Submit in duplicate to appropriate district office
See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator: Santa Fe Energy					Lease or Unit Name: Abe Unit		
Type Test: [X] Initial [ ] Annual [ ] Special					Test Date: 3-25-98	Well No.: 2	
Completion Date	Total Depth: 15008		Plug Back TD: 14604		Elevation	Unit Ltr. - Sec. - TWP - Rge.	
Csg. Size: 4 1/2	Wt.: 13.5	d: 3.920	Set At: 11,858 / 15008	Perforations: From: 14467 To: 14576		County: Lea	
Tbg. Size: 2 3/8	Wt.: 6.2	d: 1.853	Set At: 14350	Perforations: From: To:		Pool	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple: Single				Packer Set At: 14.350		Formation	
Producing Thru: Tbg	Reservoir Temp. °F: 199	Mean Annual Temp. °F: 60°		Baro. Press - P_a: 13.2		Connection: Air	
L: 14415	H: 14415	G_g: .651	% CO_2: .843	% N_2: .448	% H_2S: 0	Prover: 0	Meter Run: 3.068	Taps: F/G

NO.	FLOW DATA: Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	TUBING DATA: Temp. °F	CASING DATA: Press. p.s.i.g.	CASING DATA: Temp. °F	Duration of Flow
SI							PKR		
1.	3.068 X .500	330	13"	90°	3954	62°			60 min
2.	3.068 X .500	450	21"	90°	3420	62°			60 min
3.	3.068 X .500	360	48"	79°	2852	62°			60 min
4.	3.068 X .500	490	75"	78°	2295	62°			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 Fg.	Super Compress. Factor, F pv.	Rate of Flow Q, Mcfd
1.	1.183	66.79	343.2	.9723	1.239	1.044	99
2.	1.183	98.62	463.2	.9723	1.239	1.041	146
3.	1.183	133.84	373.2	.9822	1.239	1.048	201
4.	1.183	194.26	503.2	.9831	1.239	1.048	291
5.							

NO.	P_r	Temp. °R	T_r	Z
1.	.81	550	1.48	.917
2.	.81	550	1.48	.917
3.	.80	539	1.45	.910
4.	.79	538	1.45	.911
5.				

Gas Liquid Hydrocarbon Ratio: N/A Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: N/A Deg.
Specific Gravity Separator Gas: .651 XXXXXXXXX
Specific Gravity Flowing Fluid: N/A XXXXX
Critical Pressure: 673 P.S.I.A. P.S.I.A.
Critical Temperature: 371 R R

P_c 5143.6 P_c^2 26,456.6

NO.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1.		4235.0	17935.2	8521.4
2.		3684.8	13577.7	12,878.9
3.		3097.9	9596.9	16,859.7
4.		2506.0	6280.0	20176.6
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.31$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.31$

$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 381.2$

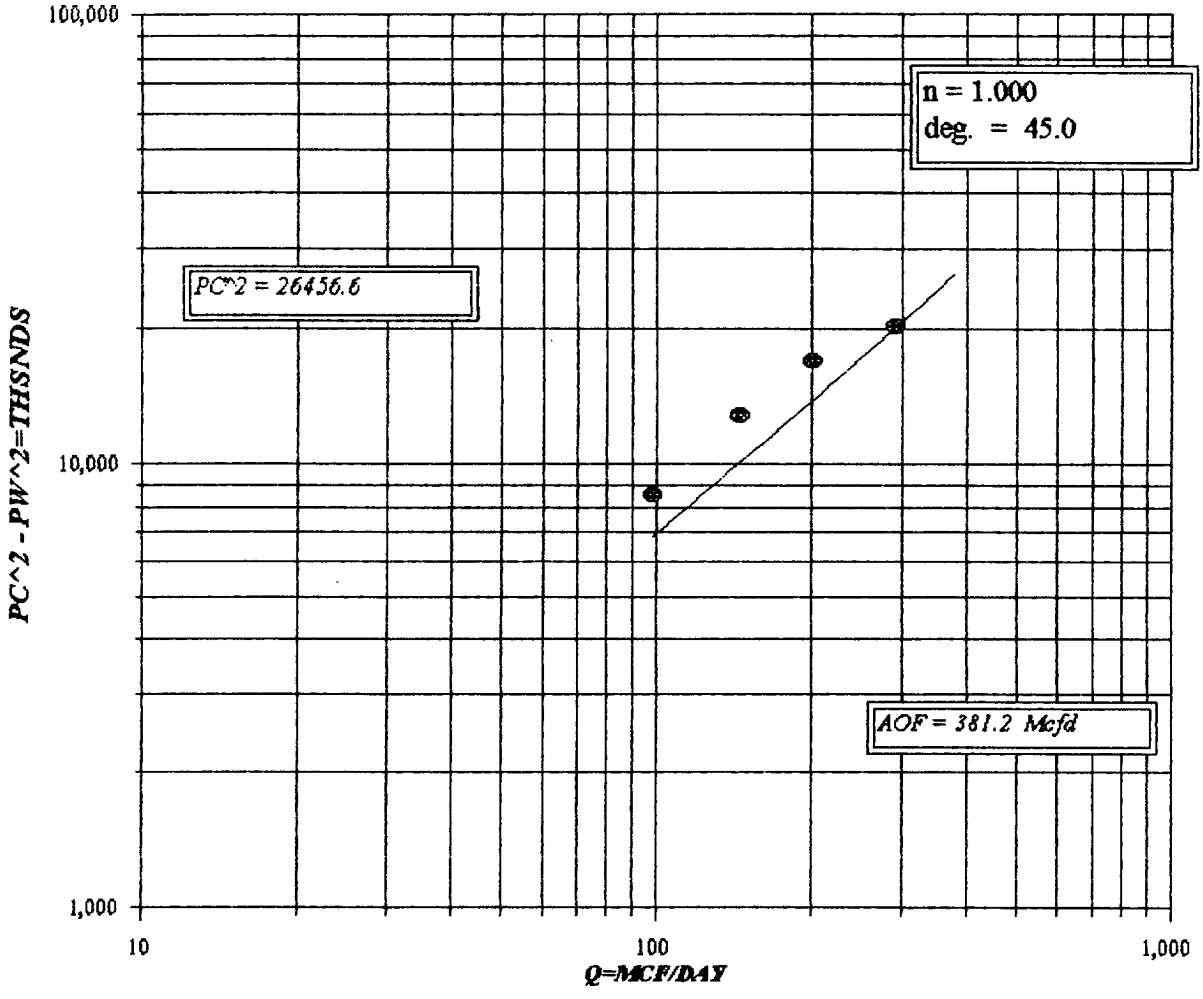
Absolute Open Flow: 381.2 Mcfd @ 15.025 | Angle of Slope θ: 45° | Slope, n: 1.000

Remarks: *Calculated from known bottom hole pressures
*No liquid made during test

Approved By Division	Conducted By:	Calculated By:	Checked By:
	Pro well testing	M.B.	B.M.

SANTA FE ENERGY

ABE UNIT #2



WORK SHEET FOR CALCULATION OF WELL .D PRESSURE (Pc or Pw) FORM C-122F
FROM KNOWN BOTTOM HOLE PRESSURE (Pf or Ps)

COMPANY SANTA FE ENERGY		LEASE : ABE		WELL NO. : 2		DATE	3/25/98		
UNIT		SECTION :		TWNSHP :		RANGE :			
L	14415	H :	14415	L/H :	1	G/GMIX :	0.6510		
		CO2 :	0.843	N2 :	0.448	H2S :			
		GH :	9384.2	PCR :	673	TCR :	371		

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)	678.1	678.1	678.1	678.1	678.1	678.1	678.1	678.1
3	T=(Tw+Ts/2)	606.1	606.1	606.1	606.1	606.1	606.1	606.1	606.1
4	Z (EST.)	1.087	0.957	0.958	0.907	0.902	0.863	0.853	0.830
5	TZ	659	580	581	550	547	523	517	503
6	GH/TZ	14.240	16.178	16.163	17.069	17.170	17.943	18.159	18.662
7	eS(TABLE XIV)	1.706	1.834	1.833	1.897	1.904	1.960	1.976	2.013
8	Pf or Ps	5735.7	5735.7	5074.7	5074.7	4336.9	4336.9	3555.9	3555.9
9	Pf2 or Ps2	32898.3	32898.3	25752.6	25752.6	18808.7	18808.7	12644.4	12644.4
10	Pc2=Pf/eS or Pw2=Ps2/eS	19286.8	17934.9	14047.2	13578.0	9879.5	9597.2	6399.7	6280.2
11	Pc or Pw	4392	4235	3748	3685	3143	3098	2530	2506
12	P=(Pw+Ps/2)or(Pc+Pf/2)	5064	4985	4411	4380	3740	3717	3043	3031
13	Pr=(P/Pcr)	7.52	7.41	6.55	6.51	5.56	5.52	4.52	4.50
14	Tr(T/Tcr)	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63
15	Z (TABLE XI)	0.957	0.951	0.907	0.905	0.863	0.862	0.830	0.829

PW 1 : 4235.0 PW 2 : 3684.8 PW 3 : 3097.9 PW 4 : 2506.0

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURE (Pc or Pw) FORM C-122F
FROM KNOWN BOTTOM HOLE PRESSURE (Pf or Ps)

COMPANY SANTA FE ENERGY		LEASE :	ABE	WELL NO. :	2	DATE	3/25/98		
UNIT		SECTION :		TWNSHP :		RANGE :			
L	14415	H :	14415	L/H :	1	G/GMIX :	0.6510		
		CO2 :	0.843	N2 :	0.448	H2S :			
		GH :	9384.2	PCR :	673	TCR :	371		

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)	678.1	678.1	678.1	678.1	678.1	678.1	678.1	678.1
3	T=(Tw+Ts/2)	606.1	606.1	606.1	606.1	606.1	606.1	606.1	606.1
4	Z (EST.)	1.188	1.041	ERR	ERR	ERR	ERR	ERR	ERR
5	TZ	720	631	ERR	ERR	ERR	ERR	ERR	ERR
6	GH/TZ	13.032	14.870	ERR	ERR	ERR	ERR	ERR	ERR
7	eS(TABLE XIV)	1.630	1.747	ERR	ERR	ERR	ERR	ERR	ERR
8	Pf or Ps	6797.54	6797.54	0	0	0	0	0	0
9	Pf2 or Ps2	46206.6	46206.6	0.0	0.0	0.0	0.0	0.0	0.0
10	Pc2=Pf/eS or Pw2=Ps2/eS	28344.2	26456.6	ERR	ERR	ERR	ERR	ERR	ERR
11	Pc or Pw	5324	5144	ERR	ERR	ERR	ERR	ERR	ERR
12	P=(Pw+Ps/2)or(Pc+Pf/2)	6061	5971	ERR	ERR	ERR	ERR	ERR	ERR
13	Pr=(P/Pcr)	9.01	8.87	ERR	ERR	ERR	ERR	ERR	ERR
14	Tr(T/Tcr)	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63
15	Z (TABLE XI)	1.041	1.033	ERR	ERR	ERR	ERR	ERR	ERR

PC ~~PW~~ 1 : 5143.6 PW 2 : ERR PW 3 : ERR PW 4 : ERR

Laboratory Services, Inc.
1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Santa Fe Energy
Attention: Mr. Mike Ables
P. O. Box 2327
Carlsbad, New Mexico 88220

SAMPLE IDENTIFICATION: Abe Unit #2
COMPANY: Santa Fe Energy
LEASE:
PLANT:

SAMPLE DATA:

DATE SAMPLED:	3/25/98
ANALYSIS DATE:	3/27/98
PRESSURE – PSIG	400
SAMPLE TEMP. °F	78
ATMOS. TEMP. °F	

GAS (XX) LIQUID ( )
SAMPLED BY: Merv Buecker
ANALYSIS BY: Vickie Walker

REMARKS:

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)		
Nitrogen	(N2)	0.448	
Carbon Dioxide	(CO2)	0.843	
Methane	(C1)	87.072	
Ethane	(C2)	7.499	2.001
Propane	(C3)	2.602	0.715
I-Butane	(IC4)	0.405	0.132
N-Butane	(NC4)	0.574	0.181
I-Pentane	(IC5)	0.181	0.066
N-Pentane	(NC5)	0.177	0.064
Hexane Plus	(C6+)	0.199	0.082
		100.000	3.241

BTU/CU.FT. – DRY	1133
AT 14.650 DRY	1130
AT 14.650 WET	1110
AT 14.73 DRY	1136
AT 14.73 WET	1116
SPECIFIC GRAVITY – CALCULATED	0.651
MEASURED	

MOLECULAR WT. 18.8641