

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

Form C-122
Revised 9-1-65

TEST NO. 1 OF 2

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 1-9-76	
Company Phillips Petroleum Company		Connection Not connected	
Fluid Undesignated-Atoka-Gas		Formation Atoka	
Completion Date 5-20-75		Total Depth 10,925	Plug Back TD 10,879
		Elevation 4269' Gr.	Farm or Lease Name Marg "B" "COM"
Well No. 51	Well Name 15.5&17	Set At 10,925	Perforations: From 10,705 To 10,811
Well No. 2-3/8"	Well Name 4.7	Set At 10,520	Perforations: From To
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single		Packer Set At 10520	County Lea
Producing Thru Tubing	Reservoir Temp. °F 168 @ 10,900	Mean Annual Temp. °F 60	Baro. Press. - P _a 13.2
State New Mexico			
L 10,520	H 10,520	G _g .712	% CO ₂ 1.20
		% N ₂ 1.79	% H ₂ S
Prover		Meter Run 4	Taps Flange

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							1,612	49	PACKER		6 mos.
1.	4.00	1.50	20.4	1	63	1,517	50				1 hr.
2.	4.00	1.50	24.0	4.41	64	1,300	57				1 hr.
3.	4.00	1.50	24.0	9.00	64	1,027	58				1 hr.
4.	4.00	1.50	24.0	25.00	63	500	62				1 hr.
5.	4.00	2.50	27.8	19.36	62	380	67				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, fd
1	10.84	5.80	33.6	.9971	1.185	1.015	75
2	10.84	12.81	37.2	.9962	1.185	1.015	166
3	10.84	18.30	37.2	.9962	1.185	1.015	237
4	10.84	30.50	37.2	.9971	1.185	1.015	397
5	32.64	28.17	41.0	.9981	1.185	1.015	1,104

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	TRACE	Mcf/bbl.
1	.05	523	1.34	.971	A.P.I. Gravity of Liquid Hydrocarbons	56	Deq.
2	.06	524	1.35	.971	Specific Gravity Separator Gas	.712	X X X X X X X X
3	.06	524	1.35	.971	Specific Gravity Flowing Fluid	X X X X X	
4	.06	523	1.34	.971	Critical Pressure	669	P.S.I.A. P.S.I.A.
5	.06	522	1.34	.971	Critical Temperature	389	R R

1. 1625.2 P _c ² 2,641				
NO.	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{2641}{2442}$
1	2,342	1530.3	2,342	299
2	1,725	1313.5	1,725	916
3	1,082	1044.8	1,082	1,549
4	263	518.7	269	2,372
5	155	446.3	199	2,442

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.08$	
AOF = $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1192$	

Angle of Slope θ 45	Slope, n 1
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Remarks: Calculation made by Electronic Calculator. Program based on New Mexico Manual for Back-Pressure testing of gas wells.

Approved by Commission: <i>Jerry Smith</i>	Conducted By: Don Throp-Robert Lee	Calculated By: <i>D.E. Simpson</i> D. E. Simpson	Checked By: <i>W.S. Mueller</i> W. S. Mueller
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