NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

1957 OCT 8 AM 9:14

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Yates County Lea

Initial X Annual Special Date of Test 9-16/9-20 1957

Company Shell Oil Company Lease State "C" Well No. 2

Unit K Sec. 24 Twp. 21 Rge. 35 Purchaser El Paso Natural Gas Company

Casing 5 1/2" Wt. 14.0# I.D. 5.012 Set at 3706 Perf. 3206-3388 To 3374-3354 & 3340

Tubing 2" Wt. 4.7# I.D. 1.995 Set at 3276 Perf. Open End To

Gas Pay: From 3206 To 3610 L 3276 xG 0.680 -GL Bar.Press. 13.2

Producing Thru: Casing Tubing X Type Well Single

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

Date of Completion: 9-05-1957 Packer None 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						1190		1190		72
1.	4 x 2.000		556	10.89	66	1146		1165		24
2.	4 x 2.000		577	30.50	63	1063		1132		24
3.	4 x 2.000		[illegible]	40.[illegible]	66	984		1109		24
4.	4 x 2.000		602	47.61	65	960		1097		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.	25.98	78.72		.9943	.9393	1.066	2,005
2.	25.98	134.61		.9971	.9393	1.068	3,480
3.	25.98	160.89		.9943	.9393	1.074	4,162
4.	25.98	171.11		.9952	.9393	1.078	4,378
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.

Gravity of Liquid Hydrocarbons deg.

F_c Measured $(1-e^{-s})$

Specific Gravity Separator Gas 0.680

Specific Gravity Flowing Fluid

P_c 1203.2 P_c^2 1447.7

No.	~~P_w~~ P_t (psia)	P_t^2	[struck-out header]	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	1159.2	1343.7	104.0		1178.2	1388.2	59.5		.9792
2.	1076.2	1158.2	289.4		1144.2	1309.2	138.5		.9510
3.	997.2	994.4	451.3		1122.2	1299.3	148.4		.9322
4.	973.2	947.1	500.6		1110.2	1232.5	215.2		.9237
5.									

Absolute Potential: 15,000 MCFPD; n 0.694

COMPANY Shell Oil Company

ADDRESS P. O. Box 1957, Hobbs, New Mexico

AGENT and TITLE R. C. Cabaniss, District Exploitation Engineer

Original Signed By Rex C. Cabaniss

WITNESSED A. L. [illegible]

COMPANY Shell Oil 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.