

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Tubb Formation Tubb County Lea
Initial X Annual _____ Special _____ Date of Test 10/30/61
Company Socony Mobil Oil Company, Inc. Lease Corrigan Gas Unit Well No. 7
Unit P Sec. 33 Twp. 21-S Rge. 37-E Purchaser Northern Natural Gas Company
Casing 5 1/2" Wt. 17# I.D. 4.892 Set at 7446' Perf. 5546' To 5824'
Tubing 2" Wt. 4.7# I.D. 1.995 Set at 6063' Perf. 6018' To 6208
Gas Pay: From 6018' To 6208' L 6063 xG 0.745 -GL 4517 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well G/G Dual
Date of Completion: 10/14/61 Packer @ 5970' Reservoir Temp. 118° F.

OBSERVED DATA

Tested Through (~~Bottom~~) (~~Choke~~) (Meter) Type Taps Pipe

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Bottom) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1676	78			89 hrs.
1.	4.026	2.500	440	1.1	62	1605	80			3 hrs. 30 mins.
2.	4.026	2.500	436	3.0	63	1530	82			3 hrs. 20 mins.
3.	4.026	2.500	450	7.2	63	1380	83			3 hrs. 15 mins.
4.	4.026	2.500	470	12.3	65	1145	84			4 hrs.
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	54.44	22.33	453.2	0.9981	0.9331	1.053	1192.2
2.	54.44	36.71	449.2	0.9971	0.9331	1.052	1956.1
3.	54.44	57.75	463.2	0.9971	0.9331	1.054	3083.0
4.	54.44	77.09	483.2	0.9952	0.9331	1.056	4115.5
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 41,875 cf/bbl.
Gravity of Liquid Hydrocarbons 72 deg.
P_c 9.936 (1-e^{-s}) 0.267

Specific Gravity Separator Gas 0.689
Specific Gravity Flowing Fluid 0.745
P_c 1689.2 P_c² 2853.4

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w / P _c
1.	1618.2	2619	11.846	140.328	37.47	2656.5	196.9	1629.9	.965
2.	1543.2	2381	19.436	377.758	100.86	2481.9	371.5	1575.4	.933
3.	1393.2	1941	30.633	938.381	250.55	2191.6	661.8	1480.4	.876
4.	1158.2	1341	40.892	1672.156	446.47	1787.5	1065.9	1337.0	.791
5.									

Absolute Potential: 9510 MCFPD; n 0.77
COMPANY Socony Mobil Oil Company, Inc.
ADDRESS Box 2406, Hobbs, New Mexico
AGENT and TITLE J. J. Fowler Production Engineer
WITNESSED _____
COMPANY _____

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

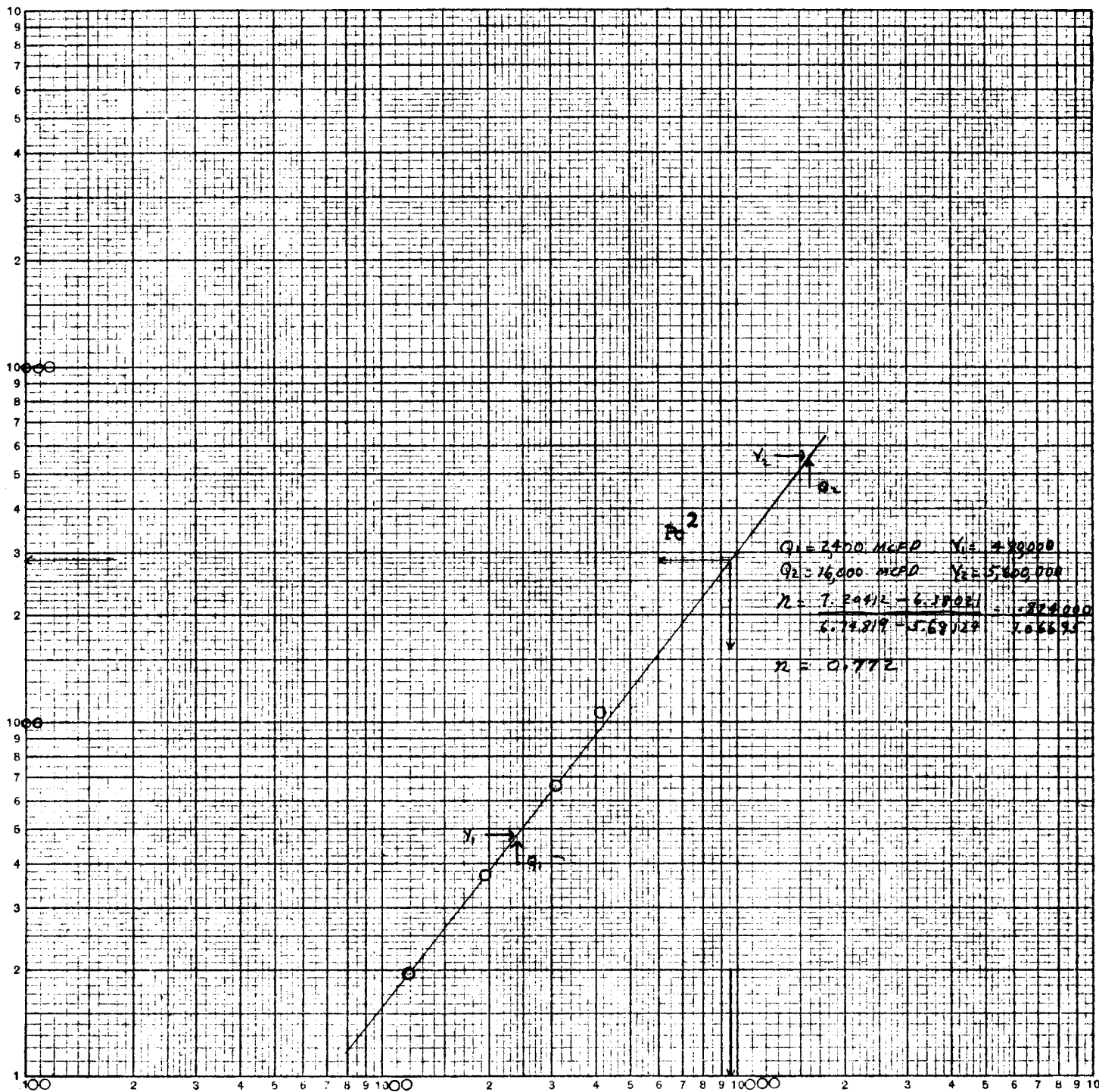
- Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w).
MCF/da. @ 15.025 psia and 60° F.
- P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.
psia
- P_w = Static wellhead working pressure as determined at the end of flow period.
(Casing if flowing 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 .

Company: Socony Mobil Oil Company, Inc.
 Well: H. Corrigan #7-T
 Location: P 33-213-37E
 County: Lea
 Date: 10/30/61

$P_c^2 - P_w^2$ (Thousands)

K&S LOGARITHMIC 359-120G
 KEUFFEL & ESSER CO. MADE IN U.S.A.
 3 X 3 CYCLES



Q - MCFD - 15.025 PSIA

$Q_1 = 1000 = 4.041393$
 $Q_2 = 2000 = 3.301030$
 $n = 0.772$