

NEW MEXICO OIL CONSERVATION COMMISSION
MULTI-POINT AND ONE POINT BACK PRESSURE TEST FOR GAS

RECEIVED
JUN 27 1972
ARTESIA, OFFICE

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 6/9/72	
Company Midwest Oil Corporation		Connection Texas Oil & Gas (Unconnected)	
Pool South Empire (Morrow Gas)		Formation Morrow Sand	
Completion Date 6/8/72		Total Depth 10,992'	Plug Back TD 10,946
		Elevation GL: 3638	Form or Lease Name South Empire Deep Unit
Cas. Size 4 1/2	Wt. 11-6	d 4.000	Set At 10,992'
Perforations: From 10,874 To 90		Well No. 2	
Tbg. Size 2-3/8	Wt. 4.7	d 1.995	Set At 10,891
Perforations: From 10,856 To 62		Unit Sec. Twp. Rge. K 6 18S 29E	
Type Well - Single - Drdhead - G.G. or G.O. Multiple Single			Packer Set At 10,848
Producing Thru Tubing			Baro. Press. - P _a 13.2
Reservoir Temp. °F 157 @ 10,890			State New Mexico
Mean Annual Temp. °F 60			County Eddy
L 10,874	H 10,874	Gg .65	% CO ₂ 0.41
			% N ₂ 0.54
			% H ₂ S -0-
			Prover -
			Meter Run 4"
			Taps Flange

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				-	-	-	3246	73			
1.	4		2.750	895	2	84	3087	74	packer	-	30 mins
2.	4		2.750	910	8	84	2888	74	-	-	30 mins
3.	4		2.750	950	13	84	2688	74	-	-	30 mins
4.	4		2.750	950	18	84	2489	74	-	-	30 mins
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 Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	42.28	42.6162	908.2	.9777	1.240	1.080	2359.2
2	42.28	85.9280	923.2	.9777	1.240	1.081	4761.3
3	42.28	111.9000	963.2	.9777	1.240	1.084	6217.6
4	42.28	131.6723	963.2	.9777	1.240	1.084	7316.2
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	1.354	534	1.46	.858	48.175	53	0.65	.712	670.58	372.56
2	1.377	534	1.46	.856						
3	1.436	534	1.46	.851						
4	1.436	534	1.46	.851						
5										

NO.	P _c ²	P _w	P _r ²	P _c ² - P _w ²
1	3247	3090.2	9549.3	994
2	10543	2901.2	8417.0	2126
3		2701.6	7298.6	3244
4		2502.5	6262.5	4280
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{10543}{994}$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 6.48$	
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 15.288$			

Absolute Open Flow	15,288	Mcfd @ 15.025	Angle of Slope	38 deg	Slope, n	.79
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Remarks: Ran pressure bomb after 72 hr SI. Used dead weight tester for WHP determinations. Used Barton Orifice meter and two stage separation device (stack-pack). Measured oil in test tank.

Approved By Commission	Conducted By: R. D. Yeates	Calculated By: R. D. Yeates	Checked By:
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