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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: PALMILLO ST. COM.			
Type Test: ☒ Initial ☐ Annual ☐ Special				Test Date: 3-22-01		Well No. 4	
Completion Date:		Total Depth:		Plug Back TD:		Elevation:	
Casing Size: 5 1/2		WT. d: 17#		Set At: 11550		Perforations: From: 11116 To: 11116	
Tbg. Size: 2 3/8		WT. d: 4.7		Set At: 11024		Perforations: From: To:	
Type Well: Single-Bradenhead-G.G. or G.O. Multiple				Packer Set At: 11024		Formation: Turkey Track Marrow	
Producing Thru:		Reservoir Temp. °F: 184.2 @ 11024		Mean Annual Temp. °F: 60		Baro. Press. - P _a : 13.2	
I: 11024		H: 11024		Gg: 0.638		%CO ₂ : 0.494	
				%N ₂ : 0.829		%H ₂ S:	
				Prover:		Meter Run: 4 026	
						Taps: 0g	

FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow	
No.	Prover Line Size	Outflow x 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
SI						3750		PKR		48 HRS.
1	4	X 1.750	288		91	3210		"		1 HR
2	4	X 1.750	334		86	3139		"		"
3	4	X 1.750	419		80	3004		"		"
4	4	X 1.750	506		62	2820		"		"
5										

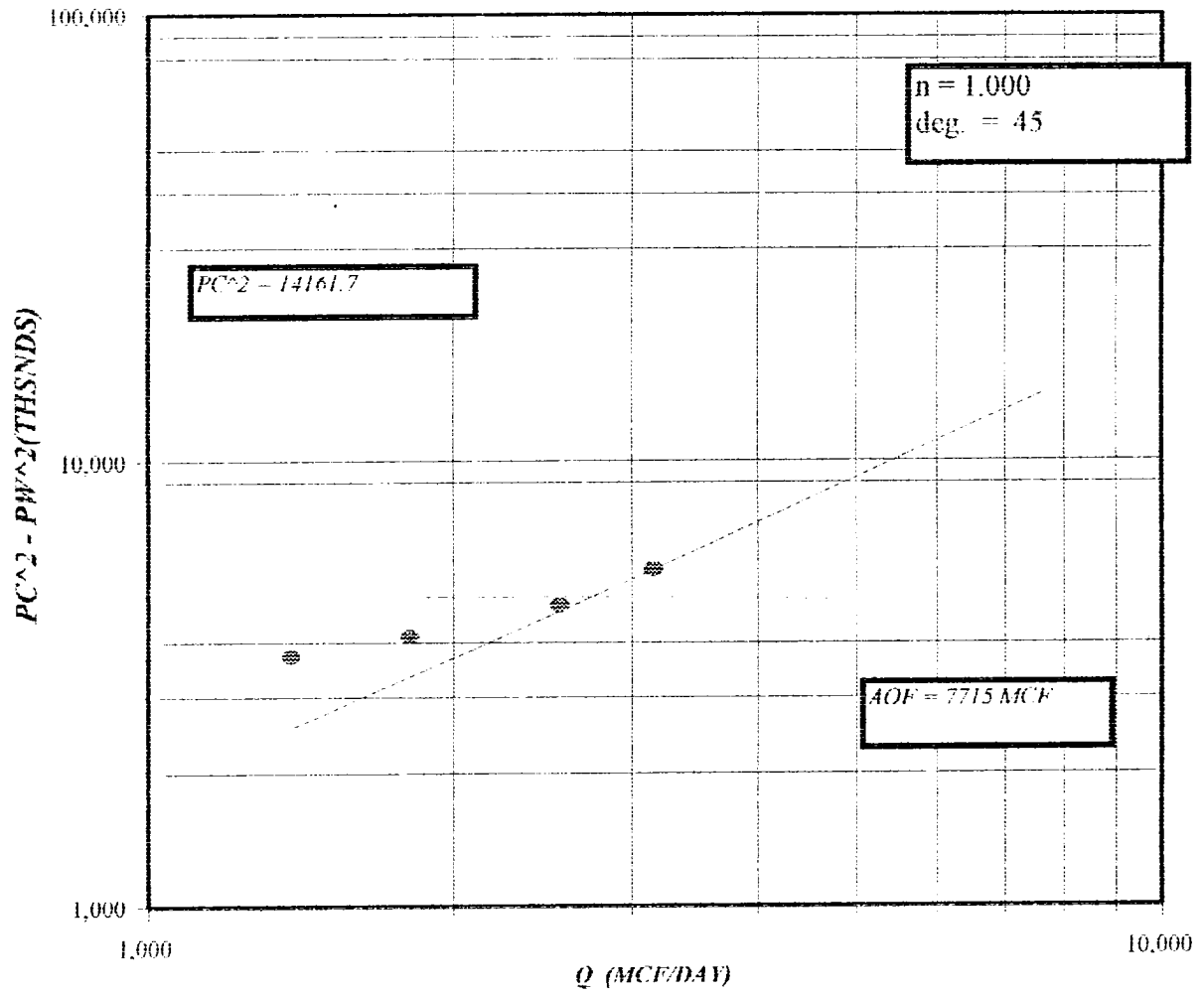
RATE OF FLOW CALCULATIONS							
No.	COEFFICIENT (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress Factor F _{pv}	Rate of Flow Q, Mcfd
1							1386
2							1816
3			GAS MEASURED	TOTAL	FLOW	METER	2550
4							3158
5							

No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	40.1	Mer bbl
1					A.P.I. Gravity of Liquid Hydrocarbons	55.0 @ 60	Deg
2					Specific Gravity Separator Gas	0.638	XXXXXXX
3		N/A			Specific Gravity Flowing Fluid	XXXXXX	G MIX .711
4					Critical Pressure	670	P.S.I.A. 668 P.S.I.A.
5					Critical Temperature	368	R 35 R

P _i 3763.2		P ₂ 14161.7			
No.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.443$
1		3233.8	10457.4	3704.3	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.443$
2		3170.6	10052.6	4109.1	
3		3054.3	9328.8	4832.8	
4		2892.2	8364.9	5796.8	
5					79825
				$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 7.715$	

Absolute Open Flow: 7.715		Mcfd @ 15.025		Angle of Slope (°): 45		Slope n: 1	
Remarks: WELL PRODUCED 9.4 BBLS 55.0 API CONDENSATE							
Approved By Division:		Conducted By: SIGNAL WIRE LINE		Calculated By: BM		Checked By: BM	

GRUY PETROLEUM
PALMILLO ST. COM. # 4



O COMPANY : GRUY PETROLEUM LEASE : PAL. ST. COM. WELL NO. : 4 Pc = 3763.2 Pc2 = 14161.7 *
 UNIT : SECTION : 32 TOWNSHIP : 18
 L : 11024 H : 11024 L/H : 1 G/GMIX : 0.711 Pt2 = ***** Pw = 3233.8 *
 %CO2 : 0.494 %N2 : 0.829 H2S : DATE : 9936.4 3170.6 *
 d : 1.995 Fr : 0.018231 GH : 7838.1 RANGE : 29 9103.5 3054.3 *
 8027.0 2892.2 *

VOL 1 : 1386 PSIA 1 : 3223.2 RESV.TEMP 184.2 Pc2-Pw2= 3704.3 Pw2 = 10457.4 *
 VOL 2 : 1816 PSIA 2 : 3152.2 4109.1 10052.6 *
 VOL 3 : 2550 PSIA 3 : 3017.2 SHUT-IN PR= 3763.2 4832.8 9328.8 *
 VOL 4 : 3158 PSIA 4 : 2833.2 5796.8 8364.9 *

PCR : 668 n = 1.000 ✓
 TCR : 395

Pc2/(Pc2-Pw2) = 3.823
 3.446
 2.930
 2.443 ✓

LINE		RATE 1		RATE 2		RATE 3		RATE 4		
		1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND	
1	QM	1.386	1.386	1.816	1.816	2.550	2.550	3.158	3.158	
2	TW	534	534	534	534	534	534	534	534	[Pc2/Pc2-Pw2]n = 3.823
3	TS	644.2	644.2	644.2	644.2	644.2	644.2	644.2	644.2	3.446
4	T	589.1	589.1	589.1	589.1	589.1	589.1	589.1	589.1	2.930
	FR (est)	4.83		4.72		4.52		4.24		2.443 ✓
5	Z(est)	0.780	0.824	0.776	0.818	0.769	0.807	0.760	0.793	
6	TZ	459.6	485.5	457.1	482.0	452.8	475.5	447.7	467.2	AOF= Q 5.299
7	GH/TZ	17.055	16.144	17.147	16.262	17.312	16.482	17.505	16.777	6.259
8	eS	1.896	1.832	1.902	1.840	1.914	1.855	1.928	1.876	7.472
9	l-e-S	0.472	0.454	0.474	0.457	0.478	0.461	0.481	0.467	7.715 ✓
10	Pt	3223.2	3223.2	3152.2	3152.2	3017.2	3017.2	2833.2	2833.2	
11	Pt2 /1000	10389.0	10389.0	9936.4	9936.4	9103.5	9103.5	8027.0	8027.0	
12	Fr	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	
13	Pc-FrTZ	8.379	8.852	8.334	8.787	8.254	8.670	8.163	8.517	
14	PcQm	11.61	12.27	15.13	15.96	21.05	22.11	25.78	26.90	
15	1/Π(PcQm)	134.9	150.5	229.0	254.6	443.1	488.8	664.5	723.5	
16	Pw	63.71828	68.35343	108.6285	116.2544	211.5698	225.3304	319.8535	337.84253	
17	Pw2	10452.7	10457.4	10045.0	10052.6	9315.1	9328.8	8346.9	8364.9	
18	Ps2	19814.4	19157.4	19107.7	18498.2	17828.8	17308.4	16092.3	15692.4	
19	Ps	4451.3	4376.9	4371.2	4301.0	4222.4	4160.3	4011.5	3961.4	
20	P	3837.3	3800.1	3761.7	3726.6	3619.8	3588.8	3422.4	3397.3	
21	Pr	5.74	5.69	5.63	5.58	5.42	5.37	5.12	5.09	
22	Tr	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	
23	Z	0.824	0.821	0.818	0.815	0.807	0.805	0.793	0.791	FORM C122-D



Laboratory Services, Inc.

4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Gruy Petroleum
Attention: Mr. Reggie Reston
1601 N. Turner, Suite 212
Hobbs, New Mexico 88240

SAMPLE:
IDENTIFICATION: Palmillo St. 4
COMPANY: Gruy Petroleum
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 3/22/01
ANALYSIS DATE: 3/23/01
PRESSURE - PSIG 230
SAMPLE TEMP. °F
ATMOS. TEMP. °F

GAS (XX) LIQUID ()
SAMPLED BY: Reggie Reston
ANALYSIS BY: Vickie Biggs

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H ₂ S)		
Nitrogen (N ₂)	0.829	
Carbon Dioxide (CO ₂)	0.494	
Methane (C ₁)	88.617	
Ethane (C ₂)	6.672	1.780
Propane (C ₃)	2.110	0.580
I-Butane (IC ₄)	0.265	0.086
N-Butane (NC ₄)	0.417	0.131
I-Pentane (IC ₅)	0.113	0.041
N-Pentane (NC ₅)	0.101	0.036
Hexane Plus (C ₆ +)	0.382	0.166
	100.000	2.820

BTU/CU.FT. - DRY 1115
AT 14.650 DRY 1112
AT 14.650 WET 1092
AT 14.73 DRY 1118
AT 14.73 WET 1098

MOLECULAR WT. 18.5047

SPECIFIC GRAVITY -
CALCULATED 0.638
MEASURED