Submit in duplicate to 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

30-025-36583

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator: CHESAPEAKE		Lease or Unit Name: LIVSTOCK FED	
Type Test: ☑ Initial ☐ Annual ☐ Special		Test Date: 11/6/2004	Well No.: Bootleg 9-Feb #2
Completion Date	Total Depth	Plug Back TD: 14690	Elevation	Unit Ltr - Sec - TWP - Rge: G 9 22S 33E
Csg. Size: 4 1/2 / Wt.: 15.1 / d: 3.826 / Set At: 14690		Perforations: From: 14529 To: 14566		County: LEA
Tbg. Size: 2 3/8 / Wt.: 4.7 / d: 1.995 / Set At: 13646		Perforations: From: To:		Pool:
Type Well-Single-Bradenhead-G.G. or G.O. Multiple: SINGLE		Packer Set At: 13646		Formation: MORROW
Producing Thru: TUBING	Reservoir Temp.: 196	Mean Annual Temp.: 60	Baro. Press.-P_a: 13.2	Connection: SALES

L	H	Gg	%CO_2	%N_2	%H_2S	Prover	Meter Run	Taps
13646	13646	0.622	0.962	1.097	N/A	N/A	3.826	FLG

	FLOW DATA				TUBING DATA		CASING DATA		
No.	Prover Line Size x Orifice Size	Press p.s.i.g.	Diff. h_w	Temp.	Press p.s.i.g.	Temp.	Press p.s.i.g.	Temp.	Duration of Flow
SI					2930		PKR		24 HRS
1	3.826 X 1.500	574	29	63	2692		"		1 HR
2	3.826 X 1.500	576	25	63	2585		"		1HR
3	3.826 X 1.500	577	26	63	2537		"		1 HR
4	3.826 X 1.500	586	113	62	2219		"		1 HR
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, Fpv	Rate of Flow Q. Mcfd
1							584
2							598
3	TOTAL	FLOW	METER				616
4							1,274
5							

No.	P_r	Temp. R	T_r	Z
1				
2				
3	TOTAL	FLOW		
4				
5				

Gas Liquid Hydrocarbon Ratio: DRY GAS Mcf/bbl.
A.P. I. Gravity of Liquid Hydrocarbons: DRY Deg.
Specific Gravity Separator Gas: 0.622 XXXXXXX
Specific Gravity Flowing Fluid: XXXXX N/A
Critical Pressure: 673 P.S.I.A. N/A P.S.I.A.
Critical Temperature: 359 R. N/A R

P_o 2943.2 P_o^2 8862.4

No.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		2707.7	7331.9	1330.5
2		2599	6754.6	1907.8
3		2567.4	6591.5	2071
4		2178.2	4744.3	3918.1
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$ 2.21 (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n =$ 1.976

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n =$ 2.536

Absolute Open Flow 2,536 Mcfd @ 15.025 | Angle of Slope θ: 49.33 | Slope, n: 0.859

Remarks: * NO FLUID PRODUCED

Approved By Division:	Conducted By:	Calculated By:	Checked By:
	PRO WELL TESTING	MERV BUECKER	BM

Laboratory Services, Inc.
2609 West Marland
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pro Well Testing & Wireline
P. O. Box 791
Hobbs, New Mexico 88241

SAMPLE:
IDENTIFICATION Livestock Fed. #2-9
COMPANY: Chesapeake Energy
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED
ANALYSIS DATE: 11/8/04
PRESSURE – PSIG 500
SAMPLE TEMP. °F 62
ATMOS. TEMP. °F 70

GAS (XX) LIQUID ( )
SAMPLED BY: Glen-Pro Well
ANALYSIS BY: Vickie Biggs

REMARKS:

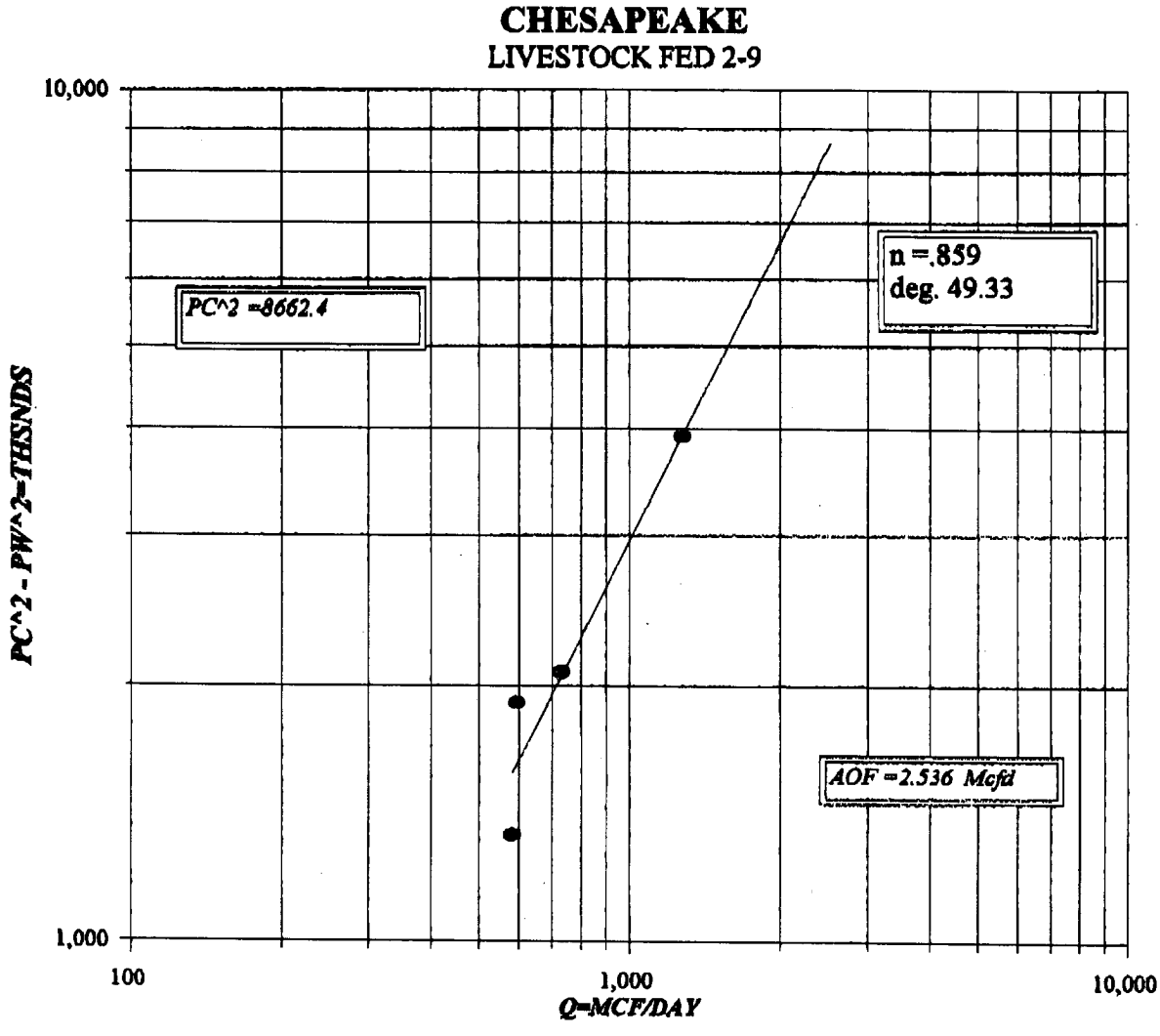
COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)		
Nitrogen	(N2)	1.097	
Carbon Dioxide	(CO2)	0.962	
Methane	(C1)	90.990	
Ethane	(C2)	4.377	1.166
Propane	(C3)	1.581	0.435
I-Butane	(IC4)	0.280	0.091
N-Butane	(NC4)	0.340	0.107
I-Pentane	(IC5)	0.099	0.036
N-Pentane	(NC5)	0.066	0.020
Hexane Plus	(C6+)	0.218	0.095
		100.000	1.952

BTU/CU.FT. – DRY	1073
AT 14.650 DRY	1070
AT 14.650 WET	1051
AT 14.73 DRY	1075
AT 14.73 WET	1057

MOLECULAR WT. 18.0126

SPECIFIC GRAVITY –	
CALCULATED	0.622
MEASURED	


CHESAPEAKE
LIVESTOCK FED 2-9
10,000
1,000
100
1,000
10,000
PC^2 - PW^2=THSNDS
Q=MCF/DAY
PC^2 =8662.4
n =.859
deg. 49.33
AOF =2.536 Mcfd

COMPANY :	CHESAPEAKE		LEASE :	LIVESTOCK FED	WELL NO. :	-7			
UNIT :			SECTION :	,9	TOWNSHIP :	22S			
L :	13648	H :	13648	L/H :	1	G/GMIX :	0.622		
%CO2 :	0.862	%N2 :	1.097	H2S :			DATE :	11/8/04	
d :	1.995	Pr :	0.016231	GH :	8487.8		RANGE :	33E	

VOL 1 :	684	PSIA 1 :	2706.2	RESV.TEMP	196.0
VOL 2 :	598	PSIA 2 :	2586.2		
VOL 3 :	732	PSIA 3 :	2563.2	SHUT-IN PRI =	2943.2
VOL 4 :	1283	PSIA 4 :	2163.2		

POR :	573
TCR :	359

	LINE	RATE 1		RATE 2		RATE 3		RATE 4	
		1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1	QM	0.584	0.584	0.599	0.599	0.732	0.732	1.283	1.283
2	TW	534	534	534	534	534	534	534	534
3	Ts	656.0	656.0	656.0	656.0	656.0	656.0	656.0	656.0
4	T	595.0	595.0	595.0	595.0	595.0	595.0	595.0	595.0
	PR (est)	4.02		3.85		3.81		3.21	
5	Z(est)	0.830	0.845	0.826	0.840	0.826	0.839	0.826	0.826
6	TZ	493.6	502.9	492.9	500.0	492.4	499.2	492.4	492.5
7	GHVTZ	17.184	16.878	17.229	16.878	17.236	17.004	17.236	17.233
8	e8	1.906	1.883	1.905	1.890	1.906	1.882	1.906	1.906
9	I-e-S	0.475	0.469	0.476	0.471	0.476	0.471	0.476	0.476
10	Pt	2706.2	2706.2	2586.2	2586.2	2563.2	2563.2	2163.2	2163.2
11	Pt2 /1000	7318.1	7318.1	6750.8	6750.8	6570.0	6570.0	4679.4	4679.4
12	Fr	0.016231	0.016231	0.016231	0.016231	0.016231	0.016231	0.016231	0.0162312
13	Fo=Fr/TZ	9.000	9.166	9.861	9.116	9.877	9.100	9.877	9.880
14	FcQm	5.26	5.35	5.37	5.45	9.57	9.66	11.52	11.52
15	L/H(FcQm):	27.8	28.7	28.8	29.7	43.2	44.4	132.8	132.7
16	Pw	13.12717	13.44309	13.72607	13.99281	20.5562	20.92094	63.14969	63.17649
17	Pw2	7331.2	7331.8	6784.4	6784.8	6580.8	6580.8	4742.6	4742.6
18	Ps2	13870.3	13808.6	12807.1	12785.4	12679.6	12470.4	9052.3	9050.5
19	Ps	3737.7	3715.8	3592.8	3579.7	3548.8	3531.9	3008.7	3008.4
20	P	3221.4	3210.5	3095.4	3088.9	3055.0	3047.3	2586.0	2585.8
21	Pr	4.79	4.77	4.60	4.59	4.54	4.53	3.84	3.84
22	Tr	1.69	1.69	1.68	1.68	1.68	1.68	1.68	1.68
23	Z	0.845	0.845	0.840	0.840	0.839	0.839	0.826	0.826

Pc =	2943.2	Pc2 = 8662.4
Pt2 =	7318.1	Pw = 2707.7
	6750.8	2600.9
	6570.0	2567.3
	4679.4	2177.8
Pc2-Pw2=	1330.9	Pw2 = 7331.8
	1697.8	6784.8
	2071.5	6580.9
	3918.8	4742.8
	n =	0.859
Pc2/(Pc2-Pw2) =		6.509
		4.564
		4.182
		2.210
(Pc2/Pc2-Pw2)n =		4.999
		3.685
		3.419
		1.878
	AOF= Q	2.919
		2.204
		2.502
		2.536

FORM C122-D