

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1957 NOV 25 AM 9:21

HOBBS OFFICE OCC Form C-122  
Revised 12-2-55

Pool Jalnet Formation Seven Rivers County Lee

Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special XX Date of Test 11/16/56

Company Skelly Oil Company Lease Johnson Well No. 4

Unit D Sec. 20 Twp. 23-S Rge. 37-E Purchaser Permian Basin Pipeline Company

Casing 5 1/2" Wt. 15.5# I.D. 4.967" Set at 3625' Perf. 2925' To 2990'

Tubing 2- 3/8" Wt. 4.7# I.D. 1.995" Set at 3625' Perf. \_\_\_\_\_ To \_\_\_\_\_

Gas Pay: From 2925' To 2990' L 2925' xG 0.635 -GL 1857 Bar.Press. 13.2

Producing Thru: Casing XX Tubing \_\_\_\_\_ Type Well Gas-Oil Dual  
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 5-26-54 Packer 3308' Reservoir Temp. \_\_\_\_\_

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps \_\_\_\_\_

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI								773.5		71 3/4 Hr SI
1.	4	1.25	476.7	5.7	73			744.4		24 Hrs
2.	4	1.25	481.7	14.1	73			712.9		23 3/4 Hrs
3.	4	1.25	497.9	23.8	72			674.0		24 Hrs
4.	4	1.25	492.1	39.0	75			612.0		24 Hrs
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w P_f}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	10.24	52.84		0.9877	0.9721	1.041	541
2.	10.24	83.53		0.9877	0.9721	1.043	857
3.	10.24	110.3		0.9887	0.9721	1.042	1131
4.	10.24	140.4		0.9859	0.9721	1.041	1434
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> 1.758 (1-e<sup>-S</sup>) 0.120  
Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> \_\_\_\_\_ P<sub>c</sub> \_\_\_\_\_

No.	P <sub>w</sub> P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-S</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> P <sub>c</sub>
1.		574.0	0.9531	0.9084	0.1086		44.8	757.7	0.96
2.		527.2	1.507	2.271	0.2725		91.4	726.3	0.92
3.		472.2	1.988	3.952	0.4742		146.2	687.5	0.87
4.		390.9	2.521	6.355	0.7626		227.2	625.9	0.80
5.									

Absolute Potential: 2.807 MCFPD; n 0.61

COMPANY Skelly Oil Company

ADDRESS Box 38, Hobbs, New Mexico

AGENT and TITLE \_\_\_\_\_

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  $P_t$ .