

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-122
Revised 10-1-78
RECEIVED

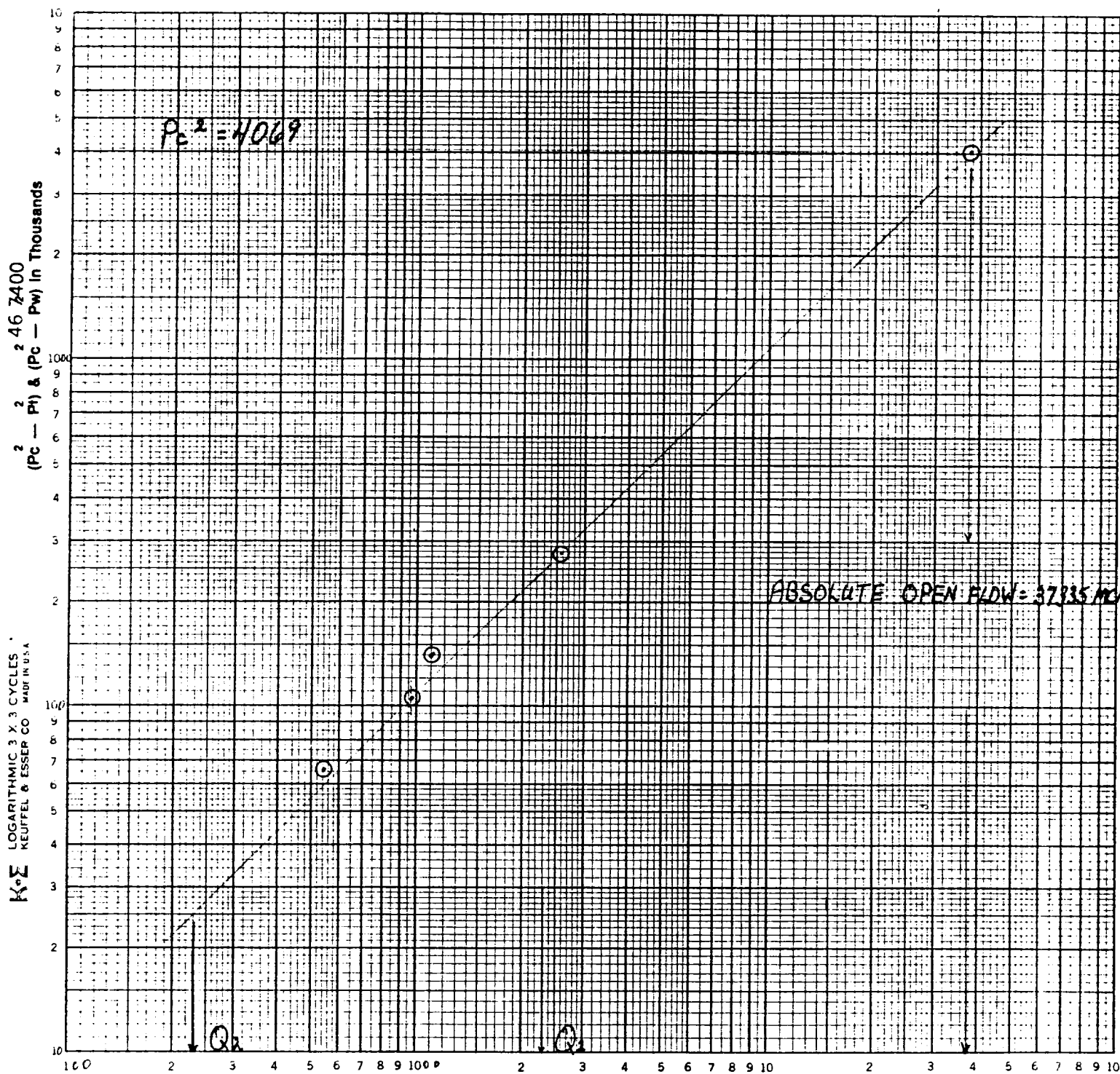
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 1/17/89		JAN 26 '89	
Company BHP PETROLEUM COMPANY INC				Connection AIR		O. C. D. ARTESIA, OFFICE	
Pool WILDCAT ELLENBURGER				Formation MONTANA ELLENBURGER		Unit L	
Completion Date 1/12/89		Total Depth 6630		Plug Back TD 6630		Elevation 0	
Form or Lease Name YATES 36 STATE		Well No. 1		Unit L		Sec. Twp. Rge. 36 10S 26E	
Coq. Size 5.500		Wt. 15.5		Set At 4.950		Perforations From 6142 To 6176	
Thq. Size 2.875		Wt. 6.5		Set At 2.441		Perforations From 0. To 0.	
Type Well - Single - Drdndhead - G.G. or G.O. Multiple SINGLE-GAS				Packer Set At 0.		County CHAVES	
Producing Thru TUBING		Reservoir Temp. °F 101 # 6159		Mean Annual Temp. °F 60.0		Baro. Press. - P _a 13.2	
L 6159		H 6159		Gg .672		% CO ₂ 4.01	
				% N ₂ 3.41		% H ₂ S .00	
				Prover .0		Meter Run 4.0	
						Taps FLANGE	
FLOW DATA				TUBING DATA		BHP DATA	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.
SI							
1.	4.03 X 1.625		275.	4.0	65.	0.	0.
2.	4.03 X 1.625		280.	13.0	72.	0.	0.
3.	4.03 X 1.625		290.	16.0	72.	0.	0.
4.	4.03 X 1.625		290.	84.0	60.	0.	0.
5.							
RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcd
1	12.79	33.95	288.2	.9952	1.2199	1.0257	541.
2	12.79	61.74	293.2	.9887	1.2199	1.0249	976.
3	12.79	69.65	303.2	.9887	1.2199	1.0258	1102.
4	12.79	159.59	303.2	1.0000	1.2199	1.0280	2560.
5							
NO.	P _t	Temp. °R	T _t	Z	Gas Liquid Hydrocarbon Ratio 69.2 Mcd/bbl.		
1	.42	525.	1.44	.951	A.P.I. Gravity of Liquid Hydrocarbons 60.2 Deg.		
2	.43	532.	1.46	.952	Specific Gravity Separator Gas .672 XXXXXXXXXX		
3	.45	532.	1.46	.950	Specific Gravity Flowing Fluid XXXXX .709		
4	.45	520.	1.42	.946	Critical Pressure 681. P.S.I.A. 679. P.S.I.A.		
5					Critical Temperature 365. R 377. R		
P _c 2,017.3 P _w ² 4069					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 14.5842$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 14.5842$		
NO.	P _t ²	P _w ²	P _w ²	P _c ² - P _w ²	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 37335.$		
1	6073.	2001.	4003.	66.	JAN 24 1989		
2	6014.	1991.	3964.	105.			
3	5960.	1982.	3929.	140.			
4	5748.	1947.	3790.	279.			
5							
Absolute Open Flow 37335. Mcd @ 15.025					Angle of Slope 45.0		Slope, n 1.000
Remarks: B.H.P. MEASURED WITH ELECTRONIC GAUGES - Post FD-2 3-10-89 camp & BK							
Approved By Division		Conducted By BENNETT-CATHEY		Calculated By MATT LEE		Checked By	

BENNETT & CATHEY PRODUCTION TESTING BACK PRESSURE CURVE

Operator BHP PETROLEUM COMPANY Lease Yates State 36 Well No. 1
 County Chaves Field _____ Location _____
 Date of Test 1-17-89 Slope "n" 1.000 Angle of Slope 45.0

Calc. Abs. Potential 37335 MCF/D



$$\Delta P_1^2 \quad P_c^2 - P_w^2 = 250$$

$$\Delta P_2^2 \quad P_c^2 - P_w^2 = 25$$

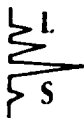
$$Q_1 = 2300$$

$$Q_2 = 230$$

$$\text{LOG } Q_1 = 3.362$$

$$\text{LOG } Q_2 = 2.362$$

$$n = 1.000$$



LABORATORY SERVICES

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: 505-397-3713

FOR: Bennett & Cathey
Attention: Matt Lee
P. O. Box 787
Artesia, New Mexico 88210

SAMPLE IDENTIFICATION: Yates 36 #1
COMPANY: B. H. P. PETROLEUM COMPANY INC
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: ----
ANALYSIS DATE: 1/17/89
PRESSURE — PSIG: 290
TEMPERATURE — °F:
GAS (xx) LIQUID ()
SAMPLED BY: Monty Randolph
ANALYSIS BY: Rolland Perry

REMARKS: H₂S ran at lab.

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM	LIQ. VOL. PERCENT
Hydrogen Sulfide	(H ₂ S)	-0-		
Nitrogen	(N ₂)	3.41		
Carbon Dioxide	(CO ₂)	4.01		
Methane	(C ₁)	85.50		
Ethane	(C ₂)	4.27	1.089	
Propane	(C ₃)	1.36	0.375	
I-Butane	(IC ₄)	0.23	0.075	
N-Butane	(NC ₄)	0.41	0.129	
I-Pentane	(IC ₅)	0.17	0.062	
N-Pentane	(NC ₅)	0.16	0.058	
Hexane	(C ₆)	0.32	0.148	
Heptanes Plus	(C ₇ +)	0.16	0.090	
		100.00	2.026	

BTU/CU. FT. — DRY 1035
AT 14.650 WET 1017

SPECIFIC GRAVITY — CALCULATED 0.672
MEASURED

VAPOR PRESSURE (ABSOLUTE) — CALCULATED

26# GASOLINE — 0.403

CU. FT./GAL. —