

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RECEIVED BY

DEC - 5 1986

Form C-122
10-1-7

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Q. C. D. 1035
ARTESIA OFFICE

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

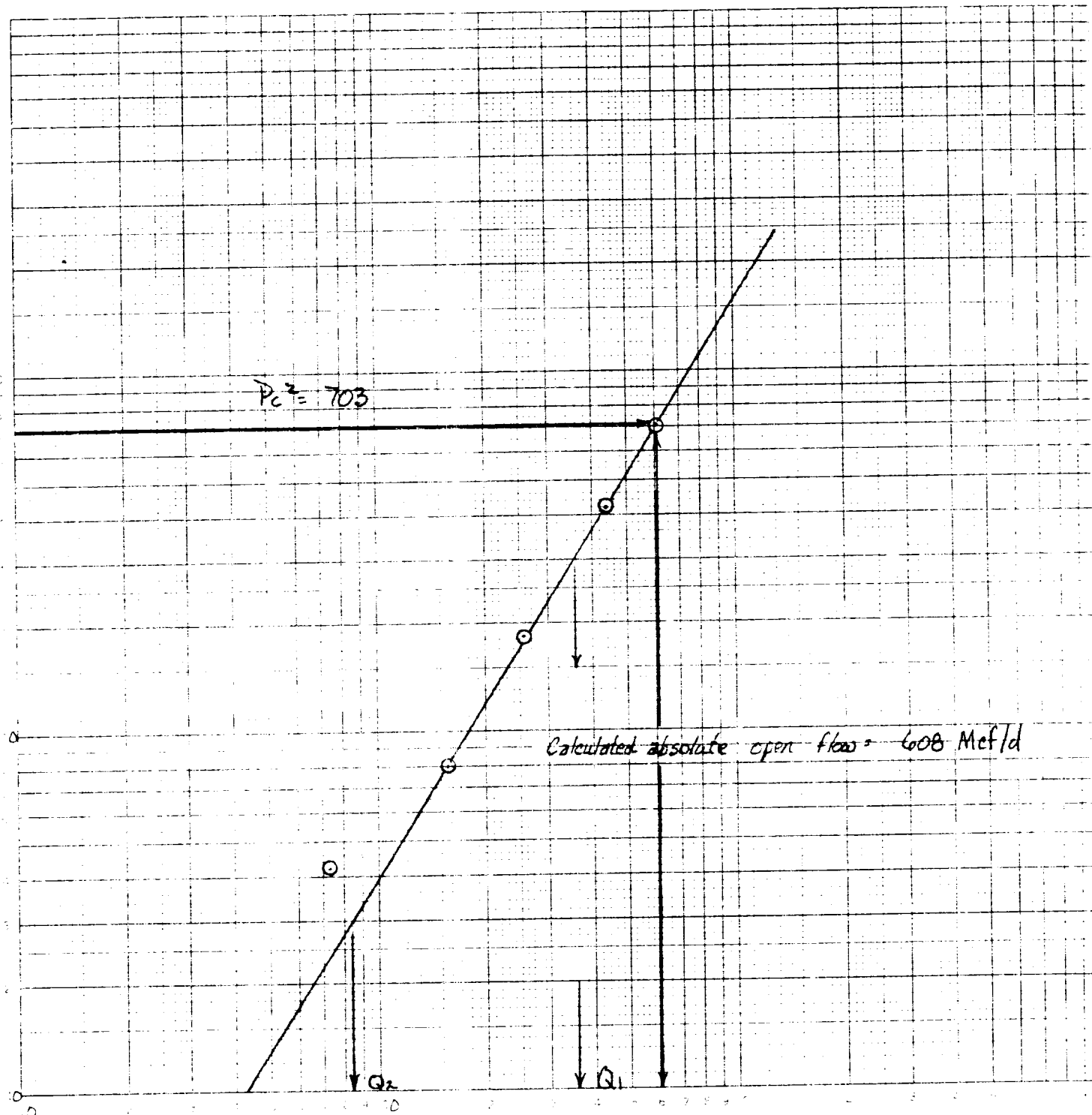
Type Test 4POINT ☒ Initial ☐ Annual ☐ Special		Test Date 11-10-86		1980 FLS																																																																																															
Company MCKAY OIL		Connection TO AIR		1830 FEL																																																																																															
Pool PECOS SLOPE		Formation ABO		Unit																																																																																															
Completion Date 11-7-86		Total Depth 3349		Plug Back TD 3062																																																																																															
		Elevation 4176		Farm or Lease Name SOUTH 4 MILE DRAW																																																																																															
Ceq. Size 4.500	Wt. 10.5	d 4.052	Set At 3143	Perforations: From 2849 To 2942.5																																																																																															
Thq. Size 2.375	Wt. 4.7	d 1.995	Set At 2793	Perforations: From OPEN To ENDED																																																																																															
Type Well - Single - Producing - G.G. or G.O. Multiple SINGLE				Packer Set At NONE																																																																																															
Producing Thru TUBING		Reservoir Temp. °F 93		Mean Annual Temp. °F 60																																																																																															
		Baro. Press. - P _b 13.2		State NEW MEXICO																																																																																															
L 2896	H 2896	G _g .619	% CO ₂ .151	% N ₂ 6.079	% H ₂ S 0																																																																																														
Prover 2.000		Meter Run 0		Tups 0																																																																																															
<table border="1"> <thead> <tr> <th colspan="6">FLOW DATA</th> <th colspan="2">TUBING DATA</th> <th colspan="2">CASING DATA</th> <th rowspan="2">Duration of Flow</th> </tr> <tr> <th>NO.</th> <th>Prover Line Size</th> <th>X</th> <th>Orifice Size</th> <th>Press. p.s.i.g.</th> <th>Diff. h_w</th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> </tr> </thead> <tbody> <tr> <td>SI</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>825</td> <td>44</td> <td>825</td> <td></td> <td>72 HRS</td> </tr> <tr> <td>1.</td> <td>2.000</td> <td>0.0625</td> <td></td> <td>800</td> <td>0.00</td> <td>34</td> <td>800</td> <td>34</td> <td>800</td> <td></td> <td>60 MIN</td> </tr> <tr> <td>2.</td> <td>2.000</td> <td>0.09375</td> <td></td> <td>775</td> <td>0.00</td> <td>35</td> <td>775</td> <td>35</td> <td>776</td> <td></td> <td>60 MIN</td> </tr> <tr> <td>3.</td> <td>2.000</td> <td>0.125</td> <td></td> <td>705</td> <td>0.00</td> <td>34</td> <td>705</td> <td>34</td> <td>708</td> <td></td> <td>60 MIN</td> </tr> <tr> <td>4.</td> <td>2.000</td> <td>0.1875</td> <td></td> <td>515</td> <td>0.00</td> <td>36</td> <td>515</td> <td>36</td> <td>519</td> <td></td> <td>60 MIN</td> </tr> <tr> <td>5.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						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							825	44	825		72 HRS	1.	2.000	0.0625		800	0.00	34	800	34	800		60 MIN	2.	2.000	0.09375		775	0.00	35	775	35	776		60 MIN	3.	2.000	0.125		705	0.00	34	705	34	708		60 MIN	4.	2.000	0.1875		515	0.00	36	515	36	519		60 MIN	5.											
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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 _{sp}	Rate of Flow Q, M-d																																																																																												
1	0.06405	0.00	813.2	1.026	1.271	1.081	73																																																																																												
2	0.1410	0.00	788.2	1.025	1.271	1.079	156																																																																																												
3	0.2648	0.00	718.2	1.026	1.271	1.068	258																																																																																												
4	0.6082	0.00	528.2	1.024	1.271	1.052	440																																																																																												
5																																																																																																			
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcl/bbl. A.P.I. Gravity of Liquid Hydrocarbon _____ Deg. Specific Gravity Separator Gas _____ Specific Gravity Flowing Fluid _____ Critical Pressure _____ P.S.I.A. Critical Temperature _____ R																																																																																														
1	1.23	494	1.42	.855	XXXXXXX																																																																																														
2	1.19	495	1.42	.859	XXXXX																																																																																														
3	1.09	494	1.42	.870																																																																																															
4	.80	496	1.42	.903																																																																																															
5																																																																																																			
$P_c = 838.2$ $P_w^2 = 703$					$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.6738$ $(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.3840$																																																																																														
NO.	P ₁ ²	P _w	P _w ²	P _c ² - P _w ²	$AOI = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 608$																																																																																														
1		813.2	661	42																																																																																															
2		789.2	623	80																																																																																															
3		721.2	520	183																																																																																															
4		532.2	283	420																																																																																															
5																																																																																																			
Absolute Open Flow _____ Mcl/d @ 15.025					Angle of Slope @ _____ 57.75		Slope, n _____ 0.631																																																																																												
Remarks: _____																																																																																																			
Approved By Division		Conducted By:		Calculated By:		Checked By:																																																																																													

BACK PRESSURE C .VE

Operator Mc Kay Oil Lease South 4 Mile Draw Fed Well No. 4
 County Chaves Field Pecos Slope Location J 23 6S 22E
 Date of Test 11-10-86 Slope "n" 0.631 Angle of Slope 57.75
 Calc. Abs. Potential 608 MCF/D

46 7400
 $(P_c^2 - P_i^2) \text{ \& } (P_c^2 - P_w^2) \text{ in Thousands}$

LOG LOG
 REFUEL & ENTER LOG MODAL



$$\frac{\Delta P_1^2}{\Delta P_2^2} = \frac{P_c^2 - P_w^2}{P_c^2 - P_w^2} = \frac{300}{30}$$

$$\frac{\Delta P_1^2}{\Delta P_2^2} = \frac{P_c^2 - P_w^2}{P_c^2 - P_w^2} = \frac{30}{30}$$

$$Q_1 = 359$$

$$Q_2 = 84$$

Q in MCF/Day

$$\text{LOG } Q_1 = 2.5551$$

$$\text{LOG } Q_2 = 1.9242$$

$$n = 0.6309 = .63$$

At your Interest in Measurement be our Concer.



PRECISION SERVICE INC.
Flow Measurement Engineers
Analysis Results Summary
Casper, WY 82601

Run No. 1112-2
Date Run 11/12/86
Date Sampled 11/10/86

Analysis For: BENNETT & CATHEY WRLN.

Lease: South Four Mile Draw #4

Location China Draw

Purpose Well Test

Sampling Temp. 60 °F

Volume/day

Pressure on Bomb 600

Producer McKay Oil Corp.

County Chaves State New Mexico

Sampled By B & C WRLN.

Atmos Temp. 55 °F

Formation ABO

PSIG; Line Pressure 613.2 PSIA PSIG

Gas Component

Analysis

Press. Base: 14.73

Mol. %

Liq. %

GPM
Per MCF

Carbon Dioxide CO₂

.151

Oxygen O₂

6.079

Nitrogen N₂

Hydrogen Sulfide H₂S

Methane C₁

89.853

Ethane C₂

2.064

Propane C₃

.848

Iso-Butane IC₄

.129

Nor-Butane NC₄

.380

Iso-Pentane IC₅

.086

Nor-Pentane NC₅

.148

Hexanes plus

.263

Hexanes C₆

Heptanes

Heptanes Plus C₇+

Total

100.000

16.383

Pentane + G.P.M.

Propane + GPM

26-lb Gasoline

.206

.602

.326

Ethane + GPM

1.154

BTU Dry

BTU Wet

Calc. Specific Gravity

1010

993

.619

@ Std. Press. 14.696

BTU Dry

BTU Wet

1008

990

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

Reid Vap. Press. #/Sq.In.

Z Factor

N Value

Ave Mol Wt

Ave Cu Ft/Gal

.9979

1.3067

17.9068

Run by Jeffrey A. Propp

Calculated By Jeffrey A. Propp

Remarks:

Distribution:

