NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Queens Sand County Lea

Initial ____ Annual X Special ____ Date of Test 9-4 / 13-57

Company Sun Oil Company Lease W. W. Weatherly Well No. 1

Unit K Sec. 17 Twp. 21 S Rge. 37 E Purchaser Permian Basin Pipeline Co.

Casing 7.0" Wt. 24.0# I.D. 6.336" Set at 3093' Perf. 3522 To 3560

Tubing 2-7/8" Wt. 6.5# I.D. 2.441" Set at 3720' Perf. - To -

Gas Pay: From 3522' To 3560' L 3093' xG 0.665 -GL 2057' Bar.Press. 13.2

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

Date of Completion: 5-14-36 Packer 3718 Reservoir Temp. -

OBSERVED DATA

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

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								593.8		72 Hour SIP
1.	4"	1.00"	503.3	0.7	81			583.6		24 Hours
2.	4"	1.00"	502.6	3.1	84			568.3		24 Hours
3.	4"	1.00"	506.5	3.3	78			524.7		24 Hours
4.	4"	1.00"	485.1	4.7	82			497.2		24 Hours
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.	6.375	19.03		0.9804	0.9498	1.047	118
2.	6.375	39.99		0.9777	0.9498	1.047	248
3.	6.375	41.41		0.9831	0.9498	1.049	259
4.	6.375	48.39		0.9795	0.9498	1.046	300
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio - cf/bbl.
Gravity of Liquid Hydrocarbons - deg.
F_c 0.880 $(1-e^{-s})$ 0.132

Specific Gravity Separator Gas 0.665
Specific Gravity Flowing Fluid -
P_c 607.0 P_c^2 368.4

No.	~~Pw~~ Pt (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.	596.8	356.2	0.1038	0.0108	0.0014	356.2	12.2	596.8	.98
2.	581.5	338.1	0.2182	0.0476	0.0063	338.1	30.3	581.5	.96
3.	537.9	289.3	0.2279	0.0519	0.0069	289.3	79.1	537.9	.89
4.	510.4	260.5	0.2640	0.0697	0.0092	260.5	107.9	510.4	.84
5.									

Absolute Potential: 1,830 MCFPD; n 0.80
COMPANY Sun Oil Company
ADDRESS Box 2880, Dallas, Texas
AGENT and TITLE D.R. Lawrence - Engineer
WITNESSED -
COMPANY -

REMARKS

Tests were run by Permian Basin Pipe Line Company

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.

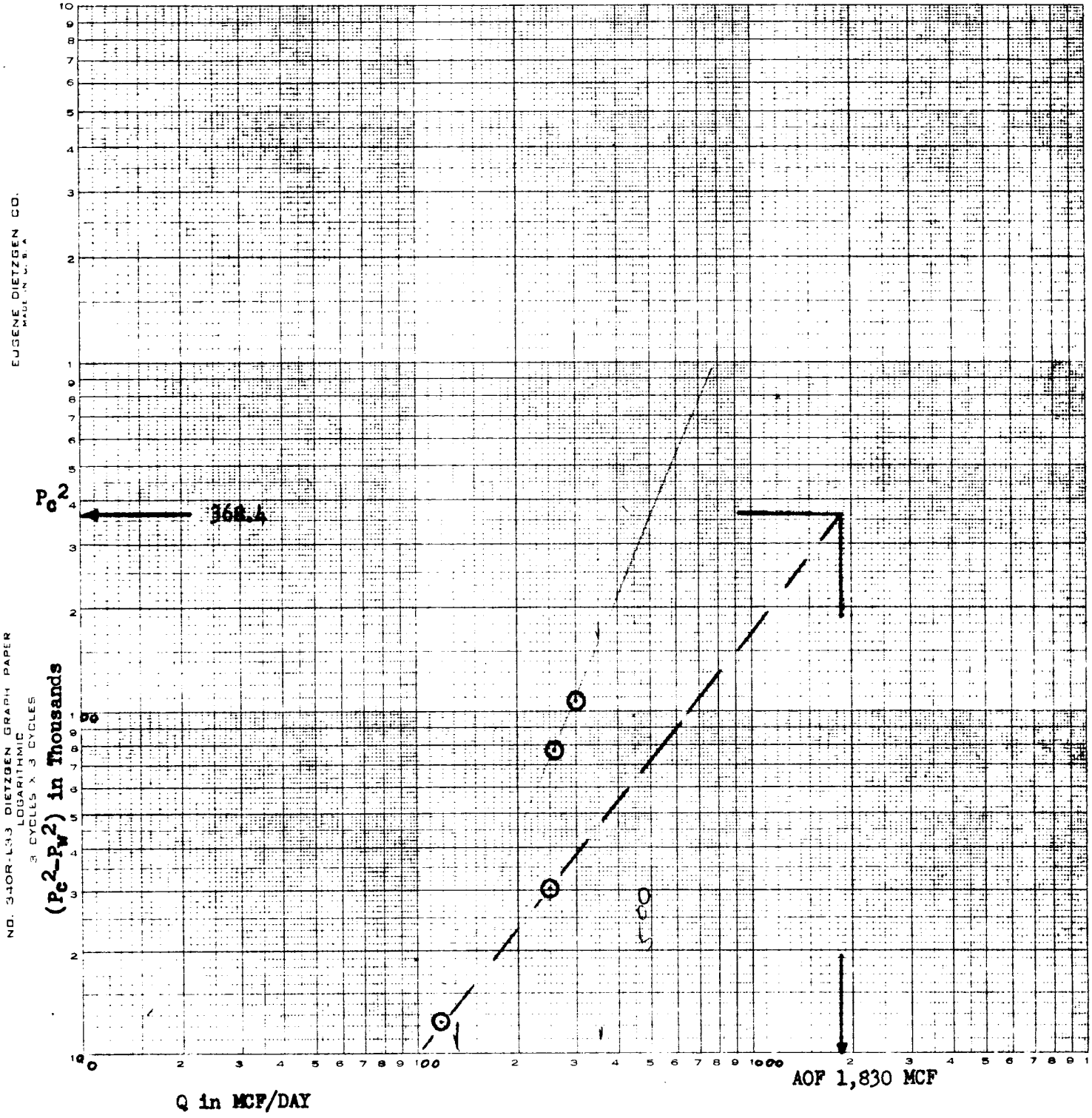
F_g = Gravity correction factor.

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.


EUGENE DIETZGEN CO.
NO. 340R-L33 DIETZGEN GRAPH PAPER
LOGARITHMIC
3 CYCLES X 3 CYCLES
P_c^2
368.4
$(P_c^2-P_w^2)$ in Thousands
Q in MCF/DAY
AOF 1,830 MCF