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 _____ Annual _____ Special ____ **x** Date of Test __6-18 to 6-22-56__

Company __Humble Oil & Refining Company__ Lease __Humble State Aggies__ Well No. __4__

Unit __F__ Sec. __31__ Twp. __20S__ Rge. __37E__ Purchaser __El Paso Natural Gas Company__

Casing __5½__ Wt. __17__ I.D. __4.892__ Set at __3740__ Perf. __3300__ To __3495__

Tubing __2__ Wt. __4.7__ I.D. __1.995__ Set at __3503__ Perf. __3474__ To __3477__

Gas Pay: From __3300__ To __3495__ I __3474__ xG __0.670__ -GL __2328__ Bar.Press. __13.2__

Producing Thru: Casing __Packed Off__ Tubing __x__ Type Well __single__

Date of Completion: __4-4-54__ Packer __set at 3285__ Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. __90__

OBSERVED DATA

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

No.	(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						975		Packer		72 SI
1.	4	1.500	579	15.21	59	889		0		24
2.	4	1.500	583	28.09	60	841		0		24
3.	4	1.500	571	41.60	62	798		0		24
4.	4	1.500	562	71.40	62	701		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.	13.99	94.23	592.2	1.0010	0.9463	1.070	1336.2
2.	13.99	129.19	596.2	1.0000	0.9463	1.070	1830.1
3.	13.99	155.87	584.2	0.9981	0.9463	1.068	2199.7
4.	13.99	202.62	575.2	0.9981	0.9463	1.068	2859.4
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.   Specific Gravity Separator Gas _____

Gravity of Liquid Hydrocarbons _____ deg.   Specific Gravity Flowing Fluid _____

F_c __9.936__ $(1-\epsilon^{-s})$ __0.148__ P_c __988.2__ P_c^2 __976.5__

No.	P_w at (psia)	P_t^2	$F_c Q$	$(F_c Q)^2$	$\frac{(F_c Q)^2}{(1-\epsilon^{-s})}$	P_w^2	$P_c^2 - P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	902.3	814.0	13.28	176.25	26.09	840.1	136.4	916.6	0.928
2.	854.2	729.66	18.18	330.66	48.94	777.6	198.9	881.8	0.892
3.	811.2	658.05	21.86	477.68	70.70	728.8	247.7	853.6	0.864
4.	714.2	510.08	28.41	807.18	119.46	629.5	347.0	793.4	0.803
5.									

Absolute Potential: __6650__ MCFPD; n __0.82__

COMPANY __Humble Oil & Refining Company__

ADDRESS __Box 2347, Hobbs, N.M.__

AGENT and TITLE _____ District Superintendent

WITNESSED __Dendy & Southern__

COMPANY __El Paso Natural Gas Company__

REMARKS

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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.