

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Fumont Formation Queen County Lea
Initial _____ Annual _____ Special X Date of Test 9-30-56
Company The Atlantic Refining Company Lease Crutchfield Well No. 1
Unit 1 Sec. 32 Twp. 19-S Rge. 37-E Purchaser Permian Basin Pipe Line Company
Casing 5-1/2" Wt. 17# I.D. 4.892 Set at 3765' Perf. 3438' To 3596'
Tubing 2-1/2" Wt. 6.5# I.D. 2.441 Set at 3423' Perf. _____ To _____
Gas Pay: From 3438' To 3596' L 3423' xG 0.670 -GL 2293 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Date of Completion: 9-14-53 Packer _____ Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. _____

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(<u>Prover</u>) (Line) Size	(<u>Choke</u>) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.	4	.75	457.0	8.5	80	947.7				72-1/4
2.	4	.75	457.5	14.5	87	851.7				23-1/4
3.	4	.75	455.1	14.2	90	491.7				23-3/4
4.	4	.75	454.9	10.0	82	459.3				24-1/4
5.						553.5				24

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.	3.515	63.22	470.2	0.9813	0.9463	1.039	214
2.	3.515	82.61	470.7	0.9750	0.9463	1.037	278
3.	3.515	81.55	468.3	0.9723	0.9463	1.037	274
4.	3.515	68.42	468.1	0.9795	0.9463	1.039	232
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 5.866 (1-e^{-s}) 0.146

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 960.9 P_c² 923.3

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.	664.9	442.1	1.255	1.575	0.2300	442.3	481.0	665.1	0.69
2.	504.9	254.9	1.631	2.660	0.3884	255.3	668.0	505.3	0.53
3.	472.5	223.2	1.607	2.582	0.3770	223.6	699.7	472.9	0.49
4.	566.7	321.1	1.361	1.852	0.2704	321.4	601.9	566.9	0.59
5.									

Absolute Potential: 331 MCFPD; n .68
COMPANY The Atlantic Refining Company
ADDRESS P.O. Box 1038 Denver City, Texas
AGENT and TITLE W. A. East District Superintendent
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} = 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 .