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 1/6/57

Company Western Natural Gas Company Lease Nordhaus-Federal Well No. 5

Unit H Sec. 19 Twp. 25 Rge. 7 Purchaser El Paso Natural Gas Company

Casing 5 1/2 Wt. 13.7 I.D. 5.012 Set at 2267 Perf. 2142 To 2214

Tubing 1" Wt. 1.70 I.D. 1.049 Set at 2197 Perf. 2181 To 2196

Gas Pay: From 2138 To 2214 L 2181 xG .66 -GL 1439 Bar.Press. 12.0

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

Date of Completion: 12/23/56 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	389		58	633		634		3 Hrs.
1.						401		389		
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			1.0029	0.9924	1.042	5888.96
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 _____ P_c^2 _____

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.						170.57	246.75		.64
2.									
3.									
4.									
5.									

Absolute Potential: 9,204.4 MCFPD; n 0.85
COMPANY WESTERN NATURAL GAS COMPANY
ADDRESS 823 Midland Tower
AGENT and TITLE Petroleum Engineer
WITNESSED _____
COMPANY _____

REMARKS

RECEIVED
MAR 6 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.

OIL CONSERVATION COMMISSION
AZTEC DISTRICT OFFICE
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