NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undesignated Formation Pictured Cliffs County Rio Arriba

Initial X Annual ____ Special ____ Date of Test 7-22-61

Company Shar-Alan Oil Company Lease Harrington-Federal Well No. 2

Unit ____ Sec. 33 Twp. 24 N Rge. 1 W Purchaser ____

Casing 4½" Wt. 9.5# I.D. ____ Set at 3082 Perf. 3054 To 3072

Tubing 1 3/4" Wt. 2.4# I.D. ____ Set at 3116 Perf. ____ To ____

Gas Pay: From 3054 To 3072 L 3054 xG 65 -GL 1985 Bar.Press. ____

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

Date of Completion: 4-29-61 Packer None 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										
1.	2"	3/4	185		60°			835		3 Hr.
2.										
3.										
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.	12.365		197	1000	.9608	1.016	2.445
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl.
Gravity of Liquid Hydrocarbons ____ deg.
F_c 3.912 $(1-e^{-s})$ 0.134

Specific Gravity Separator Gas ____
Specific Gravity Flowing Fluid ____
P_c 847 P_c^2 717.409

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.	197	38.80	1042	108.65	1.455	53.35	664		
2.									
3.									
4.									
5.									

Absolute Potential: 2,700 MCFPD; n 0.85
COMPANY JAMISON ENGR. CO.
ADDRESS FARMINGTON, N.M.
AGENT and TITLE A. G. JAMISON
WITNESSED ____
COMPANY SHAR-ALAN OIL COMPANY

REMARKS

17:10
20:10

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.

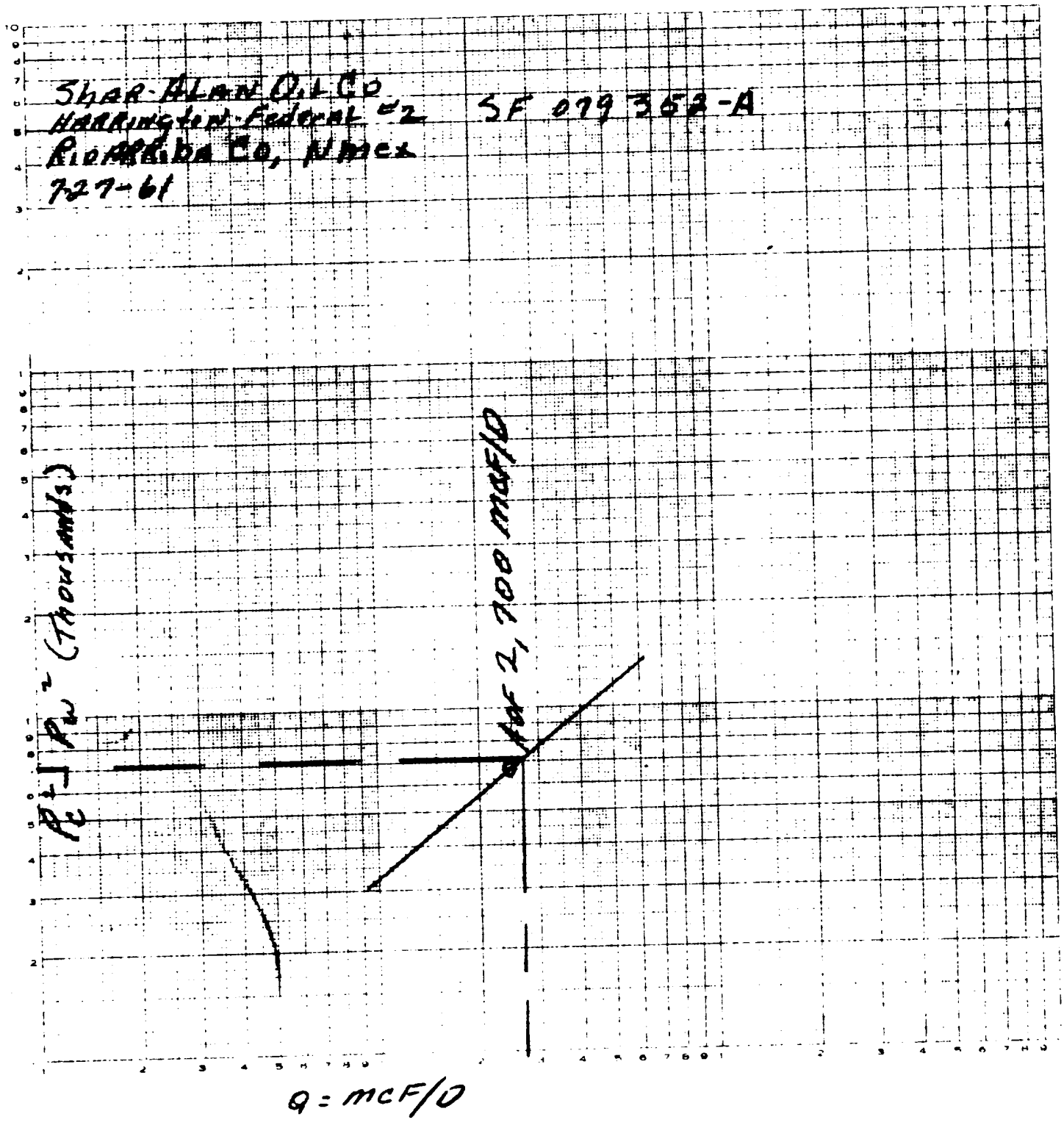
F_g = Gravity correction factor.

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.


Shar-Alan Oil Co
Harrington-Federal #2
Richardson Co, N Mex
727-61
SF 079352-A
$P_t^2 - P_w^2$ (Thousands)
Absolute Open Flow 12,700 MCFD
Q = MCF/D