

DUPLICATE

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE 06022

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS 1961 MAY 12 AM 10:22 Revised 12-1-55

Pool Jalmit Formation _____ Yates _____ County _____ Lea _____
 Initial _____ Annual _____ Special X Date of Test 5-1 to 9, 1961
 Company Shell Oil Company Lease Devonian Christmas Well No. 2
 Unit B Sec. 21 Twp. 22S Rge. 36E Purchaser El Paso Natural Gas Co.
 Casing 7" Wt. 24.0 I.D. 6.336 Set at 3688 Perf. _____ To _____
 Tubing 2 1/2" Wt. 6.5 I.D. 2.441 Set at 3374 Perf. _____ To _____
 Gas Pay: From 3120 To 3370 L 3374 xG .677 -GL 2284 Bar.Press. 13.2
 Producing Thru: Casing _____ Tubing X Type Well Single
 Date of Completion: June, 1937 Packer 3036 Single-Bradenhead-G. G. or G.O. Dual
 Reservoir Temp. _____

OBSERVED DATA

Tested Through (packer) (chose) (Meter) Type Taps Flgs.

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.		Press. psig
SI						587			72 Hrs.
1.	4"	1.250	373	6.25	56	571			24 Hrs.
2.	4"	1.250	353	15.21	61	552		PACKER	24 Hrs.
3.	4"	1.250	364	28.09	64	512			24 Hrs.
4.	4"	1.250	272	96.04	62	453			24 Hrs.
5.									

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor Ft	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	49.13	386.2	1.0039	.9414	1.044	467.4
2.	9.643	74.63	366.2	.9990	.9414	1.040	703.9
3.	9.643	102.94	377.2	.9962	.9414	1.041	969.0
4.	9.643	165.50	285.2	.9981	.9414	1.030	1,945
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio No Fluid cf/bbl.
 Gravity of Liquid Hydrocarbons _____ deg.
 F_c 5.866 (1-e^{-s}) .145
 Specific Gravity Separator Gas .677
 Specific Gravity Flowing Fluid _____
 P_c 600.2 P_c 360.2

No.	P _{max} 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.	P _w P _c
1.	584.2	341.3	2.742	7.518	1.090	342.4	17.8	585.2	91.5
2.	565.2	319.4	4.129	17.049	2.472	321.9	38.3	567.4	94.5
3.	525.2	275.8	5.684	32.308	4.685	280.5	79.7	529.6	88.2
4.	466.2	217.3	9.063	82.138	11.910	229.2	142.0	478.8	79.8
5.							131		

Absolute Potential: 2,650 MCFPD; n .583

COMPANY Shell Oil Company
 ADDRESS P. O. Box 1858, Roswell, New Mexico
 AGENT and TITLE A. L. Ellord - Gas Tester
 WITNESSED Jack Whitling
 COMPANY El Paso Natural Gas Company

REMARKS

This well reworked April 18, 1961. No fluid produced on test.

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.

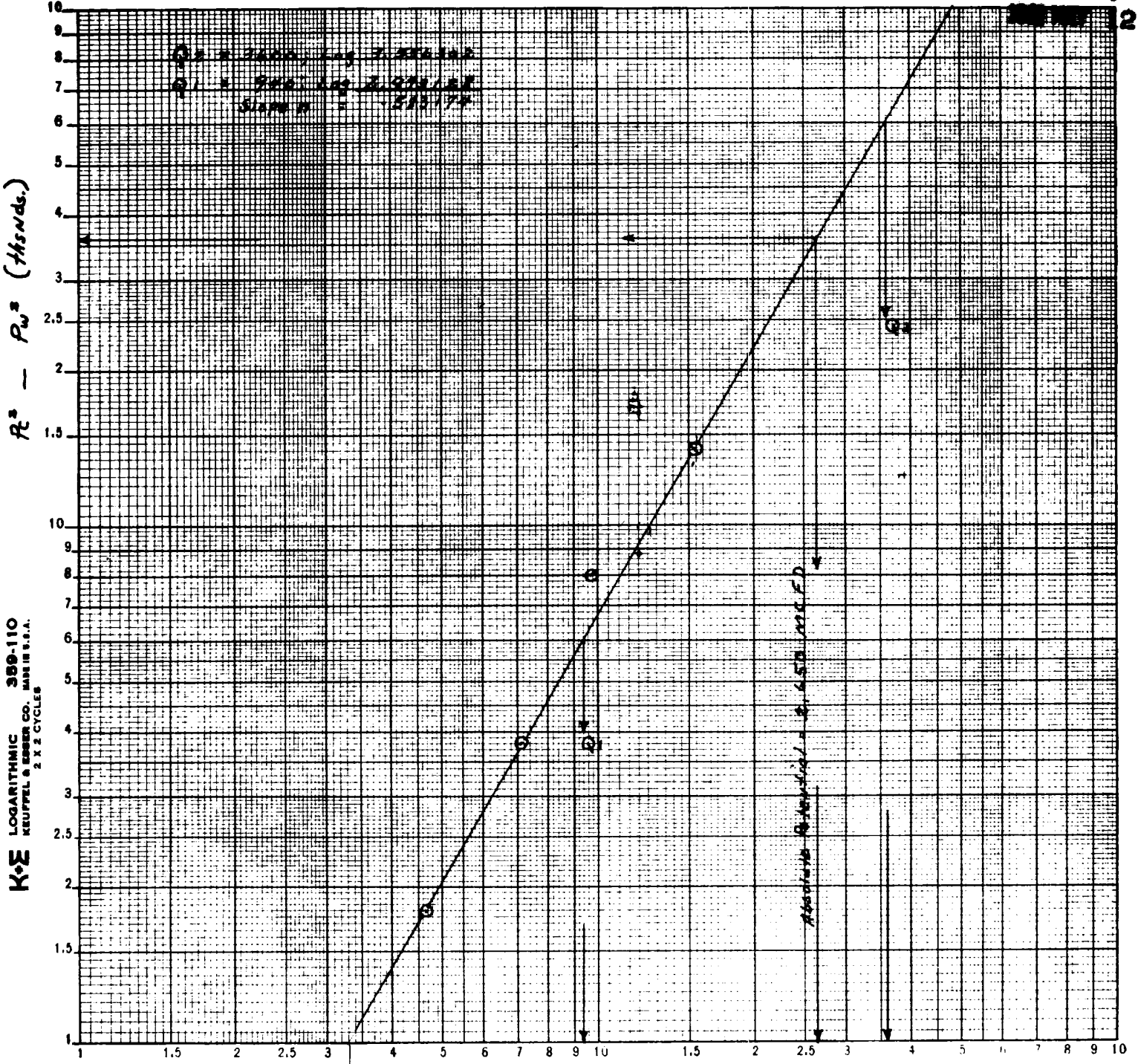
NOMENCLATURE

- 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} = Supercompressibility 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 WELL
BACK PRESSURE CURVE**

County LEA Field TALMOT
 Operator SHELL OIL COMPANY
 Lease DEVONIAN CHRISTMAS Well No. 2
 Volume 2,650 MCF (24) HOBBS OF
 Date MAY 9, 1961



K&E LOGARITHMIC 359-110
 KEUFFEL & ESSNER CO. MADE IN U.S.A.
 2 X 2 CYCLES

1255 = 3.098644
 330 = 2.518514 Q - MCF/D - 15.025 Psia at 60°F
 1550 130