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NEW MEXICO OIL CONSERVATION COMMISSION

MAY 16 1966

O. C. C.

Form C-122

ARTEZIA, OFFICE

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Red Lake Formation Pennsylvanian County Bddy  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test July 2, 1957  
Company Humble Oil & Refining Company Lease Chalk Bluff Draw Unit 1 Well No. 3  
Unit H Sec. 8 Twp. 18-S Rge. 27-E Purchaser (No connection)  
Casing 5-1/2 Wt. 17.0 I.D. 4.892 Set at 9580 Perf. 9505 To 9555  
Tubing 2-3/8 Wt. 4.6 I.D. 1.995 Set at 9405 Perf. - To -  
Gas Pay: From 9505 To 9555 L 9505 xG - GL - Bar.Press. 13.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: (Not completed) Packer 9405 Reservoir Temp. 155°F

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps \_\_\_\_\_

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.
SI								
1.	4"	3.8		82	3000	94	Packer	69 Shut-in
2.	4"	7.0		18	2557	60	Packer	4.25
3.	4"	13.8		34	2060	76	Packer	3.25
4.	4"	16.8		55	1565	78	Packer	8.00
5.					850	82	Packer	3.75

FLOW CALCULATIONS

No.	Coefficient Q-Uncorrected MCF (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.	866			1.0078	1.016	1.002	866
2.	1430			1.0430	1.016	1.002	1519
3.	2129			1.0260	1.016	1.002	2136
4.	2419			1.0048	1.016	1.002	2475
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 322,030 cf/bbl.  
Gravity of Liquid Hydrocarbons 53 deg.  
F<sub>c</sub> (1-e<sup>-s</sup>)  
Specific Gravity Separator Gas .596  
Specific Gravity Flowing Fluid .832  
P<sub>c</sub> 3720.2 P<sub>c</sub> 14360 x 10<sup>-3</sup>

Pressure Measured with Subsurface Gauge

No.	P <sub>w</sub> <u>10-3</u> 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> x 10 <sup>-3</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.	3228.2					10421	3945		85.3
2.	2652.2					7034	7322		70.0
3.	1830.2					3350	11016		48.3
4.	1252.2					1568	12796		33.0
5.									

Absolute Potential: 2730 MCFPD; n 0.87  
COMPANY Humble Oil & Refining Company  
ADDRESS Box 1600, Midland, Texas  
AGENT and TITLE Petroleum Engineer, W. S. Kalmit  
WITNESSED  
COMPANY \_\_\_\_\_

REMARKS

ELVIS A. UTZ  
GAS ENGINEER

## 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  $P_t$ .