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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator				Lease or Unit Name			
PALADIN				STATE ECC			
Type Test: ☑ Initial ☐ Annual ☐ Special				Test Date: 6/16/03		Well No.: 1	
Completion Date	Total Depth		Plug Back TD		Elevation	Unit Ltr - Sec - TWP - Rge	
Csg. Size	Wt.	d	Set At	Perforations: From: 10120 To: 10150		County: Lea	
Tbg. Size: 2 3/8	Wt.: 4.7	d: 1.995	Set At: 5390	Perforations: From: To:		Pool: Wildcat	
Type Well-Single-Bradenhead-G.G. or G.O. Multiple: SINGLE				Packer Set At: 5390		Formation: Atoka	
Producing Thru: Tubing	Reservoir Temp.°F: 170	Mean Annual Temp. °F: 60		Baro. Press.-P_a: 13.2		Connection: AIR	

L	H	Gg	%CO_2	%N_2	%H_2S	Prover	Meter Run	Taps
10135	10135	0.782	0.298	2.303	N/A	N/A	4.026	FLG

	FLOW DATA				TUBING DATA		CASING 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.	Temp. °F	Duration of Flow
SI					2335	N/A	PKR	N/A	
1	4.026 X 1.500	300	2	73	2137				1 HR.
2	4.026 X 1.500	300	6	81	2176				1 HR.
3	4.026 X 1.500	300	18	81	2100				1 HR.
4	4.026 X 1.500	300	38	90	2027				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 F pv	Rate of Flow Q. Mcfd
1	10.84	25.7	313.2	0.9877	1.131	1.072	333
2	10.84	43.3	313.2	0.9804	1.131	1.072	557
3	10.84	75	313.2	0.9804	1.131	1.072	966
4	10.84	109	313.2	0.9723	1.131	1.068	1387
5							

No.	P_r	Temp. °R	T_r	Z
1	0.8	536	1.3	0.87
2	0.81	541	1.31	0.87
3	0.81	541	1.31	0.87
4	0.82	550	1.34	0.877
5				

Gas Liquid Hydrocarbon Ratio: 33.781 Mcf bbl.
A.P. I. Gravity of Liquid Hydrocarbons: 53.5 @ 60 Deg.
Specific Gravity Separator Gas: 0.782 XXXXXXX
Specific Gravity Flowing Fluid: N/A XXXXX GMIX=.867
Critical Pressure: 666 P.S.I.A. 664 P.S.I.A.
Critical Temperature: 410 R. 439 R

P_c 2588.8 P_c^2 6701.9

No.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		2409.4	5805.2	896.7
2		2440.2	5954.6	747.3
3		2355.2	5546.9	1155
4		2297.6	5278.9	1423
5				

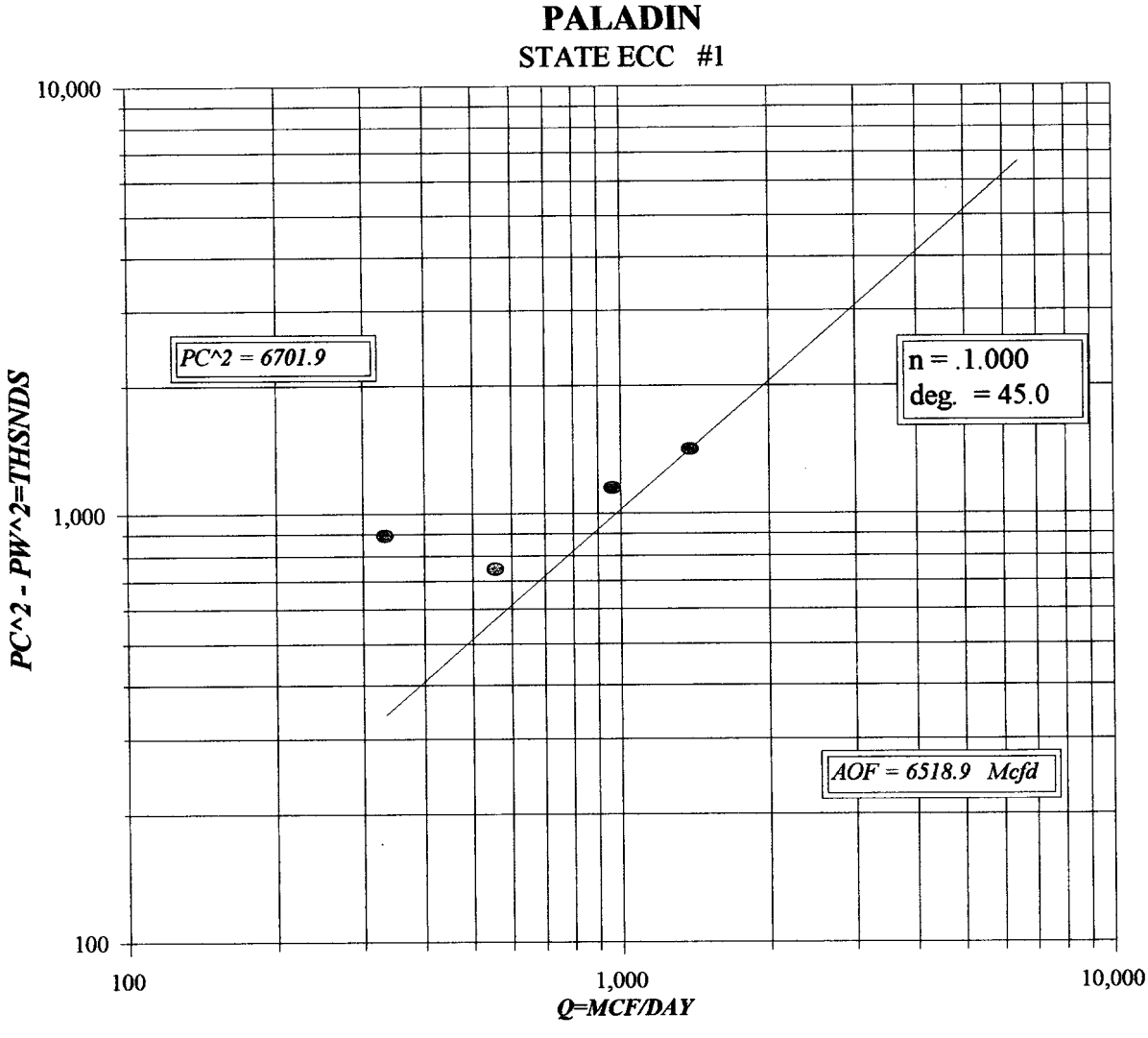
(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.7$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 4.7$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 6518.9$

Absolute Open Flow: 6518.9 Mcfd @ 15.025 Angle of Slope (): 45 Slope n: 1

Remarks: *CALCULATED FROM KNOWN BOTTOM HOLE PRESSURES. WELL MADE 4 BBLS OF 53.5 API GRAVITY CONDENSATE DURING TEST.

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


PALADIN
STATE ECC #1
10,000
1,000
100
100
1,000
10,000
PC^2 - PW^2=THSNDS
Q=MCF/DAY
PC^2 = 6701.9
n = .1.000
deg. = 45.0
AOF = 6518.9 Mcfd

C122D FORM IMPORTED FROM SYMPHONY ON 9-9-01

COMPANY :	PALADIN		LEASE :	STATE ECC	WELL NO. :	1					
UNIT :			SECTION :		TOWNSHIP :						
L :	10135	H :	10135	L/H :	1	G/GMIX :	0.782				
%CO2 :	0.298	%N2 :	2.303	H2S :		DATE :	6/16/03				
d :	1.995	Fr :	0.018183	GH :	8197.0	RANGE :					
VOL 1 :	333	PSIA 1 :	2150.2		RESV.TEMP	170.0					
VOL 2 :	557	PSIA 2 :	2189.2								
VOL 3 :	966	PSIA 3 :	2113.2		SHUT-IN PRES =	2348.2					
VOL 4 :	1387	PSIA 4 :	2040.2								
			PCR :	664							
			TCR :	439							

LINE		RATE 1		RATE 2		RATE 3		RATE 4	
		`1ST	`2ND	`1ST	``2ND	`1ST	`2ND	`1ST	`2ND
1	QM	0.333	0.333	0.557	0.557	0.966	0.966	1.387	1.387
2	TW	534	534	534	534	534	534	534	534
3	Ts	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0
4	T	582.0	582.0	582.0	582.0	582.0	582.0	582.0	582.0
	PR (est)	3.24		3.30		3.18		3.07	
5	Z(est)	0.632	0.661	0.633	0.665	0.632	0.658	0.631	0.652
6	TZ	368.1	384.6	368.5	386.8	367.7	382.7	367.5	379.2
7	GH/TZ	22.271	21.313	22.243	21.190	22.290	21.416	22.303	21.617
8	eS	2.305	2.224	2.303	2.214	2.307	2.232	2.308	2.249
9	I-e-S	0.566	0.550	0.566	0.548	0.566	0.552	0.567	0.555
10	Pt	2150.2	2150.2	2189.2	2189.2	2113.2	2113.2	2040.2	2040.2
11	Pt2 /1000	4623.4	4623.4	4792.6	4792.6	4465.6	4465.6	4162.4	4162.4
12	Fr	0.018183	0.018183	0.018183	0.018183	0.018183	0.018183	0.018183	0.018183
13	Fc=FrTZ	6.692	6.993	6.701	7.034	6.687	6.959	6.683	6.895
14	FcQm	2.23	2.33	3.73	3.92	6.46	6.72	9.27	9.56
15	L/H(FcQm)2	5.0	5.4	13.9	15.3	41.7	45.2	85.9	91.5
16	Fw	2.8120249	2.9844123	7.8809392	8.4154481	23.636734	24.951679	48.688037	50.7960218
17	Pw2	4626.2	4626.3	4800.5	4801.0	4489.3	4490.6	4211.1	4213.2
18	Ps2	10664.2	10288.3	11054.5	10627.4	10355.8	10025.1	9719.2	9476.9
19	Ps	3265.6	3207.5	3324.8	3260.0	3218.0	3166.2	3117.6	3078.5
20	P	2707.9	2678.9	2757.0	2724.6	2665.6	2639.7	2578.9	2559.3
21	Pr	4.08	4.03	4.15	4.10	4.01	3.98	3.88	3.85
22	Tr	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
23	Z	0.661	0.659	0.665	0.662	0.658	0.656	0.652	0.650

Pc =	2588.8	Pc2 =	6701.9
Pt2 =	4623.4	Pw =	2409.4
	4792.6		2440.2
	4465.6		2355.2
	4162.4		2297.6
Pc2-Pw2=	896.7	Pw2 =	5805.2
	747.3		5954.6
	1165.0		5546.9
	1423.0		5278.9
n =		1.000	
Pc2/(Pc2-Pw2) =		7.474	
		8.968	
		5.803	
		4.700	
[Pc2/Pc2-Pw2]n =		7.474	
		8.968	
		5.803	
		4.700	
AOF= Q		2.489	
		4.995	
		5.605	
		6.519	

FORM C122-D

Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 397-3713

ASTM DISTILLATION

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

Sample Date: 6/16/03
Sampled By: B. Pena

Paladin
State BCC #1

Percent Distilled	Temperature
IBP	88
5	111
10	186
20	207
30	212
40	221
50	234
60	264
70	300
80	360
90	458
95	542
EP	576

% Recovered = 96.5
% Residue = 1.5
% Loss = 2.0

API Gravity @ 60° F = 53.5
Molecular Weight = 115

Rolland Perry

Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

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

SAMPLE:
IDENTIFICATION: State BCC #1
COMPANY: Paladin
LEASE:
PLANT:

SAMPLE DATA:
DATE SAMPLED: 6/16/03
ANALYSIS DATE: 6/17/03
PRESSURE – PSIG 300
SAMPLE TEMP. °F 100
ATMOS. TEMP. °F

GAS (XX) LIQUID ( )
SAMPLED BY: B. Pena
ANALYSIS BY: Vickie Biggs

REMARKS: Sample taken @ the meter run.
Condensate API Gravity @ 60° F = 53.5

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)		
Nitrogen	(N2)	2.303	
Carbon Dioxide	(CO2)	0.298	
Methane	(C1)	73.240	
Ethane	(C2)	11.806	3.150
Propane	(C3)	7.238	1.988
I-Butane	(IC4)	0.996	0.325
N-Butane	(NC4)	2.193	0.690
I-Pentane	(IC5)	0.516	0.188
N-Pentane	(NC5)	0.436	0.158
Hexane Plus	(C6+)	0.979	0.425
		100.000	6.924

BTU/CU.FT. – DRY	1819
AT 14.650 DRY	1815
AT 14.650 WET	1292
AT 14.73 DRY	1322
AT 14.73 WET	1299

MOLECULAR WT. 22.7095

SPECIFIC GRAVITY –
CALCULATED 0.782
MEASURED