

CONFIDENTIAL

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 6 27 90	
Company HANSON OPERATING CO INC		Connection FLARE AIR	
Pool RED LAKE QUEEN		Formation PREMIER	
Completion Date 6 5 90		Total Depth 2250	Plug Back TD 2185
		Elevation 3647 G.L.	Farm or Lease Name H & K FEDERAL
Csg. Size 5.500	Wt. 14.0	d 5.012	Set At 2250
Perforations: From 2126 To 2153		Well No. 2	
Thq. Size 2.375	Wt. 4.7	d 1.995	Set At 2138
Perforations: From OPEN ENDED To		Unit M	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE GAS		Packer Set At 2076	County EDDY
Producing Thru TUBING	Reservoir Temp. °F 90	Mean Annual Temp. °F 60	Baro. Press. - Hg 13.2
State NM			
L 2139	H 2139	Gg .692	% CO ₂ .11
		% N ₂ 11.16	% H ₂ S 0
		Prover 0	Meter Run 2.0
			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.		Temp. °F
SI						705	60			72.0
1.	2.00X1.500		70	98.0	60	450	60			1.0
2.	2.00X1.500		70	49.0	60	566	60			1.0
3.	2.00X1.500		60	24.0	60	614	60			1.0
4.	2.00X1.500		55	11.0	60	668	60			1.0
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	13.20	90.30	83.2	1.0000	1.2021	1.0073	1444
2	13.20	63.85	83.2	1.0000	1.2021	1.0073	1021
3	13.20	41.91	73.2	1.0000	1.2021	1.0064	669
4	13.20	27.39	68.2	1.0000	1.2021	1.0059	437
5							

NO.	P _t	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	.13	520	1.46	.986	A.P.I. Gravity of Liquid Hydrocarbons	0
2	.13	520	1.46	.986	Specific Gravity Separator Gas	692
3	.11	520	1.46	.987	Specific Gravity Flowing Fluid	XXXXXX
4	.11	520	1.46	.988	Critical Pressure	649 P.S.I.A.
5					Critical Temperature	357 R

NO.	P _i ²	P _w	P _w ²	P _i ² - P _w ²
1	215	481	232	284
2	335	586	344	172
3	393	630	397	119
4	464	682	466	50
5				

(1) $\frac{P_c^2}{P_i^2 - P_w^2} = 1.8147$

AOF = 0 $\left[\frac{P_i^2}{P_c^2 - P_w^2} \right]^n = 2177$

(2) $\left[\frac{P_i^2}{P_c^2 - P_w^2} \right]^n = 1.5083$

Absolute Open Flow	2177	Mcf @ 15.025	Angle of Slope	55.4	Slope, n	690
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Remarks: CHOKE SIZES: 1ST RATE 18/64 2ND RATE 16/64 3RD RATE 14/64 4TH RATE 12/64

Approved By Division	Conducted By: BENNETT-CATHEY	Calculated By: MONTY RANDOLPH	Checked By:
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