NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED
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JUN 10 '88
O. C. D.
ARTESIA, OFFICE

Type Test: 4 Point ☒ Initial ☐ Annual ☐ Special			Test Date: 3-12-87	
Company: McKay Oil Corp.	Connection: To air			
Pool: W. Pecos Slope Abo	Formation: Abo			Unit
Completion Date: 3-9-87	Total Depth: 3500	Plug Back TD: 3388	Elevation: 4224	Farm or Lease Name: Miller Federal
Csg. Size: 4.500 / Wt.: 9.500 / d: 4.090 / Set At: 3449		Perforations: From 2966 To 3356		Well No.: 5
Tbg. Size: 2.375 / Wt.: 4.7 / d: 1.995 / Set At: 2919		Perforations: From open To ended		Unit: M / Sec.: 6 / Twp.: 6S / Rge.: 23E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single		Packer Set At: none		County: Chaves
Producing Thru: Tubing	Reservoir Temp. °F: 101 @ 3161	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2	State: New Mexico

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
3161	3161	.617	.224	5.342	Ø	2.000	Ø	Ø

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	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					665	50	665	50	72hrs
1.	2.000 X 0.1250	649	0.00	49	649	49	649	49	60min
2.	2.000 X 0.1875	624	0.00	53	624	53	625	53	60min
3.	2.000 X 0.21875	597	0.00	54	597	54	600	54	60min
4.	2.000 X 0.2500	565	0.00	57	565	57	572	57	60min
5.	2.000 X 0.3125	507	0.00	58	507	58	520	58	60min

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	0.2648	0.00	662.2	1.011	1.273	1.060	239
2	0.6082	0.00	637.2	1.007	1.273	1.057	525
3	0.8393	0.00	610.2	1.006	1.273	1.055	692
4.	1.0870	0.00	578.2	1.003	1.273	1.051	847
5	1.6720	0.00	520.2	1.002	1.273	1.047	1162

NO.	P_t	Temp. °R	T_f	Z
1	1.00	509	1.45	.890
2.	.96	513	1.46	.895
3.	.92	514	1.46	.898
4.	.87	517	1.47	.905
5	.79	518	1.47	.913

Gas Liquid Hydrocarbon Ratio 0 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons 0 Deg.
Specific Gravity Separator Gas .617 XXXXXXXXX
Specific Gravity Flowing Fluid XXXXX .617
Critical Pressure 662 P.S.I.A. 622 P.S.I.A.
Critical Temperature 351 R 351 R

P_c 678.2 P_c^2

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	438	662.2	438	22
2	406	638.2	407	53
3	372	613.2	376	84
4	334	585.2	342	118
5	271	533.2	284	176

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.6136$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.0635$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2397.7$

Post 10-2
5-8-87
Temp & Pbt.

Absolute Open Flow 2398 Mcfd @ 15.025 Angle of Slope θ 53 Slope, n 0.754

Remarks:

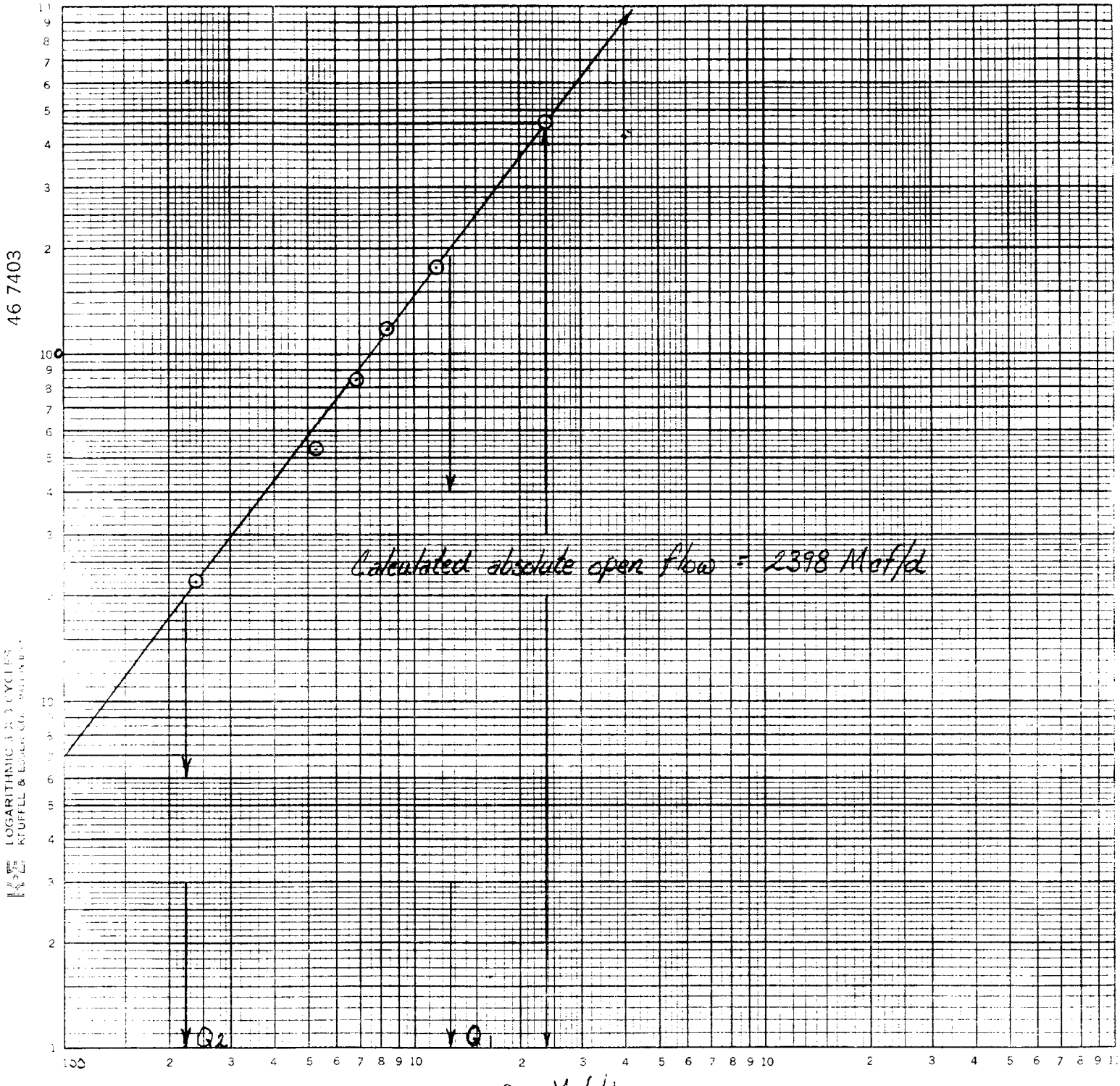
Approved by Commission:	Conducted By:	Calculated By:	Checked By:
	Bennett & Cathey, Inc.	Richard Townley	

Miller Federal #5

M 6 6S 23E

Chaves County

3-12-87



$\overline{\Delta P}^2_1$ $P_c^2 - P_w^2 = 200$

$\overline{\Delta P}^2_2$ $P_c^2 - P_w^2 = 20$

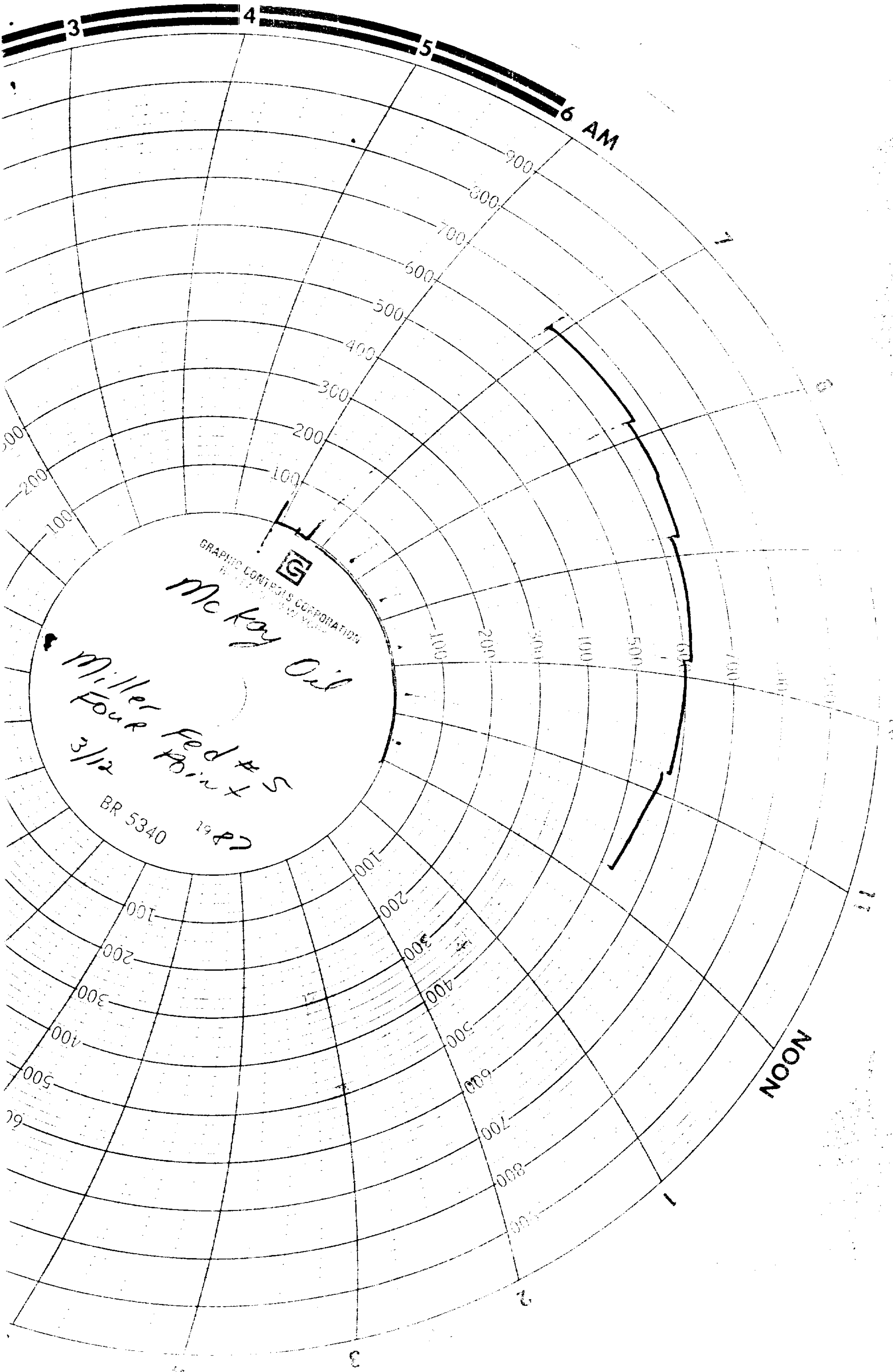
$Q_1 = 1271$

$Q_2 = 224$

$\log Q_1 = 3.1041$

$\log Q_2 = 2.3502$

$n = .7539 = .754$


GRAPHIC CONTROLS CORPORATION
McKay Oil
Miller Fed #5
Four Point
3/12
BR 5340
6 AM
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NOON
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our Interest in Measurement be our Concer...

PRECISION SERVICE INC.

Flow Measurement Engineers
Analysis Results Summary
Casper, WY 82601

Run No. 313-4
Date Run 03/13/87
Date Sampled 03/12/87

Analysis For: BENNETT & CATHEY WRLN.
Lease: MILLER FEDERAL #5 Producer MCKAY OIL CORP.
Location CHINA DRAW County CHAVES State NEW MEXICO
Purpose WELL TEST Sampled By B & C WRLN.
Sampling Temp. 56 °F Atmos Temp. °F
Volume/day 771 MCF Formation ABO
Pressure on Bomb 576 PSIG; Line Pressure 589.2 PSIA PSIG

Gas Component Analysis Press. Base: 14.73

	Mol. %	Liq. %	GPM Per MCF
Carbon Dioxide CO_2	.224		
Oxygen O_2			
Nitrogen N_2	5.342		
Hydrogen Sulfide H_2S			
Methane C1	90.057		15.264
Ethane C2	2.454		.656
Propane C3	.996		.275
Iso-Butane IC4	.153		.050
Nor-Butane NC4	.401		.127
Iso-Pentane IC5	.092		.034
Nor-Pentane NC5	.131		.048
Hexanes plus	.150		.069
Hexanes C6			
Heptanes			
Heptanes Plus C7+			
Total	100.000		16.522
Pentane + G.P.M.			.150
Propane + GPM			.601
26-lb Gasoline			.230

BTU Dry 1018
BTU Wet 1000
Calc. Specific Gravity .617

@ Std. Press. 14.696
BTU Dry 1015
BTU Wet 998

Calc. Vap. Press. #/Sq.In.
Reid Vap. Press. #/Sq.In.

Z Factor .9979
N Value 1.3055
Ave Mol Wt 17.8534
Ave Cu Ft/Gal

Run by JEFFREY A. PROPP
Calculated By JEFFREY A. PROPP

Ethane + GPM 1.258

Remarks:

RECEIVED MAR 16 1987

Distribution: