

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Antelope Ridge Formation Perm. County Lea

Initial Annual Special July 10-20, 1963

Company Shell Oil Company Lease Federa L# Well No. 1

Unit B Sec. 4 Twp. 24-S Rge. 14-E Purchaser None

Casing 7 5/8" Wt. 39.0 I.D. 6.625 Set at 11,425' Perf. 12,890' To 13,153'
7 5/8" 38.7 6.765 12,500'

Tubing 2 1/2" Wt. 6.5 I.D. 2.541 Set at 12,125' Perf. To
2" 4.7 2.595 12,700'

Gas Pay: From 12,890' To 13,153' L 12,700 xG MLx .612 -GL 7911 Bar.Press. 13.2

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

Date of Completion: July 20, 1963 Packer 12,700 Reservoir Temp.

OBSERVED DATA

Tested Through (Bradenhead) (G.O.) (Meter) Type Taps F.C.

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	(Line) Size	(Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	
SI								
1.	4"	3.000	600	2.0	36	6935	90	7
2.	4"	3.000	600	30.0	60	6910	91	2
3.	4"	3.000	600	42.0	58	6890	94	2
4.	4"	3.000	600	60.0	40	6920	97	2
5.	4"	3.000	600	17.0	72	6770	94	21

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wP_f}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	66.67	70.03	613.2	1.0239	1.000	1.064	5.086
2.	66.67	135.52	613.2	.9924	1.000	1.052	9.439
3.	66.67	169.49	613.2	1.0012	1.000	1.055	11.310
4.	66.67	191.31	613.2	1.0047	1.000	1.052	13.723
5.	66.67	102.15	613.2	.9907	1.000	1.051	7.076

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 153,520 cf/bbl.

Gravity of Liquid Hydrocarbons 45.0 API deg.

F_c 6.092 (1-e^{-s}) .420

Specific Gravity Separator Gas .600

Specific Gravity Flowing Fluid .729

P_c 7299.2 P_c 51,972

No.	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.	6943.2	48,277	30.989	960.3	403.3	48,630	3292	6977.1	96.6
2.	6563.2	43,075	57.512	3307.6	1319.2	44,464	7502	6668.1	92.5
3.	6333.2	40,109	68.912	4748.9	994.5	42,103	2869	6428.7	90.0
4.	5933.2	35,203	93.645	6996.5	2915.5	39,111	13831	6175.3	85.7
5.	6783.2	46,012	43.114	1858.8	719.7	46,793	5179	6240.5	94.9

Absolute Potential: 50,000 MCFPD; n .729

COMPANY Shell Oil Company

ADDRESS P. O. Box 1858, Roswell, New Mexico

AGENT and TITLE A. L. Miller - Gas Tester

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.

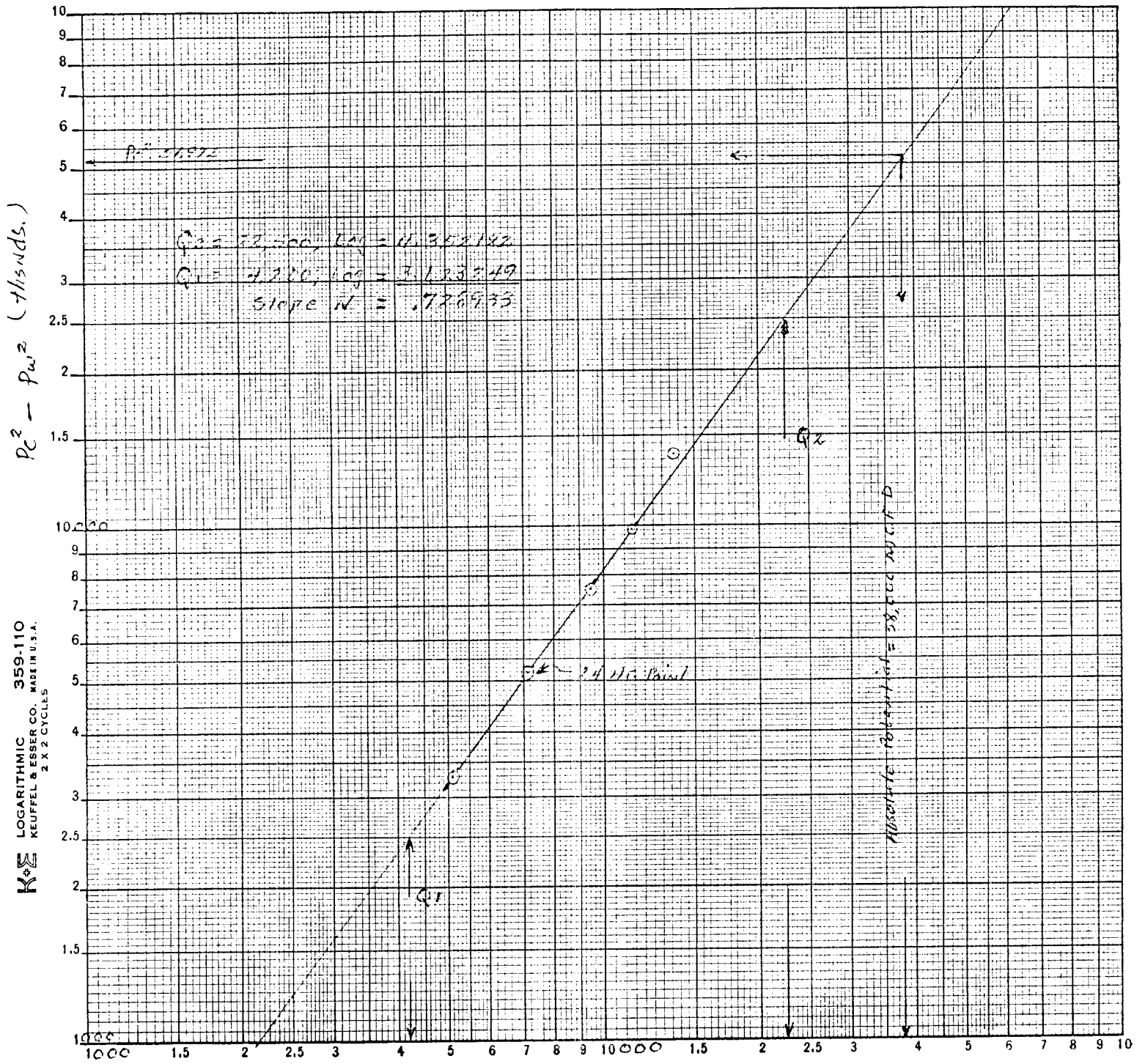
Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t .

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HOBBS OFFICE O. C. C.

GAS WELL BACK PRESSURE CURVE

County LEA Field ANTELOPE RIDGE
Operator SHELL OIL COMPANY
Lease FEDERAL "BE" Well No. 1
Volume 38,000 MCF/24hr.
Date JULY 20, 1963



$Q - MCFD - 15.025$ psia