

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS FIELD
HOBBS OFFICE
1958 AUG 4 7:20
Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undesignated Formation Atoka-Penn. County Lea

Initial X Annual _____ Special _____ Date of Test 7-14 to 21, 1958

Company Shell Oil Company Lease Querecho Plains Well No. 2

Unit H Sec. 27 Twp. 18 Rge. 32 Purchaser None

Casing 5 1/2 Wt. 17.00 I.D. 4.892 Set at _____ Perf. 12,723 To 12,838

Tubing 2 Wt. 4.7 I.D. 1.995 Set at 12,554 Perf. O. E. To _____

Gas Pay: From 12,723 To 12,838 L 12,723 xG Mix. 779 -GL 9911 Bar.Press. 13.2

Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: _____ Packer 12,554 Reservoir Temp. _____

OBSERVED DATA

Tested Through (Pressure) (Current) (Meter) Type Taps Flgo.

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Pressure) (Line) Size	(Current) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						3200				120
1.	3	1.500	146	36	84	2050				3
2.	3	1.500	260	60	79	1355				3
3.	3	1.500	266	83	80	790				3
4.	3	2.000	155	39	66	618				24
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w P_{f_0}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	14.36	75.66	159.2	0.9777	0.9359	1.010	1.004
2.	14.36	127.99	273.2	0.9822	0.9359	1.018	1.719
3.	14.36	152.16	279.2	0.9813	0.9359	1.018	2.043
4.	27.52	80.94	168.2	0.9943	0.9359	1.012	2.097
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 28,315 cf/bbl.
Gravity of Liquid Hydrocarbons 52.7 deg.
F_c 9.936 (1-e^{-S}) 0.495

Specific Gravity Separator Gas .685
Specific Gravity Flowing Fluid .7682
P_c 3213.2 P_c² 10,324.7

No.	P _w 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	P _w P _c
1.	2063.2	4257	9.976	99.52	49.3	4306.3	6018.4	2075.2	64.6
2.	1368.2	1872	17.080	291.70	144.4	2016.4	8308.3	1420.0	44.2
3.	803.2	645	20.299	412.05	204.0	849.0	9475.7	921.0	28.6
4.	631.2	398	20.836	434.14	214.9	612.9	8711.8	782.9	24.4
5.							9711.8		

Absolute Potential: 2,250 MCFPD; n 1.000

COMPANY Shell Oil Company

ADDRESS Box 845, Roswell, New Mexico

AGENT and TITLE A. L. Ellerd - Gas Tester

WITNESSED _____

COMPANY _____

REMARKS

Slope greater than 1.000. Slope of 1.000 was drawn through the point corresponding to the 24 hour 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 .