.2	.9602	1.323	1.048	707
3	6.393	109.93	863.2	.9636	1.323	1.049	940
4	6.393	131.39	863.2	.9653	1.323	1.051	1127
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Dry _____ Mcf/bbl.	
1.	1.28	547	1.58	.898	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.	
2.	1.28	564	1.63	.910	Specific Gravity Separator Gas .571 XXXXXXXXXX	
3.	1.28	560	1.62	.908	Specific Gravity Flowing Fluid XXXXX	
4.	1.28	558	1.61	.905	Critical Pressure 672 P.S.I.A. _____ P.S.I.A.	
5.					Critical Temperature 346 R _____ R	

P _c 7224.0 P _c ² 52186.2			
NO.	P _i ²	P _w	P _w ²
1		6336.1	40146.2
2		5813.1	33792.2
3		5195.8	26996.3
4		4994.8	24948.0
5			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.916$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.159$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.916$

Absolute Open Flow 2,159 Mcfd @ 15.025	Angle of Slope 45	Slope, n 1.00
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Remarks: P_c & P_w were calculated from known bottom hole pressures. Well Made no fluid during Test.

Approved By Division	Conducted By: Duke Services, Inc.	Calculated By: R. Reston	Checked By:
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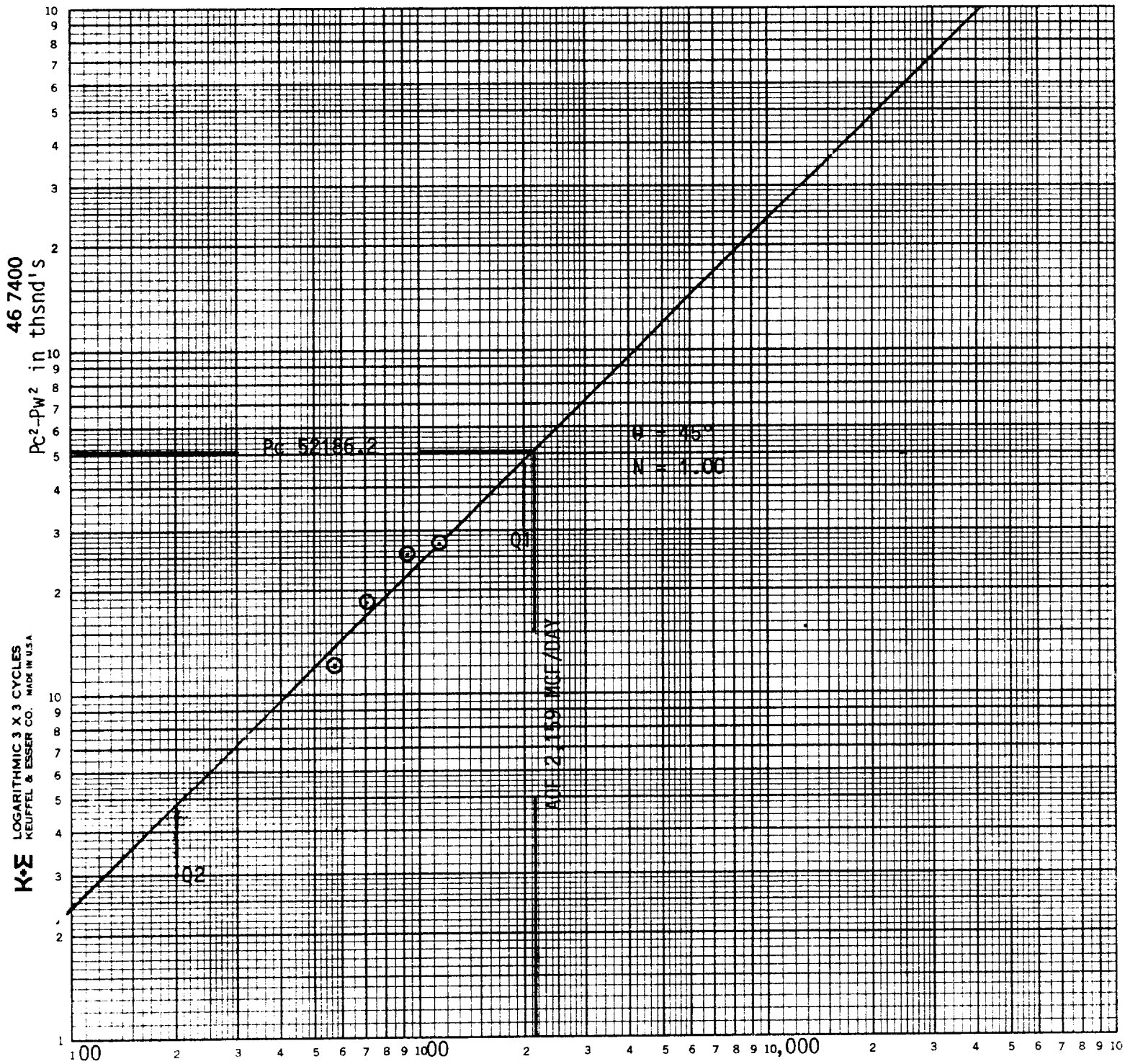
Betty Seldon - HNG Oil Company - 10/30/85

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NOV 1 - 1985

O.C.D.
HOBBS OFFICE

COMPANY: HNG OIL COMPANY
 LEASE: CHAPPAREL 10
 COUNTY: LEA
 DATE: 10/22/85



$Q = \text{MCF/DAY}$

$Q_1 = 2000 = \text{Log } 3.301030$
 $Q_2 = 200 = \text{Log } 2.301030$

$N = 1.000000$

$CAOF = 1127 \left(\frac{52186.2}{27238.2} \right)^{1.00}$
 $= 2,159 \text{ MCF/DAY}$

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