HOBBS OFFICE OCC

1956 OCT 10 AM 10:21

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Eumont Formation Yates, 7 Rivers & Queen County Lea

Initial ____ Annual ____ Special X Date of Test 7-15-56

Company Continental Oil Company Lease Sanderson A-11 Well No. 1

Unit I Sec. 11 Twp. 20 Rge. 36 Purchaser EPNG

Casing 5 1/2 Wt. 17 I.D. - Set at 3778 Perf. - To -

Tubing 2 1/2 Wt. 6.5 I.D. - Set at - Perf. - To -

Gas Pay: From 2453 To 3000 L 2453 xG .670 -GL 1644 Bar.Press. 13.2

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

Date of Completion: 9-30-36 Packer - Reservoir Temp. 900

OBSERVED DATA

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

No.	Flow Data ~~(Prover)~~ (Line) Size	~~(Choke)~~ (Orifice) Size	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								828		72
1.	4"	1.500	585	.8	92			811		24
2.	4"	1.500	578	57.8	75			654		24
3.	4"	1.500	558	74.0	70			630		24
4.	4"	1.500	604	56.3	74			636		24
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.	13.99	21.64	*	.9706	.9463	1.062	295
2.	13.99	182.78		.9859	.9463	1.062	2534
3.	13.99	203.20		.9905	.9463	1.058	2819
4.	13.99	184.40		.9868	.9463	1.065	2566
5.							

*Note - I-10 chart used.

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio - cf/bbl. Specific Gravity Separator Gas -

Gravity of Liquid Hydrocarbons - deg. Specific Gravity Flowing Fluid -

F_c Not applicable $(1-e^{-s})$ Not applicable P_c 841.2 P_c^2 707.6

No.	P_w 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.	824.2	679.3	-	-	-	679.3	28.3	824.2	.98
2.	667.2	445.2	-	-	-	445.2	262.4	667.2	.79
3.	643.2	413.7	-	-	-	413.7	293.9	643.2	.76
4.	649.2	421.5	-	-	-	421.5	286.1	649.2	.77
5.									

Absolute Potential: 6,600 MCFPD; n .97

COMPANY ~~Continental Oil Company~~

ADDRESS ~~Box 427, Hobbs, New Mexico~~

AGENT and TITLE ~~W. D. Howard, Gas Tester~~ Official Test

WITNESSED ____

COMPANY ____

REMARKS

Although three points on curve line up, this test by Operator is considered unsuccessful since water-logging caused Rate Nos. 3 and 4 to develop in impropor sequence. Pipeline also attempted a back-pressure test on this well, without success, prior to the above test.

ELVIS A. UTZ
GAS ENGINEER

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.