NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 9-1-65

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: [X] Initial [ ] Annual [ ] Special
Test Date: 3/5/85

Company	Connection	
JOHN S. GOODRICH	AIR NEW WELL	

Pool	Formation	Unit
S.E. CHAVES QUEEN	QUEEN	:H

Completion Date	Total Depth	Plug Back T.D.	Elevation	Farm or Lease Name
2/18/85	2800	2755	4167	HONDO FEDERAL

Csg. Size	Wt.	d	Set At	Perforations: From	To	Well No.
4.500	10.5	4.052	2800	2742	2747	1

Tbg. Size	Wt.	d	Set At	Perforations: From	To	Unit	Sec.	Twp.	Rge.
2.375	4.7	1.995	2748	0	0		21	13S	31E

Type Well – Single – Bradenhead – G.G. or G.O. Multiple	Packer Set At	County
SINGLE	0	CHAVES

Producing Thru	Reservoir Temp. °F	Mean Annual Temp. °F	Baro. Press. – P_a	State
TUBING	90 @ 2745	60.0	13.2	NEW MEXICO

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
2745	2745	0.948	1.82	68.02	0	0	2.1	FLANGE

	FLOW DATA						TUBING DATA		B.H.P. DATA		
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.	CHOKE	Duration of Flow
SI							525	60	0		19.0
1.	2.07	X	1.000	130	6.0	60	360	60	0	8/64	1.0
2.	2.07	X	1.000	130	16.0	60	350	60	0	11/64	1.0
3.	2.07	X	1.000	140	44.0	60	340	60	0	16/64	1.0
4.	2.07	X	1.000	160	90.0	60	300	60	0	22/64	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, Mcfd
1	4.95	29.31	143.2	1.0000	1.0271	1.0060	150
2	4.95	47.87	143.2	1.0000	1.0271	1.0060	245
3	4.95	82.10	153.2	1.0000	1.0271	1.0064	420
4	4.95	124.85	173.2	1.0000	1.0271	1.0072	639
5							

NO.	P_r	Temp. °R	T_r	Z
1	0.26	520	1.86	0.988
2	0.26	520	1.86	0.988
3	0.28	520	1.86	0.987
4	0.32	520	1.86	0.986
5				

Gas Liquid Hydrocarbon Ratio 0 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons 0 Deg.
Specific Gravity Separator Gas 0.948 | X X X X X X X X X X
Specific Gravity Flowing Fluid X X X X X | 0.948
Critical Pressure 545 P.S.I.A. | 545 P.S.I.A.
Critical Temperature 279 R | 279 R

P_c 538.2 P_c^2 290

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	139	374	140	150
2	132	364	133	157
3	125	357	127	162
4	98	323	104	186
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2}$ = 1.5602

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ = 1.5602

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ = 997

Absolute Open Flow 997 Mcfd @ 15.025 | Angle of Slope θ 45.0 | Slope, n 1.000

Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
ORIGINAL SIGNED BY [illegible] DISTRICT I SUPERVISOR			

2987

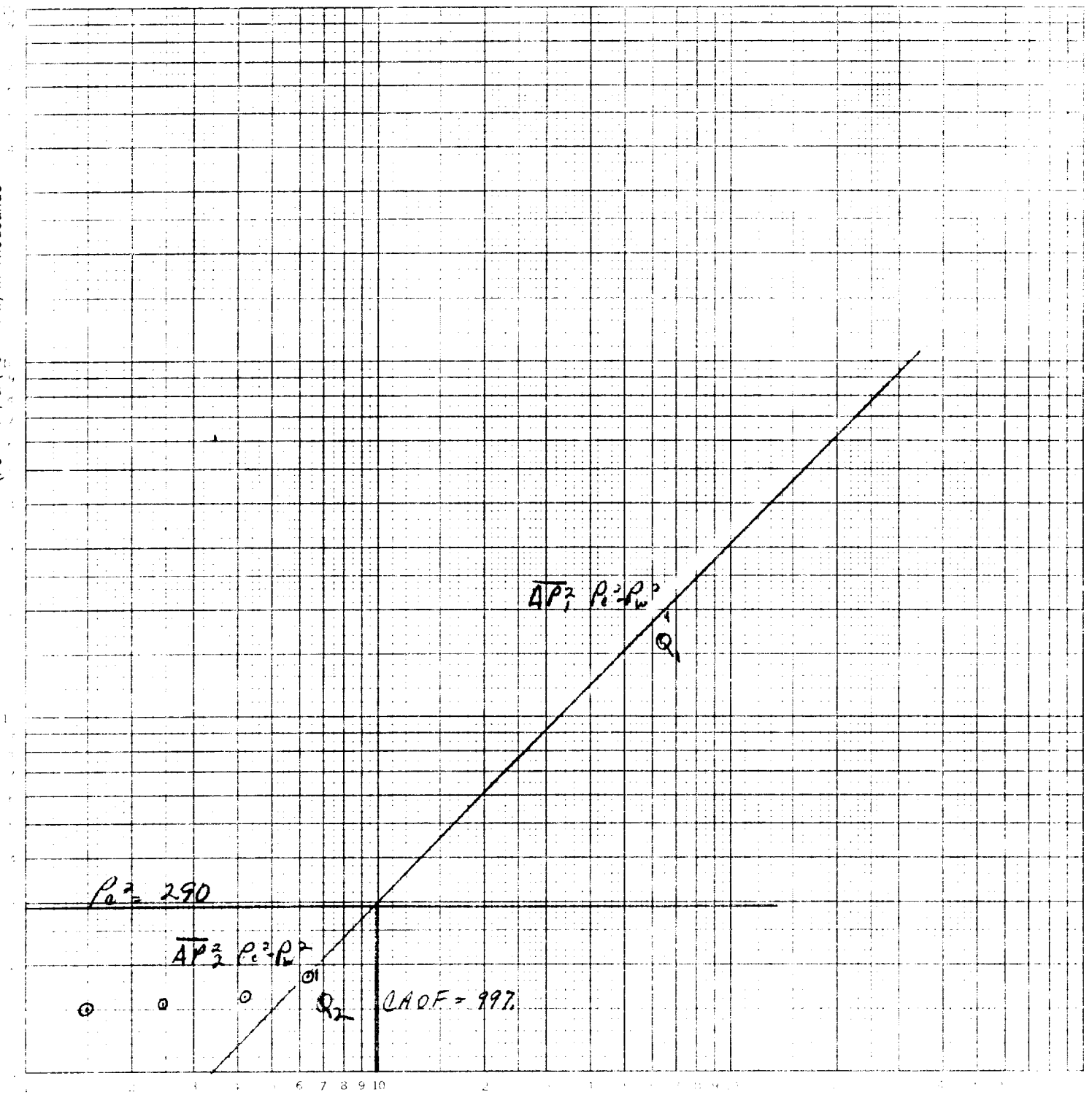
BACK PRESSURE CURVE

Operator John S. Goodrich Lease Honol Federal Well No. 1

County Rooks Field SE Plum Creek Location [illegible]

Date of Test 3-5-85 Slope "n" 1.000 Angle of Slope 45

Calc. Abs. Potential 422 MCF/D



$\overline{\Delta P}_1^2$ $P_c^2-P_w^2$ = 2000

$\overline{\Delta P}_2^2$ $P_c^2-P_w^2$ = 200

Q_1 = 6591

Q_2 = 675

LOG Q_1 = 3.819

LOG Q_2 = 2.819

n = 1.000

"Let y~~ Interest in Measurement be our Concern"

PRECISION SERVICE INC.

Flow Measurement Engineers
Analysis Results Summary
Casper, WY 82601

Run No. 306-3
Date Run 03/08/85
Date Sampled 03/05/85

nalysis For: BENNETT & CATHEY WRLN.
ease: Hondo Federal #1 — Producer John S. Goodrich
ocation — County Lea — State New Mexico
urpose Well Test — Sampled By B & C WRLN.
ampling Temp. 60 °F — Atmos Temp. 65 °F
olume/day 295 MCF — Formation
ressure on Bomb 350 — PSIG; Line Pressure 363.2 PSIA PSIG

Gas Component Analysis — Press. Base: 14.73

	Mol. %	Liq. %	GPM Per MCF
arbon Dioxide CO_2	1.821		
xygen O_2	.065		
trogen N_2	68.018		
ydrogen Sulfide H_2S			
ethane C1	18.509		3.137
thane C2	6.565		1.756
opane C3	3.240		.893
o-Butane IC4	.392		.128
or-Butane NC4	.805		.254
o-Pentane IC5	.175		.064
or-Pentane NC5	.153		.055
xanes plus	.258		.119
exanes C6			
ptanes			
ptanes Plus C7+			
otal	100.000		6.406
ntane + G.P.M.			.238
pane + GPM			1.513
th Gasoline			.086

BTU Dry 952
BTU Wet 935
Calc. Specific Gravity .690

@ Std. Press. 14.696
BTU Dry 952
BTU Wet 935

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

Z Factor .9908
N Value 1.252
Ave Mol. Wt 17.4391
Ave Gr Ft/Gal

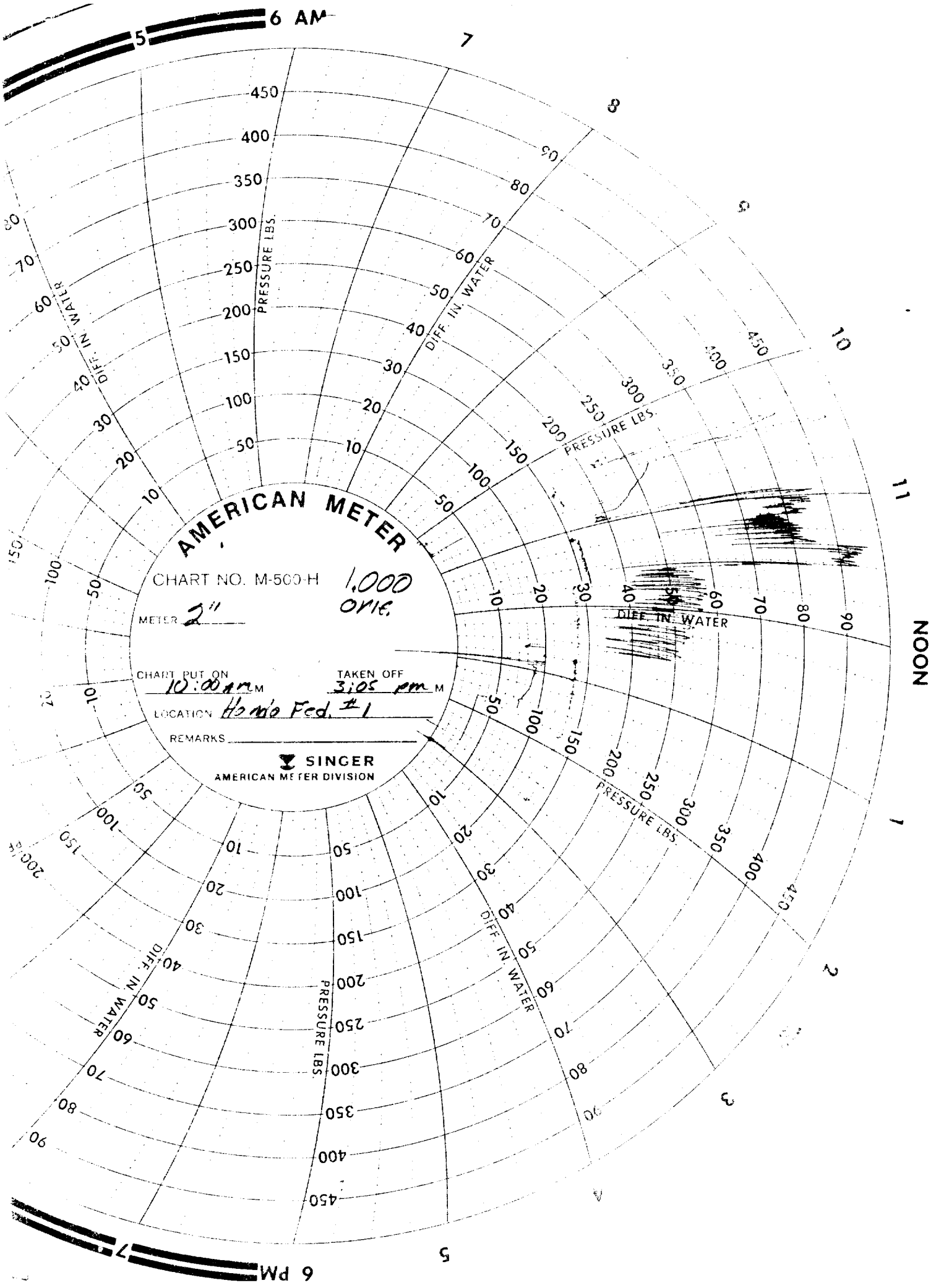
Run by Jeffrey A. Propp

Calculated By Jeffrey A. Propp

Ethane + GPM 3.269

arks

stribution


6 AM
NOON
6 PM
AMERICAN METER
CHART NO. M-500-H
1,000
one.
METER 2"
CHART PUT ON 10:00 AM M
TAKEN OFF 3:05 PM M
LOCATION Homo Fed. #1
REMARKS
SINGER
AMERICAN METER DIVISION
PRESSURE LBS.
DIFF. IN WATER
DIFF. IN WATER
PRESSURE LBS.
DIFF. IN WATER
PRESSURE LBS.
PRESSURE LBS.
DIFF. IN WATER