NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE O.C.C.
1957 MAY 20 AM 10 42

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea

Initial ______ Annual ______ Special X Date of Test 4-22-57 to 4-26-57

Company Humble Oil & Refining Company Lease C. B. Hadfield Well No. 1

Unit J Sec. 21 Twp. 23-S Rge. 37-E Purchaser El Paso Natural Gas Co.

Casing 7" Wt. 24 I.D. 6.336 Set at 2990 Perf. 3067 To 3135

Tubing 2" Wt. 4.7 I.D. 1.995 Set at 3120 Perf. - To - (5" O. D. Liner set from 2950 - 3148)

Gas Pay: From 3067 To 3135 L 3120 xG 0.660 -GL 2061 Bar.Press. 13.2

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

Date of Completion: 6-4-36 Packer None Reservoir Temp. —

OBSERVED DATA

Tested Through (Prover) ([illegible]) ([illegible]) ILLEGIBLE Flange

No.	Flow Data ([illegible]) (Line) Size	([illegible]) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	[illegible] psig	°F.	psig	[illegible] Temp. °F.	Duration of Flow Hr.
SI						540				72
1.	4	1.000	150	7.84	70	489				24
2.	4	1.000	140	14.40	72	431				24
3.	4	1.000	227	14.44	77	363				24
4.	4	[illegible]	266	18.36	77	301				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	33.27	161.2	0.9905	0.9535	1.012	195
2.	6.135	51.82	153.2	0.9887	0.9535	1.014	312
3.	6.135	61.30	240.2	[illegible]	0.9535	1.023	360
4.	6.135	70.64	279.2	0.9840	0.9535	1.025	417
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ______ cf/bbl. Specific Gravity Separator Gas 0.660

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

F_c 9.956 $(1-e^{-s})$ 0.132 P_c 555.2 P_c^2 308.2

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.	502.2	252.2	1.95	3.78	0.50	252.7	55.5	502.7	0.905
2.	446.2	197.5	3.10	9.61	1.27	198.4	109.8	445.4	0.802
3.	376.2	141.5	3.58	12.82	1.69	143.2	165.4	377.9	0.682
4.	314.2	98.7	4.14	17.14	2.26	100.1	208.1	316.4	0.570
5.									

Absolute Potential: 527 MCFPD; n 0.866

COMPANY Humble Oil & Refining Company

ADDRESS P. O. Box 2047, Hobbs, New Mexico

AGENT and TITLE J. B. Van Shenkeneck (signature) District Superintendent

WITNESSED E. C. Smith

COMPANY El Paso Natural Gas Co.

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.