NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea

Initial X Annual ____ Special X Date of Test 12-18-56

Company Sinclair Oil & Gas Co. Lease 157 - "G" Well No. 1-A

Unit H Sec. 5 Twp. 22S Rge. 36E Purchaser Permain Basin P.L.

Casing 7" Wt. 23# I.D. 6.336" Set at 3899' Perf. 3250 To 3370

Tubing 2 3/8" Wt. 4.7# I.D. 1.995" Set at 3725 Perf. ____ To ____

Gas Pay: From 3250 To 3370 L 3250 xG .680 -GL 2210 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: ____ Packer ____ Reservoir Temp. 112

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps 2" C F P

Flow Data					Tubing Data		Casing Data		
No.	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	Duration of Flow Hr.
SI								784.7	60	72
1.	2	1/16	742.3		47			742.3	60	3
2.	2	3/32	636.2		61			636.2	60	3
3.	2	1/8	600.0		63			600.0	60	3
4.	2	3/16	501.0		60			501.0	60	3 3
5.	4	.75	453.2		57			452.0	60	20

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.	.0827		755.5	1.0127	.9393	1.092	65
2.	.1820		649.4	.9990	.9393	1.065	118
3.	.3418		613.2	.9971	.9393	1.062	208
4.	.7851		514.2	1.0000	.9393	1.051	399
5.	3.515	436.2	466.4	1.0029	.9393	1.051	474 — 20 hr

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl.
Gravity of Liquid Hydrocarbons ____ deg.
F_c .740 $(1-e^{-s})$ .141

Specific Gravity Separator Gas .680
Specific Gravity Flowing Fluid ____
P_c 797.9 P_c^2 636.7

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.	755.5	570.8	.0481	.0023	.0003	570.8	65.9	755.5	.95
2.	649.4	421.7	.0873	.0076	.0011	421.7	215.0	649.4	.81
3.	613.2	376.0	.1539	.0237	.0033	376.0	260.7	613.2	.77
4.	514.2	264.4	.2953	.0872	.0123	264.4	372.3	514.2	.64
5.	470.2	221.1	.3908	.1231	.0174	221.1	415.6	470.2	.59

Absolute Potential: 726 MCFPD; n 1.000

COMPANY Sinclair Oil & Gas Company
ADDRESS 520 East Broadway Hobbs, New Mexico
AGENT and TITLE R.L. Harned Gas Analyst
WITNESSED R.L. West
COMPANY Permain Basin Pipe Line Company

REMARKS

ELVIS 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.

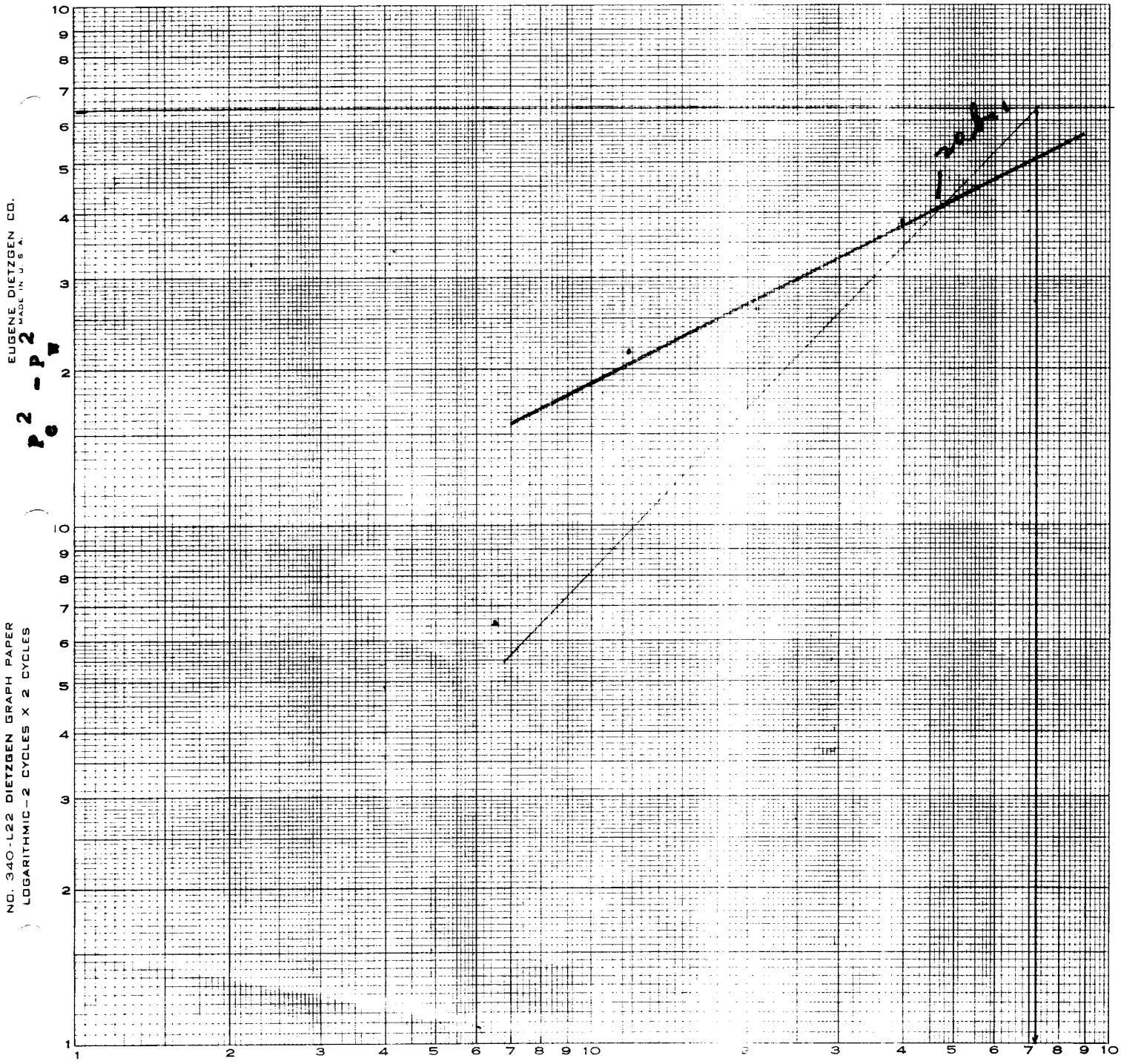
F_t = Flowing temperature correction factor.

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.

SINCLAIR OIL & GAS COMPANY - STATE 157 C WELL # 1A



Q IN MCFPD

n - 1.000

ABSOLUTE POTENTIAL - 726 MCFPD