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O. C. C.
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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Indian Basin Upper Penn** Formation **Cisco Canyon** County **Eddy**

Initial **X** Annual _____ Special _____ Date of Test _____

Company **Pan American Pet. Corporation** Lease **Smith Gas Unit** Well No. **1**

Unit **F** Sec. **12** Twp. **22S** Rge. **23E** Purchaser **Southern Union Gas Co.**

Casing **5½** Wt. **14-17#** I.D. **4.892** Set at **8,246** Perf. **7438** To **7464**

Tubing **2-3/8** Wt. **4.7** I.D. **1.995** Set at **7,477** Perf. **Open ended** To _____

Gas Pay: From **7,438** To **7,464** L **7,477** xG **.656** -GL **4,905** Bar.Press. **13.2**

Producing Thru: Casing _____ Tubing **X** Type Well **Single**

Date of Completion: **8-15-65** Packer **7,380** Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. **140°F**

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) **Square Root** **0-1000 psi** **0-100 psi** Type Taps **Flange**

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						2437				
1.	4.000	2.000	8.0	5.7	62	2245				19.5
2.	4.000	2.000	7.9	7.4	56	2132				24
3.	4.000	2.000	8.15	8.2	60	2050				2
4.	4.000	2.000	8.3	9.65	63	1905				2
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.	25.58	144.2	640	0.9981	.9798	1.062	3831
2.	25.58	184.9	624.1	1.0039	.9798	1.064	4950
3.	25.58	211.3	664.2	1.0000	.9798	1.066	5645
4.	25.58	253.2	688.9	0.9971	.9798	1.066	6745
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **85,100** cf/bbl.
Gravity of Liquid Hydrocarbons **59.5** deg.
F_c **9.936** $(1-e^{-s})$ **0.286**

Specific Gravity Separator Gas **.625**
Specific Gravity Flowing Fluid **.656**
P_c **2450.2** P_c^2 **6003.5**

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.	2258.2	5099.5	38.065	1448.94	414.40	5513.9	489.6	2348	.9583
2.	2145.2	4601.9	49.183	2418.97	691.83	5293.7	709.8	2301	.9391
3.	2063.2	4256.8	56.089	3145.98	899.75	5156.6	846.9	2271	.9269
4.	1918.2	3679.5	67.018	4491.41	1284.54	4964	1039.5	2228	.9093
5.									

Absolute Potential: **22,500** MCFPD; n **0.70533**

COMPANY **Pan American Petroleum Corporation**
ADDRESS **P. O. Box 68, Hobbs, New Mexico**
AGENT and TITLE **J. W. Meek, Area Engineer**
WITNESSED **T. W. Wilson - D. C. Pourifoy**
COMPANY **Pan American Petroleum Corporation**

REMARKS

Flowed at highest rate obtainable with 2" plate in 4" meter run.

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.