

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Astec-Picture Cliff Formation Farmington County San Juan
Initial X Annual _____ Special _____ Date of Test February 16, 1959
Company Southern Union Gas Company Lease Armenta Well No. 1
Unit H Sec. 27 Twp. 29N Rge. 10W Purchaser Southern Union Gas Company
Casing 5 1/2" Wt. 15.5 I.D. 4.950 Set at 1918 Perf. 988 To 1010
Tubing 1 1/2" Wt. 2.4 I.D. 1.25 Set at 990 Perf. _____ To _____
Gas Pay: From 988 To 1010 L 990 xG 0.645 -GL _____ Bar.Press. 12.0
Producing Thru: Casing _____ Tubing X Type Well Gas-Gas Dual
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: February 1, 1959 packer 1742 Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Water) Type Taps _____

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	
SI								
1.		<u>1/4"</u>	<u>447</u>		<u>55°</u>	<u>518</u>	<u>55°</u>	<u>15 days</u>
2.		<u>3/8"</u>	<u>345</u>		<u>55°</u>	<u>447</u>	<u>55°</u>	<u>2 hours</u>
3.		<u>3/4"</u>	<u>108</u>		<u>48°</u>	<u>345</u>	<u>55°</u>	<u>2 hours</u>
4.						<u>108</u>	<u>48°</u>	<u>2 hours</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>1.400</u>		<u>459</u>	<u>1.0048</u>	<u>0.9645</u>	<u>1.049</u>	<u>652.7</u>
2.	<u>3.064</u>		<u>357</u>	<u>1.0048</u>	<u>0.9645</u>	<u>1.035</u>	<u>1097.0</u>
3.	<u>12.3650</u>		<u>120</u>	<u>1.0117</u>	<u>0.9645</u>	<u>1.012</u>	<u>1465.0</u>
4.							
5.							

PRESSURE CALCULATIONS

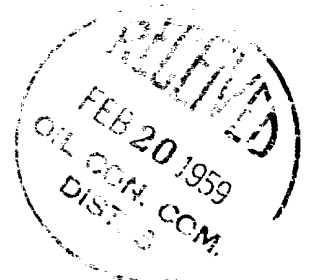
Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c _____ (1-e^{-s})
Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 530 P_c² 280.9

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>472</u>					<u>222.8</u>	<u>58.1</u>		<u>0.890</u>
2.	<u>432</u>					<u>189.7</u>	<u>111.2</u>		<u>0.778</u>
3.	<u>331</u>					<u>109.5</u>	<u>171.4</u>		<u>0.620</u>
4.									
5.									

Absolute Potential: 2095 MCFPD; n 0.72

COMPANY SOUTHERN UNION GAS COMPANY
ADDRESS P. O. Box 815, Farmington, New Mexico
AGENT and TITLE Gilbert Noland, Jr., Asst. Drlg. Supt.
WITNESSED Robert Davis
COMPANY El Paso Natural Gas Co., Box 997, Farmington, New Mexico

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} = 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 .

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SOUTHERN UNION GAS COMPANY

ARMENTA #1

SE/4, NE/4, Sec. 27, T-29N, R-10W

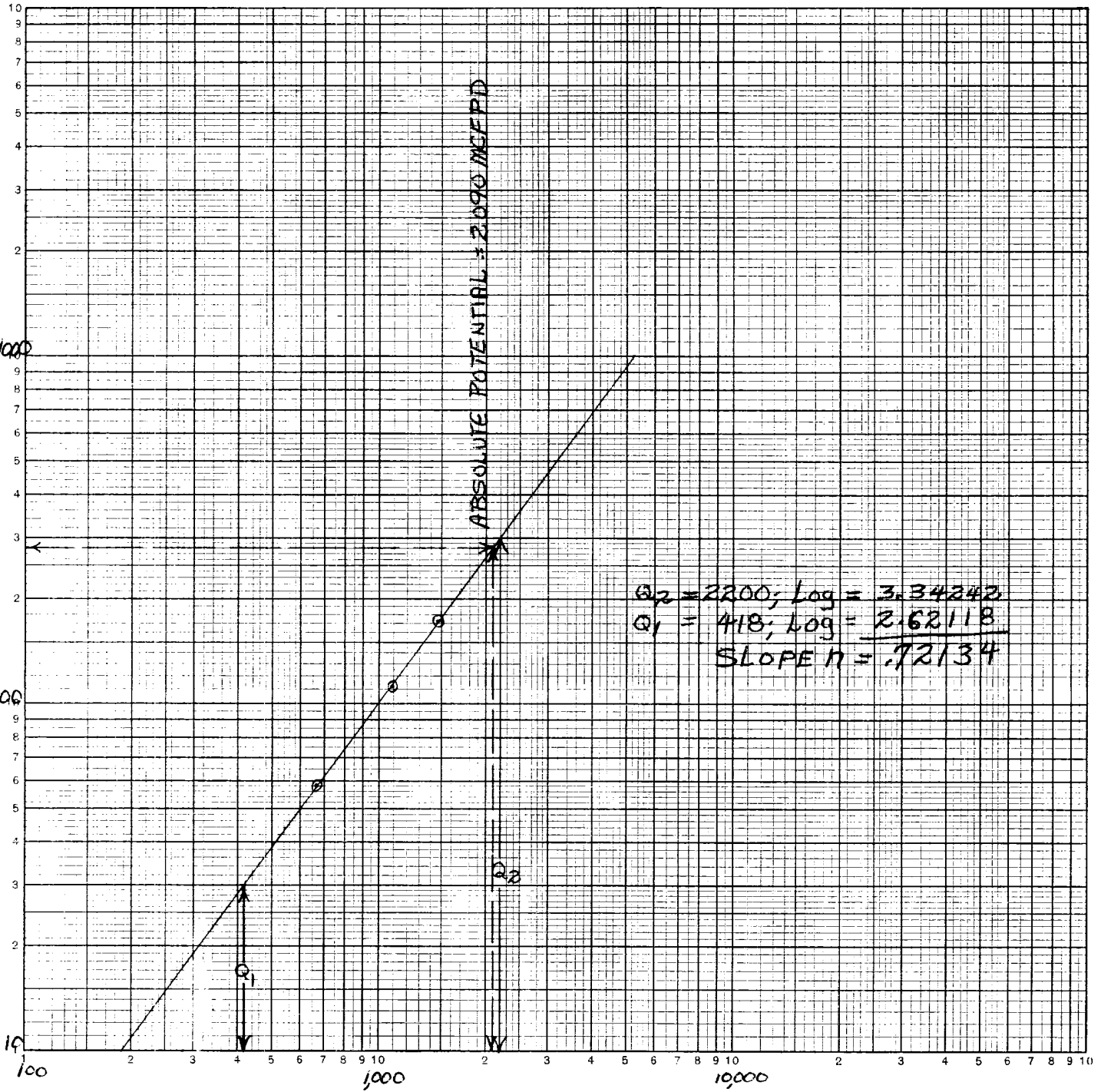
San Juan County, New Mexico

Farmington Formation

February 19, 1959

$(P_e^2 - P_w^2)$ THOUSANDS

K_{FE} LOGARITHMIC 359-120
KEUFFEL & ESSER CO. MAINE U.S.A.
3 X 3 CYCLES



Q - MCFPD - 15.025 psia

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