

CORRECTED COPY
NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undesignated Formation Morrow County Lea
Initial X Annual _____ Special _____ Date of Test 10-23-64
Company Sinclair Oil & Gas Unit Lease Southwest Jal Unit Well No. 1
Unit G Sec. 4 Twp. 26S Rge. 34E Purchaser None
Casing 4 1/2" Wt. 14.98 I.D. 3.826 Set at 13497 Perf. 13040 To 13202
Tubing 2 3/8" Wt. 4.7# I.D. 1.995 Set at 12841 Perf. OE To _____
Gas Pay: From 13040 To 13202 L 12841 xG 0.9277 -GL 11912 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single w/Packer
Date of Completion: 9-29-64 Packer 12841 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. 141° F

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(<u>Packer</u>) (Line) Size	(<u>Choke</u>) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>3661</u>		<u>Pkr.</u>		
1.	<u>2"</u>	<u>1.50"</u>	<u>34.8</u>	<u>14.0</u>	<u>71</u>	<u>251</u>	<u>71</u>	<u>"</u>		<u>1 hr.</u>
2.	<u>2"</u>	<u>1.50"</u>	<u>26.0</u>	<u>11.5</u>	<u>72</u>	<u>314</u>	<u>72</u>	<u>"</u>		<u>1 hr.</u>
3.	<u>2"</u>	<u>1.50"</u>	<u>26.0</u>	<u>10.6</u>	<u>77</u>	<u>365</u>	<u>77</u>	<u>"</u>		<u>1 hr.</u>
4.	<u>2"</u>	<u>1.50"</u>	<u>17.8</u>	<u>9.7</u>	<u>77</u>	<u>443</u>	<u>77</u>	<u>"</u>		<u>1 hr.</u>
5.										

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>16.47</u>	<u>25.92</u>	<u>48.0</u>	<u>0.9896</u>	<u>0.9645</u>	<u>1.0 (W11)</u>	<u>407.5</u>
2.	<u>16.47</u>	<u>21.23</u>	<u>39.2</u>	<u>0.9887</u>	<u>0.9645</u>	<u>1.0</u>	<u>333.4</u>
3.	<u>16.47</u>	<u>20.38</u>	<u>39.2</u>	<u>0.9840</u>	<u>0.9645</u>	<u>1.0</u>	<u>318.6</u>
4.	<u>16.47</u>	<u>17.33</u>	<u>31.0</u>	<u>0.9840</u>	<u>0.9645</u>	<u>1.0</u>	<u>270.8</u>
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 9120 cf/bbl.
Gravity of Liquid Hydrocarbons 48 deg.
F_c 9.936 (1-e^{-s}) 0.700 .560
Specific Gravity Separator Gas 0.645
Specific Gravity Flowing Fluid 0.9277
P_c 3674.2 P_c² 13500.0

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>274.2</u>	<u>75.18</u>	<u>7.049</u>	<u>16.39</u>	<u>11.479.18</u>	<u>86.65</u>	<u>87.36</u>	<u>18.19</u>	<u>0.0800</u>
2.	<u>327.2</u>	<u>107.05</u>	<u>3.313</u>	<u>10.98</u>	<u>7.696</u>	<u>114.75</u>	<u>113.71</u>	<u>23.85</u>	<u>0.092</u>
3.	<u>378.2</u>	<u>143.09</u>	<u>3.166</u>	<u>10.02</u>	<u>7.01</u>	<u>180.64</u>	<u>148.64</u>	<u>123.50</u>	<u>0.103</u>
4.	<u>456.2</u>	<u>208.11</u>	<u>2.691</u>	<u>7.24</u>	<u>5.04</u>	<u>203.18</u>	<u>212.16</u>	<u>194.87</u>	<u>0.126</u>
5.									

Absolute Potential: 410 MCF/D MCFPD; n (calc. less than Oil) therefore, 1.000

COMPANY Sinclair Oil & Gas Company
ADDRESS P. O. Box 1920, Hobbs, New Mexico
AGENT and TITLE COPY ORIGINAL SIGNED Fred Burns Fred Burns, District Superintendent
WITNESSED D. Payne
COMPANY Sinclair Oil & Gas Company

REMARKS BHP 4863 Psi (@ 10,136)
BHT 141° F

Orig. & 2 cc: OOO-Santa Fe
cc: RFS, GAC, File

1	<u>9.18</u>	<u>84.36</u>	<u>13,115.4</u>	<u>290.4</u>	<u>.0710</u>
2	<u>6.15</u>	<u>112.21</u>	<u>13,346.2</u>	<u>374.5</u>	<u>.0916</u>
3	<u>5.61</u>	<u>148.64</u>	<u>13,351.4</u>	<u>385.5</u>	<u>.1044</u>
4	<u>4.05</u>	<u>212.16</u>	<u>13,287.8</u>	<u>464.6</u>	<u>.1254</u>

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 .