

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 1-7-91				
Company ANADARKO Petroleum Corp.				Connection FLARE					
Pool N/A				Formation QUEEN (GAS)				Unit N/A	
Completion Date 1-2-91		Total Depth 2750		Plug Back TD 2722		Elevation 0		Farm or Lease Name OXY FED COM	
Coq. Size 4.50	Wt. 11.6	Set At 4.000	Set At 2746	Perforations: From 2581 To 2594		Well No. #2			
Thq. Size 2.375	Wt. 4.7	Set At 1.995	Set At 2528	Perforations: From 0 To 0		Unit Sec. Twp. Rge. N 29-13-31			
Type Well - Single - Brdenhead - G.C. or G.O. Multiple SINGLE (GAS)						Packer Set At 2528		County CHAVES	
Producing Thru TBG. (GAS)		Reservoir Temp. °F 85 @ 2588		Mean Annual Temp. °F 60.0		Baro. Press. - P _g 13.2		State N.M.	
L 2588	H 2588	G _g .935	% CO ₂ .01	% N ₂ 68.76	% H ₂ S 0	Prover 0	Meter Run 3.0	Taps FLG.	

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
1.	3.00 x 1.000			55	18.0	42	0	0	466	85	72.0
2.	3.00 x 1.000			55	41.0	42	0	0	412	85	1.0
3.	3.00 x 1.000			50	67.0	44	0	0	356	85	1.0
4.	3.00 x 1.000			50	81.0	48	0	0	295	85	1.0
5.									235	85	1.0

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, Mc/d
1.	4.79	35.04	68.2	1.0178	1.0342	1.0032	177
2.	4.79	52.88	68.2	1.0178	1.0342	1.0032	268
3.	4.79	65.07	63.2	1.0157	1.0342	1.0029	329
4.	4.79	71.55	63.2	1.0117	1.0342	1.0028	360
5.							

NO.	P _g	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1.	.13	502	1.82	.994	0	0	.935	XXXXXX	537	276
2.	.13	502	1.82	.994						
3.	.12	504	1.83	.994						
4.	.12	508	1.84	.994						
5.										

NO.	P _g	P _w	P _w ²	P _g ² - P _w ²
1.	181	389	152	41
2.	136	338	114	78
3.	95	282	80	113
4.	62	228	52	141
5.				

(1) $\frac{P_g^2}{P_g^2 - P_w^2} = 1.3679$

AOF = Q $\left[\frac{P_g^2}{P_g^2 - P_w^2} \right]^n = 430$

(2) $\left[\frac{P_g^2}{P_g^2 - P_w^2} \right]^n = 1.1960$

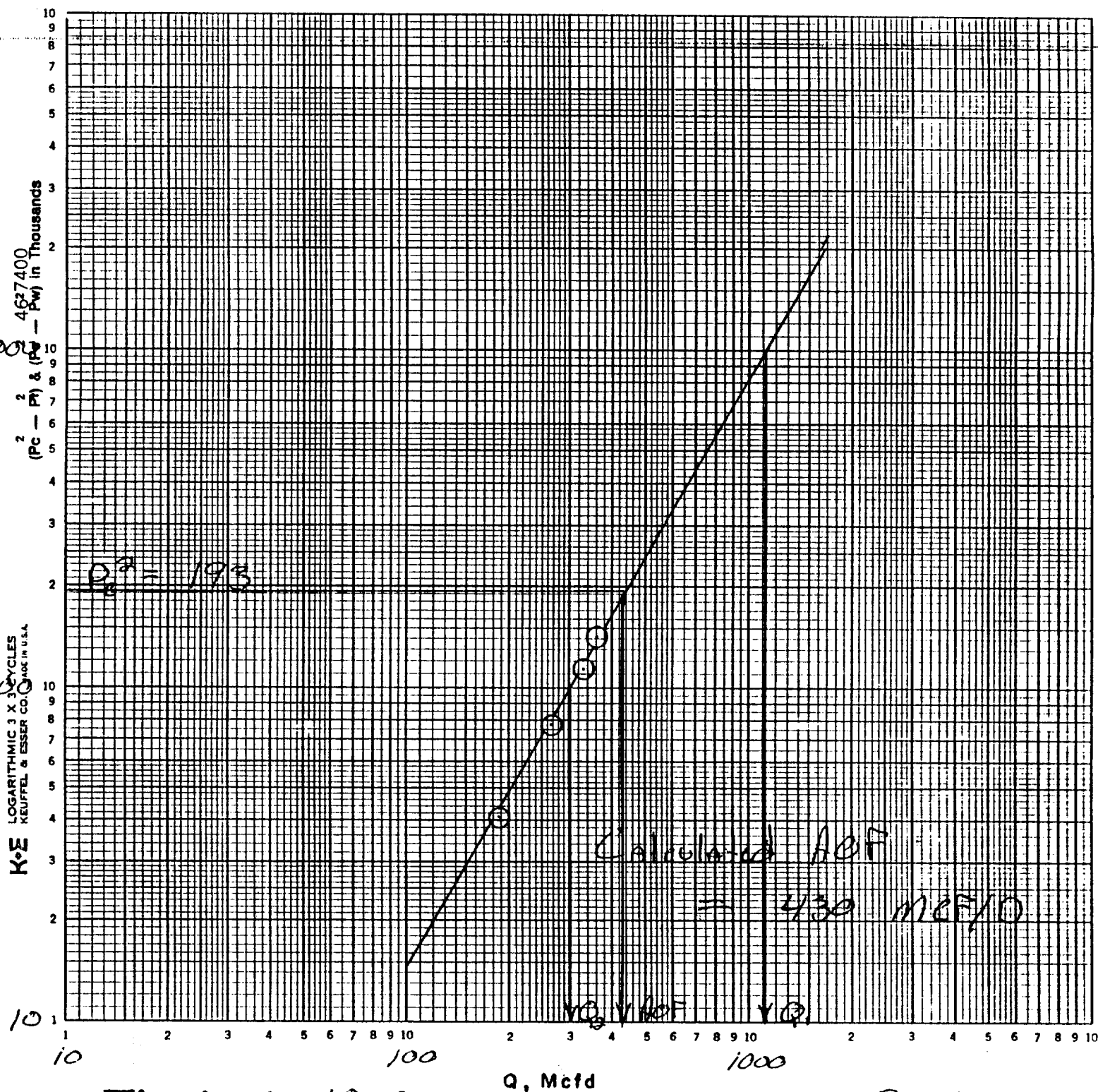
Absolute Open Flow	430	Mcf/d @ 15.025	Angle of Slope	60.3	Slope, n	.571
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Remarks: CHOKE SIZES 5/64 11/64 20/64 28/64

Approved By Division	Conducted By: BENNETT-CATHEY	Calculated By: JIM SMITH	Checked By:
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BACK PRESSURE CURVE

Operator Anadarko Lease Box Fen Can Well No. #2
County Chaves Field N/A Location N/A
Date of Test 1-7-91 Slope "n" 0.571 Angle of Slope 60.3
Calc. Abs. Potential 430 MCF/



$$\overline{\Delta P}_1^2 \quad P_c^2 - P_w^2 = 1000$$

$$\Delta P_z^2 = P_c^2 - P_v^2 = 100$$

$$Q_1 = 1120$$

$$Q_2 = 301$$

LOG $Q_1 = 3.049$

LOG $Q_2 = 2.478$

$$n = 0.571$$

Laboratory Services

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Bennett & Cathay
Attention: Mr. Monty Randolph
P. O. Box 787
Hobbs, New Mexico 88240

SAMPLE
IDENTIFICATION: OXY Fed. Com #2
COMPANY: Anadarko Petroleum Corp
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 1/7/91 3:55 PM GAS (XX) LIQUID ()
ANALYSIS DATE: 01-07-91 SAMPLED BY: Bennett & Cathay
PRESSURE - PSIG 50.00 ANALYSIS BY: Rolland Perry
SAMPLE TEMP. °F
ATMOS. TEMP. °F

REMARKS:

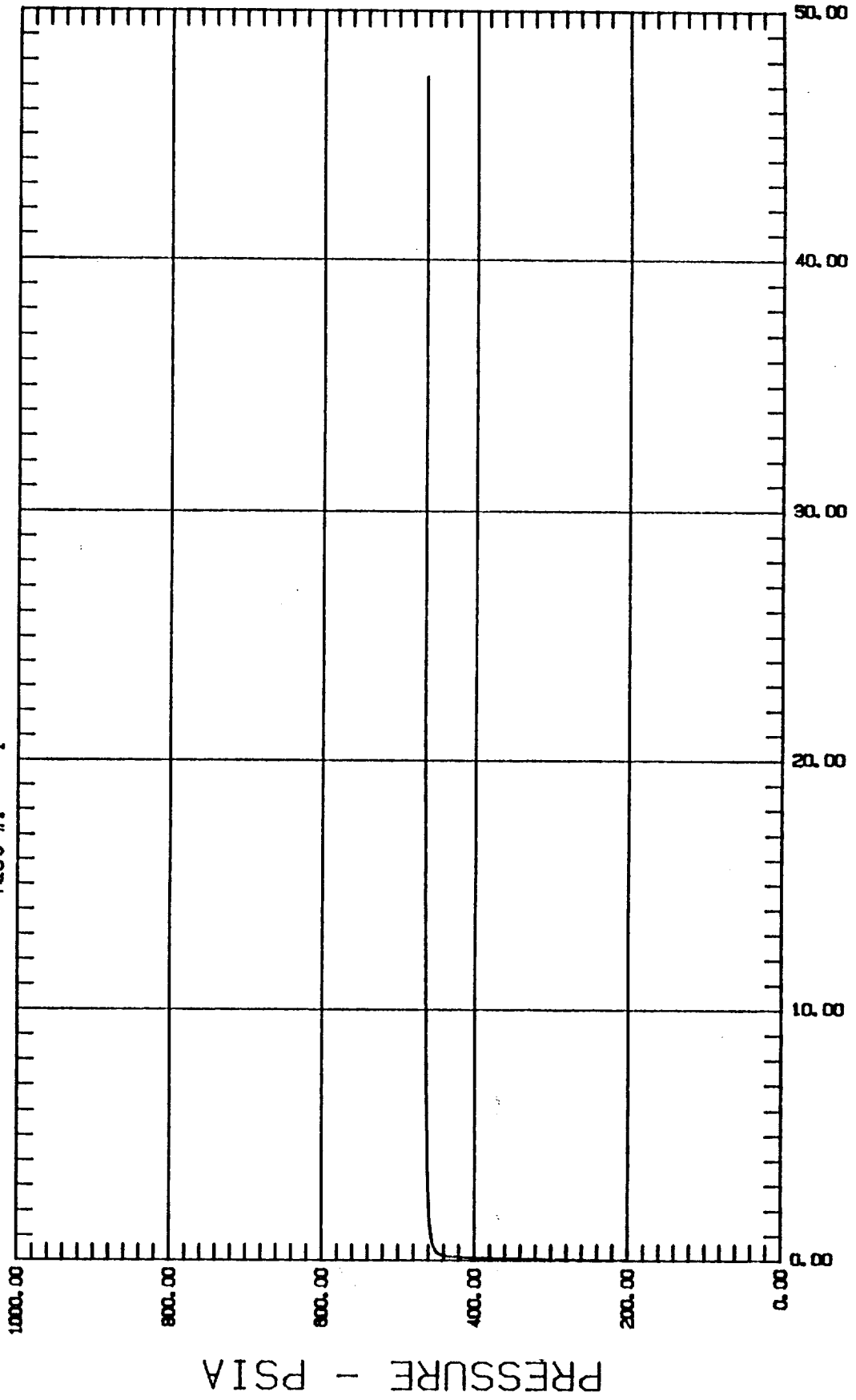
COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM	
Oxygen (O2)			
Hydrogen Sulfide (H2S)			
Nitrogen (N2)	68.76		
Carbon Dioxide (CO2)	0.01		
Methane (C1)	19.35		
Ethane (C2)	6.70	1.788	
Propane (C3)	3.29	0.904	
I-Butane (IC4)	0.39	0.126	
N-Butane (NC4)	0.80	0.252	
I-Pentane (IC5)	0.19	0.069	
N-Pentane (NC5)	0.18	0.064	
Hexane (C6)	0.33	0.134	
Heptanes Plus (C7+)	0.00	0.000	
	100.00	3.337	
BTU/CU.FT. - DRY	466	MOLECULAR WT	27.0733
AT 14.650 DRY	464		
AT 14.000 WET	450	20% GASOLINE -	0.351
AT 15.025 DRY	470		
AT 15.025 WET	468		
SPECIFIC GRAVITY -			
CALCULATED	0.938		
MEASURED	0.000		

Plot starting date: 1/ 5/91
time: 13:10: 0
Gauge S/N 16150

Company: BENNETT-CATHEY
Client: ANADARKO
Well name: OXY FED COM
Well #: #2
Test #: 1

Location: LEA COUNTY N.M.
Operator: RAY LUTZ
Comments: BOMBS HUNG @ 2588 FT.



DELTA TIME - HRS