

N. MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 8-25-80				
Company Harvey E. Yates Company				Connection El Paso					
Pool Wildcat				Formation Atoka				Unit	
Completion Date 6-19-80		Total Depth 13698		Plug Back TD 13106		Elevation 3975 GR 3990 KB		Farm or Lease Name Heyco Betenbough	
Csg. Size 5 1/2	Wt. 20-17	d 4.778	Set At 13150	Perforations: From 12315 To 12900				Well No. 1	
Tub. Size 2 3/8	Wt. 4.7	d 1.995	Set At 12257	Perforations: From To				Unit Sec. Twp. Rge. C 32 13S 36E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single					Packer Set At 12257		County Lea		
Producing Thru Tubing		Reservoir Temp. °F 183 @ 12608		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State New Mexico	
L 12608	H 12608	G _g 0.733	% CO ₂ 0.60	% N ₂ 3.61	% H ₂ S Nil	Prover		Meter Run X	Taps Flange

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI	10 Days		L-10 Chart				2265		Pkr.	-	
1.	4" X 1.500"			3.30	1.70	80	2086	76	Pkr.	-	60 mins.
2.	4" X 1.500"			3.35	2.40	73	1912	76	Pkr.	-	60 mins.
3.	4" X 1.500"			3.35	3.20	70	1811	76	Pkr.	-	60 mins.
4.	4" X 1.500"			3.40	5.05	60	1647	76	Pkr.	-	60 mins.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{\frac{h_w P_m}{X P_m}}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	10.84	5.61	3.162	0.9813	1.168	1.012	223.0
2	10.84	8.04	3.162	0.9877	1.168	1.012	321.7
3	10.84	10.72	3.162	0.9905	1.168	1.012	430.2
4	10.84	17.17	3.162	1.0000	1.168	0.013	696.3
5.							

NO.	P _f	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio	13.816	Mcf/bbl.
1.		USED SIMPLIFIED			A.P.I. Gravity of Liquid Hydrocarbons	N/A	Deg.
2.		SUPERCOMPRESSIBILITY			Specific Gravity Separator Gas	0.733	X X X X X X X X
3.		TABLES			Specific Gravity Flowing Fluid	X X X X X	
4.					Critical Pressure	665	P.S.I.A.
5.					Critical Temperature	389	R

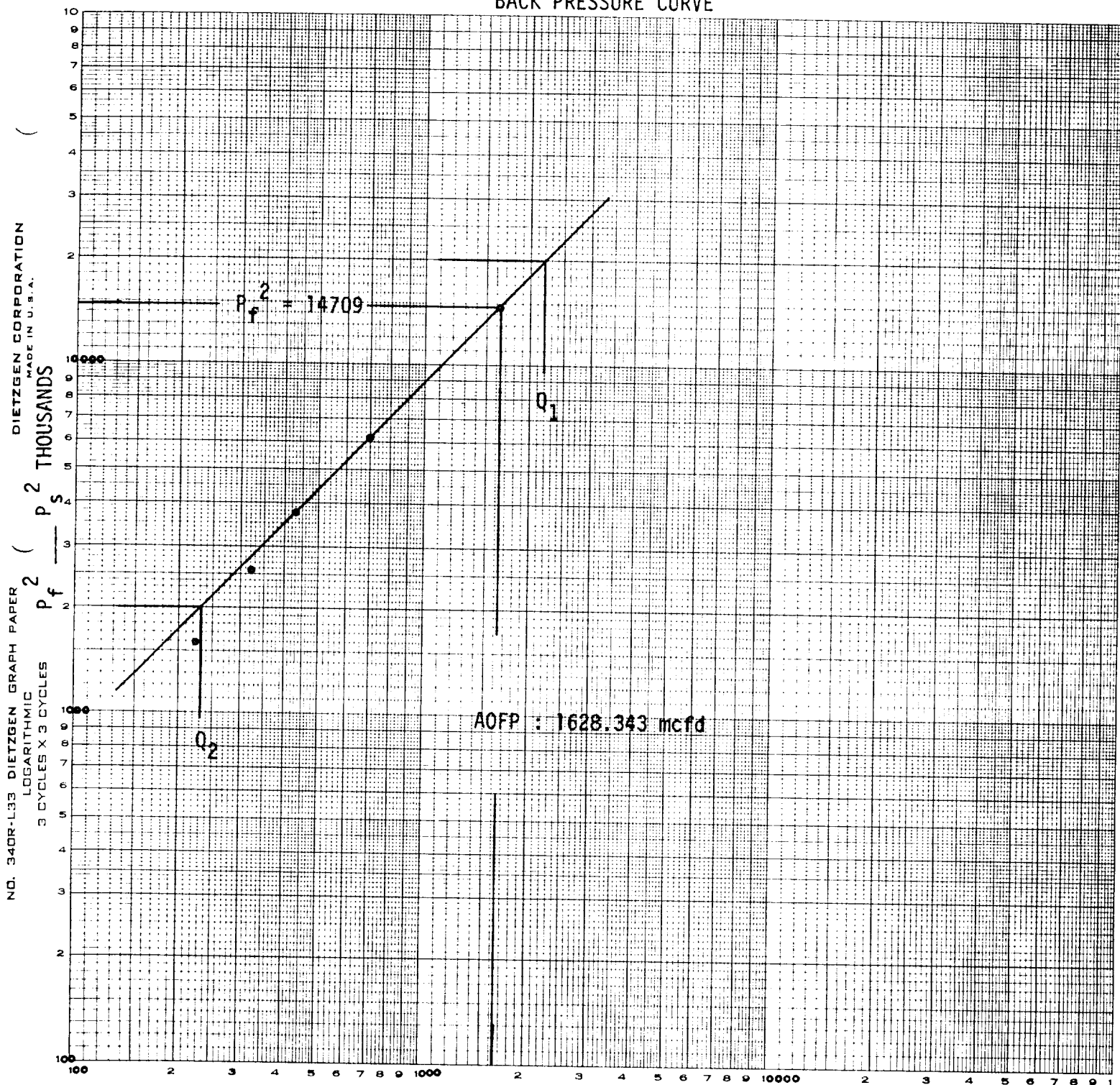
P _f 3835.2 P _g 14709						
NO.	P _i ²	P _s ²	P _f ²	P _f ² - P _s ²	(1) $\frac{P_c^2}{P_i^2 - P_w^2} = 2.38628$	(2) $\left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^n = 2.33857$
1	4407	3621.2	13113	1596	AOF = Q $\left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^n = 1628.343$	
2	3706	3483.2	12133	2576		
3	3328	3308.2	10944	3765		
4	2756	2923.2	8545	6164		
5						

Absolute Open Flow		1628.343	Mcf/d @ 15.025	Angle of Slope @	45.67°	Slope, n	0.97677
Remarks: BHP measured with Amerada RPG-3 Gauge No. 46424, 0-8000 P.S.I.							

Approved By Commission: <i>John W. Runyan</i>	Conducted By: Tefteller, Inc.	Calculated By: D. A. Warren, Jr.	Checked By: <i>Chuck Hardie</i>
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Company : Harvey L. Yates Company
 Well : Heyco Penbough No. 1
 Field : Wildcat
 County : Lea
 State : New Mexico
 Date : August 25, 1980

BACK PRESSURE CURVE



Q : mcf/d

$$Q_1 = 2198.335; \text{LOG } Q_1 = 3.34209$$

$$Q_2 = 231.908; \text{LOG } Q_2 = 2.36532$$

$$n = 0.97677$$

$$\phi = 45.67^\circ$$

DATE August 7 19 80

AUG 13 1980

O. C. D.
ARTESIA, OFFICE

ADVICE ON WELLS TIED INTO GAS GATHERING SYSTEMS

Name of Producer Harvey E. Yates (9842)

Well Name and Number *Alfred*
Bettenbough Ut. #1

Location 660'FNL, 1990'FWL, Sec. 32, T-13-S, R-36-E, Lea County, NM

Pool Name Wildcat

Producing Formation Atoka

Top of Gas Pay 12,315'

Oil or Gas Well Gas

Gas Unit Allocation 320 Acres

Date Tied Into Gathering Systems 7/30/80

Date of First Delivery 7/30/80

Gas Gathering System San Juan G/S

Processed through Gasoline Plant (yes or no) No

Station Number 58-327-01

Remarks: Site Code: 29755-0-01

By: Travis R. Elliott, Dispatching