

MULTIPOINT AND ONE POINT BACK PRESURE TEST FOR GAS WELL

Form G-175
Revised 1-1-65

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 10-12-77	
Company W. E. Bakke, Jr.			Connection None		
Pool Wagon Mound (Dakota)			Formation Dakota		Unit N
Completion Date 2-18-77		Total Depth 502	Plug Back TD 502	Elevation 6245 Gr.	Form or Lease Name Darwin Daniels
Casing Size 7"	Wt. 17#	d. .	Set At 455	XXXXXXXXXX OPEN HOLE From 455 To 502	
Perf. Size None	Wt. .	d. .	Set At .	Perforations: 0 From To	Well No. 2
Type Well - Single - Rodenhead - G.G. or G.O. Multiple Single				Packer Set At	County Mora
Producing Thru Casing		Reservoir Temp. °F 60	Mean Annual Temp. °F		State New Mexico
L 479	H .479	Gg .598	% CO ₂ .31	% N ₂ 9.99	% H ₂ S .
Prover		Meter Run		Taps	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI									2.80	60°	
1.	2.0"		.5	1.8	4" Hg	60°			1.80	60°	91 min
2.	2.0"		.75	1.54	3.2"Hg	60°			1.54	60°	55 min
3.	2.0"		1.00	1.05	2.4"Hg	60°			1.05	60°	69 min
4.	2.0"		1.25	.40	1.4"Hg	60°			.40	60°	75 min
5.											

RATE OF FLOW CALCULATIONS							
NO.	Volumes From Coefficient OWT (24 Hour) Tables	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor F_L	Gravity Factor F_g	Super Compress. Factor, F_{pv}	Rate of Flow Q, Mcf/d
1.	47.4		15.00	1.000	1.293	Negligible	61.29
2.	95.0		14.74	1.000	1.293	Negligible	122.84
3.	149.0		14.25	1.000	1.293	Negligible	192.66
4.	192.0		13.60	1.000	1.293	Negligible	248.26
5.							

NO.	P_r	Temp. °R	T_r	Z	Gas Liquid Hydrocarbon Ratio None Produced			Mcf/bbl.
1.		Negligible			A.P.I. Gravity of Liquid Hydrocarbons			Deg.
2.		Negligible			Specific Gravity Separator Gas			.598
3.		Negligible			Specific Gravity Flowing Fluid			.598
4.		Negligible			Critical Pressure			654 P.S.I.A.
5.		Negligible			Critical Temperature			330 °R

P_c	16.0	P_c^2	.256					
NO	P_c^2	P_w	P_w^2	$P_c^2 - P_w^2$	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.60563$			(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.60563$
1		15	225	.031	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 895$			
2		14.74	217	.039				
3		14.25	203	.053				
4		13.60	.185	.071				
5								

Absolute Open Flow	895	Mcf/d @ 15.025	Angle of Slope θ	45°	Slope, n	1.00
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Remarks: Due to extremely low surface pressures, no attempt has been made to calculate flowing sub-surface pressures and static surface pressures, observed surface pressures have been used for plotting.

Approved By: Commission	Conducted By:	Calculated By:	Checked By:
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