

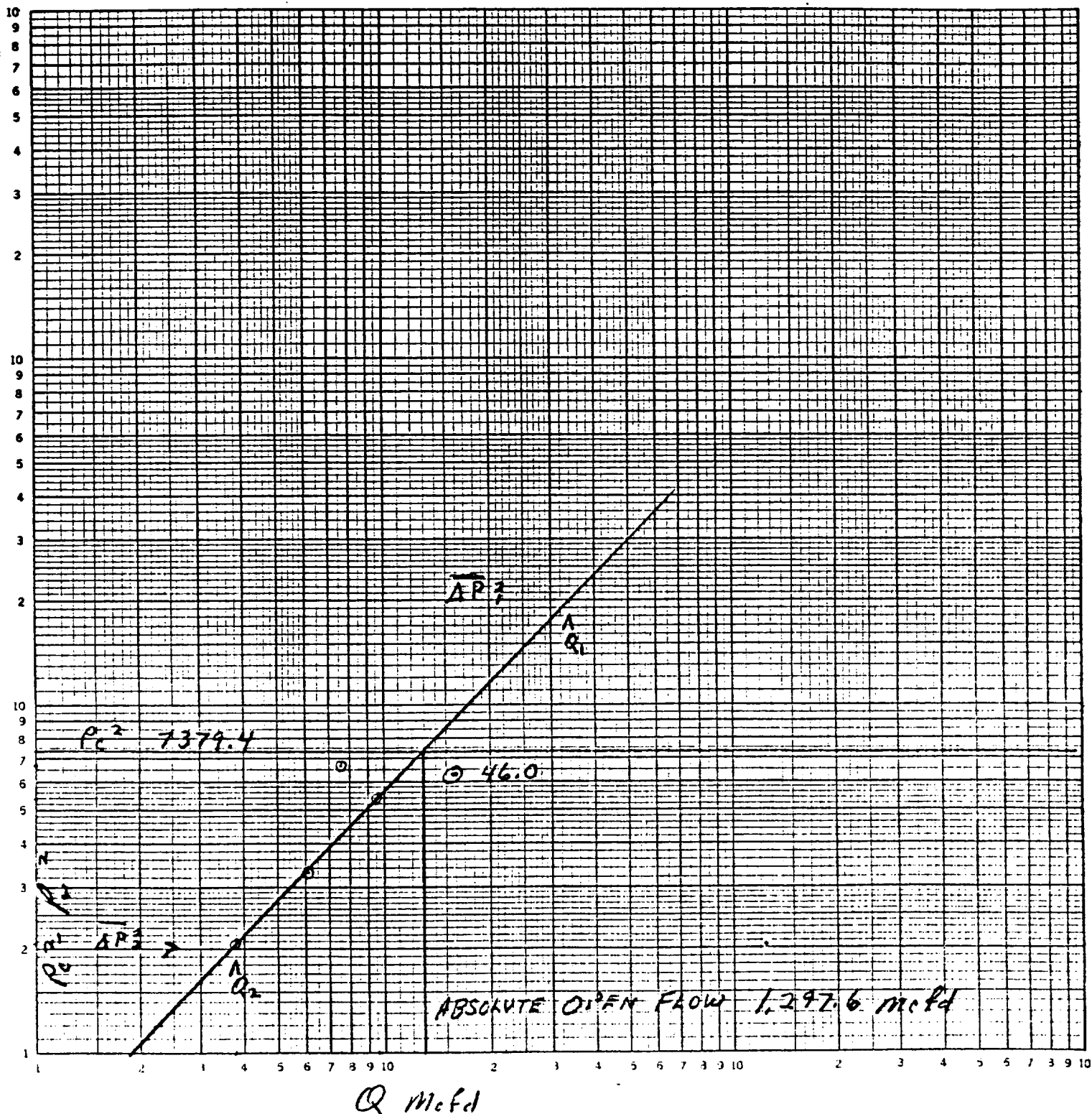
SHUT IN 9-14-81
1800 HOURS
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 9-19-81		RECEIVED	
Company MITCHELL ENERGY CORP.		Connection AIR NEW WELL		OCT - 7 1981	
Pool WILD CAT		Formation MORROW		O. C. D.	
Completion Date 9-14-81		Total Depth 7980		Plug Back TD 7875	
Casing Size 4.5		Well 10.5		Elevation 7126 KB	
Perforations From 7697 To 7849		Well No. 1		Farm or Lease Name RUNYAN 30 STATE COM.	
Perforations From OPEN To ENDED		Unit N 30 19S 23E		Sec. Twp. Rge.	
Type Well - Single - Brdenhead - G.C. or G.O. Multiple SINGLE		Packer Set At NONE		County EDDY	
Producing Thru TUBING		Reservoir Temp. °F 157 # 7773		Mean Annual Temp. °F 60	
Baro. Press. - P _a 13.2		State NEW MEXICO			
L 9773		H 9773		C _g 0.6564	
% CO ₂ 6.105		% N ₂ 1.467		% H ₂ S 0	
Prover 2" CFP		Meter Run		Taps PIPE	
FLOW DATA					
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w
SI					
1.	2"	X	3/32	1864	69
2.	2"	X	1/8	1617	72
3.	2"	X	3/16	1147	79
4.	2"	X	7/32	820	80
5.					
TUBING DATA					
				Press. p.s.i.g.	Temp. °F
				2043	62
				1864	69
				1617	72
				1147	79
				820	80
CASING DATA					
				Press. p.s.i.g.	Temp. °F
				2190	62
				1882	69
				1640	72
				1205	79
				820	80
Duration of Flow 114 1/2 HRS.					
RATE OF FLOW CALCULATIONS					
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g
1	.1446	.00	1877.2	.9915	1.2347
2	.2716	.00	1630.2	.9887	1.2347
3	.6237	.00	1150.2	.9822	1.2347
4	.6808	.00	690.2	.9813	1.2347
5					
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio
1	2.70	529.	1.47	.767	A.P.I. Gravity of Liquid Hydrocarbons
2	2.35	532.	1.48	.791	Specific Gravity Separator Gas
3	1.67	539.	1.50	.845	Specific Gravity Flowing Fluid
4	.99	540.	1.50	.903	Critical Pressure
5					Critical Temperature
Mcft/bbl. .0					
Deg. .6560					
X X X X X X X X					
.6560					
P.S.I.A. 694					
P.S.I.A. 360					
R					
R					
$P_c = 2716.5$ $P_r^2 = 7379.4$					
NO.	P_r^2	P_w^2	$P_r^2 - P_w^2$	(1) $\frac{P_c^2}{P_r^2 - P_w^2} = 1.3729$	
1		2304.6	5311.2	2068.0	
2		1995.8	2983.2	3396.0	
3		1415.9	2004.8	5375.0	
4		839.7	705.1	6674.0	
5					
AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1,297.6$				(2) $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 1.3588$	
Absolute Open Flow 1,297.6 / 298				Mcft @ 15.025	
Angle of Slope $\theta = .9674$				Slope, n 46.0	
Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENT.					
Approved By Division		Conducted By: DON BENNETT		Calculated By: SHOLFORD & JENKINS	
				Checked By:	

Runyan 30 State Com Well No 1
 Unit K, Sec 30, Twp 19S, Rge 23E
 Eddy County New Mexico
 September 19, 1981

46 7403

K-S LOGARITHMIC 3 X 3 CYCLES
 KEUFFEL & ESSER CO. MADE IN U.S.A.



$$\Delta P_1^2, P_c^2 - P_w^2 = 20,000$$

$$\Delta P_2^2, P_c^2 - P_w^2 = 2,000$$

$$Q_1 = 3390.1 \text{ Mcfd}$$

$$\log Q_1 = 3.5301$$

$$\log Q_2 = 2.5627$$

NEW-TEX LAB

P. O. BOX 1181
HOBBS, N.M. 88240

No. 5653
Run No. _____
Date of Run 9-21-81
Date Secured 9-18-81

CERTIFICATE OF ANALYSIS

A Sample of Mitchell Energy Runyan 30 State Com #1
Secured from Bennett-Cathey
At Box 787 Secured by _____
Artesia, NM 88210 Time _____ Date _____
Sampling conditions _____ Press _____
Temp. _____

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	LIQ. %	G.P.M.
Carbon Dioxide	6.105		
Air			
Nitrogen	1.467		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	87.337		
Ethane	3.669		.978
Propane	.766		.210
Butanes			
Iso-Butane	.158		.052
N-Butane	.184		.058
Pentanes			
Iso-Pentane	.091		.033
N-Pentane	.053		.019
Hexanes	.071		.029
Heptanes	.101		.046
Octanes			
TOTAL	100.000		1.425

Calc. Sp. Gr. 0.6564
Calc. A.P.I. _____
Calc. Vapor Press. _____ PSIA
Sp. Gr. _____
Mol. Wt. 19.02

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M. .210
Butanes Calc. G.P.M. .110
Pentanes Plus. G.P.M. .127
Ethane Calc. G.P.M. .978
_____ RVP Gasoline G.P.M. _____
B.T.U./Cu. Ft. @ 14.696 P.S.I.A.
Dry Basis 992
Wet Basis 975
Sulfur Analysis by Titration
Gr./100 Cu. Ft. _____
Hydrogen Sulfide _____
Mercaptans _____
Sulfides _____
Residual Sulfur _____
Total Sulfur _____

Run by R H Hamilton Checked by Deane Simpson Approved by Deane Simpson

Additional Data and Remarks