

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

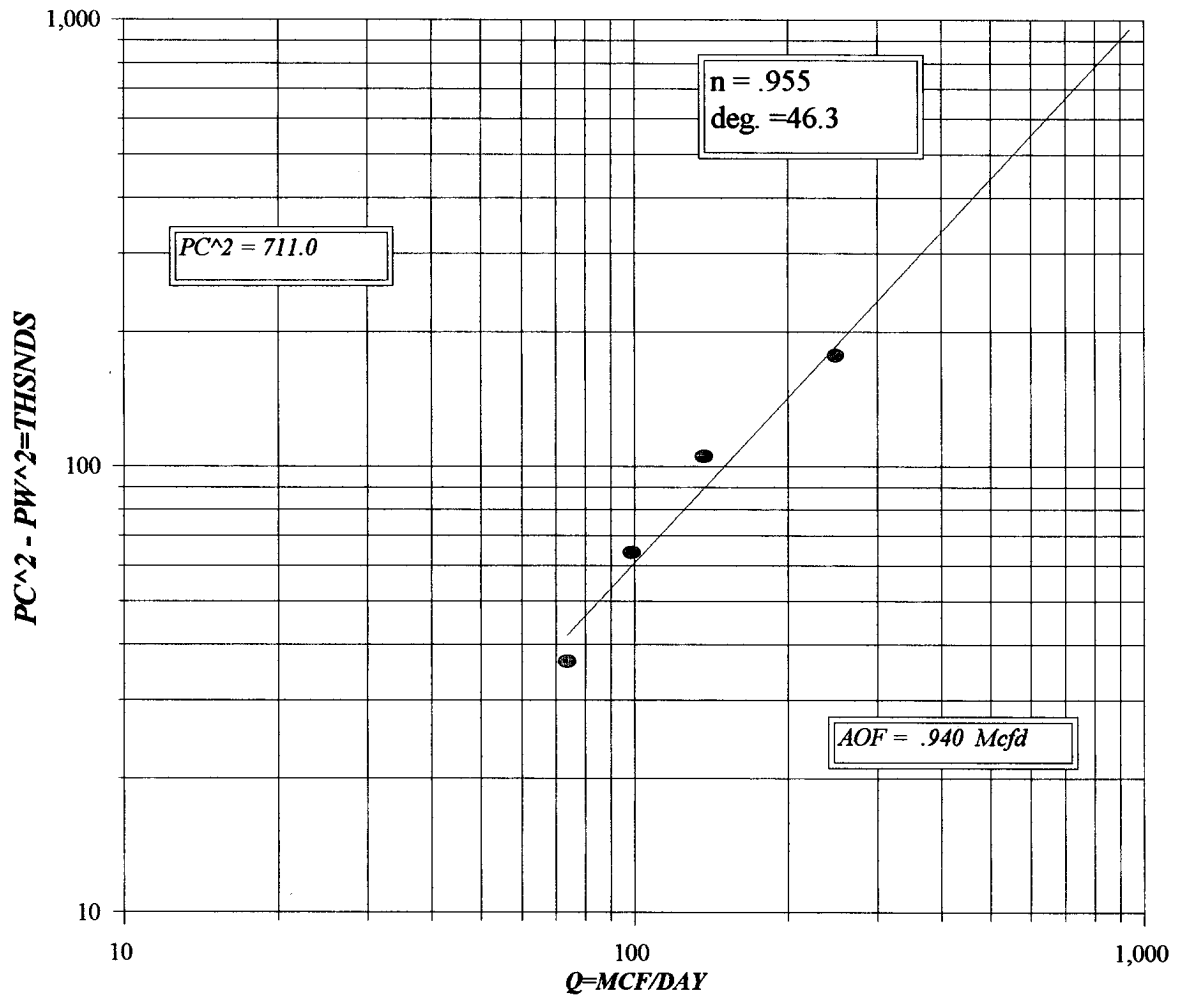
30-025-36475

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator CHESAPEAKE ENERGY				Lease or Unit Name BOYCE 5-15			
Type Test ☐ Initial ☐ Annual ☐ Special				Test Date 10/27/2004		Well No. 5	
Completion Date 2/6/2004		Total Depth		Plug Back TD 11720		Elevation 3985 GL	
Csg. Size 5 1/2	Wt. 17	d	Set At 11720	Perforations: From: 11450-11460 To: 11498-11508		County LEA	
Tbg. Size 2 7/8	Wt. 6.5	d 2.441	Set At 11397	Perforations: From: To:		Pool	
Type Well-Single-Bradenhead-G.G. or G.O. Multiple SINGLE				Packer Set At 11397		Formation ATOKA	
Producing Thru TUBING		Reservoir Temp. 169.2 @ 11397		Mean Annual Temp. 60		Baro. Press.-P _a 13.2	
Connection SALES							
L 11397	H 11397	Gg 0.786	%CO ₂ 7.307	%N ₂ 0.895	%H ₂ S	Prover	Meter Run 2.067
Taps FLG							
FLOW DATA				TUBING DATA		CASING DATA	
No.	Prover Line Size	Orifice x Size	Press p.s.i.g.	Diff. h _w	Temp.	Press p.s.i.g.	Temp.
SI							
1	2 x 1.125		32	2.4	77	808	
2	2 x 1.125		33	4.2	81	791	
3	2 x 1.125		32	8.3	81	765	
4	2 x 1.125		40	22.9	81	717	
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 _{sp}	Rate of Flow Q, Mcfd
1	6.393	10.42	45.2	0.984	1.128	1.004	674
2	6.393	13.93	46.2	0.9804	1.128	1.003	599
3	6.393	19.37	45.2	0.9804	1.128	1.003	137
4	6.393	34.9	53.2	0.9804	1.128	1.008	249
5							
No.	P _r	Temp. R	T _r	Z	Gas Liquid Hydrocarbon Ratio DRY GAS Mcf bbl.		
1	0.06	537	1.32	0.993	A.P. I. Gravity of Liquid Hydrocarbons DRY Deg.		
2	0.06	540	1.33	0.994	Specific Gravity Separator Gas 0.786 XXXXXXXX		
3	0.06	540	1.33	0.994	Specific Gravity Flowing Fluid XXXXXX N/A		
4	0.07	540	1.33	0.984	Critical Pressure * 696 P.S.I.A. N/A P.S.I.A.		
5					Critical Temperature * 406 R N/A R		
P _c 843.2 P _{c2} 711							
No.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $P_c^2 = \frac{4.018}{P_c^2 - P_w^2}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.776$		
1		821.2	674.4	36.5	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 0.940$		
2		804.3	646.9	64.1			
3		778.4	605.8	105.1			
4		730.8	534	176.9			
5							
Absolute Open Flow 940 Mcfd @ 15.025				Angle of Slope (°) 46.3		Slope, n: 0.955	
Remarks: * CORRECTED TO 7.307% CO ₂ NO FLUID PRODUCED							
Approved By: Division: 		Conducted By: PRO WELL TESTING		Calculated By: MERV BUECKER		Checked By: BM	

CHESAPEAKE ENERGY

BOYCE 5-15 35





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: Meter Run
IDENTIFICATION: Boyce 5 #15
COMPANY: Chesapeake Energy
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED 10/27/04 3:30pm
ANALYSIS DATE: 10/28/04
PRESSURE - PSIG 35.6
SAMPLE TEMP. °F 82
ATMOS. TEMP. °F 85

GAS (XX) LIQUID ()
SAMPLED BY: Greg Myers
ANALYSIS BY: Vickie Biggs

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H2S)		
Nitrogen (N2)	0.895	
Carbon Dioxide (CO2)	7.307	
Methane (C1)	74.755	
Ethane (C2)	8.858	2.363
Propane (C3)	4.236	1.164
I-Butane (IC4)	0.563	0.184
N-Butane (NC4)	1.277	0.402
I-Pentane (IC5)	0.387	0.141
N-Pentane (NC5)	0.364	0.132
Hexane Plus (C6+)	<u>1.358</u>	<u>0.589</u>
	100.000	4.975

BTU/CU.FT. - DRY 1173
AT 14.650 DRY 1169
AT 14.650 WET 1149
AT 14.73 DRY 1176
AT 14.73 WET 1155

MOLECULAR WT. 22.8561

SPECIFIC GRAVITY -
CALCULATED 0.786
MEASURED