

HOBBBS OFFICE O. C. C.
NEW MEXICO OIL CONSERVATION COMMISSION

Mar 7 8 12 AM '66

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool South Four Lakes Formation Devonian County Lea
Initial Annual X Special Date of Test 3-2-66
Company Humble Oil & Refining Co. Lease South Four Lakes Unit Well No. 2
Unit G Sec. 2 Twp. 12 Rge. 34 Purchaser El Paso Natural Gas
Casing 5 1/2 Wt. 17.0 I.D. 4.892 Set at 12924 Perf. 12632 To 12657
Tubing 2 Wt. 4.7 I.D. 1.995 Set at 12639 Perf. None To -
Gas Pay: From 12632 To 12657 L 12639 xG mix 1.4780 GL 18680 Bar. Press. 13.2
Producing Thru: Casing Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: - Packer 12547 Reservoir Temp. 201.07

OBSERVED DATA

Tested Through (Brown) (Choke) (Meter) L-10 Chart Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Brown) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. DWT psig	Temp. °F.	Press. psig	Temp. °F.	
SI						1639				24.0
1.	4	23/64 I"	8.2	5.3	92	861	67	Pkr	-	4.5
2.	4	20/64 I"	8.2	4.8	88	924	65	-	-	3.0
3.	4	15/64 I"	8.2	3.8	88	1051	74	-	-	2.5
4.	4	13/64 I"	8.2	2.2	82	1164	68	-	-	2.0
5.										

FACTOR = 3.162

100 x 1000 Meter

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.	6.135	43.46	67.24	.9706	.8190	-	670.11
2.	6.135	39.36	67.24	.9741	.8190	-	607.02
3.	6.135	31.16	67.24	.9741	.8190	-	480.54
4.	6.135	18.04	67.24	.9795	.8190	-	278.25
5.							

PRESSURE CALCULATIONS

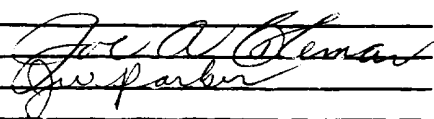
Gas Liquid Hydrocarbon Ratio 3181 cf/bbl.Gravity of Liquid Hydrocarbons 51.8 deg.F_c - (1-e^{-s}) -Specific Gravity Separator Gas .8856Specific Gravity Flowing Fluid 1.478P_c 4773.2 P_c² 2278.3

BHP @ (-8488) 12645' Used For Pressure Calculations

No.	P _w P _w (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	P _w P _c
1.	3991.2	-	-	-	-	1593.0	685.3	-	-
2.	4102.2	-	-	-	-	1682.8	595.5	-	-
3.	4334.2	-	-	-	-	1878.5	399.8	-	-
4.	4586.2	-	-	-	-	2103.3	175.0	-	-
5.									

Absolute Potential: 1400 MCFPD; n .63COMPANY Humble Oil & Refining CompanyADDRESS P. O. Box 2100, Hobbs, New MexicoAGENT and TITLE COLEMAN PETROLEUM ENGINEERING COMPANYWITNESSED PumperCOMPANY Humble Oil & Refining Company

COPY ORIGINAL SIGNED: E. S. DAVIS



REMARKS

23' MA 51 8 7 AM

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} = Supercompressibility 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 .

$P_c^2 - P_w^2$ (THSND)

ILLINOIS OIL & REFINING CO. 10000
SOUTH FOUR LAKES UNIT, NO. 2
G 2-125-342
LEA COUNTY, NEW MEXICO
3-2-66

ABSOLUTE POTENTIAL

$Q_1 = 1680, 106 = 322531$
 $Q_2 = 380, 106 = 258106$
SCALE 17 = 63425

LOGARITHMIC SCALE CROSS SECTION
NO. 554 3 INCH BASE
THE FREDERICK POST CO
CHICAGO.

Q-MCFD - 15.025 PSIA