

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

Form C-122
Revised 9-1-65

Sinclair Oil & Gas Company (Shell Oil Company) as Lessee & Operator & Agent

Type Test ☒ Initial ☐ Annual ☐ Special		Date Dec 7 11:20 PM '66	
Company Shell Oil Company		Connection Phillips Petroleum Company	
Pool Grama Ridge (Morrow Gas)		Formation Morrow	
Completion Date November 30, 1966		Unit South Wilson Deep Unit	
Total Depth 13,403'		Plug Back ID 13,350'	
Elevation 3656' DF		Farm or Lease Name South Wilson Deep Unit	
Csg. Size 7"	Wt. 29.7	Set At 11,900'	Perforations: From 13,020' To 13,252'
4 1/2"	13.5	3.920	13,396'
Thg. Size 2 7/8"	Wt. 6.5	Set At 11,394'	Perforations: From open To end
2.441			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single		Packer Set At 11,400'	
Producing Thru Tubing		Baro. Press. - P _a 13.2	
Reservoir Temp. °F 184 @ 12,990		Mean Annual Temp. °F 60°	
L		H	
Gg	% CO ₂	% N ₂	% H ₂ S
.600	.5	0	0
Prover		Meter Run	
4		Free.	

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							3510	60	packer		44 hrs.
1.	4 x 2.00			710	6.0	87	2727	66			3
2.	4 x 2.00			715	10.0	94	2501	73			3
3.	4 x 2.00			715	17.5	96	2644	76			3
4.	4 x 2.00			715	27.0	96	1540	78			3
5.	4 x 2.00			730	32.0	81	1085	78			20

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	19.81	65.86	723.2	.9750	1.291	1.052	1.727
2	19.81	85.33	728.2	.9688	1.291	1.051	2.221
3	19.81	112.9	728.2	.9671	1.291	1.051	2.934
4	19.81	140.2	728.2	.9671	1.291	1.051	3.645
5	19.81	156.2	743.2	.9604	1.291	1.058	4.091

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcfd/bbl.
					182	
					50.5 API	
1	1.08	547	1.53	.903	Specific Gravity Separator Gas 600	XXXXXX
2	1.09	554	1.55	.906	Specific Gravity Flowing Fluid XXXXXX	
3	1.09	556	1.55	.906	Critical Pressure 671 P.S.I.A.	P.S.I.A.
4	1.09	556	1.55	.906	Critical Temperature 358 R	R
5	1.11	541	1.51	.894		

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1		3822.2	14609	12746
2		3535.2	12498	14857
3		2960.2	8763	18592
4		2314.2	5356	21999
5		1789.2	3201	24154

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.133$$

$$ACF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.635$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.133$$

Absolute Open Flow 4,635 Mcfd @ 15.025	Angle of Slope 45.0	Slope, n 1.000
---	----------------------------	-----------------------

Remarks: **B.H.P. Measured with BHP Bomb.**
Slope greater than 1.000, a slope of 1.000 drawn through 20 Hour Rate.

Approved By Commissioner:	Conducted By: A. L. Ellerd	Calculated By: A. L. Ellerd	Checked By:
---------------------------	--------------------------------------	---------------------------------------	-------------