

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

State of New Mexico
Energy Minerals and Natural Resources

Form C-122
Revised October, 1999

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Gruy Petroleum Mgt.					Lease or Unit Name Cagle C				
Type Test ☐ Initial ☐ Annual ☐ Special					Test Date 1-17-00		Well No. 5		
Completion Date 1-17-00		Total Depth 3498		Plug Back TD 3299		Elevation		Unit Ltr. - Sec. - TWP - Rge. N 3 26S 37E	
Csg. Size 5 1/2	Wt. 15.5	d	Set At 3498	Perforations: 2830 From: 3005 To: 3010			County Lea		
Thg. Size 2 3/8	Wt. 4.7	D 1.995	Set At 2847	Perforations: From: Open To: End			Pool		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single					Packer Set At NA		Formation Yates		
Producing Thru TBG		Reservoir Temp. °F 104		Mean Annual Temp. °F 60		Baro. Press - P _s 13.2		Connection Sid Richardson	
L	H	Gg .716	%CO ₂ 1.7	%N ₂ 10.3	%H ₂ S	Prover	Meter Run 4.026	Taps F/G	

FLOW DATA					TUBING DATA		CASING DATA		Duration Of Flow
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.	
SI						220	61	220	
1.	4 x 2.0		22	6.3	84	215	67	216	30min
2.	4 x 2.0		22	12.3	87	212	69	214	30min
3.	4 x 2.0		22	23.0	87	184	74	213	60min
4.	4 x 2.5		20	16.0	80	156	78	210	60min
5.	4 x 2.5		22	36.0	80	84	79	203	30min

RATE OF FLOW CALCULATIONS							
No.	COEFFICIENT (24 HOUR)	$\sqrt{\frac{h_w P_m}{P_c}}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	19.81	14.89	35.2	.9777	1.182	NIL	341
2.	19.81	20.81	35.2	.9750	1.182	NIL	475
3.	19.81	28.45	35.2	.9750	1.182	NIL	649
4.	32.64	23.04	35.2	.9813	1.182	NIL	872
5.	32.64	35.60	35.2	.9813	1.182	NIL	1348

No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry	Mcft/bbl.
1.	.05	544	1.47	NIL	A. P. I. Gravity of Liquid Hydrocarbons	0 NA	Deg.
2.	.05	547	1.48	NIL	Specific Gravity Separator Gas	.716	XXXXXXXXXX
3.	.05	547	1.48	NIL	Specific Gravity Flowing Fluid	XXXXXX	
4.	.05	540	1.46	NIL	Critical Pressure	652 P.S.I.A.	P.S.I.A.
5.	.05	540	1.46	NIL	Critical Temperature	370 R.	R

No.	P _r ²	P _w	P _w ²	P _c ² - P _w ²
1.	229	52.4	2.1	
2.	227	51.5	2.9	
3.	226	51.0	3.4	
4.	223	49.7	4.7	
5.	216	46.6	7.8	

(1) $P_{c2} = 6.974$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 9.401$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 9.401$

Absolute Open Flow	9401	Mcfd@ 15.025	Angle of Slope θ: 45	Slope, n: 1.00
--------------------	------	--------------	----------------------	----------------

Remarks: **BTU 1052 Dry, Small amount of water on last rate TSTM.**

All rates were stabilized.

Approved By Division	Conducted By: DANNY EMERSON	Calculated By: Reggie Reston	Checked By:
----------------------	---------------------------------------	--	-------------