

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 3-10-81			
Company ARCO Oil & Gas Company				Connection Northern Natural Gas Company					
Pool Eumont				Formation Eumont Yates 7RQ Gas				Unit	
Completion Date 4-25-80		Total Depth 3658		Plug Back TD 3648		Elevation 3509.7 GR		Farm or Lease Name W. C. Roach	
Case Size 4 1/2	Wt. 11.60 9.50	d 4.000 4.090	Set At 3658	Perforations: From 3404 To 3546		Well No. 6			
TKy. Size 2 3/8	Wt. 4.7	d 1.995	Set At 3350	Perforations: From Open To Ended		Unit C		Sec. 21	Twp. 20
Type Well - Single - Drillinghead - G.C. or G.O. Multiple Single				Packer Set At None		County Lea			
Producing Thru Tbg.		Reservoir Temp. °F 100 @ 3642		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State New Mexico	
L 3350	H 3350	Cg 0.703	% CO ₂ 0.044	% N ₂ 0.010	% H ₂ S 0.0099	Prover		Meter Run 4,034	Taps Flg.

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							297		295		24 Hrs.
1.	4 x 1.5			100	5.25	45	293		293		1 Hr.
2.	4 x 1.5			100	10.5	47	282		287		24 Hrs.
3.	4 x 1.5			92	20.5	49	272		282		24 Hrs.
4.	4 x 1.5			97	36.5	54	252		274		24 Hrs.
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, Mscf/d
1	10.84	24.38	113.2	1.015	1.193	1.013	324
2	10.84	34.48	113.2	1.013	1.193	1.013	458
3	10.84	46.44	105.2	1.011	1.193	1.012	614
4	10.84	63.42	110.2	1.006	1.193	1.012	835
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry Gas	Mcf/bbl.
1	0.17	505	1.29	.974	A.P.I. Gravity of Liquid Hydrocarbons	Dry Gas	Deg.
2	0.17	507	1.29	.974	Specific Gravity Separator Gas	0.703	X X X X X X X X
3	0.16	509	1.30	.976	Specific Gravity Flowing Fluid	X X X X X	Dry Gas
4	0.16	514	1.31	.976	Critical Pressure	668	P.S.I.A.
5					Critical Temperature	392	R

NO.	P _t ²	P _w ²	P _w ²	P _t ² - P _w ²
1	93.7	306.2	93.8	2.4
2	87.1	300.2	90.1	6.1
3	81.3	295.2	87.1	9.1
4	70.3	287.2	82.5	13.7
5				

(1) $\frac{P_t^2}{P_t^2 - P_w^2} = 15.7705$

AOF = Q $\left[\frac{P_t^2}{P_t^2 - P_w^2} \right]^n = 3449$

(2) $\left[\frac{P_t^2}{P_t^2 - P_w^2} \right]^n = 7.5305$

Absolute Open Flow	3449	Mscf @ 15.025	Angle of Slope @	53.8°	Slope, n	0.732
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Remarks:

Approved By Division	Conducted By: Glynn S. Jones	Calculated By: Glynn S. Jones	Checked By: James Cogburn
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