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: GRUY PETROLEUM	Lease or Unit Name: PENNZOIL 36 ST. COM.		
Type Test: ☑ Initial ☐ Annual ☐ Special		Test Date: 1/24/03	Well No.: 2
Completion Date	Total Depth: 13607	Plug Back TD: 13607	Elevation	Unit Ltr - Sec - TWP - Rge: 36 19 33
Csg. Size: 4" / Wt.: 10.46 / d / Set At: 13607	Perforations: From: 13456 To: 13533			County: LEA
Tbg. Size: 2 3/8 / Wt.: 4.7 / d: 1.95 / Set At: 13378	Perforations: From: OPEN To: ENDED			Pool
Type Well-Single-Bradenhead-G.G. or G.O. Multiple: SINGLE	Packer Set At: 13378			Formation: Morrow
Producing Thru: Tbg. Size	Reservoir Temp.°F: 187.0 @ 13378	Mean Annual Temp. °F: 60	Baro. Press.-P_a: 13.2		Connection

L	H	Gg	%CO_2	%N_2	%H_2S	Prover	Meter Run	Taps
13378	13378	0.687	0.625	0.863	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					1956		PKR		48 HRS
1	4 X 1.000	511	7.9	69	1450		"		15 MIN
2	4 X 1.000	513	14.2	71	1315		"		15 MIN
3	4 X 1.000	517	15.4	74	1214		"		15 MIN
4	4 X 1.000	447	16.2	74	1055		"		20 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							1,274
2							1,453
3	MEASURED		BY	TOTAL	FLOW	METER	1,749
4							2,026
5							

No.	P_r	Temp. °R	T_r	Z
1				
2				
3			N/A	
4				
5				

Gas Liquid Hydrocarbon Ratio	7.476	Mcf bbl.	
A.P. I. Gravity of Liquid Hydrocarbons	54.0 @ 60	Deg.	
Specific Gravity Separator Gas	0.687	XXXXXXX	
Specific Gravity Flowing Fluid	XXXXX	GMIX= 1.050	
Critical Pressure	669 P.S.I.A.	655 P.S.I.A.	
Critical Temperature	385 R.	507 R	

P_c 1969.2 P_c^2 3877.7

No.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		1480.2	2191	1686.8
2		1349.9	1822.1	2055.6
3		1258	1582.7	2295.1
4		1109.5	1231	2646.7
5				

(1) $\dfrac{P_c^2}{P_c^2 - P_w^2} = 1.465$ (2) $\left[\dfrac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.465$

$AOF = Q \left[\dfrac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.968$

79825

Absolute Open Flow 2,968 Mcfd @ 15.025 | Angle of Slope Q: 45 | Slope n: 1

Remarks: WELL PRODUCED 10 BBLS OF 54 API CONDENSATE DURING TEST

Approved By Division	Conducted By:	Calculated By:	Checked By:
ORIGINAL SIGNED BY PAUL F. KAUTZ PETROLEUM ENGINEER	SIGNAL WIRE LINE	BM	BM

COMPANY : GRUY PETROLEUM LEASE : PENNA. 36 ST. COM. WELL NO. : 2

UNIT : SECTION : 36 TOWNSHIP : 19

L : 13378 H : 13378 ./H : 1 G/GMIX : 1.050

%CO2 : 0.625 %N2 : 0.863 H2S : DATE :1-24-03

d : 1.995 Fr :0.018231 GH : 14046.9 RANGE : 33

VOL 1 : 1274 PSIA 1 : 1463.2 RESV.TEMP 187.0

VOL 2 : 1453 PSIA 2 : 1328.2

VOL 3 : 1749 PSIA 3 : 1227.2 SHUT-IN PR= 1969.2

VOL 4 : 2026 PSIA 4 : 1068.2

PCR : 655

TCR : 507

LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	`1ST	`2ND	`1ST	``2ND	`1ST	`2ND	`1ST	`2ND
1 QM	1.274	1.274	1.453	1.453	1.749	1.749	2.026	2.026
2 TW	534	534	534	534	534	534	534	534
3 Ts	647.0	647.0	647.0	647.0	647.0	647.0	647.0	647.0
4 T	590.5	590.5	590.5	590.5	590.5	590.5	590.5	590.5
PR (est)	2.23		2.03		1.87		1.63	
5 Z(est)	0.461	0.582	0.474	0.542	0.494	0.512	0.546	0.472
6 TZ	272.4	343.9	280.0	320.1	291.8	302.3	322.4	278.7
7 GH/TZ	51.566	40.842	50.168	43.884	48.138	46.469	43.572	50.397
8 eS	6.915	4.625	6.562	5.184	6.081	5.712	5.124	6.619
9 1-e-S	0.855	0.784	0.848	0.807	0.836	0.825	0.805	0.849
10 Pt	1463.2	1463.2	1328.2	1328.2	1227.2	1227.2	1068.2	1068.2
11 Pt2 /1000	2141.0	2141.0	1764.1	1764.1	1506.0	1506.0	1141.1	1141.1
12 Fr	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.0182311
13 Fc=FrTZ	4.966	6.270	5.105	5.836	5.320	5.511	5.877	5.082
14 FcQm	6.33	7.99	7.42	8.48	9.30	9.64	11.91	10.30
15 L/H(FcQm)	40.0	63.8	55.0	71.9	86.6	92.9	141.8	106.0
16 Fw	34.24312	50.01782	46.63038	58.02826	72.33941	76.63981	114.1194	89.975803
17 Pw2	2175.2	2191.0	1810.7	1822.1	1578.4	1582.7	1255.2	1231.0
18 Ps2	15041.7	10134.2	11882.0	9446.8	9597.9	9040.5	6431.7	8147.6
19 Ps	3878.4	3183.4	3447.0	3073.6	3098.0	3006.7	2536.1	2854.4
20 P	2670.8	2323.3	2387.6	2200.9	2162.6	2117.0	1802.1	1961.3
21 Pr	4.08	3.55	3.65	3.36	3.30	3.23	2.75	2.99
22 Tr	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
23 Z	0.582	0.533	0.542	0.517	0.512	0.506	0.472	0.488

Pc = 1969.2 Pc2 = 3877.7

Pt2 = 2141.0 Pw = 1480.2

1764.1 1349.9

1506.0 1258.0

1141.1 1109.5

Pc2-Pw2= 1686.8 Pw2 = 2191.0

2055.6 1822.1

2295.1 1582.7

2646.7 1231.0

n = 1.000

Pc2/(Pc2-Pw2) = 2.299

1.886

1.690

1.465

[Pc2/Pc2-Pw2]n = 2.299

1.886

1.690

1.465

AOF= Q 2.929

2.741

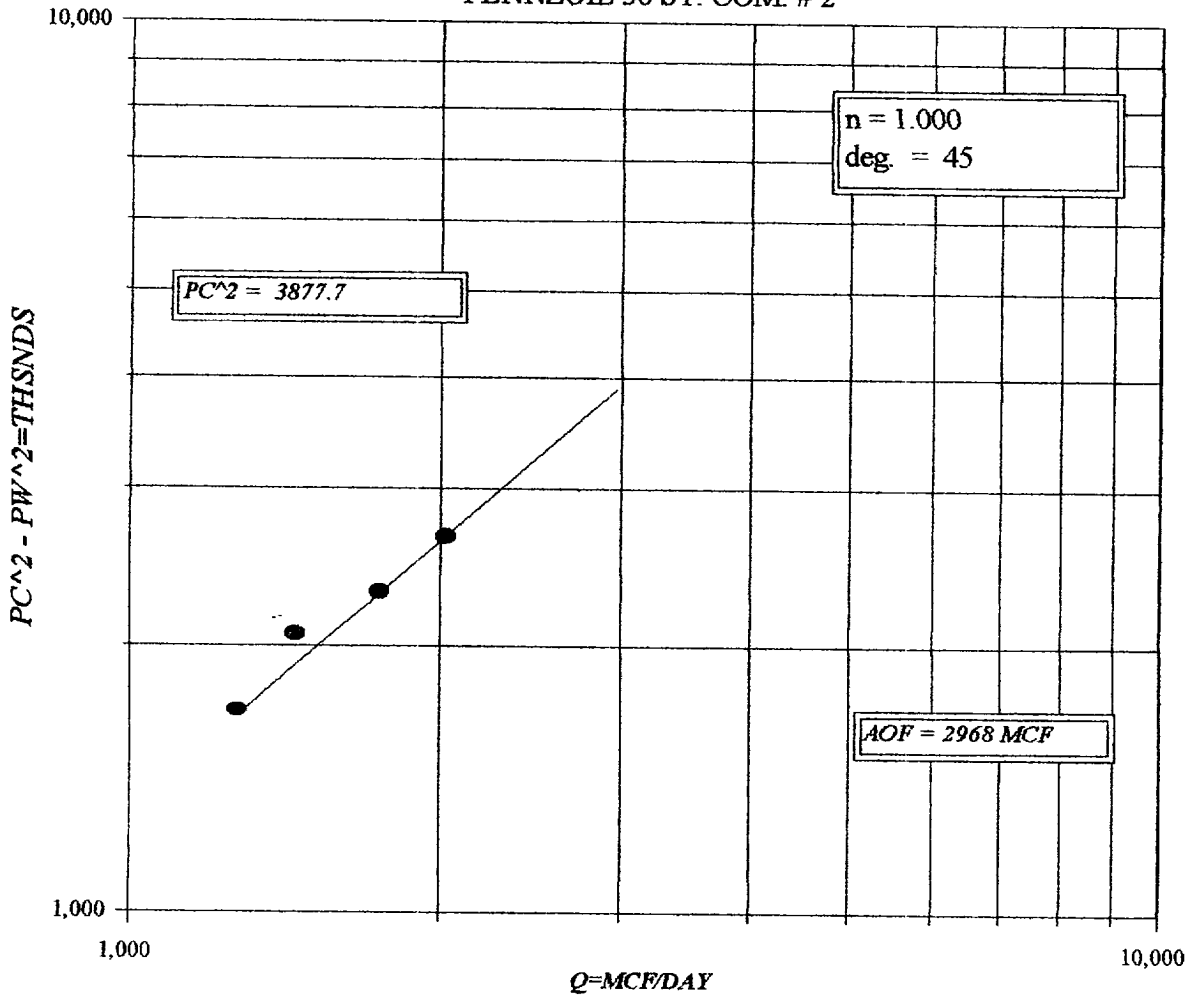
2.955

2.968

FORM C122-D

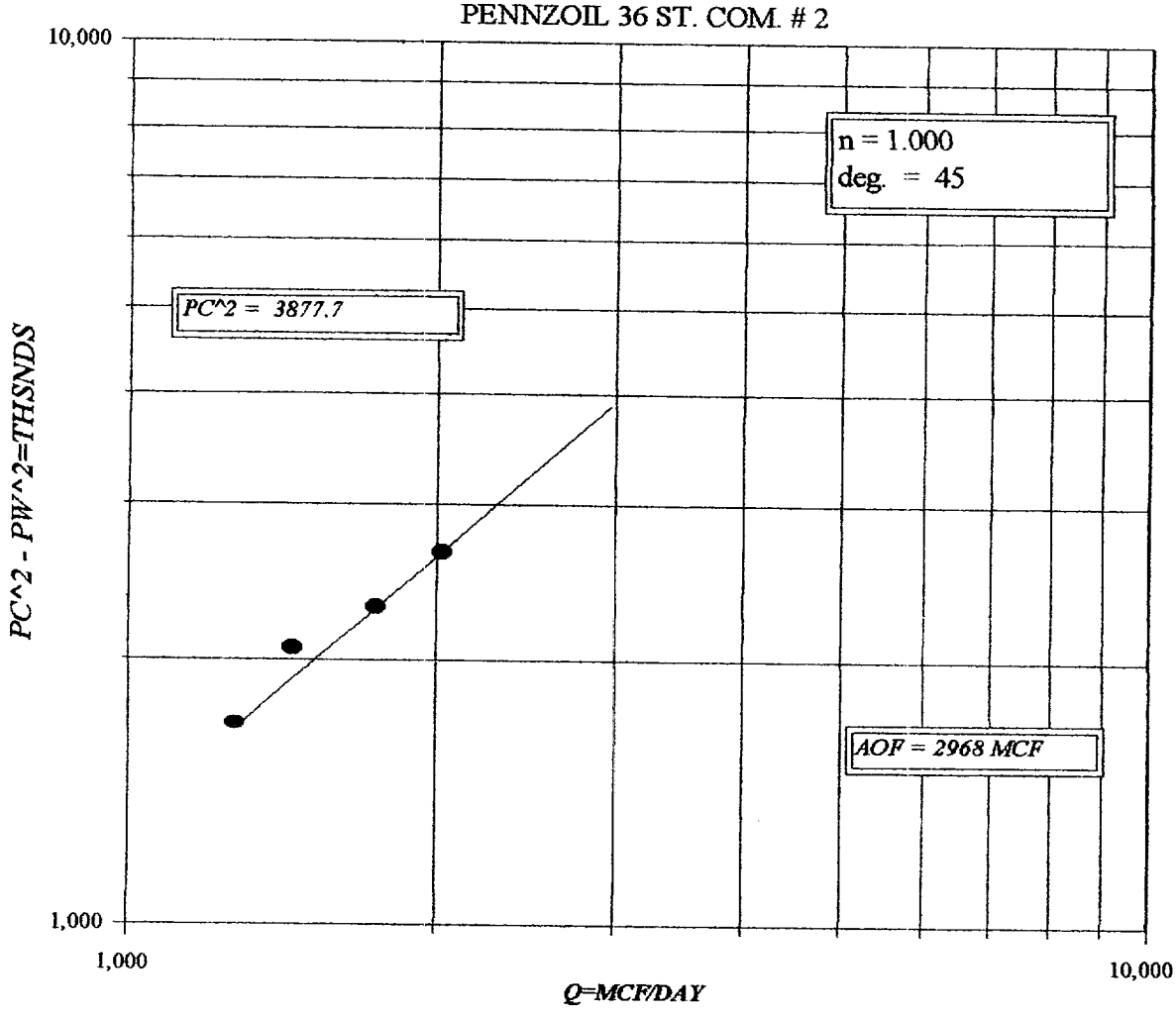
GRUY PETROLEUM

PENNZOIL 36 ST. COM. # 2



GRUY PETROLEUM

PENNZOIL 36 ST. COM. # 2



NEW MEXICO G.O.R./G. MIX

NO. OF BBLS PRODUCED	=	10.0
API GRAVITY @ 60 DEG.	=	54.0
SPECIFIC GRAVITY OF GAS	=	0.6870
TOTAL GAS PRODUCED	=	75
G.O.R.	=	7.476
G.MIX	=	1.050