NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Ballard Formation Pictured Cliffs County Rio Arriba

Initial X Annual Special Date of Test 12/29/56

Company Western Natural Gas Company Lease Nordhaus-Federal Well No. 2

Unit F Sec. 18 Twp. 25N Rge. 7W Purchaser El Paso Natural Gas Company

Casing 2348 Wt. 13.7 15 1/2 I.D. 5.012 Set at 2357 Perf. 2242 To 2303

Tubing 2285 Wt. 1.70 I.D. 1.049 Set at 2293 Perf. 2278 To 2293

Gas Pay: From 2242 To 2303 L 2278 xG .66 =GL 1503 Bar.Press. 12.0

Producing Thru: Casing X Tubing Type Well Single - Gas
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 12/11/56 Packer Reservoir Temp. 93

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI		3/4	126		52.0	641.0		642.6		3 Hrs.
1.						157.0		126		
2.										
3.										
4.										
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.	14.1605		138	1.0078	0.9924	1.014	1981.78
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.
Gravity of Liquid Hydrocarbons deg.
F_c $(1-e^{-s})$

Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
P_c 654.6 P_c^2 428.5

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$(F_cQ)^2$ $(1-e^{-s})$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.						28.56	399.94		0.258
2.									
3.									
4.									
5.									

Absolute Potential: 2101.69 MCFPD; n 0.85

COMPANY WESTERN NATURAL GAS COMPANY

ADDRESS 823 Midland Tower

AGENT and TITLE Petroleum Engineer

WITNESSED

COMPANY

REMARKS

RECEIVED
MAR 16 1957
OIL CON. COM.
DIST. 3

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.

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