NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

O. C. D.

Form C-122
Revised 4-65

Type Test: ☒ Initial ☐ Annual ☐ Special			Test Date (Scheduled) 1-15-84		
Company: STEVENS OPERATING ✓		Connection: TO AIR			
Pool: PECOS SLOPE		Formation: ABO		Unit:	
Completion Date: 12-9-83	Total Depth: 4300	Plug Back T.D.: 4253	Elevation: 3656	Farm or Lease Name: HELEN COLLINS FED.	
Csg. Size: 5.500 / Wt.: 17.0 / d: 4.892 / Set At: 4300		Perforations: From 4132 To 4156		Well No.: #3	
Tbg. Size: 2.375 / Wt.: 4.7 / d: 1.995 / Set At: ~~4025~~ 4022		Perforations: From 0 To 0		Unit: J / Sec.: 9 / Twp.: 7S / Rge.: 28E	
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE		Packer Set At: 4025		County: CHAVES	
Producing Thru: TUBING	Reservoir Temp. °F: 103.8	Mean Annual Temp. °F: 60.0	Baro. Press. – P_a: 13.2	State: NEW MEXICO	

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
4144	4144	0.737	9.95	4.53	0	2.0	0	

NO.	FLOW DATA: Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	B.H.P. DATA: Press. p.s.i.g.	CHOKE	Duration of Flow
SI							945.	40			47.0
1	2.00	X	0.188	925.	0	41	925.	42	0	48/64	1.0
2	2.00	X	0.250	896.	0	45	896.	50	0	48/64	1.0
3	2.00	X	0.313	843.	0	48	843.	54	0	48/64	1.0
4	2.00	X	0.375	782.	0	53	782.	58	0	48/64	1.0
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, Mcfd
1	8.61	0	939.2	1.0188	1.1648	1.1112	751.
2	11.08	0	909.2	1.0147	1.1648	1.1038	1287.
3	11.67	0	856.2	1.0117	1.1648	1.0951	1343.
4	12.37	0	795.2	1.0168	1.1648	1.0915	1443.
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NO.	P_t	Temp. °R	T_r	Z
1	1.34	501.	1.35	0.810
2	1.35	505.	1.36	0.821
3	1.38	508.	1.36	0.834
4	1.33	503.	1.35	0.839
5				

Gas Liquid Hydrocarbon Ratio: 0 Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbons: 0 Deg.

Specific Gravity Separator Gas	0.737	xxxxxxxxxx
Specific Gravity Flowing Fluid	xxxxx	0.737
Critical Pressure	732. P.S.I.A.	732. P.S.I.A.
Critical Temperature	372. R	372. R

P_c 952.4 P_c^2 926.

NO.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	890.	946.	894.	32.
2	897.	923.	852.	74.
3	733.	883.	781.	146.
4	632.	846.	716.	211.
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.3994$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.5897$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ = 6123.

Absolute Open Flow: 6123. Mcfd @ 15.025 | Angle of Slope θ: 58.2 | Slope, n: 0.641

Remarks:

Approved by Commission	Conducted By:	Calculated By:	Checked By:
	RICHARD TOWNLEY	BENNETT & CATHEY	

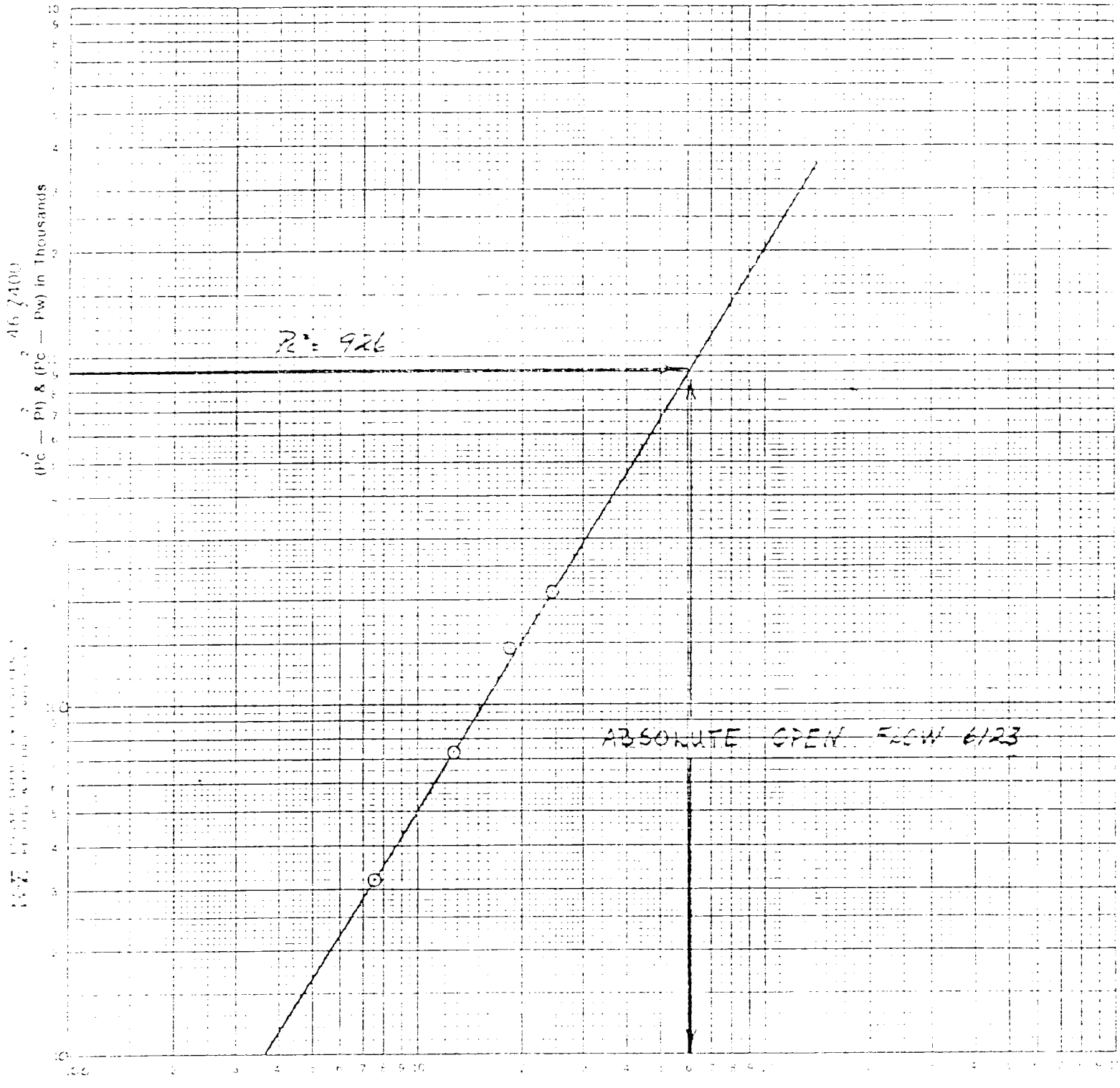
BACK PRESSURE CURVE

Operator Stevens Operating Lease Heller Collins Fed Well No. 3

County Chaves Field Pecos Slope Location S 23 26E

Date of Test 1-15-84 Slope "n" 0.621 Angle of Slope 58.2

Calc. Abs. Potential 6123 MCF/D



ΔP_1^2 $P_c^2 - P_w^2$ = 500

ΔP_2^2 $P_c^2 - P_w^2$ = 50

Q_1 = 4200

Q_2 = 1005

LOG Q_1 = 3.6232

LOG Q_2 = 3.0022

n = 0.621