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O. C. C.
ARTESIA, OFFICE

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Form C-122

Revised 12-1-55

Pool Wildcat Formation Atoka County Rady

Initial I Annual _____ Special _____ Date of Test 11-26-57

Company El Paso Natural Gas Company Lease Leonard State Well No. 1

Unit I Sec. 22 Twp. 17 Rge. 24 Purchaser None

Casing 7 Wt. 32 I.D. _____ Set at 11,060 Perf. _____ To _____

Tubing 2 7/8 Wt. 6.5 I.D. _____ Set at 10,773 Perf. _____ To _____

Gas Pay: From 10680 To 10760 L _____ xG _____ -GL _____ Bar.Press. 13.2

Producing Thru: Casing _____ Tubing I Type Well Single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 11-27-57 Packer None Reservoir Temp. _____

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(<u>Prover</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>3217</u>		<u>72</u>
1.	<u>6</u>	<u>3.250</u>	<u>565</u>	<u>4.0</u>	<u>70</u>	<u>3081</u>		<u>3164</u>		<u>1 1/2</u>
2.	<u>6</u>	<u>3.250</u>	<u>590</u>	<u>9.0</u>	<u>83</u>	<u>2950</u>		<u>3060</u>		<u>1 3/4</u>
3.	<u>6</u>	<u>3.250</u>	<u>555</u>	<u>12.74</u>	<u>76</u>	<u>2905</u>		<u>3032</u>		<u>1 3/4</u>
4.	<u>6</u>	<u>3.250</u>	<u>645</u>	<u>16.0</u>	<u>82</u>	<u>2780</u>		<u>2947</u>		<u>2 1/4</u>
5.										

FLOW CALCULATIONS

No.	Coefficient <u>Flange</u> (24-Hour)	$\sqrt{h_{wpf}}$	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>68.36</u>	<u>48.08</u>		<u>.9905</u>	<u>.9682</u>	<u>1.055</u>	<u>3.325</u>
2.	<u>68.36</u>	<u>73.67</u>		<u>.9786</u>	<u>.9682</u>	<u>1.054</u>	<u>5.029</u>
3.	<u>68.36</u>	<u>85.08</u>		<u>.9850</u>	<u>.9682</u>	<u>1.053</u>	<u>5.841</u>
4.	<u>68.36</u>	<u>102.61</u>		<u>.9795</u>	<u>.9682</u>	<u>1.056</u>	<u>7.025</u>
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 28.3 cf/bbl.
Gravity of Liquid Hydrocarbons 56.2 @ 60°F deg.
F_c _____ (1-e^{-s})

Specific Gravity Separator Gas .640
Specific Gravity Flowing Fluid _____
P_c 3284.2 P_c 10,786.0

No.	P _{th} 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>3094.2</u>	<u>9574.1</u>				<u>10,094.6</u>	<u>691.4</u>	<u>3177.2</u>	<u>.97</u>
2.	<u>2963.2</u>	<u>8780.6</u>				<u>9,414.6</u>	<u>1365.4</u>	<u>3073.2</u>	<u>.94</u>
3.	<u>2918.2</u>	<u>8515.9</u>				<u>9,273.2</u>	<u>1542.8</u>	<u>3045.2</u>	<u>.93</u>
4.	<u>2793.2</u>	<u>7802.0</u>				<u>8,762.8</u>	<u>2023.2</u>	<u>2960.2</u>	<u>.90</u>
5.									

Absolute Potential: 22,500 MCFPD; n .683COMPANY EL PASO NATURAL GAS COMPANYADDRESS P. O. Box 1384AGENT and TITLE Jal, New MexicoWITNESSED H. H. Kerby and J. O. WhittingCOMPANY El Paso Natural Gas Company

REMARKS

Unable to obtain 24 hour point due to choke plugging.

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 .