

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin Formation Dakota County San Juan

Initial X Annual _____ Special _____ Date of Test 3-3-61

Company Redfern & Herd, Inc. Lease Lucerne Well No. 1

Unit M Sec. 8 Twp. 28N Rge. 11W Purchaser _____

Casing 4 1/2 Wt. 11.6 I.D. _____ Set at 6248 Perf. 6013 To 6178

Tubing 2-3/8 Wt. 4.7 I.D. _____ Set at 6165 Perf. 6163 To 6165

Gas Pay: From 6013 To 6178 L _____ xG .680 -GL _____ Bar.Press. _____

Producing Thru: Casing _____ Tubing X Type Well Single-Gas

Date of Completion: 2-17-61 Packer _____ Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps _____

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						2090		2113		
1.										
2.										
3.	2"	3/4"	485		69			1108		3 hrs
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.							
2.							
3.	12.3650		497	.9915	.9999	1.058	6055
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.

Gravity of Liquid Hydrocarbons _____ deg.

F_c _____ (1-e^{-s})

Specific Gravity Separator Gas _____

Specific Gravity Flowing Fluid _____

P_c 2125 P_c 4,515,625

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w P _c
1.									
2.									
3.	1120					1,254,400	3261		1.3845
4.									
5.									

Absolute Potential: 7729 MCFPD; n .75 1.2765

COMPANY Redfern & Herd, Inc.

ADDRESS Box 1747, Midland, Texas

AGENT and TITLE T. A. Dugan, Engineer

WITNESSED _____

COMPANY _____

REMARKS

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

- Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w).
MCF/da. @ 15.025 psia and 60° F.
- P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.
psia
- P_w = Static wellhead working pressure as determined at the end of flow period.
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia
- P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia
- P_f = Meter pressure, psia.
- h_w = Differential meter pressure, inches water.
- F_g = Gravity correction factor.
- F_t = Flowing temperature correction factor.
- F_{pv} = Supercompressability factor.
- n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t .