File

NEW MEXICO OIL CONSERVATION COMM. ON

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED
DEC 9 1968
O. C. C.
ARTESIA, OFFICE

Type Test: [X] Initial [ ] Annual [ ] Special			Test Date: 12-3-68	
Company: SOHIO PETROLEUM COMPANY	Connection: / NONE			
Pool: MC MILLIAN	Formation: MORROW			Unit: 640
Completion Date: 12-3-68	Total Depth: 10520'	Plug Back TD: 10444'	Elevation: 3305' KB	Farm or Lease Name: STATE 1-19
Csg. Size: 4 1/2 / Wt.: 11.6 / d: 4.000 / Set At: 10472'	Perforations: From 10322' To 10405'			Well No.: 1
Tbg. Size: 2 3/8 / Wt.: 4.7 / d: 1.995 / Set At: 10263'	Perforations: From OPEN To ENDED			Unit: G / Sec.: 19 / Twp.: 20S / Rge.: 27E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE		Packer Set At: 10263'		County: EDDY
Producing Thru: TUBING	Reservoir Temp. °F: 170° @ 10364'	Mean Annual Temp. °F: –	Baro. Press. – P_a: 13.2	State: NEW MEXICO

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
10364	–	.615	0.63	0.17	0.00	–	X	FLANGE

	FLOW DATA				TUBING DATA		CASING DATA		
NO.	Prover Line Size	X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	Press. p.s.i.g SWT	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI						3000	450			
1.	4 11/64	1.000	820	82	82°	2125	84	PKR	–	3.25
2.	4 9/64	1.000	800	48	78	2437	82	–	–	1.75
3.	4 7/64	1.000	780	28	78	2597	80	–	–	1.00
4.	4 5/64	1.000	770	17	82	2617	58	–	–	1.00
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	4.753	261.39 ✓	833.2	.9795	1.275	1.064	1650.9 ✓
2.	4.753	197.57 ✓	813.2	.9831	1.275	1.064	1252.4 ✓
3.	4.753	149.04 ✓	793.2	.9831	1.275	1.062 ✓	943.0 ✓
4.	4.753	115.39 ✓	783.2	.9795	1.275	1.060	726.0 ✓
5.							

NO.	P_t	Temp. °R	T_r	Z
1.	1.24	542	1.51	.884
2.	1.21	538	1.50	.883
3.	1.18	536	1.50	.882
4.	1.16	542	1.51	.890
5.				

Gas Liquid Hydrocarbon Ratio 281490 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons 56.7 Deg.
Specific Gravity Separator Gas .6153 XXXXXXXXX
Specific Gravity Flowing Fluid XXXXX –
Critical Pressure 674 P.S.I.A. – P.S.I.A.
Critical Temperature 358 R – R

P_c 3957.2 P_c^2 15659.4

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	–	2863.2	8197.9	7461.5
2	–	3201.2	10247.2	5411.7
3	–	3414.2	11656.8	4002.6
4	–	3449.2	11897.0	3762.4
5				

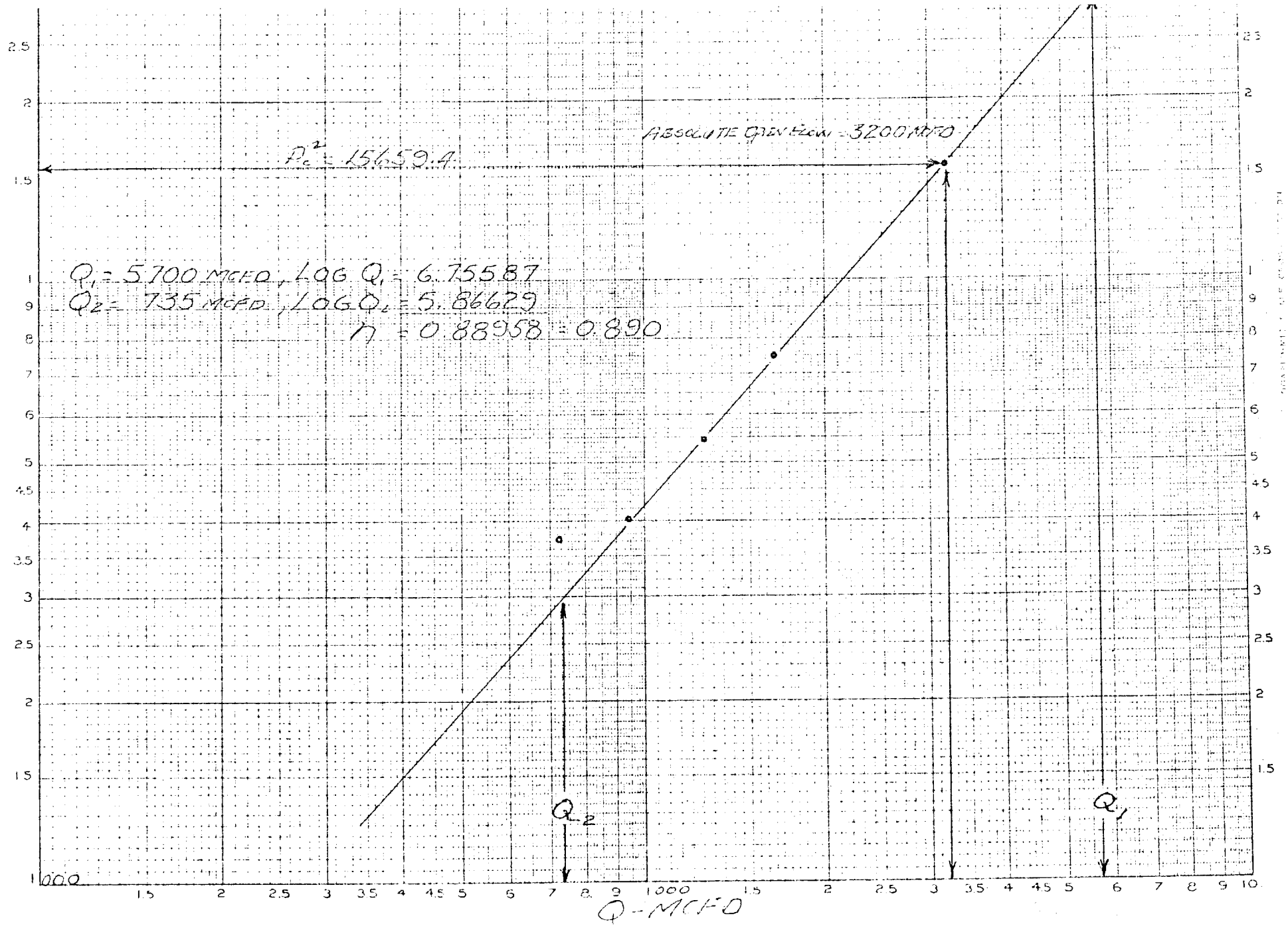
(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.894$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.575$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3225$

Absolute Open Flow 3200 ✓ Mcfd @ 15.025 Angle of Slope θ 48° Slope, n .890

Remarks: * BHP @ (-7059) 10364' USED FOR PRESSURE CALCULATION

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	COLEMAN PET. ENG. CO	JOE A. COLEMAN	JOE A. COLEMAN


$P_c^2 = 15659.4$
ABSOLUTE OPEN FLOW = 3200 MCFD
$Q_1 = 5700$ MCFD, LOG $Q_1 = 6.75587$
$Q_2 = 735$ MCFD, LOG $Q_2 = 5.86629$
$n = 0.88958 = 0.890$
Q_2
Q_1
Q - MCFD