

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

Form O-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 8-20-81			
Company SHELL OIL COMPANY				Connector GAS CO. OF NEW MEXICO					
Pool ANTELOPE RIDGE				Formation ATOKA				Unit ANTELOPE RIDGE UNIT	
Completion Date 8-20-81		Total Depth 13,850'		Plug Back TD 13,150'		Elevation 3475.4' GR		Farm or Lease Name ANTELOPE RIDGE	
Csg. Size 7 5/8"	Wt. 33.7/18#	d 11,700' / 12,346'	Set At 11,700'	Perforations: From 12,386' To 12,410'		Well No.			
Tbg. Size 2 7/8"	Wt. 6.5	d 11,219'	Set At 11,219'	Perforations: From To		Unit H		Sec. 28	Twp. 23-S
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At 11,219'		County LEA			
Producing Thru TUBING		Reservoir Temp. *F 197 @ 12,398		Mean Annual Temp. *F		Baro. Press. - P _a		State NEW MEXICO	
L	H	Gg 0.607	% CO ₂	% N ₂	% H ₂ S	Prover	Meter Run 4.026	Taps X	

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							4220	76	PACKER		72 hrs.
1.	4.026	X	2.750	480	2	32	4160	76	"		1 hr.
2.	4.026	X	2.750	510	13	80	4048	76	"		1 hr.
3.	4.026	X	2.750	570	23	74	3915	78	"		1 hr.
4.	4.026	X	2.750	630	41	64	3654	79	"		1 hr.
5.	4.026	X	2.750	690	52	53	3430	79	"		1 hr.

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	41.10	31.42	493.2	.9795	1.284	1.040	1731
2	41.10	82.47	523.2	.9813	1.284	1.043	4567
3	41.10	115.82	583.2	.9868	1.284	1.052	6505
4	41.10	162.39	643.2	.9962	1.284	1.061	9236
5	41.10	191.22	703.2	1.007	1.284	1.075	11197

NO.	P _r	Temp. *R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ 433 _____ Mcf/bbl.
1.	.74	540	1.47	.922	A.P.I. Gravity of Liquid Hydrocarbons _____ 56.5 @ 60 _____ Deg.
2.	.78	538	1.46	.920	Specific Gravity Separator Gas _____ 0.639 _____ X X X X X X X X
3.	.87	534	1.45	.903	Specific Gravity Flowing Fluid _____ X X X X X _____ 646
4.	.94	524	1.42	.879	Critical Pressure _____ 670 _____ P.S.I.A. _____ 670 _____ P.S.I.A.
5.	1.05	513	1.39	.865	Critical Temperature _____ 368 _____ R _____ 372 _____ R

F _c 4365 *** P _c ² 19053				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.424$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.405$
NO.	P _w	P _w ²	P _c ² - P _w ²	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 26,929$	
1	5577.3**	4344	18870		
2	5485.0	4263	18173		
3	5377.3	4171	17397		
4	5167.0	3964	15713		
5	4991.7	3840	14746		

Absolute Open Flow _____ 26,929 _____ Mcfd @ 15.025	Angle of Slope _____	Slope, n _____ 0.590
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Remarks: *STATIC BHP ** FLOWING BHP *** STATIC BHP. CALCULATED TO SURFACE SHUT-IN MADE 2.42 BBLs OF OIL, NO WATER	
Approved By Commission:	Conducted By:
Calculated By:	Checked By: