

DUPLICATE

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Bagley Formation Upper Perm. Gas Zone County Lea
Initial I Annual I Special I Date of Test 8-6/14-59
Company Amerada Petroleum Corporation Lease State LTW Gas Unit I Well No. 2
Unit H Sec. 33 Twp. 12S Rge. 33E Purchaser El Paso Natural Gas Company
Casing 7" Wt. 26# I.D. 6.276" Set at 9919' Perf. 8626' To 8678'
Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 9800' Perf. I To I
Gas Pay: From 8626' To 8678' L 8626' x Mix 0.690 GL 5952 Bar.Press. 13.2
Producing Thru: Casing I Tubing I Type Well G.O. Dual
Date of Completion: 8-7-58 Packer 9800 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. I

OBSERVED DATA

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

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								1238		72
1.	4"	1.500	605	1.0	97			838		24
2.	4"	1.500	608	2.9	95			708		24
3.	4"	1.500	580	4.4	96			605		24
4.	4"	1.500	610	3.6	98			614		24
5.										24

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	24.86		.9662	.9608	1.052	339.6
2.	13.99	42.37		.9680	.9608	1.052	579.9
3.	13.99	51.15		.9671	.9608	1.048	696.9
4.	13.99	47.43		.9653	.9608	1.052	647.4
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 62.600 cf/bbl.
Gravity of Liquid Hydrocarbons 67.3 @ 60 deg.
F_c .744 (1-e^{-S}) .336
Specific Gravity Separator Gas .650
Specific Gravity Flowing Fluid .690
P_c 1251.2 P_c 1565.5

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.	851.2	724.5	.253	.064	.021	724.5	841.0	851.2	68.0
2.	721.2	520.1	.431	.186	.062	520.2	1045.3	721.2	57.6
3.	618.2	382.2	.518	.268	.090	382.3	1163.2	618.3	49.4
4.	627.2	393.4	.482	.232	.078	393.5	1172.0	627.3	50.1
5.									

Absolute Potential: 910 MCFPD; n 1.000
COMPANY Amerada Petroleum Corporation
ADDRESS Drawer D - Monument, New Mexico
AGENT and TITLE R. E. Boush District Engineer
WITNESSED B.C. Boag
COMPANY El Paso Natural Gas Company

REMARKS

Since a line drawn through the plotted points has a slope greater than 1.00, a line with a slope of 1.00 was drawn through the highest flow rate to determine the absolute open flow potential.

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 .

Operator
Well No.
Location
Date

Merada Petroleum Corporation
State BTMM Gas Unit No. 2
H 33-11S-33E
8-8/14-59

10,000

$Q_2 = 1,750$; $\text{Log } Q_2 = 3.240549$
 $Q_1 = 175$; $\text{Log } Q_1 = 2.240549$
Slope $n = 1.000000$

$P_c^2 - P_w^2 - 1000^2$

1000

Absolute Open Flow Potential - 910 MCFPD

100

Q - Mcfpd

