NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1960 MAY 6 AM 9 53

Pool Jalmat Formation Yates County Lea

Initial ____ Annual ____ Special X Date of Test 3/14-18/1960

Company Olsen Oils, Inc Lease Courtland Meyers Well No. 2

Unit M Sec. 5 Twp. 24 Rge. 37 Purchaser El Paso Natural Gas Co.

Casing 7" Wt. 23.0 I.D. ____ Set at 3448 Perf. 3107 To 3113

Tubing 2" Wt. 4.7 I.D. ____ Set at 3550 Perf. ____ To ____

Gas Pay: From 3107 To 3152 L 3107 xG .648 -GL 2013 Bar.Press. 13.2

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

Date of Completion: 11-1-1954 Packer 3422 Reservoir Temp. ____

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Choke)~~ (Meter) Type Taps Flange

No.	~~(Prover)~~ (Line) Size	~~(Choke)~~ (Orifice) Size	Flow Data Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI								744		72
1.	4	1.250	169	5.76	106			658		24
2.	4	1.250	171	23.52	104			584		24
3.	4	1.250	181	51.12	101			520		24
4.	4	1.250	183	82.81	110			435		24
5.										

FLOW CALCULATIONS

No.	Coefficient Flange (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.	9.643	32.39		.9585	.9622	1.013	291.7
2.	9.643	65.82		.9602	.9622	1.013	594.0
3.	9.643	99.64		.9627	.9622	1.014	901.5
4.	9.643	127.46		.9551	.9622	1.013	1,145
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons ---- deg.
F_c .740 $(1-e^{-s})$ .129

Specific Gravity Separator Gas .648
Specific Gravity Flowing Fluid ---
P_c 757.2 P_c^2 573.3

No.	~~Pwx~~ P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	671.2	450.5	.2158	.0466	Neg.	450.5	122.8	671.2	.8864
2.	597.2	356.6	.4396	.1932	Neg.	356.6	216.7	597.2	.7887
3.	533.2	284.3	.6678	.4459	.0600	284.4	288.9	533.3	.7043
4.	448.2	200.9	.8473	.7179	.0926	201.0	372.3	448.3	.5920
5.									

Absolute Potential: 1,775 MCFPD; n 1.000

COMPANY Olsen Oils, Inc.
ADDRESS Box 691, Jal, New Mexico
AGENT and TITLE Dewey Watson Dewey Watson, Petr. Engr.
WITNESSED L.B. Southern
COMPANY El Paso Natural Gas Co.

REMARKS

Good pull down, spread, and point alignment, but resulting slope in excess of 1.000. A slope of 1.000 was drawn through the two points corresponding to the two highest rates of flow. No indication of fluid during this test.

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.