

NEW MEXICO OIL CONSERVATION COMMISSION

ELVIS A. DYE
GAS ENGINEER

Form C-122

Revised 12-1-55

HOBBS OFFICE OCC

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1955 OCT 10 PM 7:06

Pool Formation County Lea

Initial Annual Special Date of Test 6-10 to 17, 1956

Company Gulf Oil Corporation Lease Graham State "C" Well No. 1

Unit 1 Sec. 24 Twp. 19N Rge. 16E Purchaser Pennian Basin Pipeline Co.

Casing 7 Wt. 24 I.D. 6.336 Set at 3830 Perf. 3536 To 3678

Tubing 2.375 Wt. 4.7 I.D. 1.975 Set at 4021 Perf. To

Gas Pay: From 3536 To 3678 L 3536 xG .675 -GL 2387 Bar.Press. 13.2

Producing Thru: Casing Tubing Type Well GO Dual

Date of Completion: 10-7-55 Packer 3800 Reservoir Temp.

OBSERVED DATA

Tested Through (Prover) (Choke) (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
SI									
1.	2.75	2.75	149.5	1.5	71			1017.3	77
2.	2.75	2.75	149.5	1.5	70			951.4	24
3.	2.75	2.75	149.5	1.5	71			865.8	24
4.	2.75	2.75	149.5	1.5	71			776.4	24
5.	2.75	2.75	149.5	1.5	70			787.2	24

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor Ft	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	73.21	15.45	148.7	.9896	.9827	2.042	320
2.	73.21	15.45	148.7	.9895	.9827	2.043	320
3.	73.21	15.45	148.7	.9896	.9827	2.044	777
4.	73.21	15.45	148.7	.9888	.9827	2.044	870
5.							

PRESSURE CALCULATIONS

GO 2 2.313
NE 2.142

Gas Liquid Hydrocarbon Ratio cf/bbl.
Gravity of Liquid Hydrocarbons 0.731 deg.
P_c (1-e^{-S}) 0.12

Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
P_c 1000.5 P_c 1001.9

No.	P _w P _c (psia)	P _c ² / t	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	P _w / P _c
1.	207.6	797.9	2.111	5.92	5.92	828.8	149.11	947.7	91.9
2.	207.6	797.9	1.907	19.25	2.91	740.8	321.1	860.7	89.5
3.	207.6	600.3	1.857	18.52	5.21	685.5	136.4	790.9	76.7
4.	207.6	598.2	0.914	18.49	6.45	554.7	507.2	722.1	69.1
5.									

16,308 MCFPD; n 0.86

Absolute Potential Gulf Oil Corporation COMPANY Box 2147, Hobbs, N.M. ADDRESS AGENT and TITLE H. L. Smith WITNESSED 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 .