

NEW MEXICO CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

45P File
 Form C-12
 Revised 9-1-63

NOV 21 1986

Type Test 4 POINT ☒ Initial ☐ Annual ☐ Special		O. C. D. ARTESIA, OFFICE		Test Date 10-27-86	
Company MCKAY OIL		Connection TO AIR			
Pool <i>West</i> PECOS SLOPE <i>Also</i>		Formation ABO		Unit	
Completion Date 10-24-86		Total Depth 3305		Plug Back L. 3030	
Elevation 4012		Form or Lease Name ROYALE FEE		Well No. 1	
Case Size 4.5	Wt. 10.5	Set At 3102	Perforations: From 2762 To 2881.5		
Thg. Size 2.375	Wt. 4.7	Set At 2712	Perforations: From OPEN To ENDED		Unit Sec. Twp. Rge. E 19 6S 23E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At NONE	
Producing Thru TUBING		Reservoir Temp. °F 100		Baro. Press. - P _a 13.2	
Mean Annual Temp. °F 60		State NEW MEXICO		County CHAVES	
L 2822	H 2822	G _g .619	% CO ₂ .132	% N ₂ 5.211	% H ₂ O 0
Prover 2.000		Motor Run 0		Taps 0	

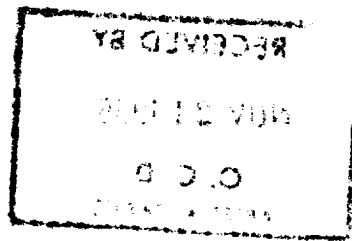
FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							935	70	934		72 HR
1.	2.000	0.125		820	0.00	44	820	72	800		60 MIN
2.	2.000	0.1875		620	0.00	37	620	72	608		60
3.	2.000	0.21875		460	0.00	36	460	71	445		60
4.	2.000	0.250		320	0.00	36	320	71	302		60
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	0.2648	0.00	833.2	1.016	1.271	1.083	308
2	0.6082	0.00	633.2	1.023	1.271	1.066	534
3	0.8393	0.00	473.2	1.024	1.271	1.048	542
4	1.087	0.00	333.2	1.024	1.271	1.033	487
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1	1.26	504	1.42	.852	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2	.96	497	1.40	.880	Specific Gravity Separator Gas <u>0.619</u> XXXXXXXXXX
3	.71	496	1.40	.910	Specific Gravity Flowing Fluid XXXXXX <u>0.619</u>
4	.50	496	1.40	.937	Critical Pressure <u>662</u> P.S.I.A. <u>662</u> P.S.I.A.
5					Critical Temperature <u>354</u> °R <u>354</u> °R

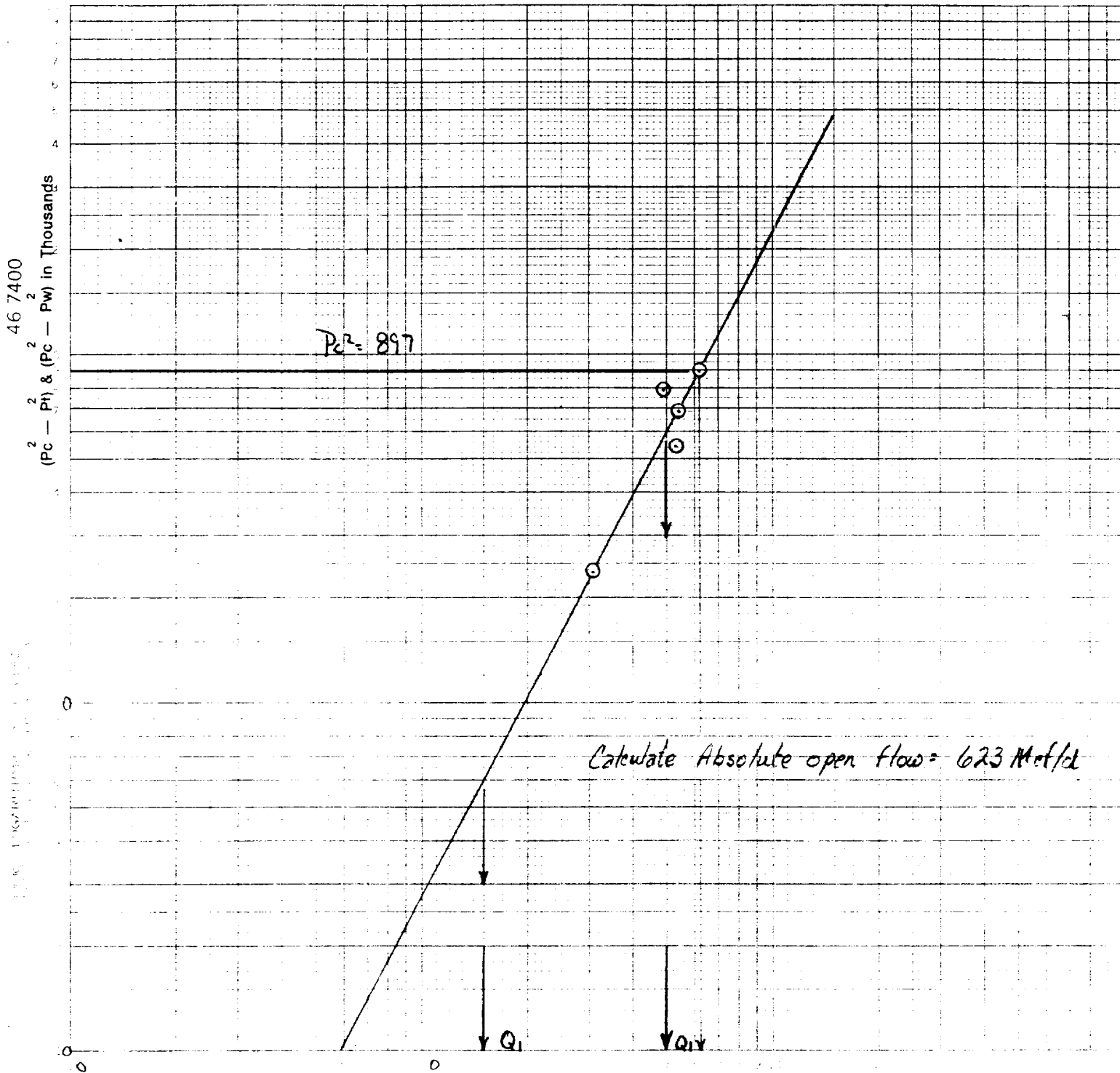
NO.	P _r ²	P _w ²	P _r ² - P _w ²	$(1) \frac{P_c^2}{P_r^2 - P_w^2} = \frac{1.3057}{P_r^2 - P_w^2}$ $(2) \left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = \frac{1.1491}{P_r^2 - P_w^2}$ $AOI = Q \left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 623$	
1		813.2	661		236
2		621.2	356		541
3		458.2	210		687
4		315.2	99		798
5					

Absolute Open Flow <u>623</u> Mcfd @ 15.025	Angle of Slope @ <u>62.5</u>	Slope, n <u>0.521</u>
Remarks:		
Approved By Commission: _____ Conducted By: <i>Bennett & Cathey</i> Calculated By: <i>Richard Feinley</i> Checked By: _____		



BACK PRESSURE CURVE

Operator McKay Oil Lease Royale Fee Well No. 1
 County Chaves Field _____ Location E 19 6S 23E
 Date of Test 10-27-86 Slope "n" 0.521 Angle of Slope 62.5
 Calc. Abs. Potential 623 MCF/D



$$\frac{\Delta P_1^2}{\Delta P_2^2} \frac{P_c^2 - P_w^2}{P_c^2 - P_w^2} = \frac{600}{60}$$

$$Q_1 = \underline{500}$$

$$Q_2 = \underline{150.6}$$

Q in MCF/Day

$$\text{LOG } Q_1 = \underline{2.69897}$$

$$\text{LOG } Q_2 = \underline{2.17797}$$

$$n = \underline{0.521}$$

"Let your Interest in Measurement be our Concern"



PRECISION SERVICE INC.

Flow Measurement Engineers

Analysis Results Summary

Casper, WY 82601

Run No. 1028-1
Date Run 10/28/86
Date Sampled 10/27/86

Analysis For: BENNETT & CATHEY WRLN.

Lease: Royale Fee #1

Location China Draw

Purpose Well Test

Sampling Temp. 37 °F

Volume/day 557 MCF

Pressure on Bomb 550

Producer McKay Oil Corp.

County Chaves State New Mexico

Sampled By B & C WRLN.

Atmos Temp. _____ °F

Formation _____

PSIG: Line Pressure 563.2 PSIA PSIG _____

Gas Component

Analysis

Press. Base: 14.73

Mol. %

Liq. %

GPM
Per MCF

Carbon Dioxide CO₂

.132

Oxygen O₂

Nitrogen N₂

5.211

Hydrogen Sulfide H₂S

Methane C₁

90.212

Ethane C₂

2.360

Propane C₃

.986

Iso-Butane IC₄

.151

Nor-Butane NC₄

.443

Iso-Pentane IC₅

.100

Nor-Pentane NC₅

.170

Hexanes plus

.235

Hexanes C₆

Heptanes

Heptanes Plus C₇+

Total

100.000

Pentane + G.P.M.

.207

Propane + GPM

.668

26-lb Gasoline

.322

BTU Dry

1025

BTU Wet

1008

Calc. Specific Gravity

.619

@ Std. Press. 14.696

BTU Dry

1023

BTU Wet

1005

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

Reid Vap. Press. #/Sq.In.

Z Factor

.9979

N Value

1.3051

Ave Mol Wt

17.9109

Ave Cu Ft/Gal

Run by Jeffrey A. Propp

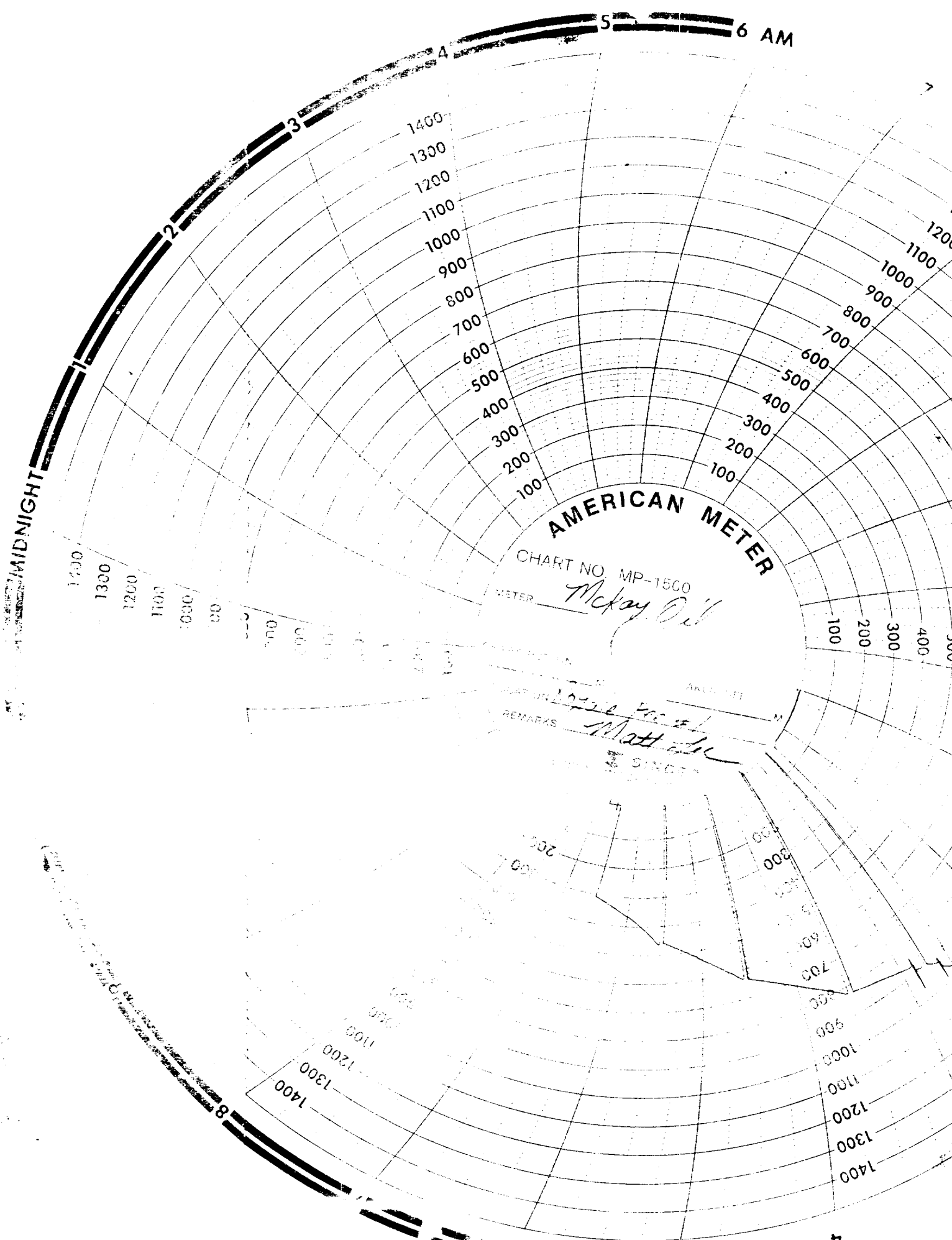
Calculated By Jeffrey A. Propp

Ethane + GPM

1.299

Remarks:

Distribution



AMERICAN METER

CHART NO. MP-1500

METER *Mckay Oil*

REMARKS *Matt*

MIDNIGHT

6 AM

8

4