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 6-27-61

Company Redfern & Herd, Inc. Lease Shepherd & Kelsey Well No. 1

Unit L Sec. 29 Twp. 29N Rge. 11W Purchaser

Casing 4-1/2 Wt 9.5&11.6 I.D. Set at 6166 Perf. 6010 To 6114

Tubing 2-3/8 Wt. 4.7 I.D. Set at 6014 Perf. Open ended To

Gas Pay: From 6010 To 6114 L xG 0.680 -GL Bar.Press.

Producing Thru: Casing Tubing X Type Well Single Gas
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 6-16-61 Packer 5985 Reservoir Temp.

OBSERVED DATA

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

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						2079		-		
1.										
2.										
3.	2"	3/4"	402		68			-		3 hours
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.	12.3650		414	.9924	.9393	1.047	4996
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.
Gravity of Liquid Hydrocarbons deg.
F_c 9.402 $(1-e^{-s})$ .257

Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
P_c 2091 P_c^2 4372.3

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.									
2.									
3.	414	171.4	46.97	2206.4	567.0	738.4	3634		1.2031
4.									
5.									

Absolute Potential: 5738 MCFPD; n .75 1.1485

COMPANY Redfern & Herd, Inc.
ADDRESS 1007 N. Dustin, Farmington, N.M.
AGENT and TITLE Original signed by T. A. Dugan Engineer
WITNESSED
COMPANY

RECEIVED
JUN 30 1961
OIL CON. COM.

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.