NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC
1957 FEB 14 PM 12:53

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queen County Lea

Initial ____ Annual ____ Special x Date of Test 12-5 to 12-9-56

Company Humble Oil & Refining Co. Lease N. M. State M Well No. 4

Unit C Sec. 19 Twp. 22 S Rge. 37 E Purchaser El Paso Natural Gas Company

Casing 5½ Wt. 17.0 I.D. 4.892 Set at 3578 OH Perf. 3578 To 3714

Tubing 2-3/8 Wt. 4.70 I.D. 1.995 Set at 3576 Perf. 3575 To 3578

Gas Pay: From 3610 To 3714 L 3575 xG 0.723 mix -GL 2585 Bar.Press. 13.2

Producing Thru: Casing ____ Tubing x Type Well single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 12-12-55 Packer None Reservoir Temp. 90

OBSERVED DATA

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

No.	Flow Data ~~(Prover)(Choke)~~ (Line) Size	(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						721				72
1.	4	1.000	561	56.25	102	570				24
2.	4	1.000	557	24.01	104	616				24
3.	4	1.000	538	19.36	75	606				24
4.	4	1.000	545	15.21	74	697				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.	6.135	179.7	574.2	0.9618	0.9225	1.053	1090
2.	6.135	117.0	570.2	0.9608	0.9225	1.053	670
3.	6.135	103.3	551.2	0.9559	0.9225	1.061	612
4.	6.135	92.14	558.2	0.9568	0.9225	1.062	546
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 168.131 cf/bbl.
Gravity of Liquid Hydrocarbons 36 deg.
F_c 9.936 $(1-e^{-s})$ 0.163

Specific Gravity Separator Gas 0.705
Specific Gravity Flowing Fluid ____
P_c 734.2 P_c^2 539.0

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.	583.2	340.1	10.23	104.65	17.1	357.2	181.8	426.4	0.597
2.	629.2	395.9	6.66	44.36	7.2	403.1	135.9	368.7	0.516
3.	639.2	408.6	6.08	36.97	6.0	414.6	124.4	358.7	0.496
4.	650.2	422.8	5.43	29.48	4.8	427.6	111.4	333.8	0.467
5.									

Absolute Potential: 2575 MCFPD; n 0.989

COMPANY Humble Oil & Refining Company
ADDRESS Box 2347, Hobbs, New Mexico
AGENT and TITLE [signature] District Superintendent
WITNESSED Southern
COMPANY El Paso Natural Gas Company

REMARKS

LOUIS A. UTZ
GAS ENGINEER

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.