

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Antelope Ridge Formation Devonian County Lea
Initial _____ Annual _____ Special X Date of Test 9-23 to 26, 1964
Company Shell Oil Company Lease Antelope Ridge Unit Well No. 34-1
Unit K Sec. 34 Twp. 23-S Rge. 34-E Purchaser Southern Union Gas Company
Liner XXXXX 4 1/2" Wt. 13.5 I.D. 3.92 Set at 14,935' Perf. 14,695' To 14,830'
Tubing 2 1/2" Wt. 6.5 I.D. 2.441 Set at 14,440' Perf. _____ To _____
Gas Pay: From 14,695' To 14,830' L 14,440' xG _____ -GL _____ Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Date of Completion: 9-15-64 Packer 13,650 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. 213° F.

OBSERVED DATA

Tested Through (~~XXXXX~~) (~~XXXXX~~) (Meter)Type Taps Flge.

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(XXXXX) (Line) Size	(XXXXX) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						4487		Packer		46
1.	4	2.500	540	12.0	37	4237				3
2.	4	2.500	860	20.0	43	3889				3
3.	4	2.500	830	42.0	40	3691				2 1/2
4.	4	2.500	840	50.0	20	3342				4
5.	4	2.500	150	4.0	56	4216				2 1/2
6.	4	3.000	460	36.0	50	3370				8

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.	42.13	81.47	553.2	1.0229	.9520	1.070	3,576
2.	42.13	132.15	873.2	1.0168	.9520	1.116	6,014
3.	42.13	188.20	843.2	1.0198	.9520	1.110	8,548
4.	42.13	206.54	853.2	1.0408	.9520	1.132	9,760
5.	42.13	25.55	163.2	1.0039	.9520	1.016	1,044
6.	66.67	130.52	473.2	1.0098	.9520	1.055	8,825

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 122.817 cf/bbl.
Gravity of Liquid Hydrocarbons 60.8 API deg.
F_c 5.866 (1-e^{-s})

Specific Gravity Separator Gas .662
Specific Gravity Flowing Fluid _____
P_c 6328.2 P_c 40.046.1

No.	P _w XXXX (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.	6096.2					37,163.6	2882.5		96.3
2.	5756.2					33,133.8	6912.3		91.0
3.	5557.2					30,882.5	9163.6		87.8
4.	5230.2					27,355.0	12,691.1		82.6
5.	6017.2					36,206.7	3839.4		95.1
6.	5204.2					27,083.7	12,962.4		82.2

Absolute Potential: 19,600 MCFPD; n .602COMPANY Shell Oil CompanyADDRESS P. O. Box 1858, Roswell, New MexicoAGENT and TITLE A. L. Ellerd - Gas Tester

WITNESSED _____

COMPANY _____

REMARKS

* Had considerable freezing and poor separation on third and fourth rates.

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.

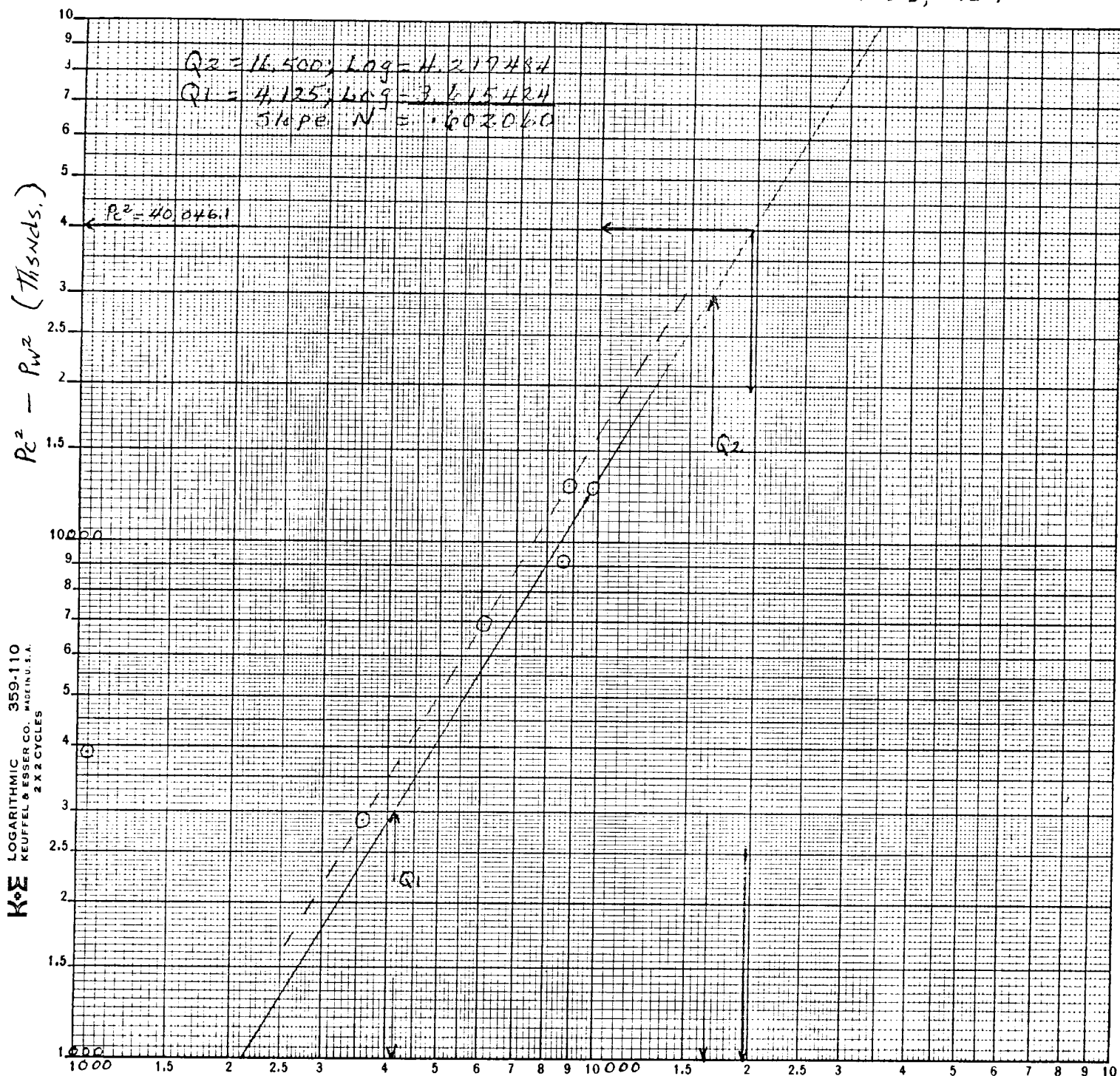
F_{pv} = Supercompressability factor.

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 .

Gas W
Back Pressure Curve

SHELL OIL COMPANY
HUTELCPE RIDGE UNIT 34-1
19,600 MCF/24 Hrs.
SEPTEMBER 26, 1964



$Q = 15.025$ psia