

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☐ Initial ☐ Annual ☒ Special						Test Date 8-4-82		RECEIVED	
Company Hondo Oil and Gas Company				Connection Cabot Corporation				AUG 12 1982	
Pool Empire South Deep Morrow				Formation Morrow				O. C. D.	
Completion Date 11-30-79				Total Length 10929		Plug Back TD 10860		Elevation 3671 G.L.	
Farm or Lease Name State BV				Well No. 2		ARTESIA OFFICE			
Csg. Size 5.5		Wt. 17		d 4.892		Set At 10929		Perforations: From 10610 To 10682	
Tbg. Size 2.875		Wt. 6.5		d 2.441		Set At 10557		Perforations: From 10560 To 10563	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single						Packer Set At 10557		County Eddy	
Producing Thru Tbg.		Reservoir Temp. °F 162 @ 10647		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2		State New Mexico	
L 10560		H 10560		G _g .689		% CO ₂ .597		% N ₂ .790	
						% H ₂ S -0-		Prover 4.026	
								Meter Run 4.026	
								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.		Temp. °F
SI							1132		Pkr.		30 Hrs.
1.	4 x 2.625			309	2.25	87	997	70			1 Hr.
2.	4 x 2.625			321	6.25	92	958	70			1 Hr.
3.	4 x 2.625			345	17.64	85	887	70			1 Hr.
4.	4 x 2.625			371	25.0	84	807	70			1 Hr.
5.	4 x 2.625			415	47.61	89	542	70			1 Hr.

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	36.66	26.92	322.2	.9750	1.205	1.031	1196
2	36.66	45.70	334.2	.9706	1.205	1.031	2020
3	36.66	79.49	358.2	.9768	1.205	1.034	3547
4	36.66	98.01	384.2	.9777	1.205	1.037	4389
5	36.66	142.78	428.2	.9732	1.205	1.041	6390

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	.48	547	1.42	.941	104.42	
2	.50	552	1.44	.941	54.4 @ 60°F	
3	.53	545	1.42	.935	A.P.I. Gravity of Liquid Hydrocarbons	
4	.57	544	1.42	.930	Specific Gravity Separator Gas	
5	.64	549	1.43	.923	Specific Gravity Flowing Fluid	
					Critical Pressure	
					Critical Temperature	

NO.	P _r	P _w	P _w ²	P _r ² - P _w ²	(1) $\frac{P_r^2}{P_r^2 - P_w^2} =$	(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n =$
1	1405.2	1974.59	154.67		4.365	4.097
2	1403.2	1968.97	160.29			
3	1366.2	1866.50	262.76			
4	1343.2	1804.19	325.07			
5	1281.2	1641.47	487.79			

Absolute Open Flow				26180 Mcfd @ 15.025		Angle of Slope @ 46° 15'		Slope, n .957	
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Remarks:		*BHP measured @ 10646 (mid point of perfs). 7 bbls. condensate and 1 bbl. water. Test after additional perfs and replace 2.375 tbg. with 2.875 tbg.							
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Approved By Division		Conducted By: James Cogburn		Calculated By: James Cogburn		Checked By: Steve Smith	
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