NEW MEXICO OIL CONSERVATION COMMISSION

47

MAIN OFFICE OCC

HOBBS OFFICE OCC

Form C-122
Revised 12-1-55

1958 JUL 7 AM 8:55

1958 JUL 10 AM 10 10

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Crosby Devonian Formation Devonian County Lea

Initial X Annual Special Date of Test June 28, 1958

Company El Paso Natural Gas Company Lease Gregory Federal Well No. 3

Unit J Sec. 33 Twp. 25 Rge. 37 Purchaser El Paso Natural Gas Company

Casing 7 Wt. 26 I.D. Set at 8280 Perf. To

Tubing 2 7/8 Wt. 6.5 I.D. Set at 8180 Perf. To

Gas Pay: From 8142 To 8180 L 8180 xG .635 (Assumed) -GL Bar.Press. 13.2

Producing Thru: Casing Tubing X Type Well Single

Date of Completion: June 21, 1958 Packer None Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp.

OBSERVED DATA

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

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						2060		2135		72
1.	6	2.000	586	6.25	77	2016		2113		3
2.	6	2.000	591	19.36	68	2051		2071		3
3.	6	2.000	594	34.81	92	2006		2024		3
4.	6	2.000	646	63.29	86	1912		1954		3
5.	6	2.000	545	57.76	74	1750		1767		21

FLOW CALCULATIONS

No.	Coefficient Flange (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.	24.74	61.19		.9840	.9721	1.051	1,506
2.	24.74	108.13		.9924	.9721	1.056	2,725
3.	24.74	145.36		.9786	.9721	1.048	3,556
4.	24.74	204.08		.9759	.9721	1.053	5,043
5.	24.74	179.53		.9868	.9721	1.049	4,469

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 912 cf/bbl. Specific Gravity Separator Gas

Gravity of Liquid Hydrocarbons deg. Specific Gravity Flowing Fluid

F_c Measured $(1-e^{-s})$ P_c 2148.2 P_c^2 4614.8

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.	2029.2	4117.7				4520.7	94.1		.98
2.	2064.2	4260.9				4343.9	270.9		.97
3.	2019.2	4077.2	— Measured —			4150.2	464.6		.95
4.	1985.2	3706.4				3869.9	744.9		.92
5.	1763.2	3108.9				3169.1	1445.7		.82

Absolute Potential: 8,700 MCFPD; n .573

COMPANY El Paso Natural Gas Company

ADDRESS P. O. Box 1384 - Jal, New Mexico

AGENT and TITLE Herbert H. Kerby, Gas Tester

WITNESSED J. B. Murray

COMPANY El Paso Natural Gas Company

REMARKS

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.