

NEW MEXICO OIL CONSERVATION COMMISSION

LEWIS A. UTZ
GAS ENGINEER

Form C-122

Revised 12-1-55

HOOPS OFFICE OCC

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1956 OCT 8 PM 2:20

Pool Esment Formation Seven Rivers County LeeInitial Annual X Special Date of Test 6-29-to-7-6-56Company Continental Oil Company Lease Lockhart A-30 Well No. 6Unit 2 Sec. 30 Twp. 21 Rge. 36 Purchaser El Paso Natural Gas Co.Casing 5 1/2 Wt. 13 I.D. 4.424 Set at 3512 Perf. 3510 To 3722Tubing None Wt. I.D. Set at Perf. To Gas Pay: From 3510 To 3722 L 3510 xG .685 -GL 2404 Bar.Press. 13.2Producing Thru: Casing X Tubing Type Well SingleDate of Completion: 12-7-53 Packer Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. 90°

OBSERVED DATA

Tested Through (Pressure) (Choke) (Meter) Type Taps Flange

Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Pressure) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.
SI								<u>820</u>	
1.	<u>4</u>	<u>1.500</u>	<u>579</u>	<u>9.30</u>	<u>66</u>			<u>782</u>	<u>72</u>
2.	<u>4</u>	<u>1.500</u>	<u>583</u>	<u>13.69</u>	<u>67</u>			<u>763</u>	<u>24</u>
3.	<u>4</u>	<u>1.500</u>	<u>602</u>	<u>24.01</u>	<u>70</u>			<u>729</u>	<u>24</u>
4.	<u>4</u>	<u>1.500</u>	<u>614</u>	<u>43.56</u>	<u>74</u>			<u>660*</u>	<u>24</u>
5.									

*Well would not draw down 30% - producing into line.

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.	<u>13.99</u>	<u>74.2</u>	<u>592.2</u>	<u>.9943</u>	<u>.9359</u>	<u>1.070</u>	<u>1031</u>
2.	<u>13.99</u>	<u>90.25</u>	<u>596.2</u>	<u>.9933</u>	<u>.9359</u>	<u>1.070</u>	<u>1253</u>
3.	<u>13.99</u>	<u>121.5</u>	<u>615.2</u>	<u>.9905</u>	<u>.9359</u>	<u>1.072</u>	<u>1465</u>
4.	<u>13.99</u>	<u>165.2</u>	<u>627.2</u>	<u>.9868</u>	<u>.9359</u>	<u>1.072</u>	<u>2283</u>
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.Gravity of Liquid Hydrocarbons deg.F_c 1.193 (1-e^{-s}) 0.152Specific Gravity Separator Gas .685Specific Gravity Flowing Fluid P_c 833.2 P_c 694.9 (thousands)

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	P _w / P _c
1.	<u>795.2</u>	<u>633</u>	<u>1.231</u>	<u>1.52</u>	<u>.231</u>	<u>633.231</u>	<u>61.67</u>	<u>796</u>	<u>.955</u>
2.	<u>776.2</u>	<u>602</u>	<u>1.498</u>	<u>2.241</u>	<u>.341</u>	<u>602.34</u>	<u>92.56</u>	<u>777</u>	<u>.933</u>
3.	<u>742.2</u>	<u>550</u>	<u>2.010</u>	<u>4.03</u>	<u>.614</u>	<u>550.614</u>	<u>144.29</u>	<u>743</u>	<u>.891</u>
4.	<u>673.2</u>	<u>454</u>	<u>2.729</u>	<u>7.425</u>	<u>1.130</u>	<u>455.130</u>	<u>239.77</u>	<u>675</u>	<u>.810</u>
5.									

Absolute Potential: 4,300 MCFPD; n .590COMPANY Continental Oil CompanyADDRESS Box 427 Hobbs, N. M.AGENT and TITLE W. D. Howard, 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 .