NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Angel's Peak** Formation **Dakota** County **San Juan**

Initial **X** Annual _____ Special _____ Date of Test **7-13-59**

Company **The Frontier Refining Co.** Lease **Evensen Gov't.** Well No. **2G-D**

Unit **P** Sec. **19** Twp. **27N** Rge. **10W** Purchaser **None**

Casing **7-5/8"** Wt. **26.40** I.D. **6.875** Set at **6394** Perf. **6331 6302 6184** To **6336 6318 6196**

Tubing **2-3/8** Wt. **4.7** I.D. **1.995** Set at **6162** Perf. **6154** To **6160**

Gas Pay: From _____ To _____ L _____ xG _____ -GL _____ Bar.Press. _____

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

Date of Completion: **7-4-59** Packer **Baker Mod "D" @ 6150** Reservoir Temp. **153**

OBSERVED DATA

Tested Through (Prover) ~~(Choke)~~ ~~(Meter)~~ ~~Type Tests~~

No.	Flow Data (Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI	2"	1"			112	2058	112	1262	112	s.i.
1.	2"	1"	366			750	83	1262	112	1 hr
2.	2"	1"	348			630	82	1262	112	2 hrs
3.	2"	1"	340			550	82	1262	112	3 hrs
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.	22.06		378	0.9786	0.8452	1.022	7048.76
2.	22.06		360	0.9795	0.8452	1.021	6712.71
3.	22.06		352	0.9795	0.8452	1.021	6563.54 *
4.							
5.							

*** stabalized flow**

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.									
2.									
3.									
4.									
5.									

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Absolute Potential: **6,710** MCFPD; n **= 0.75**

COMPANY **The Frontier Refining Company**

ADDRESS **4040 East Louisiana Ave., Denver 22, Colorado**

AGENT and TITLE **Jack B. Ballack, Engr. Chemical & Geological Laboratories**

WITNESSED **Rabey J. Funk, Petroleum Engineer** Rabey J. Funk

COMPANY **The Frontier Refining Company**

REMARKS

$$AOF = Q\left[\frac{Pc^2}{(Pc^2 - Pw^2)}\right]^n$$

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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