NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Devils Fork** Formation **Gallup** County **Rio Arriba**

Initial ____ Annual ____ Special **X** Date of Test **5-15-60**

Company **Redfern & Herd, Inc.** Lease **Largo Spur** Well No. **#1**

Unit **J** Sec. **18** Twp. **24N** Rge. **6W** Purchaser **Southern Union**

Casing **5½** Wt. **15.5** I.D. ____ Set at **6650** Perf. **5470** To **5494**

Tubing **2-3/8** Wt. **4.7** I.D. ____ Set at **5503** Perf. **5499** To **5503**

Gas Pay: From **5470** To **5494** L ____ xG **0.690** -GL ____ Bar.Press. ____

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

Date of Completion: **8-23-59** Packer ____ 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. SR psig	Flow Data Diff. SR 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						1503		1565		
1.	4"	2.50	6.65	1.0	59	1472		1547		3 hrs
2.	"	"	6.7	2.2	45	1421		1519		3 hrs
3.	"	"	6.79	3.2	42	1335		1487		3 hrs
4.	"	"	7.0	5.7	60	957		1380		3 hrs
5.	"	"	7.2	4.8	68	866		1255		24 days

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure Meter psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	42.13	21.0	442	1.0010	0.9325	1.057	873
2.	42.13	46.6	449	1.0147	0.9325	1.063	1975
3.	42.13	68.7	461	1.0178	0.9325	1.066	2928
4.	42.13	126.1	490	1.000	0.9325	1.062	5169
5.	42.13	109.3	520	0.9924	0.9325	1.062	4506

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl. Specific Gravity Separator Gas ____
Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____
F_c ____ $(1-e^{-s})$ ____ P_c **1577** P_c^2 **2486.9**

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.	1539					2430.5	56.4		
2.	1531					2344.0	142.9		
3.	1499					2247.0	239.9		
4.	1392					1937.7	549.2		
5.	1267					1605.3	881.6		

Absolute Potential: ____ MCFPD; n ____

COMPANY **Redfern & Herd, Inc.**

ADDRESS **Box 1747, Midland, Texas**

AGENT and TITLE **Thomas A. Dugan, Consulting Engineer**

WITNESSED ____

COMPANY ____

REMARKS

RECEIVED
JUL 7 1960
OIL CON. COM.
DIST. 3

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.