

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS

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O. C. D.

ARTESIA, OFFICE

Type Test 4POINT ☒ Initial ☐ Annual ☐ Special		Test Date 11-10-86	
Company MCKAY OIL		Connection TO AIR	
Pool PECOS SLOPE - ABO		Formation ABO	
Completion Date 11-7-86	Total Depth 3350	Plug Back TD 3248	Elevation 4162
Farm or Lease Name SOUTH 4 MILE DRAW			Well No. 2
Ceq. Size 4.530	Wt. 10.5	d 4.052	Set At 3313
Perforations: From 2816.5 To 3114.5		Perforations: From OPEN To ENDED	
Fig. Size 2.375	Wt. 4.7	d 1.995	Set At 2764
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE		Packer Set At NONE	
Producing Thru TUBING		State NEW MEXICO	
Reservoir Temp. °F 91 @ 2965.5		Mean Annual Temp. °F 60°	
Baro. Press. - P _g 13.2		County CHAVES	
L 2965.5	H 2965.5	Cg .616	% CO ₂ .165
% N ₂ 5.407	% H ₂ S 0	Prover 2.00	Meter 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							921		921		72 HRS
1.	2.000	0.125		901	0.00	56	901	56	908		60 MIN
2.	2.000	0.21875		855	0.00	53	855	53	865		60 MIN
3.	2.000	0.250		808	0.00	51	808	51	821		60 MIN
4.	2.000	0.3125		728	0.00	51	728	51	750		60 MIN
5.	2.000	0.375		620	0.00	50	620	50	656		60 MIN

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, F _{pv}	Rate of Flow Q, M ³ /d
1	0.2648	0.00	914.2	1.004	1.274	1.079	334
2	0.8393	0.00	868.2	1.007	1.274	1.077	1007
3	1.087	0.00	821.2	1.009	1.274	1.073	1231
4	1.672	0.00	741.2	1.009	1.274	1.066	1698
5	2.378	0.00	633.2	1.010	1.274	1.058	2050

NO.	P _g	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	1.38	516	1.47	.859	0	0	.616	.616	662	351
2	1.31	513	1.46	.862						
3	1.24	511	1.46	.868						
4	1.12	511	1.46	.880						
5	.96	510	1.45	.894						

P _c 934.2	P _c ² 873	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.0541$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.5749$
NO.	P ₁ ²	P _w	P ₁ ² - P _w ²
1		921.2	849
2		878.2	771
3		834.2	696
4		763.2	582
5		669.2	448

Absolute Open Flow 3228 Mc/d @ 15.025 Angle of Slope 57.75 Slope, n 631

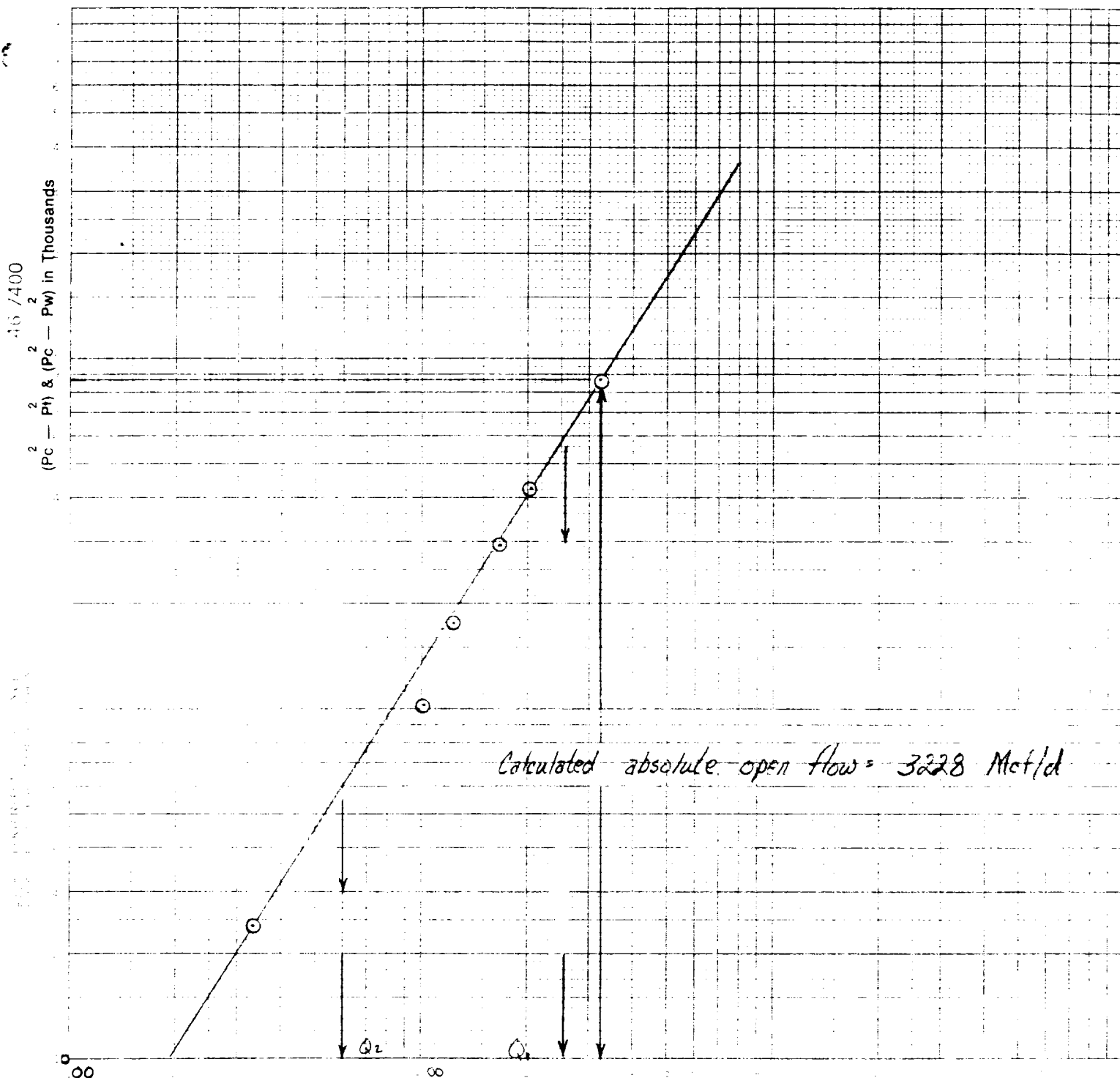
Remarks:

Approved By Division	Conducted By:	Calculated By:	Checked By:
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BACK PRESSURE CORVE

Operator McKay Oil Corp Lease South 4 Mile Draw Fed Well No. #2
 County Chaves Field Pecos Slope Location L 24 6S 22E
 Date of Test 11-10-86 Slope "n" 0.631 Angle of Slope 57.75

Calc. Abs. Potential 3228 MCF/D



Calculated absolute open flow = 3228 Mcf/d

$$\begin{aligned} \overline{\Delta P}_1^2 \quad P_c^2 - P_w^2 &= 600 \\ \overline{\Delta P}_2^2 \quad P_c^2 - P_w^2 &= 60 \\ Q_1 &= 2562 \\ Q_2 &= 600 \end{aligned}$$

Q In MCF/Day

$$\begin{aligned} \text{LOG } Q_1 &= 3.40915 \\ \text{LOG } Q_2 &= 2.77815 \\ n &= 0.631 \end{aligned}$$

Let your Interest in Measurement be our Concern.



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

Run No. 1112-1
Date Run 11/12/86
Date Sampled 11/10/86

Analysis For: BENNETT & CATHEY WRLN.

Lease: South Four Mile Draw #2

Location: China Draw

Purpose: Well Test

Sampling Temp. 51 °F

Volume/day 1084 MCF

Pressure on Bomb 815

Producer McKay Oil Corp.

County Chaves State New Mexico

Sampled By B & C WRLN.

Atmos Temp. 35 °F

Formation ABO

PSIG; Line Pressure 828.2 PSIA PSIG

Gas Component

Analysis Press. Base: 14.73

Mol. %

Liq. %

GPM
Per MCF

Carbon Dioxide CO₂

.165

Oxygen O₂

5.407

Nitrogen N₂

Hydrogen Sulfide H₂S

Methane C₁

90.004

Ethane C₂

2.561

Propane C₃

1.019

Iso-Butane IC₄

.155

Nor-Butane NC₄

.390

Iso-Pentane IC₅

.081

Nor-Pentane NC₅

.125

Hexanes plus

.093

Hexanes C₆

Heptanes

Heptanes Plus C₇+

Total

100.000

16.513

Pentane + G.P.M.

.118

Propane + GPM

.572

26-lb Gasoline

.176

BTU Dry

1016

BTU Wet

998

Calc. Specific Gravity

.616

@ Std. Press. 14.696

BTU Dry

1013

BTU Wet

996

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

Reid Vap. Press. #/Sq.In.

Z Factor

.9979

N Value

1.3056

Ave Mol Wt

17.8044

Ave Cu Ft/Gal

Run by Jeffrey A. Propp

Calculated By Jeffrey A. Propp

Ethane + GPM

1.257

Remarks:

Distribution:

