

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator ENRON OIL & GAS COMPANY				Lease or Unit Name James Ranch Unit 18			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 4/7/93		Well No. 1	
Completion Date 3/31/93		Total Depth 14,530		Plug Back TD 14,445		Elevation 3344' KB	
Csg. Size 4 1/2	Wt. 15.10	d 3.826	Set At 14,527	Perforations: From: 14,368 To: 14,392		County Eddy	
Tbg. Size 2 7/8	Wt. 9.5	d 2.323	Set At 11,277	Perforations: From: OPEN To: ENDED		Pool Los Medanos	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11,277		Formation Lower Morrow & Morrow "D"	
Producing Thru TBG		Reservoir Temp. °F 218 @ 14368		Mean Annual Temp. °F 60°		Baro. Press - P 13.2	
Connection El Paso Natural		Meter Run 4.026		Taps FLG			
L 14368	H 14368	Gg .574	% CO ₂ 1.20	% N ₂ .15	% H ₂ S	Prover	

FLOW DATA

TUBING DATA

CASING DATA

NO.	Prover Line Size	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	Duration of Flow
SI						4017		PKR		13 Hrs.
1.	4 x	2.500	570	8.00	106	3903		"		1 Hr.
2.	4 x	2.500	650	28.00	74	3670		"		1 Hr.
3.	4 x	2.500	730	60.00	72	3267		"		1 Hr.
4.	4 x	2.500	800	84.00	67	2914		"		1 Hr.
5.										

RATE OF FLOW CALCULATIONS

NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg.	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	32.64	68.31	583.2	.9585	1.320	1.031	2,908
2.	32.64	136.27	663.2	.9868	1.320	1.047	6,066
3.	32.64	211.17	743.2	.9887	1.320	1.052	9,463
4.	32.64	261.36	813.2	.9933	1.320	1.061	11,868
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry Gas	Mcf/bbl.
1.	.86	566	1.64	.940	A.P. I. Gravity of Liquid Hydrocarbons	Dry	Deg.
2.	.98	534	1.54	.912	Specific Gravity Separator Gas	.574	XXXXXXXXXX
3.	1.09	532	1.54	.903	Specific Gravity Flowing Fluid	XXXXXX	
4.	1.20	527	1.52	.889	Critical Pressure	* 676	P.S.I.A. P.S.I.A.
5.					Critical Temperature	* 345	R R

$P_c = 4030.2$ $P_c^2 = 16242.5$

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.		3936.7	15497.5	745.1
2.		3775.4	14253.5	1989.0
3.		3519.5	12386.6	3856.0
4.		3327.8	11074.0	5168.5
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.143$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.262$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 26,850$

Absolute Open Flow 26,850 Mcfd @ 15.025 Angle of Slope θ 54.5 Slope, n .713

Remarks: No fluid produced during test

* Corrected to 1.20% CO₂ ** Calculated deff 2 7/8 - 11277 & 3091' 4 1/2 to 14368'

Approved By Division Conducted By: Jarrel Services, Inc. Calculated By: Bob Murray Checked By: Bob Murray

Betty Gildon