NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin-Dakota Formation Dakota County San Juan

Initial x Annual ____ Special ____ Date of Test 2-20-61

Company Sunray Mid-Continent Oil Company Lease N.M. Federal "I" Well No. 3

Unit D Sec. 1 Twp. 29N Rge. 11W Purchaser El Paso Natural Gas Company

Casing 4½ Wt. 11.6 I.D. ____ Set at 6001 Perf. 5840 To 5964

Tubing 2-3/8 Wt. 4.7 I.D. ____ Set at 5838 Perf. Open End To ____

Gas Pay: From 5840 To 5964 L 5950 xG .73 -GL 4344 Bar.Press. 12.0

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

Date of Completion: 1-2-61 Packer ____ Reservoir Temp. 139 deg. F

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						1966		1965		
1.		3/4	293		78	293	78	586		3 hrs.
2.										
3.										
4.										
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.	12.3650		305	.9831	.9666	1.035	3480
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl.
Gravity of Liquid Hydrocarbons ____ deg.
F_c ____ $(1-e^{-s})$ ____

Specific Gravity Separator Gas ____
Specific Gravity Flowing Fluid ____
P_c 1978 P_c^2 3913

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.	598					356	3122		
2.									
3.									
4.									
5.									

Absolute Potential: 5120 MCFPD; n .75

COMPANY ~~Sunray Mid-Continent Oil Company~~
ADDRESS 166 Petroleum Center Building
AGENT and TITLE ORIGINAL SIGNED BY HAL M. STIERWALT Engineer
WITNESSED ____
COMPANY ____

REMARKS

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.