NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Eumont** Formation **Penrose** County **Lea**

Initial **X** Annual _____ Special _____ Date of Test **10-3/7-61**

Company **Amerada Petroleum Corporation** Lease **State "DA"** Well No. **1**

Unit **L** Sec. **16** Twp. **21** Rge. **37** Purchaser **Northern Natural Gas**

Casing **5.500"** Wt. **15.5#** I.D. **4.950"** Set at **6686'** Perf. **3552'** To **3594'**

Tubing **2.375"** Wt. **4.7#** I.D. **1.995"** Set at **6530'** Perf. _____ To _____

Gas Pay: From **3552'** To **3594'** L **3552** xG **0.690** -GL **2451** 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: **9-19-61** Packer **6530'** Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps _____

No.	Flow Data (Prover) (Line) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI	2"							502.4		72.00
1.	2"	0.500	90.5		74			486.8	*74	2.00
2.	2"	0.625	91.4		68			441.2	*74	2.00
3.	2"	0.750	88.2		68			389.6	*74	2.00
4.	2"	0.875	82.0		67			315.4	*74	2.00
5.	2"	0.875	67.8		66			280.2	*74	25.00

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.	5.5233		103.7	0.9868	0.9325	1.010	532
2.	8.3555		104.6	0.9924	0.9325	1.011	818
3.	12.2023		101.4	0.9924	0.9325	1.011	1157
4.	16.7816		95.2	0.9933	0.9325	1.010	1495
5.	16.7816		81.0	0.9943	0.9325	1.008	1270

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **0** cf/bbl.
Gravity of Liquid Hydrocarbons **-** deg.
F_c **1.793** $(1-e^{-s})$ **0.155**

Specific Gravity Separator Gas **0.690**
Specific Gravity Flowing Fluid **-**
P_c **515.6** P_c^2 **2658**

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	500.0	250.0	0.9539	0.9099	0.1410	250.1	15.7	500.1	0.969
2.	454.4	206.5	1.4667	2.1512	0.3334	206.7	59.1	454.6	0.879
3.	402.8	162.2	2.0745	4.3036	0.6671	162.7	103.1	403.4	0.777
4.	328.6	108.0	2.6805	7.1851	1.1137	108.8	157.0	329.8	0.630
5.	293.4	86.1	2.2771	5.1852	0.8037	86.68	179.1	294.4	0.560

Absolute Potential: **1618** MCFPD; n **0.614**
COMPANY **AMERADA PETROLEUM CORPORATION**
ADDRESS **Drawer D, Monument, New Mexico**
AGENT and TITLE A. E. Snyder **A. E. Snyder, District Engineer**
WITNESSED **J. D. Horton**
COMPANY **Northern Natural Gas**

REMARKS

8 hrs. abs. pot. - $1465 \frac{(265.8)^{.614}}{(157.0)} = 1495\ (1.382) = 2066$ MCFD

24 hr. stabilized abs. Pot. - $1270 \frac{(265.8)^{.614}}{(179.1)} = 1270\ (1.274) = 1618$ MCFD

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.

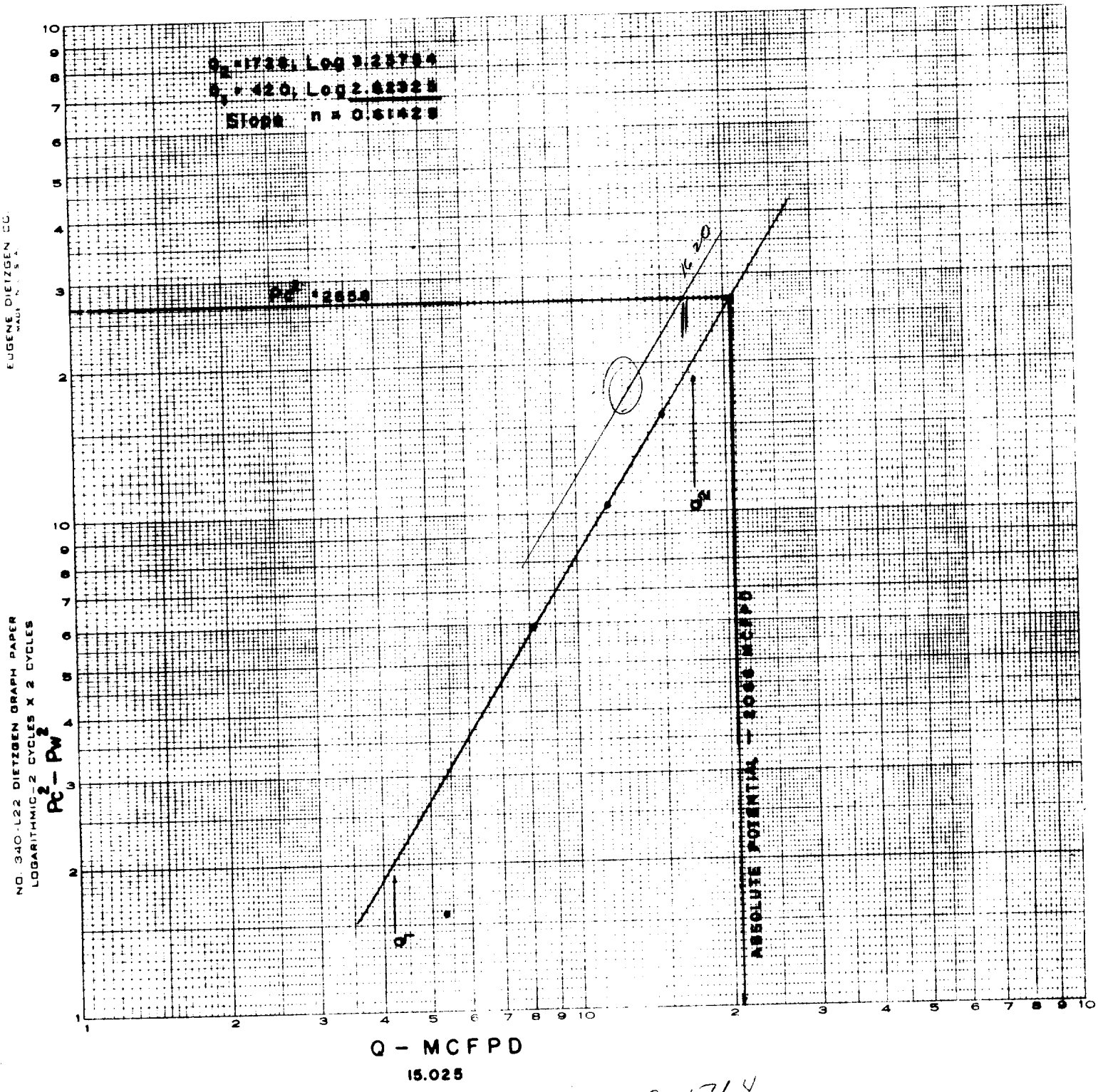
F_t = Flowing temperature correction factor.

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.

AM RADA PETROLEUM CORP.
STATE "DA" No. 1
LEA COUNTY, NEW MEXICO
L-16-21-37



EUGENE DIETZGEN CO.
NO. 340-L22 DIETZGEN GRAPH PAPER
LOGARITHMIC-2 CYCLES X 2 CYCLES

15.025

3.237 524
2.623 249
.614 295