

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Sumont Formation Queen County Log  
 Initial \_\_\_\_\_ Annual X Special \_\_\_\_\_ Date of Test 9/14/57  
 Company Scelly Oil Co. Lease State nm Well No. 2  
 Unit 0 Sec. 17 Twp. 20S Rge. 37E Purchaser Northern Natural  
 Casing 7" Wt. 22# I.D. 6.396 Set at 3690 Perf. 3358' To 3460'  
 Tubing 2-7/8" Wt. 6.5# I.D. 2.441 Set at 3690 Perf. \_\_\_\_\_ To \_\_\_\_\_  
 Gas Pay: From 3358 To 3460 L 3358 xG 0.675 -GL 2267 Bar.Press. 13.2  
 Producing Thru: Casing X Tubing \_\_\_\_\_ Type Well Gas-011 Dual  
 Single-Bradenhead-G. G. or G.O. Dual  
 Date of Completion: 12/56 Packer 2640 Reservoir Temp. \_\_\_\_\_

OBSERVED DATA

Tested Through (~~ROVER~~) (~~OMER~~) (Meter) Type Taps Pipe

No.	Flow Data				Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	
SI								949.6	72
1.	4"	1.50"	488.0	3.2	95			843.3	24
2.	"	"	494.8	8.1	95			786.1	"
3.	"	"	491.3	15.6	90			724.9	"
4.	"	"	467.7	30.0	91			660.2	"
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.	15.26	40.05	501.2	0.9680	0.9427	1.042/1.043	581
2.	"	64.12	507.7	0.9680	"	1.042/1.044	930
3.	"	88.71	504.5	0.9723	"	1.042/1.044	1293
4.	"	121.19	489.6	0.9715	"	1.042/1.044	1765
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
 Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
 F<sub>c</sub> 0.851 (1-e<sup>-s</sup>) 0.144  
 Specific Gravity Separator Gas \_\_\_\_\_  
 Specific Gravity Flowing Fluid \_\_\_\_\_  
 P<sub>c</sub> 962.8 P<sub>c</sub> 927.0 x 10<sup>3</sup>

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.	856.5	733.6	0.49	0.24	0.035	733.6	193.4	856.5	0.89
2.	799.3	638.9	0.79	0.62	0.089	639.0	288.0	799.4	0.83
3.	738.1	544.8	1.10	1.21	0.174	545.0	382.0	738.2	0.77
4.	673.4	453.5	1.50	2.25	0.324	453.8	473.2	673.6	0.70
5.									

Absolute Potential: 3450 MCFPD; n 1.0000  
 COMPANY Scelly Oil Co.  
 ADDRESS Box 38, Hobbs, N. M.  
 AGENT and TITLE J. E. Clark Dist. Supt.  
 WITNESSED None  
 COMPANY \_\_\_\_\_

REMARKS

This test is the third retest.

### INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those in 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 on which the back pressure curve shall be of at least three inch scale.

### DEFINITIONS

- $Q$  = Actual rate of gas flow during the test period at W. H. working pressure ( $P_w$ ).  
MCF/day at 14.7 psia and 60° F.
- $P_c$  = 72 hours wellhead pressure and casing pressure whichever is greater.  
psia
- $P_w$  = Static wellhead pressure as determined at the end of flow period.  
(Casing pressure if casing is flowing or tubing if flowing thru casing) psia
- $P_t$  = Flowing wellhead pressure if flowing through tubing, casing if flowing thru casing.  
psia
- $P_f$  = Meter pressure, psia
- $h_w$  = Difference in height between wellhead and water
- $F_g$  = Gravity correction factor
- $F_t$  = Flowing temperature correction factor
- $F_{pv}$  = Supercompressibility factor
- $n$  = Specific gravity of gas

Note: If the well is completed in an area of completion or location of well, the pressure shall be corrected by adding the pressure drop due to friction between the wellhead and the surface to  $P_t$ .