

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 11/13/80	
Company NATOMAS NORTH AMERICA, INC.		Connection El Paso	
Pool Antelope Ridge		Formation Morrow	
Completion Date 10/15/80		Total Depth 13,595'	
Plug Back TD 13,511'		Elevation 3375'	
Unit Antelope Ridge		Farm or Lease Name Supron-Fed. Comm "14"	
Well No. 1		Unit Sec. Twp. Rge. K 14 23S 34E	
County Lea		State New Mexico	
Producing Thru Tbg		Reservoir Temp. °F 180° @ 13,238'	
Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.20	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Dual		Packer Set At 12,900'	
Prover L 13,238'		Meter Run 4.0	
H 13,238'		Taps Flange	
Cg .600		% CO ₂	
% N ₂		% H ₂ S	
Prover		Prover	

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
1	4.03		2.5	549	5.3	72	5140	60			72 hrs
2	4.03		2.5	572	11.6	76	4270	82			1 hr
3	4.03		2.5	611	16.0	82	3656	74			1 hr
4	4.03		2.5	580	22.1	81	3110	71			1 hr
5							2690	72			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 _{sp}	Rate of Flow Q, Mcfd
1	32.64	54.55	562.5	.9887	1.2910	1.0461	2377
2	32.64	82.25	585.2	.9850	1.2910	1.0465	3572
3	32.64	99.93	624.1	.9795	1.2910	1.0476	4321
4	32.64	114.44	592.9	.9804	1.2910	1.0455	4943
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbon	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	.84	532	1.48	.914		48.6	.600	X X X X X X X X	673	359
2	.87	536	1.5	.913						
3	.93	542	1.51	.911						
4	.88	541	1.51	.915						
5										

NO.	P _t	P _w	P _w ²	P _c ² - P _w ²
1		4263	18174	8381
2		3674	13497	13058
3		3146	9896	16660
4		2740	7508	19048
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.3942$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.3454$

AOIF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 6650$

Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbon _____ Deg.

Specific Gravity Separator Gas _____

Specific Gravity Flowing Fluid _____

Critical Pressure _____ P.S.I.A.

Critical Temperature _____ °F

Absolute Open Flow	6650	Mcf/d @ 15.025	Angle of Slope °	48.2	Slope, n	.893
Remarks:						

Approved By Division	Conducted By:	Calculated By:	Checked By:
	Kenneth Brewster	Garrett Systems	Art Oneal