

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

ELVIS A. UTZ
GAS ENGINEER

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Permian Formation Permian County Lea
Initial X Annual _____ Special _____ Date of Test 7-25 to 8-1-56
Company Gulf Oil Corporation Lease Ball, R. A. "C" Well No. 4
Unit P Sec. 15 Twp 21S Rge. 36E Purchaser Permian Basin P. Co.
Casing 5.5 Wt. 37 I.D. 4.892 Set at 3752 Perf. 3612 To 3612
Tubing 2.375 Wt. 4.7 I.D. 1.995 Set at 3823 Perf. _____ To _____
Gas Pay: From 3612 To 3612 L 3612 xG .670 -GL 2293 Bar.Press. 11.2
Producing Thru: Casing X Tubing _____ Type Well OO Dual
Date of Completion: 9-23-55 Packer 3665 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. _____

OBSERVED DATA

Tested Through (Permian) (Permian) (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 _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI								<u>952.7</u>		<u>72</u>
1.	<u>4</u>	<u>2.50</u>	<u>467.0</u>	<u>11.4</u>	<u>71</u>			<u>817.4</u>		<u>24</u>
2.	<u>4</u>	<u>2.50</u>	<u>476.2</u>	<u>21.6</u>	<u>70</u>			<u>725.8</u>		<u>24</u>
3.	<u>4</u>	<u>2.50</u>	<u>476.1</u>	<u>30.9</u>	<u>69</u>			<u>685.8</u>		<u>24</u>
4.	<u>4</u>	<u>2.50</u>	<u>483.2</u>	<u>36.1</u>	<u>67</u>			<u>573.2</u>		<u>24</u>
5.										

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.	<u>56.44</u>	<u>77.16</u>	<u>480.2</u>	<u>.9896</u>	<u>.9663</u>	<u>1.063</u>	<u>5189</u>
2.	<u>56.44</u>	<u>102.60</u>	<u>487.4</u>	<u>.9905</u>	<u>.9663</u>	<u>1.064</u>	<u>9666</u>
3.	<u>56.44</u>	<u>123.00</u>	<u>489.3</u>	<u>.9913</u>	<u>.9663</u>	<u>1.066</u>	<u>6572</u>
4.	<u>56.44</u>	<u>127.90</u>	<u>476.4</u>	<u>.9933</u>	<u>.9663</u>	<u>1.065</u>	<u>6818</u>
5.							

PRESSURE CALCULATIONS

COR 1.53%
NR 1.83%

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 1.812 (1-e^{-s}) 0.116
Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 965.2 P_c 931.0

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.	<u>830.6</u>	<u>689.9</u>	<u>7.205</u>	<u>51.88</u>	<u>8.07</u>	<u>690.0</u>	<u>233.0</u>	<u>835.5</u>	<u>87</u>
2.	<u>736.0</u>	<u>541.6</u>	<u>9.908</u>	<u>98.16</u>	<u>14.32</u>	<u>541.9</u>	<u>372.1</u>	<u>747.6</u>	<u>77</u>
3.	<u>636.0</u>	<u>404.6</u>	<u>11.908</u>	<u>141.80</u>	<u>20.70</u>	<u>404.7</u>	<u>528.3</u>	<u>630.8</u>	<u>67</u>
4.	<u>506.1</u>	<u>256.1</u>	<u>12.390</u>	<u>153.50</u>	<u>22.37</u>	<u>256.1</u>	<u>904.8</u>	<u>405.1</u>	<u>43</u>
5.									

Absolute Potential: 9600 MCFPD; n 0.59
COMPANY Gulf Oil Corporation
ADDRESS Box 2167, Hobbs, N.M.
AGENT and TITLE H. L. Smith
WITNESSED _____
COMPANY _____

REMARKS

ILLEGIBLE

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} = Supercompressibility 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 .