

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 2-14-84	
Company Conoco, Inc.		Connection None	
Pool Jalmat		Formation Yates	
Completion Date 2-7-84	Total Depth 13500'	Plug Back TD 3986'	Elevation 3070'GL
Farm or Lease Name Sholes B-19 Com		Well No. 4	
Csg. Size 7"	Wt. 29 #	Set At 6.184	13500'
Perforations: From 2766' To 2850'		Well No. 4	
Thg. Size 2 3/8"	Wt. 4.7 #	Set At 1.995	2878'
Perforations: From Open To Ended		Unit Sec. Twp. Rge. K 19 25-5 37-E	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single		Packer Set At None	
County Lea		State New Mexico	
Producing Thru Casing	Reservoir Temp. °F 84 @ 3100'	Mean Annual Temp. °F 60	Baro. Press. - P _g 13.2
L 2766'	H 2766'	Cg 0.823	% CO ₂ 17.00
% N ₂ 1.08	% H ₂ S 0.48	Prover —	Meter Run 3.068"
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							75		133		24 Hrs.
1.	3.068" X 0.875"			41	29	76	75		130	(stabilized)	30 Min.
2.	3.068" X 0.875"			40	48	79	75		122	"	30 Min.
3.	3.068" X 0.875"			44	77	82	74		108	"	60 Min.
4.	3.068" X 1.250"			43	30	81	74		93	"	60 Min.
5.	3.068" X 1.250"			43	32	84	74		77		60 Min.

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, F _{pv}	Rate of Flow Q, Mcfd
1	3.650	39.646	54.2	0.9850	1.102	Ni/	157
2	3.650	50.533	53.2	0.9822	1.102	Ni/	200
3	3.650	66.366	57.2	0.9795	1.102	Ni/	261
4	7.577	41.061	56.2	0.9804	1.102	Ni/	336
5	7.577	42.408	56.2	0.9777	1.102	Ni/	346

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.07	536	1.34	Ni/	None	
2	0.07	539	1.35	Ni/	A.P.I. Gravity of Liquid Hydrocarbons	
3	0.08	542	1.36	Ni/	Specific Gravity Separator Gas	0.823
4	0.08	541	1.35	Ni/	Specific Gravity Flowing Fluid	X X X X X X X X
5	0.08	544	1.36	Ni/	Critical Pressure	738 P.S.I.A.
					Critical Temperature	400 R

NO.	P _t ²	P _w	P _w ²	P _t ² - P _w ²	(1) $\frac{P_t^2}{P_t^2 - P_w^2} =$	(2) $\left[\frac{P_t^2}{P_t^2 - P_w^2} \right]^n =$
1	7.8	143.2	20.5	0.9	6.903	2.627
2	7.8	135.2	18.3	3.1		
3	7.6	121.2	14.7	6.7		
4	7.6	106.2	11.3	10.1		
5	7.6	90.2	8.1	13.3		

Absolute Open Flow		525 Mcfd @ 15.025	Angle of Slope θ	63.4	Slope, n	0.500
--------------------	--	-------------------	------------------	------	----------	-------

Remarks: Flowed well through casing due to tubing leading up with fluid during 24 hr. shut-in period. Produced 0 bbls. of fluid during test.

Approved By Division	Conducted By: T. Aduddell - Conoco R. Goston - EPNG	Calculated By: Tom C. Aduddell	Checked By:
----------------------	---	-----------------------------------	-------------

ORIGINAL SIGNED BY DIVISION SECTION

Sholes B-19 No. 4

Note: $\Delta P_{1,2,3}$ were derived by Linear Regression Program.

ΔP	Q
1.5	147
8.0	290
15.0	375

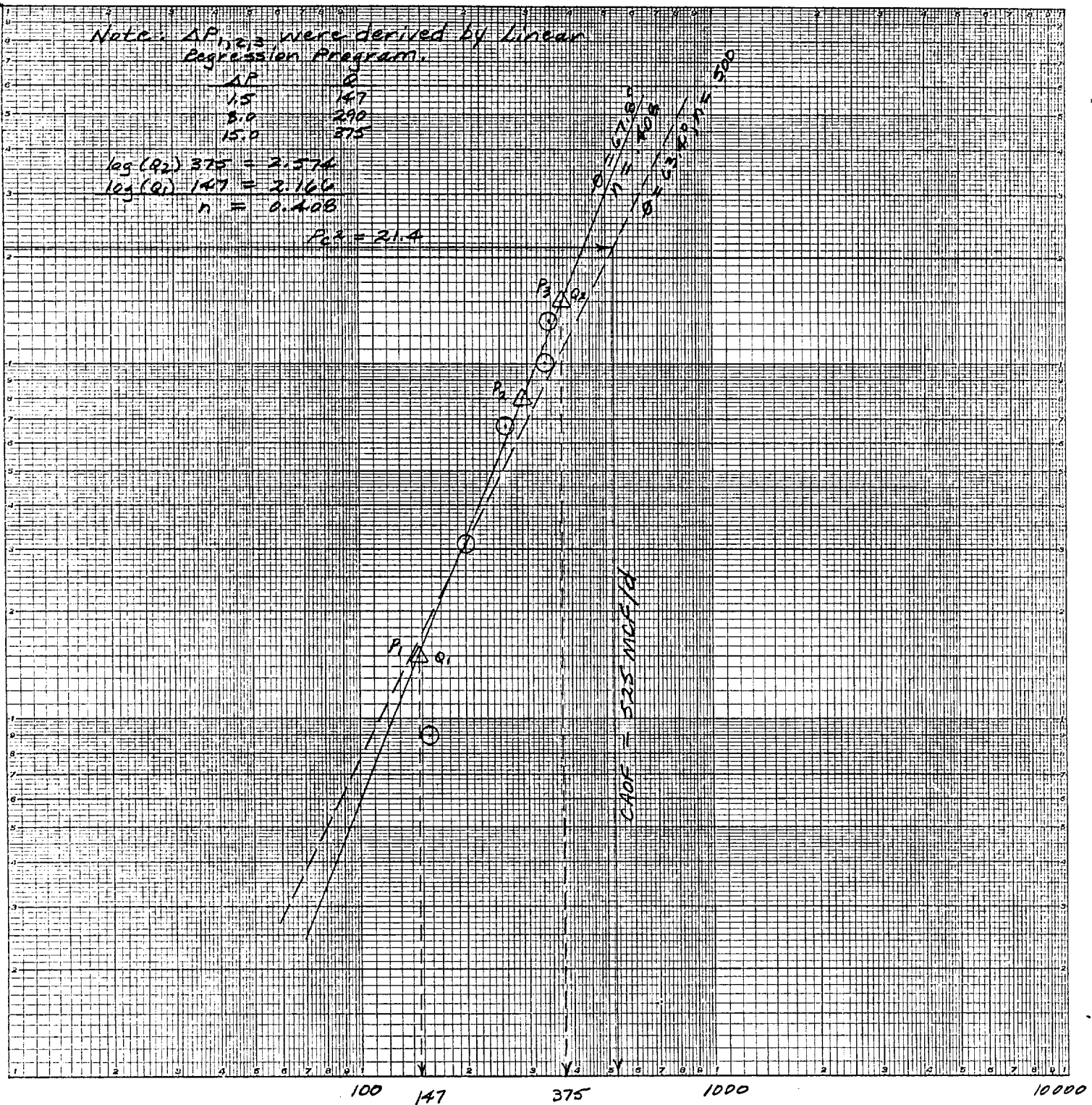
$$\log(Q_2) 375 = 2.574$$

$$\log(Q_1) 147 = 2.166$$

$$n = 0.408$$

$$P_{0.2} = 21.4$$

Squared Pressures
(1000 PSIA)



Flow Rate Q (MCF/d)