

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

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Form C-122
Revised 9-1-65
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Type Test ☒ Initial ☐ Annual ☐ Special		FEB 15 1977		Test Date 12-10-76	
Company Shell Oil Company			Connection D.C.C. ARTESIA, OFFICE		
Pool Cemetery - Morrow			Formation Morrow		Unit
Completion Date 11-22-76		Total Depth 9869'	Plug Back TD 9830'	Elevation 3718' (GL)	Farm or Lease Name Federal 6
Csg. Size 5 1/2	Wt. 17 15.5, 14	d 4.892" 4.950"	Set At 9869	Perforations: 7 holes From 9535' To 9543'	Well No. 1
Tbg. Size 2 3/8"	Wt. 4.7	d 5.012" 1.995	Set At 9508	Perforations: From To	Unit Sec. Twp. Rge. I 6 21S 24E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 9471'	County Eddy
Producing Thru Tubing		Reservoir Temp. °F 163° @ 9535'	Mean Annual Temp. °F 60°F	Baro. Press. - P _a 13.2	State New Mexico
L 9508	H 9508	G _g .610	% CO ₂ .88	% N ₂ .2	% H ₂ S 0.0
Prover 4		Meter Run 4		Taps	

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							2202		Pkr.		19
1.	4	X	2	615	18	69	1985	64			1
2.	4	X	2	615	34	66	1781	66			1
3.	4	X	2	615	45	67	1652	67			1
4.	4	X	2	615	74	69	1343	67			1
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	19.81	106.34	628.2	.9915	1.280	1.055	2821
2.	19.81	146.15	628.2	.9943	1.280	1.055	3887
3.	19.81	168.13	628.2	.9933	1.280	1.055	4468
4.	19.81	215.61	628.2	.9915	1.280	1.055	5718
5.							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 3812 Mcf/bbl.
1.	.931	529	1.47	.899	A. Gravity of Liquid Hydrocarbons 51.6 Deg.
2.	.931	526	1.46	.898	Specific Gravity Separable Gas .610
3.	.931	527	1.46	.898	Specific Gravity Flowing Fluid X X X X X
4.	.931	529	1.47	.899	Critical Pressure 675 P.S.I.A.
5.					Critical Temperature 361 °R

U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

P _c 2801.2 P _w 27846.7 (Bottomhole pressure at the Sandface)				
NO.	P _t ²	P _w ²	P _w ²	P _c ² - P _w ²
1	3992.8	2593.2	6724.7	1122.0
2	3219.2	2420.2	5857.4	1989.3
3	2772.9	2316.2	5364.8	2481.9
4	1839.3	2125.2	4516.5	3330.2
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{2.356}{2.356} = 1.0$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.75$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 10,000$ MCF/day

2-18-77

Absolute Open Flow 10,000 Mcfd @ 15.025		Angle of Slope 652
Remarks: AOF was calculated using pressures (P _c & P _w) at the sandface.		
Approved By Commission:	Conducted By: Buddy Ryals	Calculated By: Bart J. Walker
Checked By:		