

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Summit Formation Permian County Lea

Initial I Annual _____ Special _____ Date of Test 7-6-56

Company Simclair Oil & Gas Company Lease Brown Lee Well No. 4

Unit 4 N Sec. 25 Twp. 21 S Rge. 36 E Purchaser El Paso Natural Gas Company

Casing 5-1/2" Wt. 154 I.D. 4.976 Set at 3600' Perf. 3420' To 3410'

Tubing 2" Wt. 4.704 I.D. 1.995 Set at 3450' Perf. Open To _____

Gas Pay: From 3420' To 3410' L 3420' xG .695 -GL 2377' Bar. Press. 13.8

Producing Thru: Casing _____ Tubing I Type Well Single

Date of Completion: 5-8-50 Packer 3340 Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. 116°

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps _____

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						104.8	80	Packer		72
1.	4	1.250	84	11.4	53	965	80			24
2.			513	10.3	52	985	80			24
3.			527	10.3	51	982	80			24
4.			522	10.4	60	984	80			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.	9.643	80.49	557.2	1.0068	.9292	1.070	777
2.		189.81	556.2	1.0068	.9292	1.068	1846
3.		179.22	570.2	1.0089	.9292	1.070	1723
4.		225.95	575.2	1.0000	.9292	1.068	2159
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.

Gravity of Liquid Hydrocarbons _____ deg.

F_c 9.936 (1-e^{-s}) .151

Specific Gravity Separator Gas .695

Specific Gravity Flowing Fluid _____

P_c 1061.2 P_c 1126.1

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 _p	P _p /P _o
1.	998.2	996.4	7.780	60.53	9.00	1005.4	120.7	1000.27	94.2
2.	939.2	881.9	12.380	153.24	21.14	905.0	221.1	924.3	89.7
3.	875.2	764.0	17.120	293.04	44.26	810.3	305.8	900.1	84.8
4.	797.2	635.5	21.112	445.73	62.12	704.9	421.2	879.6	79.1
5.									

Absolute Potential: 1087 MCFPD; n .697

COMPANY STIMULANT OIL & GAS COMPANY

ADDRESS 920 East Broadway - Hobbs, New Mexico

AGENT and TITLE R. L. Harwood - Gas Analyst

WITNESSED R. D. Mabe

COMPANY El Paso Natural Gas Company

REMARKS

Orig. & 2 cc: New Mexico Oil Conservation Commission

cc: SFF, FOR, WJR, MFD, CCS, FILE

50 % pressure drop could not be obtained on this well due to the inadequate line capacity and the high line pressure maintained by the purchaser on their entire system. This would not allow a higher volume to be produced so a higher pressure drop could not be obtained.

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} = Supercompressibility 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 .