NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Yates-Seven Rivers County Lea

Initial X Annual Special Date of Test 7-14-58

Company THE ATLANTIC REFINING COMPANY Lease SEALE FEDERAL Well No. 4

Unit N Sec. 34 Twp. 20-S Rge. 36-E Purchaser Phillips Petroleum Co.

Casing 5½" Wt. 14# & 15½# D. 5.012 Set at 3883' Perf. 3814 To 3850

Tubing 2" Wt 4.7# & 5½# D. 2.000 Set at 3793' Perf. To

Gas Pay: From 3814' To 3850' L 3814' xG 0.685 -GL 2613 Bar.Press. 13.2

Producing Thru: Casing Tubing X Type Well Single

Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 1-28-58 Packer TIW @3827.7 Reservoir Temp.

OBSERVED DATA

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

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	3.068					330		0		72
1.	3.068	1.75	24	14	105	95		0		24
2.	3.068	1.25	22	10	110	110		0		24
3.	3.068	1.25	22	10	105	160		0		24
4.	3.068	1.25	21	21	105	220		0		24
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.	20.15	22.81	37.2	0.9592	0.9359	1.005	414.67
2.	9.781	41.95	35.2	0.9552	0.9359	1.005	368.60
3.	9.781	37.53	35.2	0.9592	0.9359	1.005	331.10
4.	9.781	26.80	34.2	0.9592	0.9359	1.005	236.49
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.

Gravity of Liquid Hydrocarbons deg.

F_c 9.936 $(1-e^{-s})$ 0.165

Specific Gravity Separator Gas

Specific Gravity Flowing Fluid

P_c 523.2 P_c^2 273.74

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.	68.2	4.651	4.12	16.974	2.800	7.453	266.289	86.32	0.16498
2.	129.2	16.678	3.898	15.200	2.202	17.390	256.350	131.87	0.25205
3.	173.2	29.990	3.730	13.91	1.785	29.986	243.955	178.30	0.29879
4.	233.2	54.382	2.349	5.518	0.9105	55.295	218.477	235.0	0.44915
5.									

Absolute Potential: 430 MCFPD; n 1

COMPANY THE ATLANTIC REFINING COMPANY

ADDRESS P.O. Box 1038

AGENT and TITLE W.A. Carr, Dist. Supt. 8-20-58

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.