

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 1/13/87	
Company BTA Oil Producers				Connection Transwestern Pipeline Co.	
Pool Southwest Osudo-Wolfcamp				Formation Wolfcamp	
Completion Date 12-29-86		Total Depth 11820'		Plug Back TD 11460'	
				Elevation 3691' KB	
Farm or Lease Name Byers, 8605 JV-P					
Csq. Size 5 1/2	Wt. 17	d 4.892	Set At 11820'	Perforations: From 11428' To 11440'	
Thg. Size 2 7/8	Wt. 6.5	d 2.441	Set At 11280'	Perforations: From To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11086	
Producing Thru Tubing				State New Mexico	
Reservoir Temp. °F 157 @ 11434		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 11280	H 11280	G _g 0.700	% CO ₂ 0.22	% N ₂ 1.20	% H ₂ S 0
Prover				Meter Run 4.026"	Taps Flange

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI								65	Pkr	65	SI hours
1.	4.026"x1.000"			720	26	65	2474		Pkr		60 min.
2.	4.026"x1.000"			720	57	72	2542		Pkr		60 min.
3.	4.026"x1.500"			690	33	78	2506		Pkr		60 min.
4.	4.026"x1.500"			710	70	81	2405		Pkr		60 min.
5.											

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	4.753	138.07	733.2	0.9952	1.195	1.090	851
2	4.753	204.43	733.2	0.9887	1.195	1.085	1246
3	10.84	152.33	703.2	0.9831	1.195	1.078	2091
4	10.84	225.00	723.2	0.9804	1.195	1.078	3080
5.							

NO.	η	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	1.10	525	1.35	0.842	51.9° API @ 60°F	Deq.
2	1.10	532	1.37	0.850	Specific Gravity Separator Gas	0.700
3	1.05	538	1.38	0.861	Specific Gravity Flowing Fluid	X X X X X X X X
4	1.08	541	1.39	0.861	Critical Pressure	667 P.S.I.A.
5					Critical Temperature	389 R

P _f 4539.2	P _f ² 20604.3	P _s ² 19964.8	P _f ² - P _s ² 639.5	(1) $\frac{P_f^2}{P_f^2 - P_s^2} = 32.21939$	(2) $\left[\frac{P_s^2}{P_f^2 - P_s^2} \right]^n = 24.90955$
NO. 1	6186.2	4468.2	19964.8	639.5	
2	6529.0	4408.2	19432.2	1172.1	
3	6346.4	4350.2	18924.2	1680.1	
4	5847.7	4247.2	18038.7	2565.6	
5					

Absolute Open Flow	21198	Mcf/d @ 15.025	Angle of Slope	47° 12'	Slope, n	0.9259
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Remarks: Bottomhole pressures were measured with Amerada RPG-3 guage, Serial No. 50671, 0-6000 psi

JUN 25 1987

Approved By: [Signature]	Conducted By: Teffeller, Inc.	Calculated By: V. A. Asinvosky	Checked By:
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83-134230

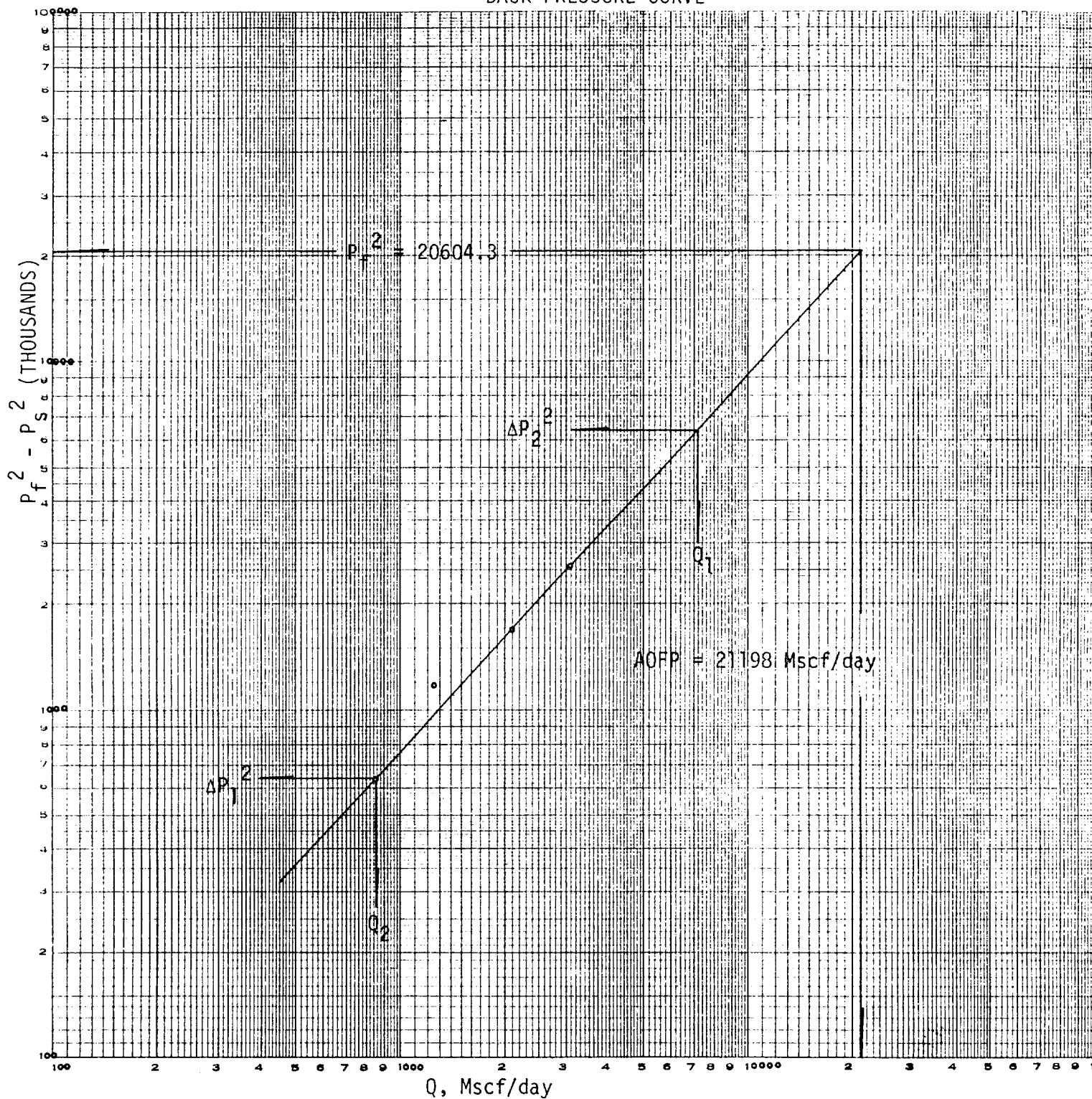
JUN 24 1987

OCD

MOBILE OFFICE

Company : BTA Oil Producers
 Well : Byers, 8605 JV-P
 Location : Unit H, Sec. 23-20S-35E
 County : Lea
 Date : January 13, 1987

BACK PRESSURE CURVE



$$Q_1 = 7175 \text{ Mscf/day}$$

$$Q_2 = 851 \text{ Mscf/day}$$

$$\log Q_1 = 3.8558219$$

$$\log Q_2 = 2.9299296$$

$$n = 0.9258923 = 0.9259$$

$$\text{Absolute Open Flow} = 21198 \text{ Mscf/day}$$

$$n = 0.9259$$

$$\theta = 47^\circ 12'$$