NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

JUN 17 AM 10 29

Pool **Undesignated** Formation **Pennsylvanian** County **Lea**

Initial **X** Annual _____ Special _____ Date of Test **4-30 to 5-2-58**

Company **Pan American Petroleum Corp.** Lease **Buffalo Federal Unit** Well No. **4**

Unit **H** Sec. **4** Twp. **19S** Rge. **33E** Purchaser **None**

Casing **7** Wt. _____ I.D. _____ Set at _____ Perf. **13,270** To **13,305**

Tubing **2-1/2** Wt. **6.5** I.D. **2.441** Set at **13,263** Perf. _____ To _____

Gas Pay: From **13,270** To **13,305** L **13,263** xG **0.700** -GL **9284** Bar.Press. **13.2**

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

Date of Completion: _____ Packer **13,233** Reservoir Temp. **154°F**

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Choke)~~ (Meter) Type Taps **Flange**

	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						4205				66
1.	4	2.250	580	71	70	950	78			21
2.	4	2.250	550	70	80	1353	80			3
3.	4	2.250	520	46.5	78	2304	78			3
4.	4	2.250	510	12.0	76	3360	75			3
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.	33.10	205.2	593.2	0.9905	0.9258	1.070	6664
2.	33.10	198.6	563.2	0.9813	0.9258	1.062	6342
3.	33.10	157.5	533.2	0.9831	0.9258	1.061	5034
4.	33.10	79.2	523.2	0.9850	0.9258	1.061	2537
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **12,335** cf/bbl. Specific Gravity Separator Gas **0.700**
Gravity of Liquid Hydrocarbons **54** deg. Specific Gravity Flowing Fluid **0.7628**
P_c **5,866** $(1-e^{-s})$ **0.471** P_c **4218.2** P_c^2 **17,793**

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.	963.2	927	39.09	1528	720	1647	16,146	1283	.304
2.	1366.2	1867	37.2	1384	652	2519	15,274	1587	.38
3.	2317.2	5369	29.53	872	411	5780	12,013	2400	.57
4.	3373.2	11,378	14.88	221.4	104	11,482	6,311	3389	.80
5.									

Absolute Potential: **7302** MCFPD; n **0.964**

COMPANY **Pan American Petroleum Corporation**

ADDRESS **Box 68 - Hobbs, New Mexico**

AGENT and TITLE J. O. Smack **Field Engineer**

WITNESSED _____

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.