NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Sumont Formation Queen County Lea

Initial X Annual Special Date of Test 7-8/7-9-57

Company Continental Oil Company Lease Elliott B-20 Well No. 1

Unit B Sec. 20 Twp. 22 Rge. 37 Purchaser El Paso Natural Gas Co.

Casing 5 1/2 Wt. 14.0 I.D. 5.012 Set at 3649 Perf. 3462 To 3601

Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3584 Perf. To

Gas Pay: From 3462 To 3601 L 3584 xG .693 -GL 2484 Bar.Press. 13.2

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

Date of Completion: 7-6-57 Packer None Reservoir Temp. 90°

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						780				72 hr.
1.	4"	1.500	250	9	66	660				2
2.	4"	1.500	250	25	62	628				2
3.	4"	1.500	250	45	64	599				2
4.	4"	1.500	250	83	67	624				2
5.	4"	1.500	250	50	68	662				24

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.	13.99	78.98	693.2	0.9763	.9535	1.069	1,222
2.	13.99	126.81	641.2	0.9781	.9535	1.069	1,802
3.	13.99	160.47	572.2	0.9822	.9535	1.058	2,256
4.	13.99	190.49	437.2	0.9933	.9535	1.044	2,633
5.	13.99	154.16	475.2	0.9924	.9535	1.049	2,161

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 89,208 cf/bbl. on 5th Rate
Gravity of Liquid Hydrocarbons 42 deg.
F_c 9.936 $(1-e^{-s})$ .197

Specific Gravity Separator Gas .660
Specific Gravity Flowing Fluid .693
P_c 793.2 P_c^2 629.2

No.	~~P_w~~ P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$(F_cQ)^2$ $(1-e^{-s})$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	693.2	480.5	12.142	14.74	2.91	462.6	166.4	691.9	114.11
2.	641.2	411.1	17.995	30.24	4.75	415.8	213.4	644.8	123.01
3.	572.2	327.4	22.418	50.25	7.89	335.3	293.9	579.1	136.97
4.	437.2	191.1	26.161	68.44	10.76	201.9	427.3	449.3	176.54
5.	475.2	225.8	21.273	45.25	7.10	232.9	396.3	482.6	164.35

Absolute Potential: 3,900 MCFPD; n 1.000

COMPANY Continental Oil Company
ADDRESS Box 66, Eunice, New Mexico
AGENT and TITLE
WITNESSED
COMPANY

REMARKS

Stabilization on each of first four rates obtained in two hours. Points would not line up due to fluid production. Slope of 1.000 drawn thru highest rate of flow.

NMOCC-3 File HLJ HLA File-2

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.