

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
Initial _____ Annual _____ Special X Date of Test 3-13 to 20, 1964
Company Shell Oil Company Lease Long (Tbg.) Well No. 5
Unit N Sec. 11 Twp. 22-S Rge. 37-E Purchaser El Paso Natural Gas Company
Casing 5 1/2" Wt. 15.5 I.D. 4.976 Set at 6099 Perf. 5405 To 5590
Tubing 2" Wt. 4.7 I.D. 1.995 Set at 5927 Perf. 5909 To 6070
Gas Pay: From 5909 To 6070 L 5909 xG Mix.732 -GL 4225 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well G. G. Dual
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 8-9-54 Packer 5680 Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps Flge.

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1554				72
1.	4	1.500	571	11.56	78	1260				24
2.	4	1.500	600	16.81	79	1112				24
3.	4	1.500	570	24.01	78	865				24
4.	4	1.500	590	17.64	82	654				24
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wp}F}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	13.99	82.18	584.2	.9831	.9305	1.060	1.114
2.	13.99	101.53	613.2	.9822	.9305	1.064	1.381
3.	13.99	118.33	583.2	.9831	.9305	1.060	1.605
4.	13.99	103.15	603.2	.9795	.9305	1.062	1.396
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 65.428 cf/bbl.
Gravity of Liquid Hydrocarbons 59.0 deg.
F_c 9.936 (1-e^{-s}) .257

Specific Gravity Separator Gas .693
Specific Gravity Flowing Fluid .7428
P_c 1567.2 P_c² 2456.1

No.	Ex P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	$\frac{P_w}{P_c}$
1.	1273.2	1621.0	11.069	122.52	31.488	1652.5	803.6	1285.5	82.0
2.	1125.2	1266.1	13.722	188.29	48.390	1314.5	1141.6	1146.5	73.1
3.	878.2	771.2	15.947	254.31	65.358	836.5	1619.6	914.6	58.3
4.	667.2	445.1	13.871	192.40	49.447	494.5	1961.6	703.2	44.9
5.									

Absolute Potential: 2.040 MCFPD; n .523

COMPANY Shell Oil Company
ADDRESS P. O. Box 1858, Roswell, New Mexico
AGENT and TITLE A. L. Ellard - Gas Tester
WITNESSED J. R. 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 .

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