

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBBS OFFICE CCC

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

3:45

Pool Bumont Formation Queen County Lea

Initial _____ Annual _____ Special X Date of Test 9-12-56

Company Astec Oil & Gas Company Lease State Gas Unit "E" Well No. 1

Unit K Sec. 35 Twp. 20S Rge. 37E Purchaser Permian Basin Pipeline Co.

Casing 5 1/2" Wt. 17# I.D. 4.892" Set at 3514' Perf. _____ To _____

Tubing 2 3/8" Wt. 4.7# I.D. 1.995" Set at 3611' Perf. 3602' To 3611'

Gas Pay: From 3565 To 3650 L 3602 xG 0.665 -GL 2395 Bar.Press. 13.2

Producing Thru: Casing _____ Tubing X Type Well Single

Date of Completion: 3-27-54 Packer None Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. _____

OBSERVED DATA

Tested Through (~~2 1/2"~~) (~~2 1/2"~~) (Meter) Type Taps Pipe

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Pressure) (Line) Size	(Stroke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						780.3				
1.	4	1.50	473.4	5.6	84	695.0				72 1/4
2.	4	1.50	487.0	10.4	75	630.5				23 1/2
3.	4	1.50	487.2	16.7	74	556.7				24
4.	4	1.50	462.4	19.7	74	526.7				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.	15.26	52.20		.9777	.9498	1.042	771
2.	15.26	72.12		.9839	.9498	1.044	1076
3.	15.26	91.42		.9868	.9498	1.046	1368
4.	15.26	96.79		.9868	.9498	1.044	1445
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.

Gravity of Liquid Hydrocarbons _____ deg.

F_c 9.936 (1-e^{-s}) .152

Specific Gravity Separator Gas _____

Specific Gravity Flowing Fluid _____

P_c 793.5 P_c 629.6

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.	708.2	501.5	7.661	58.69	8.921	510.4	119.2	714.4	.90
2.	643.7	414.3	10.69	114.3	17.37	431.7	197.9	657.0	.83
3.	569.9	324.8	13.59	184.7	28.07	352.9	276.7	594.1	.75
4.	539.9	291.5	14.36	206.2	31.34	322.8	306.8	568.2	.72
5.									

Absolute Potential: 2,412 MCFPD; n .69

COMPANY Astec Oil & Gas Company

ADDRESS Box 847, Hobbs, New Mexico

AGENT and TITLE Charles M. Cole, Petroleum Engineer

CONDUCTED BY R. L. West

COMPANY Permian Basin Pipeline Company

REMARKS

ELVIS A. LEE
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 .