NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Y - S.R. County Lea

Initial ____ Annual ____ Special X Date of Test 3-27-59 to 4-2-59

Company Amerada Petroleum Corporation Lease State LM"T" Well No. 2

Unit F Sec. ~~24~~ 36 Twp. 23-S Rge. 36-E Purchaser Permian Basin Pipeline Co.

Casing 5-1/2" Wt. 15.5# I.D. 4.950" Set at 3455' Perf. 2930' To 3430'

Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 2926' Perf. Open End To ____

Gas Pay: From 2930' To 3430' L 2926' xG 0.655 -GL 1917 Bar.Press. 13.2

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

Date of Completion: 3-29-59 Packer None Reservoir Temp. 84°

OBSERVED DATA

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

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						786.2	None	786.9	None	72.00
1.	4"	2.25	95.1	3.1	106	741.6	-	754.3	-	24.00
2.	4"	2.25	130.1	8.6	48	669.1	-	706.0	-	24.00
3.	4"	2.25	94.6	23.8	76	571.4	-	647.3	-	24.00
4.	4"	2.25	119.7	38.6	75	414.7	-	570.8	-	24.00
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.	40.56	18.33	108.4	0.9585	0.9571	1.007	686
2.	40.53	35.10	143.3	1.0117	0.9571	1.015	1398
3.	40.53	50.66	107.8	0.9850	0.9571	1.008	1951
4.	40.53	71.62	132.9	0.9859	0.9571	1.010	2766
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 276,600* cf/bbl.

Gravity of Liquid Hydrocarbons 24° (Frac oil) deg.

F_c Pw measured $(1-e^{-s})$ 0.124

Specific Gravity Separator Gas 0.655

Specific Gravity Flowing Fluid -

P_c 800.1 P_c^2 640.2

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.	767.5	-	-	-	-	589.1	51.1	-	0.959
2.	719.2					517.2	123.0		0.899
3.	660.5					436.3	203.9		0.826
4.	584.0					341.1	299.1		0.730
5.									

Absolute Potential: 4982 MCFPD; n .773

COMPANY Amerada Petroleum Corporation

ADDRESS Drawer "D" - Monument, New Mexico

AGENT and TITLE R. E. Bischof District Engineer Test by: R.L. West Permian Basin P.L. Co.

WITNESSED E.E. Shirley

COMPANY Amerada Petroleum Corp ration

REMARKS

* Produced 1 bbl frac oil on 3rd flow rate and 10 bbls on 4th flow rate

This is corrected copy of a Special Test following workover on well.

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.