NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool TODD GAS Formation SAN ANDRES County ROOSEVELT

Initial X Annual Special Date of Test 7-27-65 to 7-29-65

Company SKELLY OIL COMPANY Lease HOBBS "S" Well No. 1

Unit K Sec. 36 Twp. 7 S Rge. 35 E Purchaser NONE

Casing 4 1/2" Wt. 10.5 I.D. 4.052 Set at 4375 Perf. 4176 To 4267

Tubing 2 3/8" Wt. 4.7 I.D. 1.995 Set at 4272 Perf. Open Ended To

Gas Pay: From 4176 To 4267 L 4272 xG 0.80 -GL 3418 Bar.Press. 13.2

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

Date of Completion: 7-2-65 Packer NONE Reservoir Temp. 124° F

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							104	1318	104	
1.	2"	1/2"	13.0		58	466		1220		8 Hrs. 45 Min.
2.	2"	3/4"	17.5		50	751		1100		3 Hrs. 0 Min.
3.	2"	1"	10.5		10	764		1200		1¼ Hrs. 15 Min.
4.	2"	1 1/4"	12.5		66	750		835		2 Hrs. 45 Min.
5.	2"	1 1/4"	15.0		90	130		385		2 Hrs. 30 Min.

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.	5.5233		26.2	1.0019	.8660	1.000	126
2.	12.2023		30.7	1.0098	.8660	1.000	328
3.	22.0662		23.7	1.0518	.8660	1.000	476
4.	35.6738		25.7	0.9943	.8660	1.000	789
5.	35.6738		28.2	0.9723	.8660	1.000	847

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 0 cf/bbl.
Gravity of Liquid Hydrocarbons deg.
F_c 9.936 $(1-e^{-s})$ 0.210

Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
P_c 1331.2 P_c^2 1772.1

No.	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.	479.2	229.63	1.25	1.56	.33	230.0	1542.1	479.6	36.0
2.	764.2	584.00	3.26	10.63	2.23	586.2	1185.9	765.6	57.5
3.	777.2	604.04	4.73	22.37	4.70	608.7	1163.4	780.2	58.6
4.	763.2	582.47	7.84	61.47	12.91	595.4	1176.7	771.6	58.0
5.	143.2	20.51	8.42	70.90	14.89	35.4	1736.7	188.2	14.1

Absolute Potential: 870 MCFPD; n 1.00
COMPANY SKELLY OIL COMPANY
ADDRESS P.O. BOX 730, HOBBS, NEW MEXICO, 88240
AGENT and TITLE H. E. AAB, DISTRICT SUPERINTENDENT
WITNESSED
COMPANY

REMARKS

1445 PSIG BHP @ 4246', 72 Hours SHUT-IN.

July 20, 1965 Flowed 24 Hours 45/64" Choke, No Oil, 31 Bbls. Water. FTP 80 PSI, CP 300 PSI, Gas Volume 708 MCFPD.

EAT/bh

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.

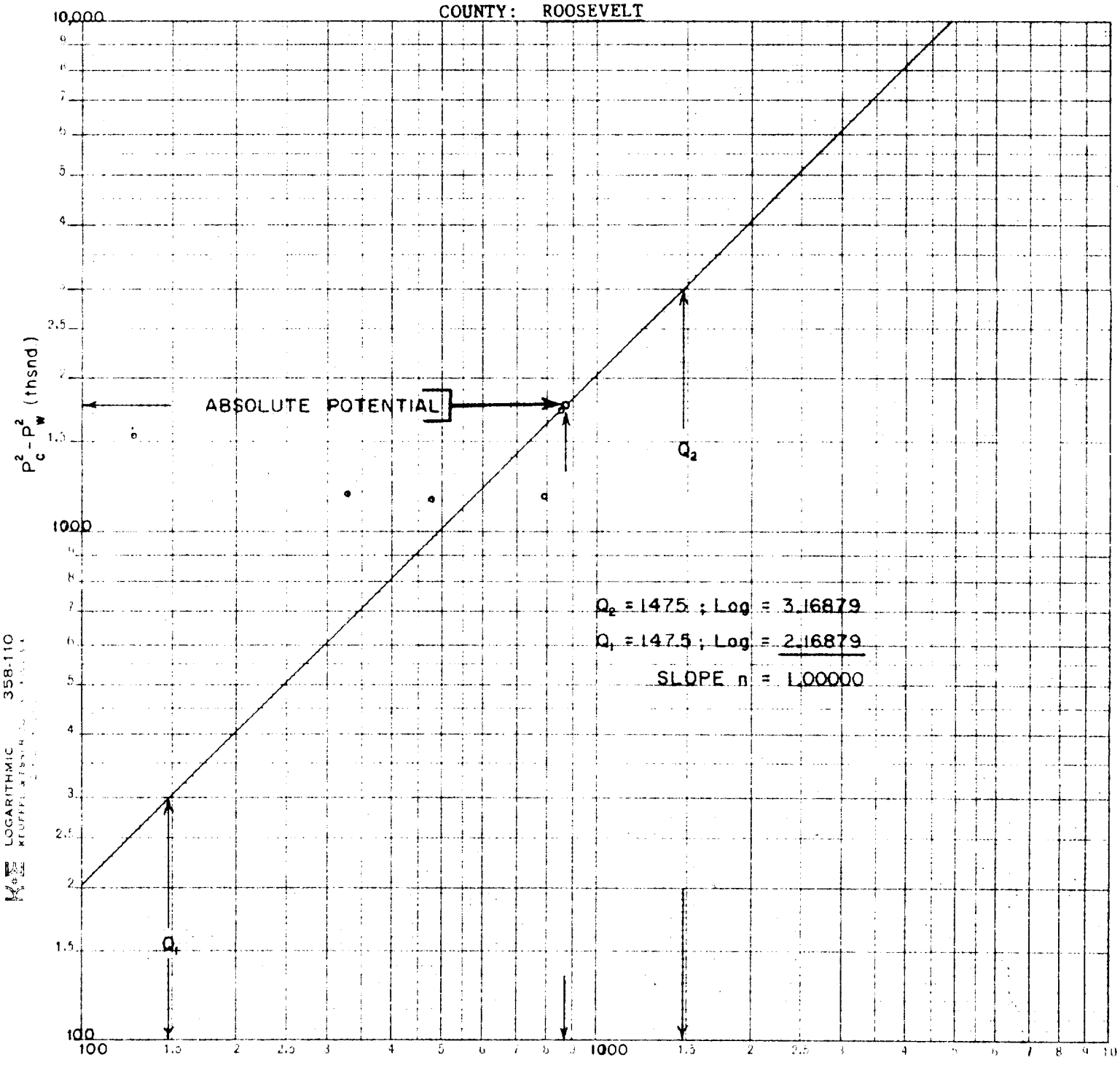
DATE: JULY 27, 1965

COMPANY: SKELLY OIL COMPANY

WELL: HOBBS "S" NO. 1

LOCATION: K-30-7S-35-E

COUNTY: ROOSEVELT



Q - MCFD - 15.025 psia