

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

Form C-122
Revised 9-1-65

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 12-2-69							
Company Southwestern Natural Gas Co.			Connection None								
Field Unesignate.			Formation Morrow Gas		Unit -						
Completion Date 11-13-69		Total Depth 10332'	Plug Back TD 10301'	Elevation 36518GL	Farm or Lease Name Aztec Lt Federal						
Casing Size 4 1/2	Wt. 11.50 13.50	Set At -	Set At 13332'	Perforations: From 12986' To 13288'							
Tub. Size 2 3/8	Wt. 4.70	Set At -	Set At 12900'	Perforations: From Open To Ended							
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 12900'							
Producing Thru Tubing		Reservoir Temp. °F 184 @ 12800'	Mean Annual Temp. °F 60	Baro. Press. - P _a 13.2							
L 13137'	H -	Gg 0.713	% CO ₂ 0.53	% N ₂ 0.68	% H ₂ S 0.00						
Prover -		Meter Run X		Taps F							
FLOW DATA			TUBING DATA		CASING DATA						
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g. DWT	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
51	4	x	1 1/2				3805		PKd	-	19.0 Hrs
1.	4		20/34	560	32	60	2940	81	-	-	2.0
2.	4		13/34	550	29	64	3063	81	-	-	1.0
3.	4		15/34	540	22	74	3235	81	-	-	1.0
4.	4		12/34	510	21	80	3376	78	-	-	2.0
5.											
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	10.84	135.44	573.2	1.000	1.184	1.072	1863.5				
2	10.84	127.20	563.2	0.9962	1.184	1.070	1748.4				
3	10.84	110.31	553.2	0.9868	1.184	1.062	1483.7				
4	10.84	104.83	523.2	0.9813	1.184	1.057	1395.6				
5											
NO.	R _f	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio <u>22643</u> Mcf/bbl.						
1	0.85	520	1.33	0.870	A.P.I. Gravity of Liquid Hydrocarbons <u>46.8</u> Deg.						
2	0.84	534	1.34	0.874	Specific Gravity Separator Gas <u>0.713</u> XXXXXXXXXX						
3	0.82	534	1.37	0.887	Specific Gravity Flowing Fluid <u>XXXXX</u>						
4	0.78	540	1.38	0.895	Critical Pressure <u>671</u> P.S.I.A.						
5					Critical Temperature <u>391</u> R						
$P_c = 5551.2$ $P_w^2 = 32049.2$					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.654$			(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.470$			
NO.	P _c ²	P _w ²	P _w ²	P _c ² - P _w ²	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4603$						
1	-	5016.2	25162.3	6886.9							
2	-	5088.2	25900.0	6119.2							
3	-	5228.2	27334.1	4715.1							
4	-	5276.2	27338.3	4210.9							
5											
Absolute Open Flow <u>4600</u> Mcfd @ 15.025				Angle of Slope @ <u>59° 31'</u>		Slope, n <u>0.589</u>					
Remarks: * BHP @ (-9486') 13137' USED FOR PRESSURE CALCULATIONS											
Approved By Commission: <i>J. A. Jones</i>		Conducted By: R.N. Yancey		Calculated By: <i>D. Houser</i>		Checked By: <i>D. Houser</i>					