

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Euclid Formation Carbon County LeaInitial K Annual          Special          Date of Test 10-27-58 & 2-5-59Company The Ohio Oil Company Lease Santa McDonald A/c 2 Well No. 11Unit A Sec. 13 Twp. 220 Rge. 300 Purchaser Permian Basin Pipeline CompanyCasing 7" OD Wt. 24# I.D. 6.526 Set at 3432 Perf. 3458 To 3496Tubing 2 7/8" Wt. 6.34 I.D. 2.441 Set at 3648 Perf. 3590 To 3592Gas Pay: From 3458 To 3496 L 3450 xG 0.673 -GL 2317 Bar.Press. 13.2Producing Thru: Casing K Tubing          Type Well G.O. DualDate of Completion: 10/14/58 Packer 1500" Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp.         

First 4 rates thru prover on 10-17-58

24 hour flow rate taken thru meter on 2-5-59

Tested Through (Prover) (CHOKES) (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	Temp. °F.	
SI						785.8	-	838.5	-	68 3/4 hr.
1.	2" (Prover)	1/8" Orifice	725.1	-	59	775.2	-	799.4	-	3 hr.
2.	"	3/16 " "	725.1	-	61	736.6	-	725.5	-	3 hr.
3.	"	7/32 " "	658.5	-	64	678.3	-	659.7	-	3 hr.
4.	"	1/4" "	583.7	-	62	617.2	-	584.0	-	3 hr.
5.	1" (Line)	1 1/4" Choke	453.7	11.0	58	-	-	454.2	-	24 hr.

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	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.	0.3412	-	813.2	1.0010	0.9463	1.099	289
2.	0.7851	-	736.3	0.9929	0.9463	1.085	595
3.	1.0834	-	672.1	0.9982	0.9463	1.076	739
4.	1.4030	-	526.9	0.9981	0.9463	1.068	845
5.	10.24	74.23	456.5	1.0039	0.9463	1.054	761

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.Gravity of Liquid Hydrocarbons          deg.F<sub>c</sub> 0.860 (1-e<sup>-s</sup>) 0.107Specific Gravity Separator Gas         Specific Gravity Flowing Fluid         P<sub>c</sub> 851.7 P<sub>c</sub><sup>2</sup> 725.4Static pressures available on prover portion of this test,  
but were not available on the 24 hour flow rate.

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.	788.4 (P <sub>w</sub> )					621.5	103.8		92.5
2.	749.8 "					562.2	163.2		88.0
3.	691.5 "					478.3	247.2		81.2
4.	630.4 "					397.4	328.0		74.0
5.	457.4 (P <sub>c</sub> )	218.5	0.670	0.449	0.065	218.5	506.8	467.5	54.9

Absolute Potential: 914MCFPD; n 0.51664COMPANY The Ohio Oil CompanyADDRESS Box 2107 - Hobbs, New MexicoAGENT and TITLE Herrell D. Chiles - Petroleum EngineerWITNESSED Test Conducted By: Mr. J. D. Horton, Permian Basin Pipeline CompanyCOMPANY Witnessed By: H. D. Chiles, The Ohio Oil 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  $P_t$ .