

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 11-22-80	
Company Grace Petroleum Corporation				Connection Gas Co. of New Mexico	
Pool Undesignated				Formation Morrow	
Completion Date 10-11-80		Total Depth 13650'		Plug Back TD 13476'	
Elevation 3593' K. B.		Unit Smith Ranch Unit			
Form or Lease Name Smith Ranch Federal		Well No. 1			
Grp. Size 5 1/2"	Wt. 17#	Set At 13650'	Perforations: From 13318' To 13464'		Unit 11 20 s 33 E
Trq. Size 2 7/8"	Wt. 6.5#	Set At 13199'	Perforations: From To		Unit 11 20 s 33 E
Type Well - Single - Provenhold - G.G. or G.O. Multiple Single				Packer Set At 13170'	
Producing Thru Tuoing				State New Mexico	
Reservoir Temp. °F 187° 13391'		Mean Annual Temp. °F 13.2		County Lea	
L	H	Gg .654	% CO ₂ 0.16	% N ₂ 0.90	% H ₂ S None
Prover X				Meter Run 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.	
SI							3535	49	Packer	
1.	2"		1.250	485	1.6	59	2810	61	Packer	1 hr.
2.	2"		1.250	489	3.0	60	2432	62	Packer	1 hr.
3.	2"		1.250	490	4.8	60	2016	62	Packer	1 hr.
4.	2"		1.250	491	6.7	61	1256	62	Packer	1 hr.
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 Compens. Factor, F _{pv}	Rate of Flow Q, bbl/d
1	8.120	28.33	498.2	1.001	1.237	1.054	300
2	8.120	38.81	502.2	1.000	1.237	1.053	410
3	8.120	49.15	503.2	1.000	1.237	1.045	516
4	8.120	58.12	504.2	0.999	1.237	1.054	615
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	.75	519	1.29	.874	38,375	53	.654	XXXXXX	670	375
2	.75	520	1.30	.878				XXXXXX		
3	.75	520	1.30	.878						
4	.75	521	1.30	.878						
5										

NO.	P _r	P _w	P _r ²	P _r ² - P _w ²	(1) $\frac{P_r^2}{P_r^2 - P_w^2} = \frac{12728}{11107}$	(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.12217$
1		2833.2	8027	4691		
2		2445.2	5979	6739		
3		2029.2	4118	8600		
4		1269.2	1611	11107		
5						

Absolute Open Flow: 690 Mils @ 15.025 Angle of Slope @ 49.5 Slope, n = .851

Remarks: The inclosed form shows that with stepwise procedure we get more flowing pressure at the surface than the shut in pressure; observed surface pressures have been plotted.

Approved: *Jerry Sexton* Conducted By: *Leon Arnett* Checked By: *Leon Arnett*