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appropriate district office.
See Rule 401 & Rule 1122

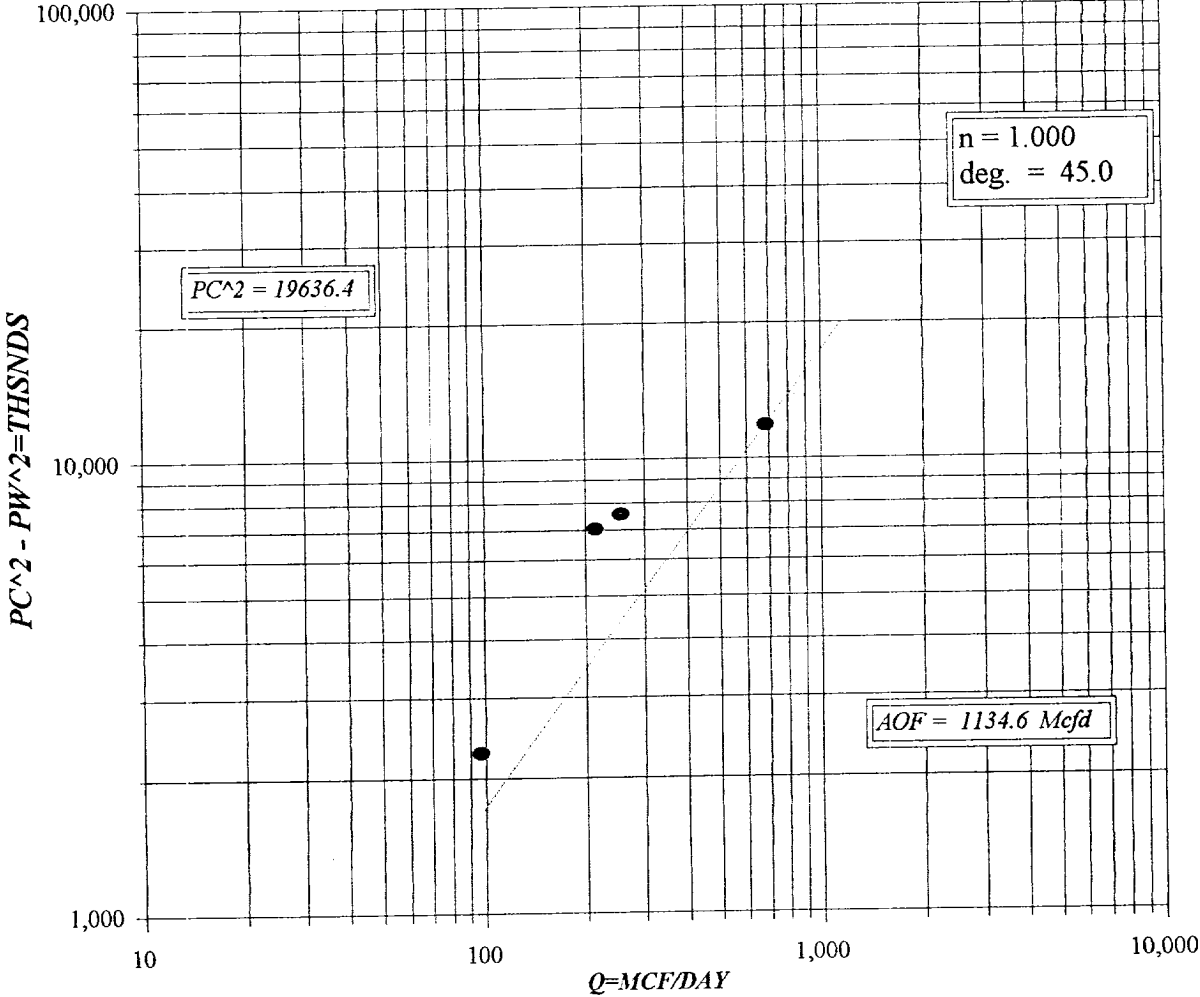
State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-122
Revised October, 1999

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator NADEL & GLUSSMAN PERMAIN					Lease or Unit Name SOMBRERO STATE				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 5/5/00		Well No. 1		
Completion Date		Total Depth		Plug Back TD 12875		Elevation		Unit Ltr - Sec - TWP - Rge 15 16-S 33-E	
Csg. Size	Wt.	d	Set At	Perforations: From: 12828 To: 12840			County LEA		
Tbg. Size 2 3/8	Wt. 4.7	d 1.995	Set At 12759	Perforations: From: To:			Pool		
Type Well-Single-Bradenhead-G G. or G.O. Multiple SINGLE				Packer Set At 12759			Formation		
Producing Thru Tbg. Size		Reservoir Temp. °F 173.8		Mean Annual Temp. °F 60		Baro. Press. -P _a 13.2		Connection SALES	
L 12759	H 12759	Gg 0.764	%CO ₂ 0.197	%N ₂ 1.801	%H ₂ S N/A	Prover N/A	Meter Run 3.067	Taps FLG	
FLOW DATA					TUBING DATA			CASING DATA	
No.	Prover Line Size	Orifice x 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
SI						3440	N/A	PKR	N/A
1		3.067 X 2.250	36.5	0.4	109	3175			60 MIN
2		3.067 X 2.250	39	1.3	89	2490			60 MIN
3		3.067 X 2.250	39.6	1.7	82	2470			60 MIN
4		3.067 X 2.250	46.6	9.9	52	1885			60 MIN
5									
RATE OF FLOW CALCULATIONS									
No.	COEFFICIENT (24 Hour)		$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor F _g	Super Compress Factor F _{pv}	Rate of Flow Q, Mcfd	
1								97	
2								215	
3	GAS VOLUMES		MEASURED	BY	TOTAL	FLOW	METER	255	
4								686	
5									
No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 4.351 Mcf/bbl.				
1					A.P. I. Gravity of Liquid Hydrocarbons 49.9 Deg.				
2	TOTAL	FLOW	METER		Specific Gravity Separator Gas 0.764 XXXXXX				
3					Specific Gravity Flowing Fluid XXXXX				
4					Critical Pressure 669 P.S.I.A. P.S.I.A.				
5					Critical Temperature 402 R. R.				
P _c 4431.3 P ₂ 19636.4									
No.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $P_c^2 = \frac{1.654}{P_c^2 - P_w^2}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.654$				
1		4167.7	17369.7	2266.7	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1134.6$				
2		3551.4	12612.4	7024.6					
3		3476.9	12088.8	7547.6					
4		2787	7767.4	11869					
5									
Absolute Open Flow 1134.6 Mcfd @ 15.025					Angle of Slope (°): 45		Slope n: 1		
Remarks: CALCULATED FROM KNOWN BOTTOM HOLE PRESSURES / WELL MADE 12.0 BBLS OF 49.9 API CONDENSATE DURING TEST.									
Approved By Division:			Conducted By: PRO WELL TESTING			Calculated By: MB		Checked By: BM	

NADEL & GUSSMAN PERMAIN
SOMBRERO STATE #1



WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURE (Pc or Pw)
FROM KNOWN BOTTOM HOLE PRESSURE (Pf or Ps)
NADEL & GUSSMAN PERMAIN

FORM C-122F

COMPANY
UNIT
L
12759
LEASE : SOMBRERO SWELL NO. : 1
SECTION : TWNSHP :
H : 12759 L/H : 1
CO2 : 0.197 N2 : 1.801
GH : 9747.9 PCR : 669
DATE 5/5/00
RANGE :
G/GMIX : 0.7640
H2S :
TCR : 402

LINE		1	2	3	4	5	6	7	8
1	TW(W.H. R)	534	534	534	534	534	534	534	534
2	Ts(B.H. R)	661.6	661.6	661.6	661.6	661.6	661.6	661.6	661.6
3	T=(Tw+Ts/2)	597.8	597.8	597.8	597.8	597.8	597.8	597.8	597.8
4	Z (EST.)	1.080	0.935	0.933	0.866	0.925	0.859	0.844	0.794
5	TZ	646	559	558	518	553	513	504	475
6	GH/TZ	15.092	17.443	17.468	18.822	17.636	18.987	19.324	20.526
7	eS(TABLE XIV)	1.761	1.923	1.925	2.025	1.937	2.038	2.064	2.159
8	Pf or Ps	5780.2	5780.2	5054.4	5054.4	4963.7	4963.7	4095.2	4095.2
9	Pf2 or Ps2	33410.7	33410.7	25547.0	25547.0	24638.3	24638.3	16770.7	16770.7
10	Pc2=Pf/eS or Pw2=Ps2/eS	18971.2	17370.1	13269.4	12612.7	12716.9	12088.9	8125.4	7767.1
11	Pc or Pw	4356	4168	3643	3551	3566	3477	2851	2787
12	P=(Pw+Ps/2)or(Pc+Pf/2)	5068	4974	4349	4303	4265	4220	3473	3441
13	Pr=(P/Pcr)	7.58	7.43	6.50	6.43	6.38	6.31	5.19	5.14
14	Tr(T/Tcr)	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49
15	Z (TABLE XI)	0.935	0.926	0.866	0.862	0.859	0.855	0.794	0.792

PW 1 : 4167.7 PW 2 : 3551.4 PW 3 : 3476.9 PW 4 : 2787.0

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURE (Pc or Pw)
FROM KNOWN BOTTOM HOLE PRESSURE (Pf or Ps)

FORM C-122F

NADEL & GUSSMAN PERMAIN

COMPANY LEASE : SOMERERO SWELL NO. : 1 DATE 5/5/00
UNIT SECTION : TWSHP : RANGE :
L 12759 H : 12759 L/H : 1 G/GMIX : 0.7640
CO2 : 0.197 N2 : 1.801 H2S :
GH : 9747.9 PCR : 669 TCR : 402

LINE		1	2	3	4	5	6	7	8
1	TW(W.H. R)	534	534	534	534	534	534	534	534
2	Ts(B.H. R)	661.6	661.6	661.6	661.6	661.6	661.6	661.6	661.6
3	T=(Tw+Ts/2)	597.8	597.8	597.8	597.8	597.8	597.8	597.8	597.8
4	Z (EST.)	1.114	0.964	ERR	ERR	ERR	ERR	ERR	ERR
5	TZ	666	576	ERR	ERR	ERR	ERR	ERR	ERR
6	GH/TZ	14.633	16.924	ERR	ERR	ERR	ERR	ERR	ERR
7	eS(TABLE XIV)	1.731	1.886	ERR	ERR	ERR	ERR	ERR	ERR
8	Pf or Ps	6086.11	6086.11	0	0	0	0	0	0
9	Pf2 or Ps2	37040.7	37040.7	0.0	0.0	0.0	0.0	0.0	0.0
10	Pc2=Pf/eS or Pw2=Ps2/eS	21397.5	19636.3	ERR	ERR	ERR	ERR	ERR	ERR
11	Pc or Pw	4626	4431	ERR	ERR	ERR	ERR	ERR	ERR
12	P=(Pw+Ps/2)or(Pc+Pf/2)	5356	5259	ERR	ERR	ERR	ERR	ERR	ERR
13	Pr=(P/Pcr)	8.01	7.86	ERR	ERR	ERR	ERR	ERR	ERR
14	Tr=(T/Tcr)	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49
15	Z (TABLE XI)	0.964	0.954	ERR	ERR	ERR	ERR	ERR	ERR

PC PW 1 : 4431.3 PW 2 : ERR PW 3 : ERR PW 4 : ERR

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NEW MEXICO G.O.R./G. MIX		
NO. OF BBLs PRODUCED	=	12.0
API GRAVITY @ 60 DEG.	=	49.9
.....		
SPECIFIC GRAVITY OF GAS	=	0.7640
XX		
TOTAL GAS PRODUCED	=	52
G.O.R.	=	4.351
G.MIX	=	1.363