

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Justis Formation Glorietta County Lea

Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 5-1-57

Company El Paso Natural Gas Company Lease Carlson Federal Well No. 1-B

Unit X Sec. 25 Twp. 25 Rge. 37 Purchaser \_\_\_\_\_

Casing 5 1/2 Wt. 15.5 I.D. 4.976 Set at 4934 Perf. 4614 To 4820

Tubing 2 Wt. 4.7 I.D. 1.995 Set at 4822 Perf. \_\_\_\_\_ To \_\_\_\_\_

Gas Pay: From 4614 To 4820 L 4822 xG .675 -GL 3255 Bar.Press. 19.2

Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single

Date of Completion: 5-1-57 Packer None Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Packer) (Shoe) (Meter)

Type Taps \_\_\_\_\_

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Packer) (Line) Size	(Shoe) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1720		1819		
1.	4	1.500	513	16.00	90	1694		1809		3
2.	4	1.500	531	31.36	79	1674		1799		3
3.	4	1.500	555	53.29	68	1657		1786		3
4.	4	1.500	565	75.69	62	1636		1775		3
5.	4	1.500	556	75.69	64	1609		1749		2 1/2

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	13.99	91.74		.9723	.9427	1.047	1231
2.	13.99	130.61		.9822	.9427	1.054	1782
3.	13.99	173.98		.9924	.9427	1.062	2419
4.	13.99	209.17		.9981	.9427	1.064	2929
5.	13.99	207.53		.9962	.9427	1.064	2980

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 45.171 cf/bbl.  
Gravity of Liquid Hydrocarbons 44.5 deg.  
F<sub>c</sub> \_\_\_\_\_ (1-e<sup>-s</sup>)

Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid 8040  
P<sub>c</sub> 1832.2 P<sub>c</sub><sup>2</sup> 3356.9

64.2 BOPD + 36.8 Bbls. water

No.	P <sub>w</sub> P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> / P <sub>c</sub>
1.	1822.2	2919.5				3320.4	36.5		.9945
2.	1812.2	2884.6				3284.1	72.8		.9891
3.	1799.2	2789.6				3237.1	119.8		.9829
4.	1788.2	2719.9				3197.7	159.2		.9760
5.	1762.2	2631.5				3105.3	251.6		.9618

Absolute Potential: 15.500 MCFPD; n .646COMPANY El Paso Natural Gas CompanyADDRESS P. O. Box 1384, Del. New MexicoAGENT and TITLE R. T. Wright - Petroleum EngineerWITNESSED Edward MabeCOMPANY El Paso Natural Gas 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

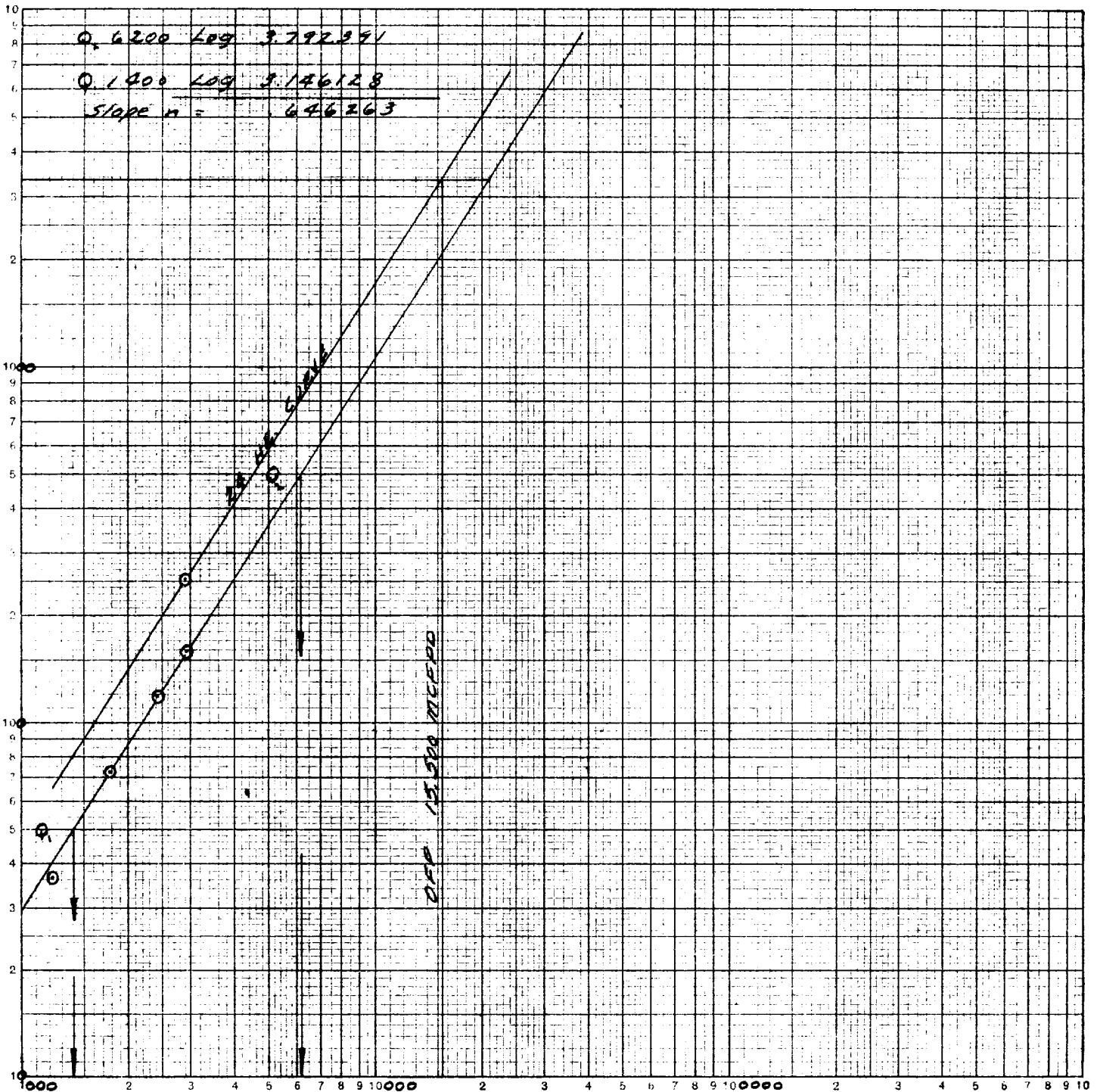
- $Q$  = Actual rate of flow at end of flow period at W. H. working pressure ( $P_w$ ).  
MCF/da. @ 15.025 psia and 60° F.
- $P_c$  = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.  
psia
- $P_w$  = Static wellhead working pressure as determined at the end of flow period.  
(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  $P_t$ .

EL PASO NATURAL GAS CO.  
 CARLSON FED #1-B  
 Sec 25-T25S-R37E - LeB Co N.M.  
 4-30-57

$P_e - P_w$  (thsd's)

K&E LOGARITHMIC 359-120  
 KEUFFEL & ESSER CO. MADE IN U.S.A.  
 3 X 3 CYCLES



Q, MCFPD