

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

RECEIVED BY

Form C-122
Revised 9-1-65

SEP 22 1983

O. C. D.

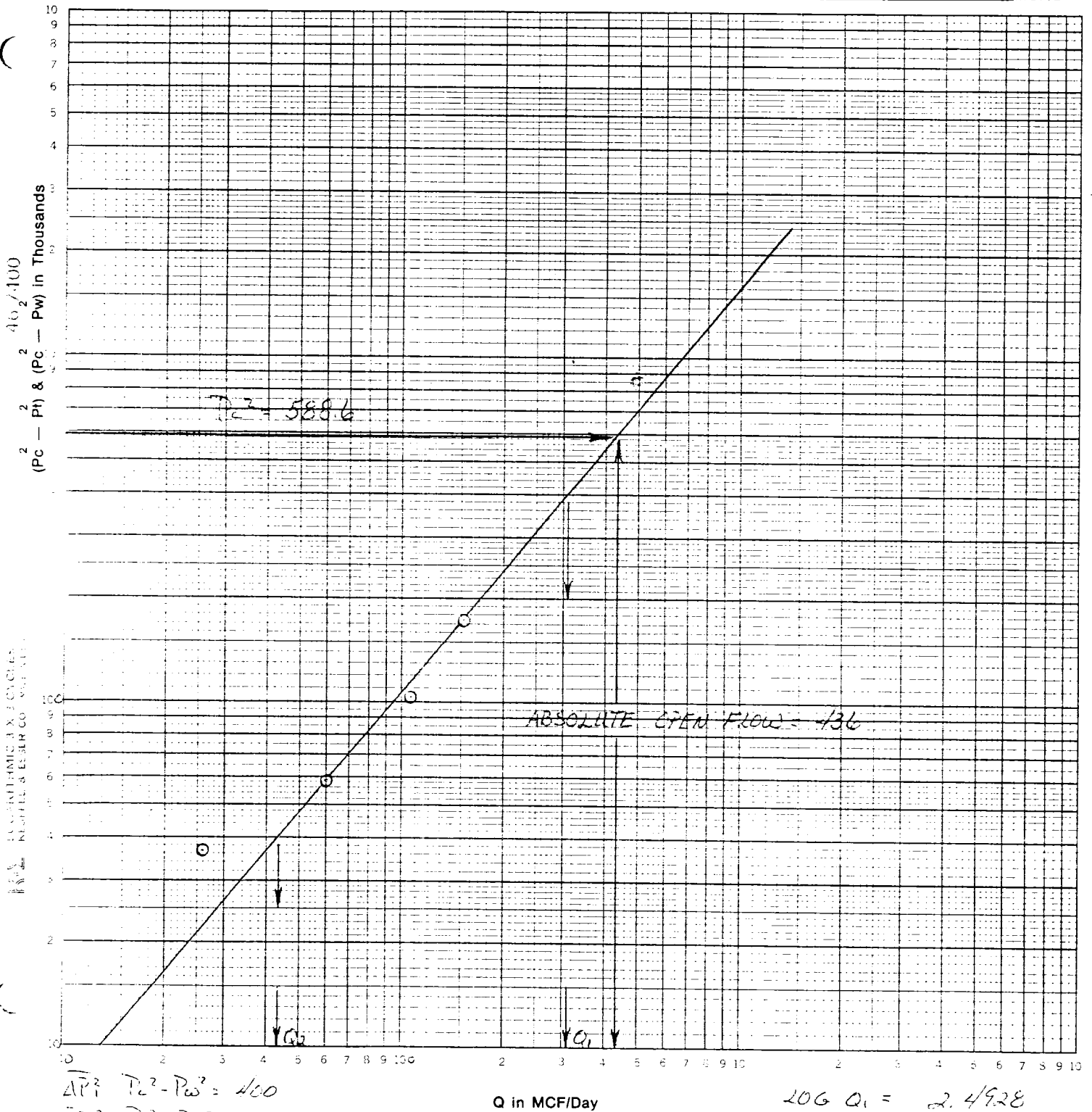
ARTESIA, OFFICE

Type Test ☒ Initial 4-POINT ☐ Annual ☐ Special		Test Date 8-26-83	
Company SUN OIL COMPANY		Connection AIR NEW WELL	
Pool -PENN		Formation WOLFCAMP	
Completion Date 2		Total Depth 5366	Plug Back 5308
Elevation 3716.61		Farm or Lease Name CHAVES A FEDERAL	
Well No. #1			
Well Size 5.500	WT. 14.0	d 5.012	Set At 5366
Perforations: From 4588 To 4594			
Well Size 2.375	WT. 4.7	d 1.995	Set At 4508
Perforations: From OPEN To ENDED			
Type Well - Single - Ardenhead - G.G. or G.O. Multiple DUAL		Packer Set At 4508	
Producing thru TUBING		Reservoir Temp. °F 120 @ 4591	
Mean Annual Temp. °F		Baro. Press. - P _a	
L 4591		H 4591	G _g 0.637
% CO ₂ 0.36		% N ₂ 4.56	
% H ₂ O 0		Prover 2.0	
Motor Run 0		Taps 0	
FLOW DATA			
NO.	Prover Line Size	X	Orifice Size
1	2.00	X	0.0625
2	2.00	X	0.0625
3	2.00	X	0.9375
4	2.00	X	0.125
5			
Pressure, p.s.i.g.	Diff. h _w	Temp. °F	Prover, p.s.i.g.
305	0	82	754
715	0	82	730
584	0	80	684
440	0	82	630
Temp. °F	Prover, p.s.i.g.	Temp. °F	Prover, p.s.i.g.
82	754	84	730
82	715	85	715
80	684	86	684
82	630	86	630
CHOKE	Duration of Flow		
7/64	24.0		
48/64	1.0		
10/64	1.0		
12/64	1.0		
RATE OF FLOW CALCULATIONS			
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m
1	0.06405	0	318.2
2	0.06405	0	728.2
3	0.1410	0	597.2
4	0.2648	0	453.2
5			
Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mcfd
.9795	1.253	1.025	26
.9795	1.253	1.057	60
.9813	1.253	1.047	108
.9795	1.253	1.036	153
NO.	P _f	Temp. °R	T _f
1	.48	542	1.51
2	1.10	542	1.51
3	.90	540	1.51
4	.69	542	1.51
5			
Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.		
.952	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.		
.895	Specific Gravity Separator Gas _____		
.913	Specific Gravity Flowing Fluid _____		
.932	Critical Pressure _____ P.S.I.A.		
	Critical Temperature _____ R		
P _c 767.2	P _c 588.6		
NO.	P _f ²	P _w ²	P _w ² - P _f ²
1	552.3	743.2	552.3
2	530.3	728.2	530.3
3	486.1	697.3	486.3
4	413.7	643.5	414.1
5			
(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.3731$			
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.8521$			
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 436$			
Absolute Open Flow 436 Mcfd @ 15.025			
Angle of Slope 49.25			
Slope, n = .862			
Remarks			
Approved By Commission			
Conducted By: RICHARD TOWNLEY			
Calculated By: BENNETT & CATHEY			
Checked By:			

BENNETT & CATHEY PRODUCTION TESTING BACK PRESSURE CUR.

Operator Sun Oil Co. Lease Chavez A. Federal Well No. 1
 County Chavez Field San Jose 11D Location _____
 Date of Test 8-26-83 Slope "n" 0.862 Angle of Slope 49.25

Calc. Abs. Potential 436 MCF/D



$$\Delta P^2 \quad P_c^2 - P_w^2 = 400$$

$$\Delta P^2 \quad P_c^2 - P_w^2 = 40$$

$$C_1 = 42.7$$

$$C_2 = 311$$

$$\log Q_1 = 2.4928$$

$$\log Q_2 = 1.6304$$

$$n = 0.8624 = .862$$

Chaves H Red #1

Well MP

RATE#1

RATE#3

509.734	TZ	5.688005678	TZ
5.706325221	GHTZ	1.237779394	GHTZ
1.240001012	ES	.1921015935	ES
.1915490453	-E1S	486.08784	-E1S
552.34624	PP2	9.371080389	PP2
9.212060554	FC	1.012076682	FC
.2416169744	FOOM	1.02129921	FOOM
.0583787623	L/H	.1967095105	L/H
.0112491537	PM	486.2046095	PM
552.3075392	PUR	601.930693	PUR
684.9039076	PS2	775.8005674	PS2
827.6012975	PS	736.5152837	PS
785.4006487	P	.14244	P
1.168200679	PR	5.1.767	PR
506.924	TZ	5.713037606	TZ
5.768123032	GHTZ	1.23094184	GHTZ
1.241480493	ES	.1918096097	ES
.1945100988	-E1S	486.08784	-E1S
552.34624	PP2	9.330024177	PP2
9.241731444	FC	1.007042611	FC
.2402450175	FOOM	1.015043632	FOOM
.0577368897	L/H	.1958187766	L/H
.0112404081	PM	486.2036588	PM
552.3174704	PUR	602.4171708	PUR
685.7410249	PS2	776.1140291	PS2
828.0148164	PS	736.6970146	PS
785.6474082	P	1.114018933	P
1.168373991	PR		PR

RATE#2

RATE#4

5.1.875	TZ	5.7.397	TZ
5.712382112	GHTZ	5.6511063359	GHTZ
1.238085833	ES	1.216056708	ES
.1918131213	-E1S	.1909756298	-E1S
530.27524	PP2	413.70624	PP2
9.331993125	FC	9.432064757	FC
.5599195875	FOOM	1.4431977	FOOM
.3135099445	L/H	2.003019602	L/H
.0604019631	PM	.3977677851	PM
531.135632	PUR	414.1040078	PUR
657.0153757	PS2	511.8560367	PS2
810.5110183	PS	715.4411483	PS
769.3055091	P	679.3205742	P
1.163972026	PR	1.027716451	PR
500.0625	TZ	5.4.582	TZ
5.743131958	GHTZ	5.68328193	GHTZ
1.240352916	ES	1.237490542	ES
.1907178454	-E1S	.1919130157	-E1S
530.27524	PP2	413.70624	PP2
9.280118438	FC	9.3811344442	FC
.5568431063	FOOM	1.4353457	FOOM
0.310074245	L/H	2.060217277	L/H
.0600455191	PM	.3953025106	PM
530.3053235	PUR	414.1016225	PUR
657.8029672	PS2	512.4468412	PS2
811.0305331	PS	715.8039245	PS
769.6152665	P	679.5069622	P
1.164134745	PR	1.038028687	PR



your Interest in Measurement be our Concern

PRECISION SERVICE INC.

Flow Measurement Engineers

Analysis Results Summary

Casper, WY 82601

Run No. 029-2
Date Run 03/29/03
Date Sampled 08/26/03

Analysis For: BENNETT & CATHEY WRLN.

Lease: Chaves Federal #1

Location Pecos Slope

Purpose Well Test

Sampling Temp. 83 °F

Volume/day 300 MCF

Pressure on Bomb 500

Producer Sun Oil Corp.

County Chaves State New Mexico

Sampled By R & C WRLN.

Atmos Temp. 94 °F

Formation PENN.

PSIG: Line Pressure 500 PSIG

Gas Component

Analysis

Press. Base: 14.73

Mol. %

Liq. %

GPM
Per MCF

Carbon Dioxide CO₂

.365

Oxygen O₂

.051

Nitrogen N₂

4.558

Hydrogen Sulfide H₂S

Methane C₁

87.671

Ethane C₂

4.458

Propane C₃

1.596

iso-Butane iC₄

.272

nor-Butane nC₄

.511

iso-Pentane iC₅

.182

nor-Pentane nC₅

.182

hexanes plus

.154

hexanes C₆

heptanes

Heptanes Plus C₇+

Total

100.000

16.902

Pentane + G.P.M.

.199

Propane + GPM

.887

6-lb Gasoline

.751

BTU Dry

1057

BTU Wet

1056

Calc. Specific Gravity

.637

@ Std. Press. 14.696

BTU Dry

1055

BTU Wet

1053

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

Reid Vap. Press. #/Sq.In.

Z Factor

.9977

N Value

1.3048

Ave Mol Wt

10.4246

Ave Cu Ft/Dal

Run by Jeffrey A. Prapp

Calculated By Jeffrey A. Prapp

Ethane + GPM

2.076

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

Distribution: