NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Wildcat Strawn Formation Strawn County Lea

Initial XX Annual Special Date of Test 1-22-63

Company Shelly Oil Company Lease West Jal Unit Well No. 1

Unit K Sec. 20 Twp. 25S Rge. 36E Purchaser None

Casing 7" Wt. 26# I.D. 6.276 Set at 12,213 Perf. 11,736 To 11,894

Tubing 2-7/8" Wt. 6.4 # I.D. 2.441 Set at 11,715 Perf. 11,711 To 11,715

Gas Pay: From 11,736 To 11,894 L 11,815 xG 0.650 -GL 7680 Bar.Press. 13

Producing Thru: Casing Tubing XX Type Well Single

Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: Packer 11,700 Reservoir Temp.

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps Flange

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						6018	68			89
1.	3"	2.0	510	77	80	5995	78			3:05
2.	3"	2.25	660	98	80	5915	80			1:30
3.		10/64				6156	(Q=2737			1'45"
4.		12/64				6026	Q=4563			2'
5.		14/64				5995	Q 6025	8.70		2'
		16/64				5915				1'

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.	27.52	200.7	523	1.0108	1.0000	1.068	6025
2.	37.15	197.6	673	1.0302	1.0000	1.059	8009
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 56,282 cf/bbl. Specific Gravity Separator Gas 0.600

Gravity of Liquid Hydrocarbons 52 deg. 0.771 Specific Gravity Flowing Fluid

P_c 5.066 $(1-e^{-s})$ 0.411 P_c 6031 P_c^2 36,625 X 10³

No.	P_w 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.	6009	36,108	33.929	1151.2	472.1	36,281	2344		
2.	5928	35,143	46.901	2805.0	983.0	35,646	2779		
3.									
4.									
5.									

Absolute Potential: 310,000 MCFPD; n 35.5 deg. — 0.7133

COMPANY Shelly Oil Company

ADDRESS P.O. Box 99, Hobbs, New Mexico

AGENT and TITLE District Superintendent

WITNESSED Jerry I. Morita - Production Engineer

COMPANY Shelly Oil Company

REMARKS Due to limited capacity of equipment only two points could be obtained.

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.