NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Crosby Formation Devonian County Lea

Initial X Annual Special Date of Test 12-9 to 12-13,1957

Company Sun Oil Company Lease B. T. Lanehart Well No. 3

Unit P Sec. 20 Twp. 25-S Rge. 37-E Purchaser El Paso Natural Gas Company

Casing 5½ Wt. 17# I.D. 4892 Set at 8940 Perf. 8782 to 8801 8812 to 8864 & 8872 to 8910 to 8910 to 8935

Tubing 2 EUE Wt. 4.70 I.D. 1.995 Set at Perf. To

Gas Pay: From 8782 To 8801 L 8723 xG 0.680 -GL 6193 Bar.Press. 13.2

G-Mix = 0.710

Producing Thru: Casing Tubing X Type Well Single

Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 9-8-57 Packer 8723 Reservoir Temp. -

OBSERVED DATA

Tested Through ~~(Prover)~~ (Choke) (Meter) 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						2452	-	-	-	72
1.	4	2.0	547	10.24	86	2315	-	-	-	24
2.	4	2.0	585	16.0	60	2285	-	-	-	24
3.	4	2.0	537	49.0	65	2184	-	-	-	24
4.	4	2.0	548	68.89	65	2134	-	-	-	24
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	72.72	2328.2	.9759	.9393	1.054	1,871
2.	25.58	97.81	2298.2	1.000	.9393	1.072	2,519
3.	25.58	164.16	2197.2	.9952	.9393	1.062	4,168
4.	25.58	196.59	2147.2	.9952	.9393	1.062	4,992
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 86.306 cf/bbl. Specific Gravity Separator Gas .680

Gravity of Liquid Hydrocarbons 59 deg. Specific Gravity Flowing Fluid .7428

P_c 9.936 $(1-e^{-s})$ 0.347 P_c 2465.2 P_c^2 6077.2

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.	2328.2	5420.5	18.6	345.9	120.0	5540.5	536.7	-	-
2.	2298.2	5281.7	25.0	625.0	216.9	5498.6	578.6	-	-
3.	2197.2	4827.7	41.4	1713.9	594.7	5422.4	654.8	-	-
4.	2147.2	4610.0	49.6	2460.2	853.7	5463.7	613.5	-	-
5.									

Absolute Potential: 50,250 MCFPD; n 1.00

COMPANY Sun Oil Company

ADDRESS Box 2792 Odessa, Tex.

AGENT and TITLE T. E. Maxwell, Engineer T E Maxwell

WITNESSED

COMPANY

REMARKS

Test run by Mr. J. O. Whitl ng, El Paso Natural Gas Company.
Slope greater than 1.000. Slope of 1.000 drawn through highest rate of flow.

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.

GAS WELL

BACK PRESSURE TEXT CURVE

SUN OIL COMPANY
B. T. Lanehart No. 3
Crosby-Devonian Pool
Lea County, New Mexico
December 13, 1957