

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

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

RECEIVED BY

AUG 6 - 1987

O. C. D.

OR GASTROLOGICAL

MULTIPOINT AND ONE POINT BACK PRESSURE TEST

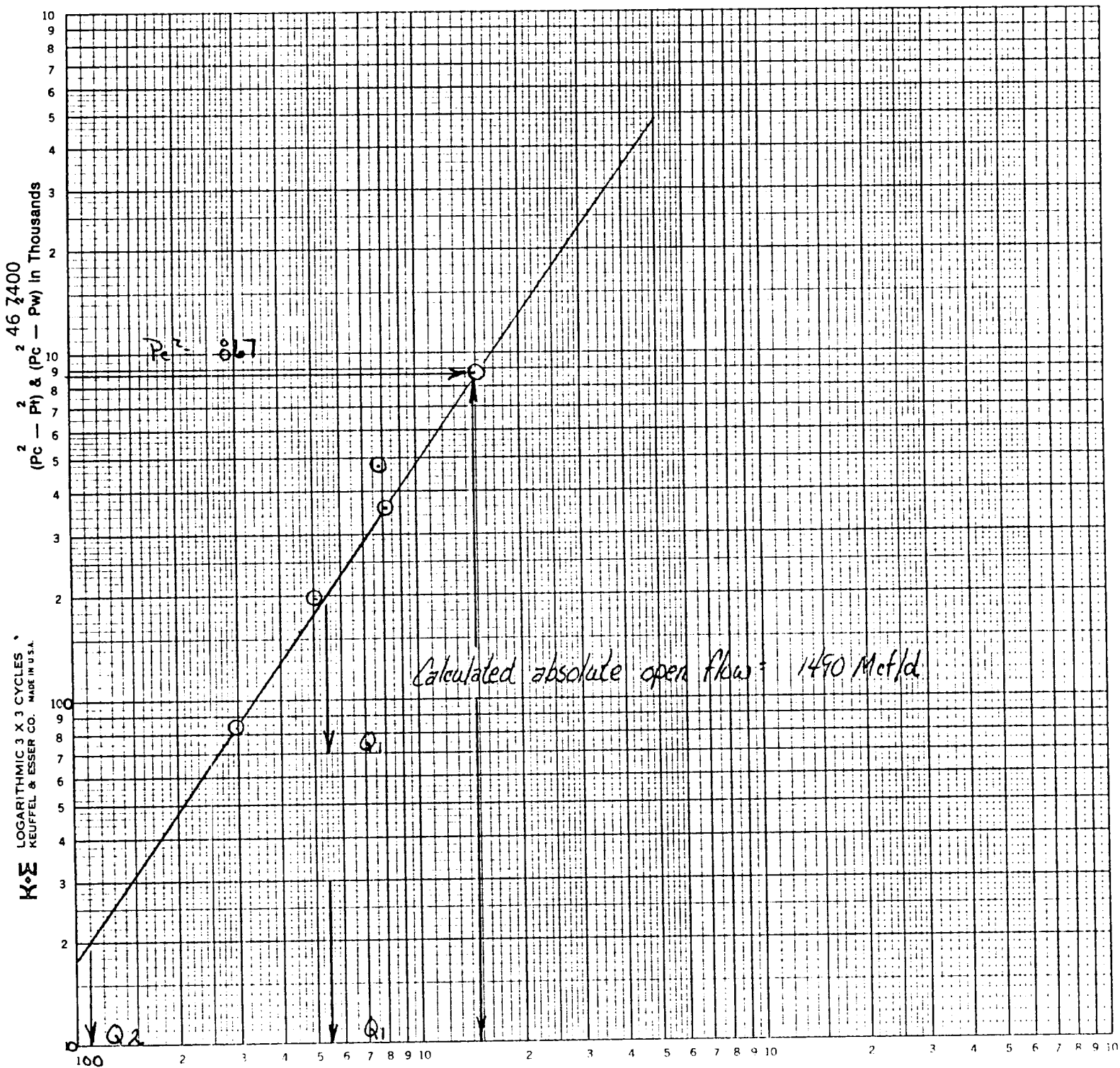
Type Test 4 POINT ☒ Initial ☐ Annual ☐ Special		Test Date 6-23-87		2108 W	
Company MCKAY OIL CORP.		Connection TO AIR		600 S	
Pool WEST PECOS SLOPE		Formation ABO		Unit	
Completion Date 6-23-87		Total Depth 3400		Plug Back TD 3396	
Elevation 4445		Farm or Lease Name PIERCE FEDERAL		Well No. 10	
Csg. Size 4.5	Wt. 9.5	d 4.052	Set At 3396	Perforations: From 2849.5 To 3023.5	
Thq. Size 2.375	Wt. 4.7	d 1.995	Set At 2890	Perforations: From OPEN To ENDED	
Type Well - Single - Brdenhead - G.G. or G.O. Multiple SINGLE		Packer Set At NONE		County CHAVES	
Producing Thru TUBING		Reservoir Temp. °F 99 # 2936		Mean Annual Temp. °F 60	
Baro. Press. - P _g 13.2		State NEW MEXICO		Prover 2.000	
L 2936	H 2936	Cg .641	% CO ₂ .170	% N ₂ 5.897	% H ₂ S 0
FLOW DATA		TUBING DATA		CASING DATA	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w
SI.					
1.	2.000	.250	200	0.00	53
2.	2.000	.250	340	0.00	57
3.	2.000	.250	550	0.00	56
4.	2.000	.250	540	0.00	63
5.					
RATE OF FLOW CALCULATIONS					
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g
1	1.087	0.00	213.2	1.007	1.249
2	1.087	0.00	353.2	1.003	1.249
3	1.087	0.00	563.2	1.004	1.249
4	1.087	0.00	553.2	.9971	1.249
5					
NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio
1	.32	513	1.44	.963	0
2	.53	517	1.46	.940	0
3	.85	516	1.45	.905	0.641
4	.84	523	1.47	.906	0.641
5					
$P_c = 931.2$ $P_c^2 = 867.1$ P_t^2 P_w^2 $P_w^2 - P_t^2$ (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.4187$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.8459$ $AOF = 0 \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1489.6$					
Absolute Open Flow		1490		Mcid @ 15.025	
Angle of Slope		55.25		Slope, n 0.694	
Remarks:					
Approved By Division		Conducted By:		Calculated By:	
				Checked By:	

45P
File

BENNETT & CATHEY PRODUCTION TESTING BACK PRESSURE CURV.

Operator McKay Oil Corp Lease Pierce Fed Well No. 10
 County Chaves Field West Pecos Slope Location _____
 Date of Test 6-23-87 Slope "n" 0.694 Angle of Slope 55.25

Calc. Abs. Potential 1490 MCF/D



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

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

$$Q_1 = 544$$

$$Q_2 = 110$$

$$\text{LOG } Q_1 = 2.7354$$

$$\text{LOG } Q_2 = 2.0414$$

$$n = 0.694$$



Our Interest in Measurement be our Concern

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

RECEIVED JUN 29 1987

Run No. 425-2
Date Run 06/25/87
Date Sampled 06/23/87

Analysis For: BENNETT & CATHEY WRLN.

Lease: PIERCE FEDERAL #10 Producer: MCKAY OIL CORP.
Location: CHINA DRAW County: CHAVES State: NEW MEXICO
Purpose: WELL TEST Sampled By: B & C WRLN.
Sampling Temp.: 89 °F Atmos Temp.: 89 °F
Volume/day: 693 MCF Formation: ABO
Pressure on Bomb: 610 PSIG: Line Pressure 623.2 PSIA PSIG

Gas Component

Analysis

Press. Base: 14.73

Mol. % Liq. % GPM
Per MCF

Carbon Dioxide CO ₂	<u>.170</u>		
Oxygen O ₂			
Nitrogen N ₂	<u>5.897</u>		
Hydrogen Sulfide H ₂ S			
Methane C ₁	<u>87.951</u>		<u>14.907</u>
Ethane C ₂	<u>3.018</u>		<u>.807</u>
Propane C ₃	<u>1.341</u>		<u>.370</u>
Iso-Butane IC ₄	<u>.206</u>		<u>.067</u>
Nor-Butane NC ₄	<u>.571</u>		<u>.180</u>
Iso-Pentane IC ₅	<u>.141</u>		<u>.051</u>
Nor-Pentane NC ₅	<u>.225</u>		<u>.082</u>
Hexanes plus	<u>.479</u>		<u>.221</u>
Hexanes C ₆			
Heptanes			
Heptanes Plus C ₇ +			
Total	<u>100.000</u>		<u>16.686</u>

BTU Dry 1047
BTU Wet 1028
Calc. Specific Gravity .641

@ Std. Press. 14.696

BTU Dry 1044
BTU Wet 1026

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

Z Factor .9977
N Value 1.3031
Ave Mol Wt 18.5317
Ave Cu Ft/Gal

Run by JEFFREY A. PROPP

Calculated By JEFFREY A. PROPP

Pentane + G.P.M. .354
Propane + GPM .971
26-lb Gasoline .564

Ethane + GPM 1.778

Remarks:

Distribution: