NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Tubb Gas Formation Tubb County Lea, New Mexico

Initial X Annual Special Date of Test 1-6 to 10, 1961

Company Shell Oil Company Lease Rinevalt Well No. 2

Unit C Sec. 4 Twp. 22S Rge. 37E Purchaser None

Casing 5" Wt. 15.0 I.D. 4.408 Set at 6538 Perf. 6129 To 6287

Tubing 2" Wt. 4.7 I.D. 1.995 Set at 6470 Perf. O.E. To

Gas Pay: From 6129 To 6287 L 6129 xG Min. .603 -GL 4921 Bar.Press. 13.2

Producing Thru: Casing X Tubing Type Well G. O. Dual

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

Date of Completion: 1-10-61 Packer 6460 Reservoir Temp.

OBSERVED DATA

Tested Through (XXXXX) (XXXX) (Meter) Type Taps Flgs.

No.	Flow Data (XXXXX) (Line) Size	Flow Data (XXXX) (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						1633		1582		72 Hrs.
1.	4.000	0.750	38	40.0	46	1272		968		3 Hrs.
2.	4.000	0.750	34	18.0	66	1127		809		3 Hrs.
3.	4.000	1.000	36	30.0	54	980		777		3 Hrs.
4.	4.000	1.500	42	10.0	32	754		387		24 Hrs.
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.	3.435	45.85	51.2	1.0137	.9395		146.9
2.	3.435	29.16	47.2	.9943	.9395		98.87
3.	6.135	30.41	49.2	1.0078	.9395		201.0
4.	13.99	23.49	55.2	1.0281	.9395		315.0
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 21.354 cf/bbl. Specific Gravity Separator Gas .600

Gravity of Liquid Hydrocarbons 52.8 deg. Specific Gravity Flowing Fluid .7078

F_c Measured $(1-e^{-s})$ P_c 1646.2 P_c^2 2710.0

No.	P_w (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.	1285.2					1651.7	1058.3		78.1
2.	1140.2					1300.0	1410.0		69.3
3.	933.2		Measured			870.9	1839.1		56.7
4.	767.2					588.6	2121.4		46.6
5.									

Absolute Potential: 400 MCFPD; n 1.000

COMPANY Shell Oil Company

ADDRESS P. O. Box 845, Roswell, New Mexico

AGENT and TITLE A. L. Kilard - Gas Tester A. L. Kilard

WITNESSED Bobby Bass

COMPANY El Paso Natural Gas Co.

REMARKS

Slope greater than 1.00, Slope of 1.00 drawn through 24 hr. rate of flow. With oil Zone blanked off, and well equipped with side door packer, Tubing pressures were used to calculate Absolute Potential.

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.

BACK PRESSURE CURVE

County ...... Field ......
Operator ......
Lease ...... Well No. 2
Volume ...... MCF/24 hr.
Date ......