

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

RECEIVED BY Form O-122
Revised 9-1-65

SEP 22 1983

95F
File

Type Test ☒ Initial 4-POINT ☐ Annual ☐ Special				Test Date 8-29-83		O. C. D. ARTESIA, OFFICE	
Company SUN OIL COMPANY				Connection AIR NEW WELL			
Pool PECOS SLOPE #10				Formation ABO		Unit	
Completion Date 8-26-83		Total Depth 5049		Plug Back To 4298-4983		Elevation 2583.5 ft	
Casing Size 5.5		WT. 14.0		Set At 5049		Perforations: From 4060 To 3732	
Perf. Size 2.875		WT. 6.5		Set At 3664		Perforations: From OPEN To ENDED	
Type Well - Single - Broadhead - G.G. or G.O. Multiple SINGLE				Packer Set At 3664		Farm or Lease Name CHAVES A FEDERAL	
Producing thru TUBING		Reservoir Temp. °F 112 3896		Mean Annual Temp. °F 60		Well No. #2	
L 3896		H 3896		Gg .648		Unit Sec. Twp. Rge. 0 17-7-26	
% CO ₂ .744		% N ₂ 5.673		% H ₂ S 0		Prover 0	
Motor Run 3.068		Taps FLANGE		County CHAVES		State NEW MEXICO	

FLOW DATA						TUBING DATA		B.H.P. DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Pres. p.s.i.g.	Diff. h _w	Temp. °F	Pres. p.s.i.g.	Temp. °F	Pres. p.s.i.g.		CHOKER
51							910	92			50.40
1.	3.068 X 1.000			220	6.5	88	885	92	0	7.5/64	1.0
2.	3.068 X 1.000			225	22.0	81	861	92	0	9.75/64	1.0
3.	3.068 X 1.000			225	44.0	77	836	92	0	11/64	1.0
4.	3.068 X 1.000			230	97.0	70	787	92	0	13.5/64	1.0
5.											

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, Mc/d
1	4.739	38.93	232.2	.9741	1.242	1.017	227
2	4.739	72.39	238.2	.9804	1.242	1.018	425
3	4.739	102.38	238.2	.9840	1.242	1.019	604
4	4.739	153.39	243.2	.9905	1.242	1.020	913
5							

NO.	P _r	Temp. °R	T _r	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	.35	548	1.54	.967	0	0	0.648	XXXXXXX	664	357
2	.36	541	1.52	.965						
3	.36	537	1.50	.964						
4	.37	530	1.49	.961						
5										

NO.	P _r ²	P _w ²	P _w ²	P _r ² - P _w ²
1	806.8	898.3	807.0	45.3
2	764.2	874.7	765.1	87.2
3	721.1	850.2	722.9	129.4
4	640.3	802.7	644.4	207.9
5				

(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 4.0996$		(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 3.6414$	
AOI = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 3324.6$			

Absolute Open Flow	3325	Mc/d @ 15.025	Angle of Slope	47.5	Slope, n	.916
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Approved by Commission	Conducted By: RICHARD TOWNLEY	Calculated By: BENNETT & CATHEY	Checked By:
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C-122D
Adopted 9-1-65

DATE 5.11.71

Range _____

% H₂S

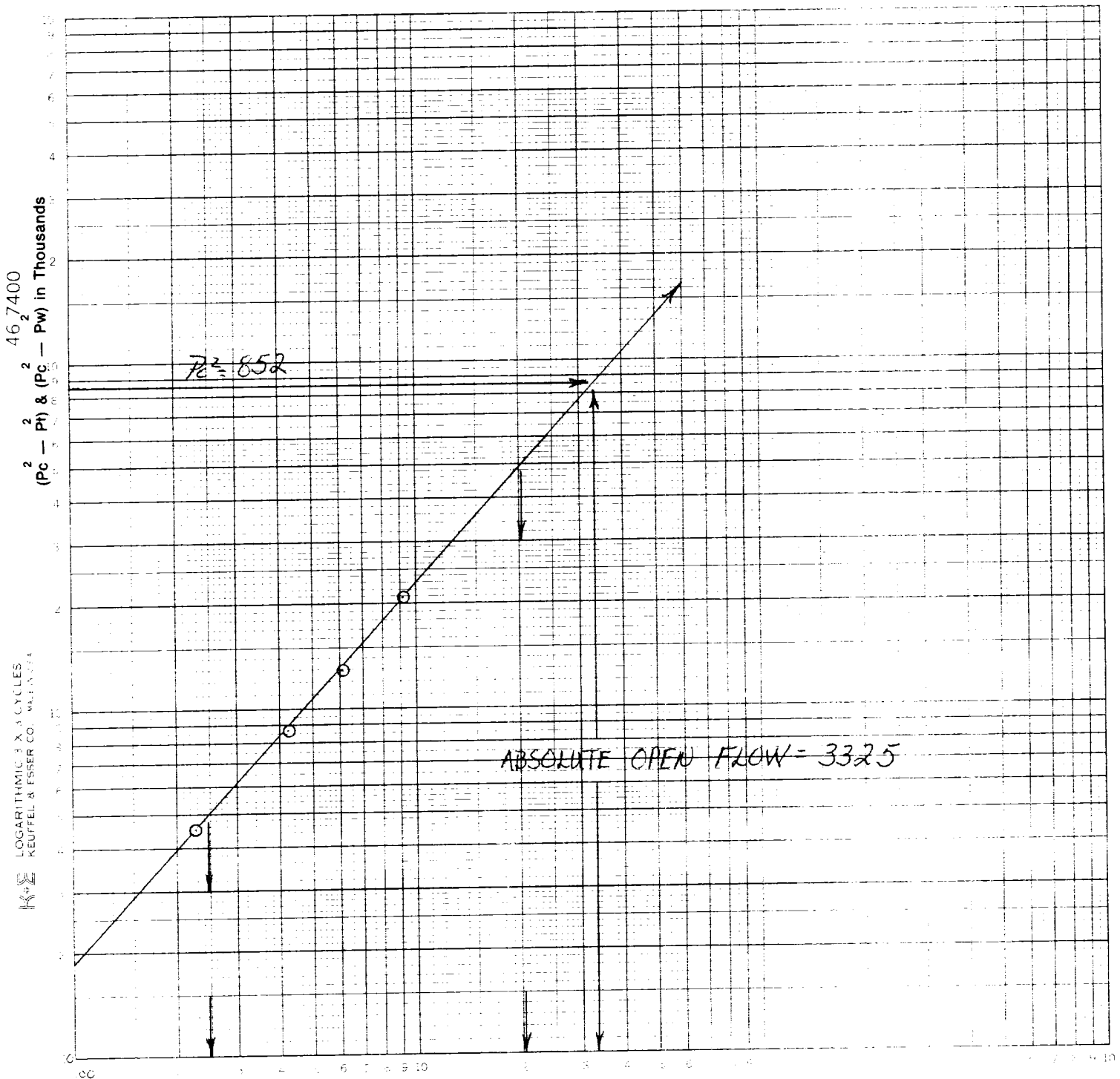
TABLE IX A X

[illegible]

ENNETT & CATHEY PRODUCTION TESTING BACK PRESSURE CURVE

Operator Sun Oil Co Lease Chaves A' Federal Well No. 2
 County Chaves Field Pecos Slope U.D Location _____
 Date of Test 8-29-83 Slope "n" .916 Angle of Slope 47.5

Calc. Abs. Potential 3325 MCF/D



$$\Delta P_1^2 \quad P_c^2 - P_w^2 = 500$$

$$\Delta P_2^2 \quad P_c^2 - P_w^2 = 50$$

$$Q_1 = 2044$$

$$Q_2 = 248$$

Q in MCF/Day

$$\log Q_1 = 3.3105$$

$$\log Q_2 = 2.3945$$

$$n = 0.916$$

6 AM

AMERICAN METER
SUN OIL

CHART NO. 10-1000-H
Charles A FED
#2

CHART PUT ON

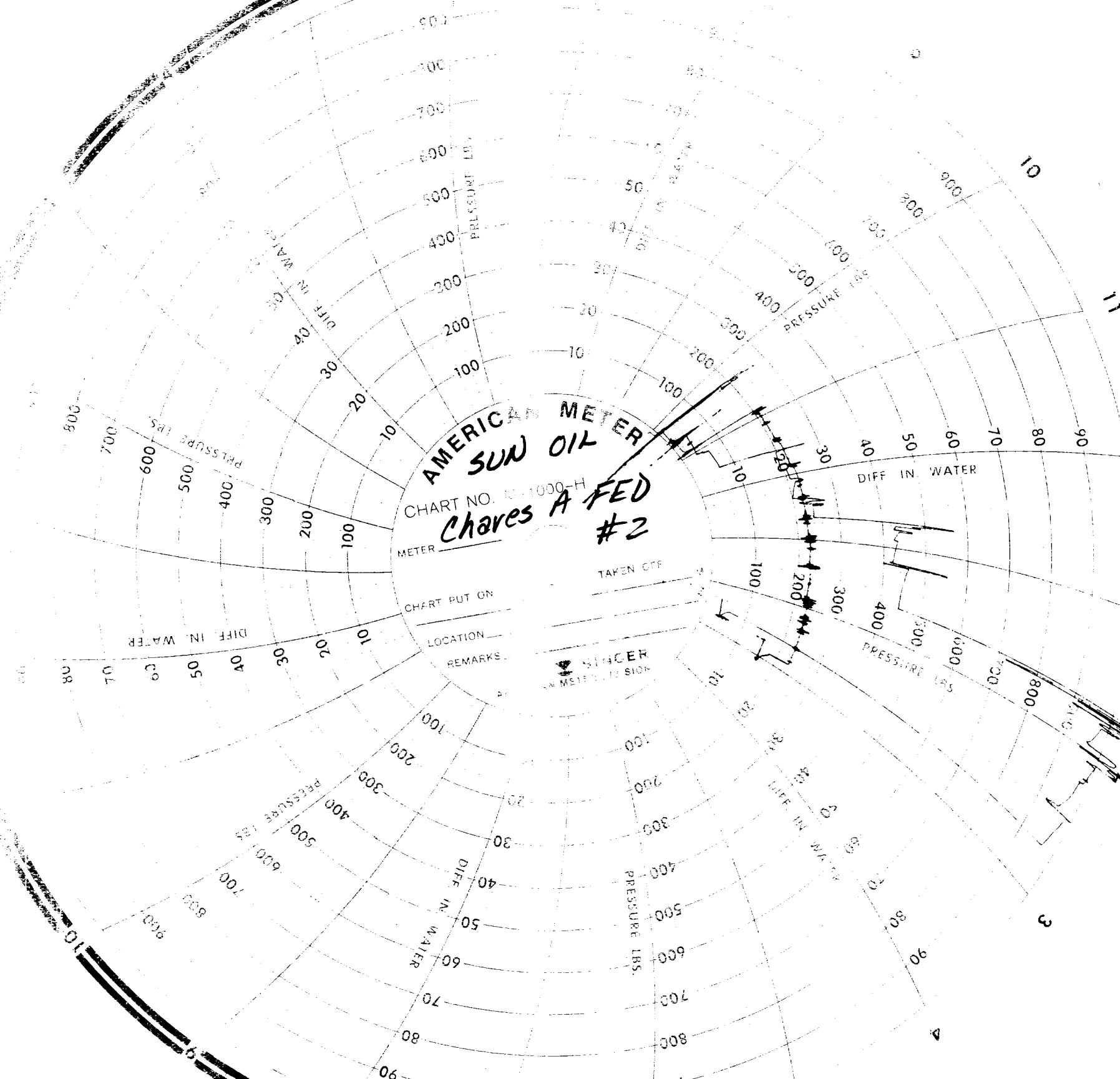
LOCATION
REMARKS

SINGER
AN METER DIVISION

TAKEN OFF

NOON

6 PM



"Let your Interest in Measurement be our Concern"



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

Run No. 030-1
Date Run 08/30/83
Date Sampled 08/29/83

Analysis For: BENNETT & CATHEY UPLM.

Lease: Chaves A #2 Producer: Sun Oil Corp.
Location: Pecos Stone County: Chaves State: New Mexico
Purpose: Well Test Sampled By: B & C UPLM.
Sampling Temp.: 83 °F Atmos Temp.: 94 °F
Volume/day: 750 MCF Formation: ADQ
Pressure on Bomb: 200 PSIG: Line Pressure 200 PSIG

Gas Component Analysis Press. Base: 14.73

	Mol. %	Liq. %	GPM Per MCF
Carbon Dioxide CO ₂	.744		
Oxygen O ₂	.069		
Nitrogen N ₂	5.673		
Hydrogen Sulfide H ₂ S			
Methane C ₁	86.125		14.564
Ethane C ₂	4.347		1.160
Propane C ₃	1.661		.456
Iso-Butane IC ₄	.273		.089
Nor-Butane NC ₄	.551		.173
Iso-Pentane IC ₅	.178		.065
Nor-Pentane NC ₅	.173		.062
Hexanes plus	.207		.090
Hexanes C ₆			
Heptanes			
Heptanes Plus C ₇ +			
Total	100.000		16.660
Pentane + G.P.M.			.217
Propane + GPM			.936
26-lb Gasoline			.779

BTU Dry 1045
BTU Wet 1042
Calc. Specific Gravity .648

@ Std. Press. 14.696

BTU Dry 1042
BTU Wet 1039

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

Reid Vap. Press. #/Sq.In.

Z Factor .9977
N Value 1.3056
Ave Mol Wt 18.7199
Ave Cu Ft/Gal

Run by Jeffrey A. Prinn

Calculated By Jeffrey A. Prinn

Ethane + GPM 2.096

Remarks: BTU Wet adjusted to flowing conditions as established by FERC Order #93/93-A and calculated per GPA Reference Bulletin 181-82.

Distribution: