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NEW MEXICO OIL CONSERVATION COMMISSION

FEB 11 1965

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

O. C. G. Revised 12-1-55
ARTESIA, OFFICE

Pool Wildcat Formation Morrow County Eddy
Initial X Annual _____ Special _____ Date of Test 1-16-65
Company McFarland Corporation Lease Santa Fe Well No. 1
Unit C Sec. 17 Twp. 19S Rge. 26E Purchaser None
Casing 4-1/2" Wt. 11.6# I.D. _____ Set at 9483 Perf. 9295 To 9362
Tubing 2 Wt. 4.7 I.D. 1.995 Set at 9283 Perf. 9278 To 9283
Gas Pay: From 9295 To 9362 L 9278 xG .610 -GL 5660 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Date of Completion: 1-11-64 Packer 9280 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. N. A.

OBSERVED DATA

Tested Through (XXXXX) (XXXXX) (Meter)

Type Taps Flange

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	4	.500				1779		Packer		SI 72
1.	4	.500	120	36	70	1568	64			1
2.	4	.500	200	54	70	1344	64			1
3.	4	.500	210	88	68	1120	62			1
4.	4	.500	300	94	68	896	60			1
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	1.525	69.198	133.2	0.9905	0.9967	1.009	105
2.	1.525	107.244	213.2	0.9905	0.9967	1.016	164
3.	1.525	140.086	223.2	0.9924	0.9967	1.018	215
4.	1.525	171.523	313.2	0.9924	0.9967	1.024	264
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 156,000 cf/bbl.
Gravity of Liquid Hydrocarbons 51 deg.
γ_c 9.936 (1-e^{-s}) 0.323

Specific Gravity Separator Gas .604
Specific Gravity Flowing Fluid .610
P_c 1792.2 P_c² 3211

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.	1581.2	2500	1.043	1.087	.351	2500	711	1581.107	.8816
2.	1357.2	1841	1.629	2.653	.856	1842	1369	1357.202	.7572
3.	1133.2	1284	2.136	4.562	1.473	1285	1926	1133.578	.6325
4.	909.2	826	2.623	6.880	2.222	828	2383	909.945	.5077
5.									

Absolute Potential: 340 MCFPD; n 82

COMPANY McFarland Corporation

ADDRESS 3612 West Wall, Midland, Texas

AGENT and TITLE Richard L. Robinson

WITNESSED Marshall Morris

COMPANY McFarland Corporation

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 .