NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool __Custer-Ellenburger__ Formation __Ellenburger__ County __Lea, New Mexico__

Initial __X__ Annual_____ Special_____ Date of Test __6-30 to 7-5-60__

Company __Shell Oil Company__ Lease __State "3" 36__ Well No. __1__

Unit __C__ Sec. __36__ Twp. __24S__ Rge. __36E__ Purchaser __El Paso Natural Gas Company__

Casing __5 1/2"__ Wt. __17.0#__ I.D. __4.892__ Set at __12965'__ Perf. __12730'__ To __12860'__

Tubing __2 1/2"__ Wt. __6.5#__ I.D. __2.441__ Set at __12627'__ Perf. __O.E.__ To _____

Gas Pay: From __12730__ To __12860__ L __12627__ xG __Min-.614__ GL __7723__ Bar.Press. __13.2__

Producing Thru: Casing_____ Tubing __X__ Type Well __Single__

Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: __July 5, 1960__ Packer __12627__ Reservoir Temp._____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter)   Type Taps __Flge.__

No.	(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						6290				72
1.	4"	2.000	720	13.0	62	6196				3
2.	4"	2.000	707	27.0	74	6172				3
3.	4"	2.000	715	66.0	74	6089				3
4.	4"	2.000	693	90.0	72	5945				3
5.	4"	2.000	700	84.0	66	6137				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.	85.90	85.90	363.2	.9703	1.0004	1.030	2,945
2.	85.90	133.99	360.2	.9668	1.0004	1.042	4,251
3.	85.90	219.83	768.2	.9668	1.0004	1.052	5,867
4.	85.90	267.90	746.2	.9684	1.0004	1.065	7,714
5.	85.90	190.86	753.2	.9743	1.0004	1.040	4,095

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio __116,606__ cf/bbl.   Specific Gravity Separator Gas __.590__

Gravity of Liquid Hydrocarbons __51° @ 60° F.__ deg.   Specific Gravity Flowing Fluid __.7507__

F_c __3.866__ $(1-e^{-s})$ __.413__ P_c __4463.2__ P_c^2 __18174.9__

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	$\dfrac{P_w}{P_c}$
1.	4202.2	17727.4	13.173	173.301	71.607	17709.1	293.8	4217.7	93.9
2.	4186.2	17541.0	19.189	165.969	141.156	17482.1	482.4	4206.2	93.7
3.	4098.2	16797.0	30.333	1150.820	628.514	16790.5	1375.4	4087.7	95.1
4.	3955.2	15643.3	35.200	2047.901	867.043	16513.9	1682.0	4053.6	95.3
5.	4130.2	17058.4	24.211	552.701	350.893	17278.5	722.4	4177.6	93.0

Absolute Potential: __61,500__ MCFPD; n __.843__

COMPANY __Shell Oil Company__

ADDRESS __P. O. Box 845, Roswell, New Mexico__

AGENT and TITLE __A. L. Ellard, Gas Tester__

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.