NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Blinebry** Formation **Blinebry** County **Lea**

Initial ____ Annual ____ Special **x** Date of Test **8-3/8-9-57**

Company **Humble Oil & Refining Company** Lease **New Mexico State S** Well No. **23 Casing**

Unit **P** Sec. **23** Twp. **22-S** Rge. **37-E** Purchaser **El Paso Natural Gas Company**

Casing **5-1/2** Wt. **14#** I.D. **5.012** Set at **6200** Perf. **5428** To **5545**

Tubing **2** Wt. **4.7** I.D. ____ Set at **6111** Perf. **5996** To **6185**

Gas Pay: From **5428** To **5545** L **5428** xG **0.722** -GL **3919** Bar.Press. **13.2**

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

Date of Completion: **4-30-55** Packer **5976** 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								1775		72 SI
1.	4	1.500	532	30.80	83			1513		
2.	4	1.500	538	48.30	76			1456		
3.	4	1.500	540	64.00	74			1400		
4.	4	1.500	567	76.56	73			1343		
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	129.58	545.2	0.9786	0.9325	1.055	1745
2.	13.99	163.17	551.2	0.9850	0.9325	1.057	2216
3.	13.99	188.16	553.2	0.9868	0.9325	1.061	2570
4.	13.99	210.76	580.2	0.9877	0.9325	1.064	2890
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **75,722** cf/bbl.
Gravity of Liquid Hydrocarbons **70** deg. **0.7022**
F_c **1.712** $(1-e^{-s})$ **0.236**

Specific Gravity Separator Gas **0.690**
Specific Gravity Flowing Fluid **0.722**
P_c **1788.2** P_c^2 **3197.7** (psia)

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.	1526.2	2329.3	2.99	8.94	2.11	2331.4	866.3	1526.9	.853
2.	1469.2	2158.5	3.79	14.36	3.39	2161.9	1035.8	1470.3	.822
3.	1413.2	1997.1	4.40	19.36	4.57	2001.7	1196.0	1414.8	.791
4.	1356.2	1839.3	4.95	24.50	5.78	1845.1	1352.6	1358.4	.760
5.									

Absolute Potential: **6,790** MCFPD; n **0.98**
COMPANY **Humble Oil & Refining Company**
ADDRESS **Box 2347, Hobbs, N. M.**
AGENT and TITLE K. G. Loudamy **District Superintendent**
WITNESSED **Earl G. Smith**
COMPANY **El Paso Natural Gas Company**

REMARKS

JRW/mcb

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.

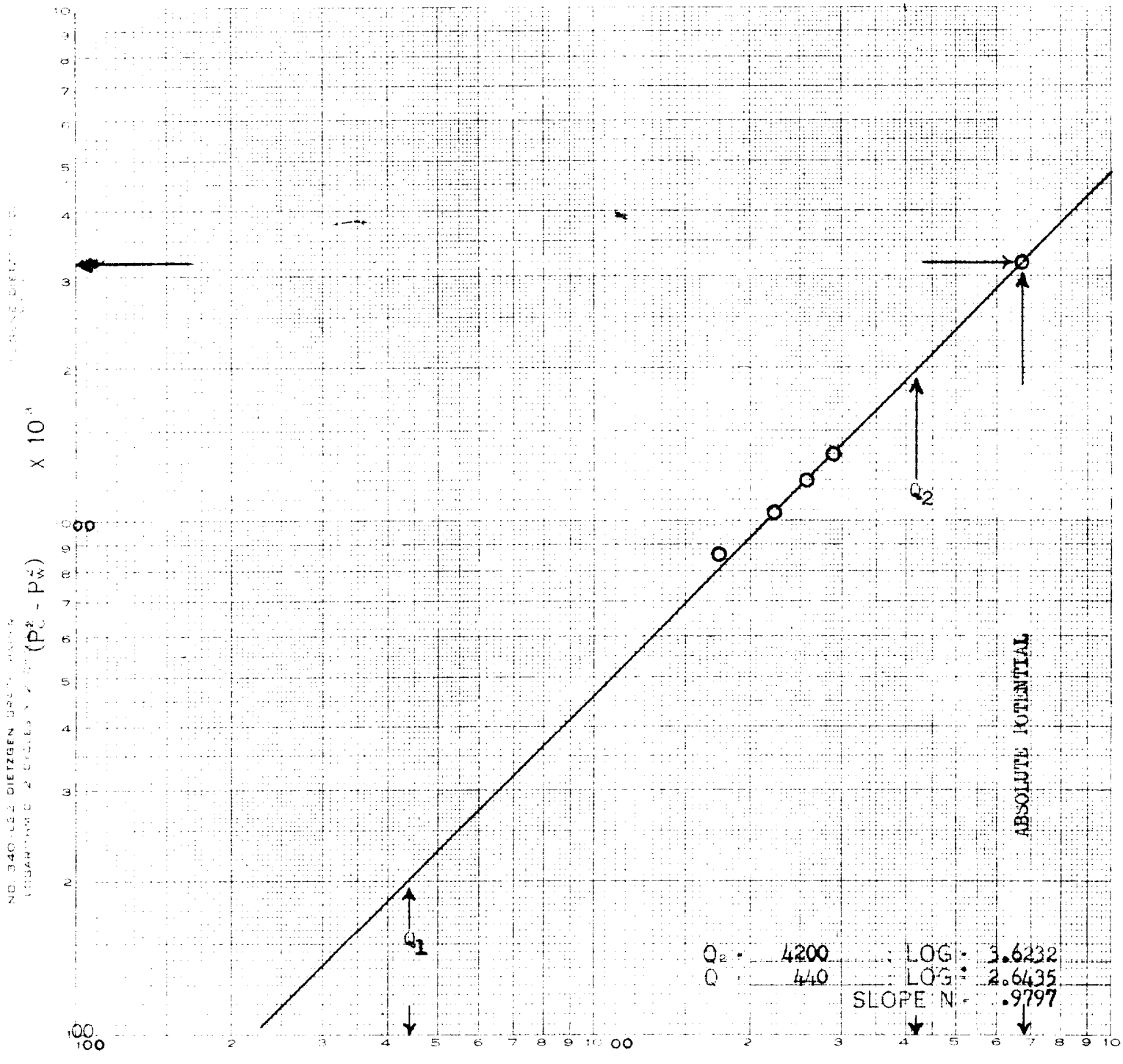
n = Slope of back pressure curve.

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.

HUMBLE OIL AND REFINING COMPANY

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Well New Mexico State S 23
Location P 23-22S-37E
County Lea
Date 10-3-57



Q - MCFD - 15.025 PSIA