NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool CROSBY DEVONIAN Formation DEVONIAN County LEA COUNTY

Initial X Annual ____ Special ____ Date of Test 1-15/1-19-62

Company Amerada Petroleum Corporation Lease C. C. Cagle "C" Well No. 3

Unit M O Sec. 3 Twp. 26 Rge. 37 Purchaser El Paso Natural Gas Company

Casing 5½ Wt. 17 I.D. ____ Set at 8824 Perf. 8758 To 8811

Tubing 2" Wt. 4.7 I.D. ____ Set at 8576 Perf. Open End To ____

Gas Pay: From 8758 To 8811 L 8576 xG 0.653 (G. mix) -GL 5600 Bar.Press. 13.2

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

Date of Completion: 9-29-61 Packer 8003 Reservoir Temp. ____

OBSERVED DATA

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

No.	Flow Data: ~~(Prover)~~ (Line) Size	Flow Data: ~~(Choke)~~ (Orifice) Size	Flow Data: Press. psig	Flow Data: Diff. h_w	Flow Data: Temp. °F.	Tubing Data: Press. psig	Tubing Data: Temp. °F.	Casing Data: Press. psig	Casing Data: Temp. °F.	Duration of Flow Hr.
SI	4"					2521				72
1.	"	2.250	658	10.24	80	2340				24
2.	"	"	631	23.04	70	2260				24
3.	"	"	607	33.64	64	2185				24
4.	"	"	590	47.61	53	2088				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.	33.10	82.90	671.2	0.9813	0.9721	1.057	2,767
2.	"	121.90	644.2	0.9905	"	1.057	4,106
3.	"	144.44	620.2	0.9962	"	1.059	4,903
4.	"	169.46	603.2	1.0068	"	1.064	5,840
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 146.7 cf/bbl.
Gravity of Liquid Hydrocarbons 59.8 @ 60° deg.
F_c 9.936 $(1-e^{-s})$ 0.320

Specific Gravity Separator Gas .635
Specific Gravity Flowing Fluid ____
P_c 2534.2 P_c^2 6422.2

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.	2353.2	5537.5	27.49	755.7	241.8	5779.3	642.9	2404.0	94.8
2.	2273.2	5167.4	40.80	1665	532.8	5700.2	722.0	2387.5	94.2
3.	2198.2	4832.1	48.72	2374	759.7	5591.8	830.4	2364.7	93.3
4.	2101.2	4415.0	58.03	3367	1077	5492.0	930.2	2343.5	92.4
5.									

Absolute Potential: 40,320 MCFPD; n 1.0000

COMPANY Amerada Petroleum Corporation
ADDRESS Drawer D, Monument, New Mexico
AGENT and TITLE A. E. Snyder A. E. Snyder, District Engineer
WITNESSED J. B. Murray, Bobby G. Boas
COMPANY El Paso Natural Gas Company

REMARKS

24 hr. stabilized abosolute potential = 5840 $\left(\frac{6422.2}{930.2}\right)$ = 40,320 MCFD

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.