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MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

NOV 21 1986

O.C.D.

Form C-122
 Revised 9-1-63

Type Test 4POINT ☒ Initial ☐ Annual		ARTESIA OFFICE ☐ Annual ☐ Special		Test Date 10-28-86	
Company MCKAY OIL			Connection TO AIR		
Pool PECOS SLOPE <i>AS</i>			Formation ABO		Unit 4
Completion Date 10-26-86		Total Depth 3256		Plug Back To 3102	Elevation 4050
Farm or Lease Name REMMELE FED COM					Well No. 8
Well Size 4.5	Wt. 10.5	d 	Set At 3154	Perforations: From 2790 To 2894	
Well Size 2.375	Wt. 4.7	d 1.995	Set At 2772	Perforations: From 2790 To 2894	
Type Well - Single - Brdenhead - G.G. or G.O. Multiple SINGLE				Packer Set At NONE	
Producing Thru TUBING		Reservoir Temp. °F 104° 2842		Mean Annual Temp. °F 60°	
Baro. Press. - P _g 13.2		State NEW MEXICO			
L 2842	H 2842	Cg .636	% CO ₂ .096	% N ₂ 5.209	% 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	Duration of Flow
SI							895	75	895		72 HRS
1.	2.000	0.0625	890	0.00	20°	890	72	890			60
2.	2.000	0.125	865	0.00	36°	865	73	862			60
3.	2.000	0.1875	769	0.00	40°	769	73	771			60
4.	2.000	0.21875	646	0.00	43°	646	73	651			60
5.	2.000	0.250	498	0.00	46°	498	74	520			60

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	0.06405	0.00	903.2	1.041	1.254	1.113	84
2	0.2648	0.00	873.2	1.024	1.254	1.097	328
3	0.6082	0.00	782.2	1.020	1.254	1.083	659
4	0.8393	0.00	659.2	1.017	1.254	1.067	753
5	1.087	0.00	511.2	1.014	1.254	1.050	742

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	1.37	480	1.35	.807	0	0	0.636	XXXXXXX	660	356.5
2	1.33	496	1.39	.831				XXXXX		
3	1.18	500	1.40	.852						
4	.99	503	1.41	.879						
5	.77	506	1.42	.907						

NO.	P _g ²	P _w ²	P _w ² - P _g ²
1	903.2	816	9
2	875.2	756	59
3	784.2	615	210
4	654.2	441	384
5	533.2	284	541

(1) $\frac{P_g^2}{P_g^2 - P_w^2} = 3.9286$

AOIF = Q $\left[\frac{P_g^2}{P_g^2 - P_w^2} \right]^n = 1660$

(2) $\left[\frac{P_g^2}{P_g^2 - P_w^2} \right]^n = 2.5183$

Absolute Open Flow	1660	Mcf @ 15.025	Angle of Slope @	56	Slope, n	0.675
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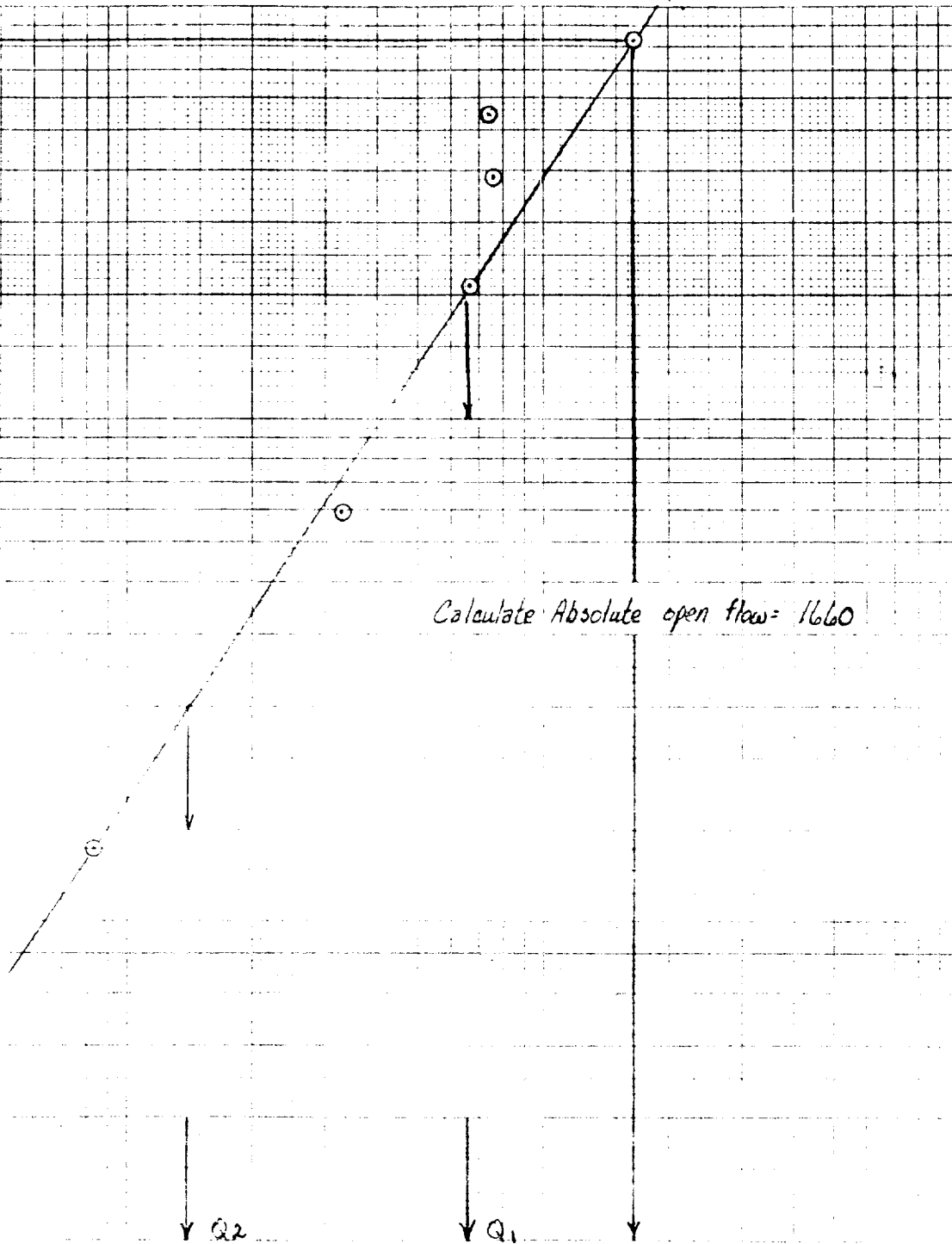
Remarks: _____

Approved By Commission	Conducted By <i>Dennett & Cathy</i>	Calculated By <i>Richard Frankley</i>	Checked By
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BACK PRESSURE CURVE

Operator McKay Oil Lease Remmele Fed Com Well No. 8
 County Chaves Field _____ Location H 24 6S 22E
 Date of Test 10-28-86 Slope "n" 0.1675 Angle of Slope 56
 Calc. Abs. Potential 1660 MCF/D

$(P_c - P_t)^2$ & $(P_c - P_w)^2$ in Thousands



$$\frac{\Delta P_1^2}{\Delta P_2^2} = \frac{P_c^2 - P_w^2}{P_c^2 - P_w^2} = \frac{200}{20}$$

$$Q_1 = 1660$$

$$Q_2 = 140$$

Q in MCF/Day

$$\text{LOG } Q_1 = 2.82112$$

$$\text{LOG } Q_2 = 2.14612$$

$$n = 0.1675$$

"Let your Interest in Measurement be our Concern"



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

Run No. 1029-9
Date Run 10/29/86
Date Sampled 10/28/86

Analysis From BENNETT & CATHEY WRLN.

Lease Remmele Fed Com #8

Producer McKay Oil Corp.

Location China Draw

County Chaves State New Mexico

Purpose Well Test

Sampled By B & WRLN.

Sampling Temp 60 °F

Atmos Temp 45 °F

Volume/day

Formation

Pressure on Bomb 550

PSIG; Line Pressure 563.2 PSIA PSIG

Gas Component

Analysis

Press. Base: 14.73

Mol. %

Liq. %

GPM
Per MCF

Carbon Dioxide CO₂

.096

BTU Dry

1053

Oxygen O₂

BTU Wet

1034

Nitrogen N₂

5.209

Calc. Specific Gravity

.636

Hydrogen Sulfide H₂S

@ Std. Press. 14.696

Methane C₁

89.469

15.165

BTU Dry

1050

Ethane C₂

2.463

.659

BTU Wet

1032

Propane C₃

1.069

.295

Isobutane IC₄

.168

.055

Calc. Vap. Press. #/Sq In.

Normal Butane NC₄

.483

.152

Reid Vap. Press. #/Sq In.

Isopentane IC₅

.119

.044

Z Factor

.9977

Normal Pentane NC₅

.203

.073

N Value

1.3034

Hexanes plus

.721

.332

Ave Mol Wt

18.4001

Hexanes C₆

Ave Cu Ft/Gal

Heptanes

Run by Jeffrey A. Propp

Octanes C₈

Calculated By Jeffrey A. Propp

Total 100.000

16.775

Pentane + GPM

.450

Propane + GPM

.951

Ethane + GPM

1.610

26-lb Gasoline

.735

Remarks:

NOON

4

5

6 PM

1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100

600
500
400
300
200
100

AMERICAN METER DIVISION
SINGER
REMARKS
LOCATION
TAKEN OFF

McKay
METER

1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100

AM