NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Todd San Andres** Formation **San Andres** County **Roosevelt**

Initial **X** Annual _____ Special _____ Date of Test **Apr. 14,15,26,28,'65**

Company **Olen F. Featherstone II Trust** Lease **Federal M-23** Well No. **1**

Unit **M** Sec. **23** Twp. **7 S** Rge. **35 E** Purchaser **Not connected**

Casing **4 1/2** Wt. **9.5** I.D. **4.090** Set at **4264** Perf. **4107** To **4256**

Tubing **2** Wt. **4.7** I.D. **1.995** Set at **4070** Perf. **Open end** To _____

Gas Pay: From **4107** To **4256** L **4070** xG **.800** -GL _____ Bar.Press. **13.2**

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

Date of Completion: **3/25/65** Packer **4070** Reservoir Temp. **100 Assumed**

OBSERVED DATA

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

No.	Flow Data (Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						1016				24
1.	2 X 3/32				70	896				1
2.	2 X 3/16				69	481				1
3.	2 X 1/4				72	161				1
4.	2 X 3/8		32		72	279		8/64 Choke		21
5.	2 X 1 1/4	OWT	1.0		70	227		10/64 Choke		24

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.	.1820		909.2	.9905	.8660	1.155	164
2.	.7851		494.2	.9915	.8660	1.084	361
3.	1.4030		174.2	.9887	.8660	1.024	214
4.	3.0691	*	45.2	.9887	.8660	1.000	119
5.	Vol. 217.5	OWT	—	.9905	.8660	1.000	187

*** Prover on blow line**

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 **1029.2** P_c^2 **1059.3**

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.									
4.									
5.									

Absolute Potential: **Estimated 200** MCFPD; n _____
COMPANY **Olen F. Featherstone II Trust**
ADDRESS **236 Petroleum Building, Roswell, New Mexico**
AGENT and TITLE *H. L. Smith* **Independent Gas Tester**
WITNESSED **None**
COMPANY _____

REMARKS

Well producing water. Unable to get point alignment or stabilization because of logging in tubing.

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.