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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

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Form C-122
Revised October, 1999

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator GRUY PET. MANAGEMENT					Lease or Unit Name EMPIRE 20 FED COM				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 7/20/00		Well No. #2		
Completion Date		Total Depth 11300		Plug Back TD 11247		Elevation 3513		Unit Ltr - Sec - TWP - Rge 0 20 18S 29E	
Csg. Size 5 1/2	Wt. 17#	d 4.887	Set At 11300	Perforations: From: 11138 To: 11150			County EDDY		
Tbg. Size 2 3/8	Wt. 4.7	d 1.995	Set At 10980	Perforations: From: To:			Pool N Turkey Track Morrow		
Type Well-Single-Bradenhead-G.G. or G.O. Multiple MULTIPLE				Packer Set At 10980			Formation MORROW		
Producing Thru TUBING		Reservoir Temp. °F 183.8	Mean Annual Temp. °F 60	Baro. Press.-P _a 13.2			Connection SALES		
L 10980	H 10980	Gg 0.623	%CO ₂ 0.667	%N ₂ 0.661	%H ₂ S N/A	Prover N/A	Meter Run 3.068	Taps FLG	
FLOW DATA			TUBING DATA			CASING DATA			Duration of Flow
No.	Prover Line Size	Orifice x Size	Press p.s.i.g.	Diff. h _w	Temp. °F	Press p.s.i.g.	Temp. °F	Press p.s.i.g.	
SI						1300	N/A	PKR	
1	3.068 X	1.000	214	4.2	78	215			24 HR
2									
3									
4									
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								204	
2	GAS VOLUMES			BY	TOTAL	FLOW	METER		
3									
4									
5									
No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf bbl.				
1					A.P. I. Gravity of Liquid Hydrocarbons _____ Deg.				
2	TOTAL	FLOW	METER		Specific Gravity Separator Gas 0.632 XXXXXXXX				
3					Specific Gravity Flowing Fluid N/A XXXXXX				
4					Critical Pressure 673 P.S.I.A. _____ P.S.I.A.				
5					Critical Temperature 368 R. _____ R				
P _c 1313.2 P _{c2} 1724.5									
No.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.032$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.032$				
1	52.1	231.7	53.7	1670.8	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 211$				
2									
3									
4									
5									
Absolute Open Flow 211					Mcf @ 15.025		Angle of Slope (°): 45		Slope n: 1
Remarks: WELL MADE NO LIQUID DURING TEST									
Approved By Division:			Conducted By: PRO WELL TESTING		Calculated By: MB		Checked By: BM		

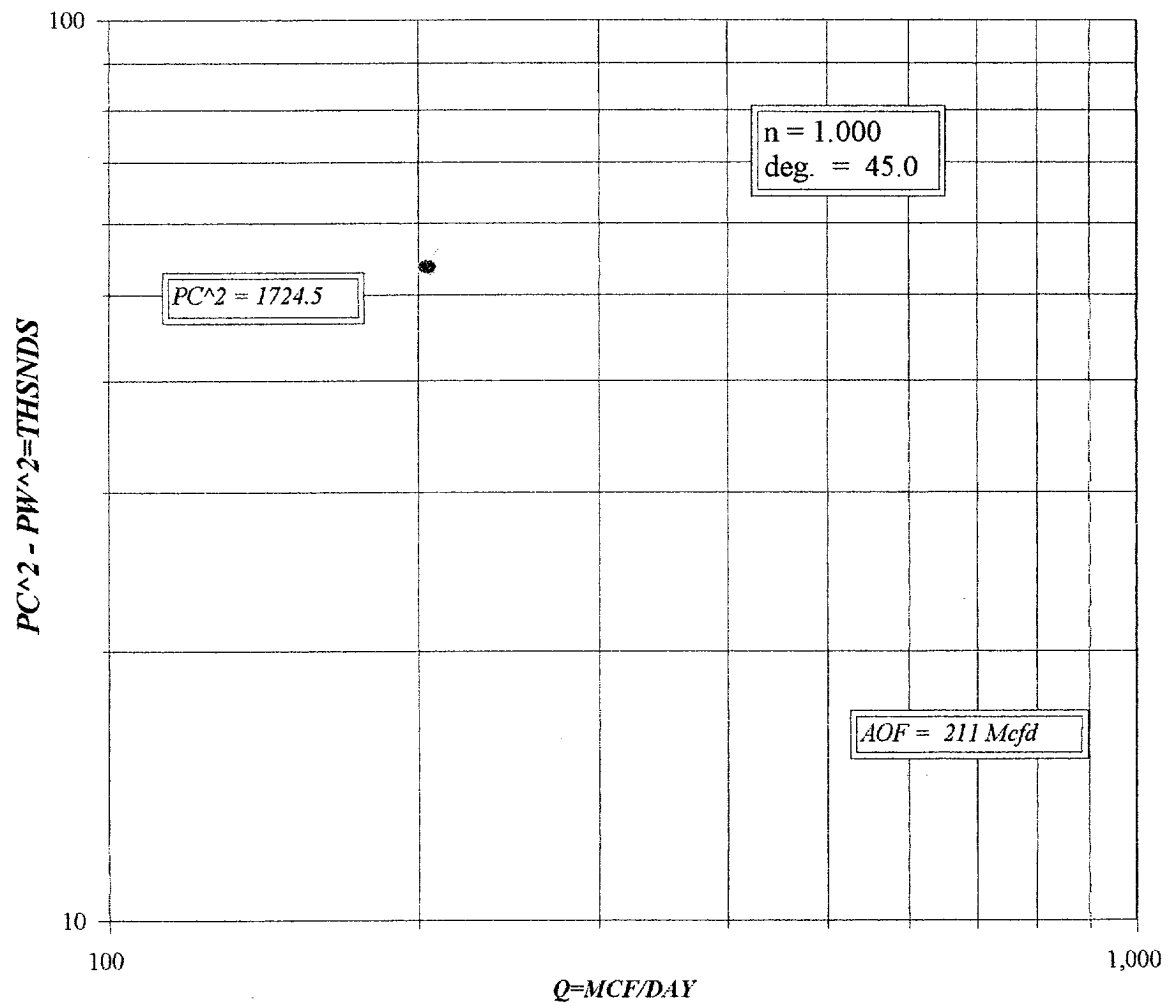
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GRUY PET. MANAGEMENT
EMPIRE 20 FED COM # 2



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UNIT : SECTION : 20 TOWNSHIP : 18S
 L : 10980 H : 10980 L/H : 1 G/GMIX : 0.632
 %CO2 : 0.667 %W2 : 0.661 H2S : DATE : 7/20/00
 d : 1.995 Pr : 0.018231 GH : 6939.4 RANGE : 29E

VOL 1 : 204 PSIA 1 : 228.2 RESV.TEMP 183.8
 VOL 2 : PSIA 2 :
 VOL 3 : PSIA 3 : SHUT-IN PR= 1313.2
 VOL 4 : PSIA 4 :

PCR : 673
 TCR : 368

Pt2 = 0.0 Pw = 231.7
 0.0 ERR
 0.0 ERR
 0.0 ERR

Pc2-Pw2= 1670.8 Pw2 = 53.7
 ERR ERR
 ERR ERR
 ERR ERR

n = 1.000

Pc2/(Pc2-Pw2) = 1.032
 ERR
 ERR
 ERR

[Pc2/Pc2-Pw2]n = 1.032
 ERR
 ERR
 ERR

AOF= Q 0.211
 ERR
 ERR
 ERR

FORM C122-D

LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 QM	0.204	0.204	0.000	0.000	0.000	0.000	0.000	0.000
2 TW	534	534	534	534	534	534	534	534
3 Ts	643.8	643.8	643.8	643.8	643.8	643.8	643.8	643.8
4 T	588.9	588.9	588.9	588.9	588.9	588.9	588.9	588.9
PR (est)	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 Z(est)	0.949	0.945	ERR	ERR	ERR	ERR	ERR	ERR
6 TZ	558.9	556.7	ERR	ERR	ERR	ERR	ERR	ERR
7 GH/TZ	12.416	12.465	ERR	ERR	ERR	ERR	ERR	ERR
8 eS	1.593	1.596	ERR	ERR	ERR	ERR	ERR	ERR
9 l-e-S	0.372	0.373	ERR	ERR	ERR	ERR	ERR	ERR
10 Pt	228.2	228.2	0.0	0.0	0.0	0.0	0.0	0.0
11 Pt2 /1000	52.1	52.1	0.0	0.0	0.0	0.0	0.0	0.0
12 Pr	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231
13 Fc=PrTZ	10.189	10.150	ERR	ERR	ERR	ERR	ERR	ERR
14 FcQm	2.08	2.07	ERR	ERR	ERR	ERR	ERR	ERR
15 L/H(FcQm)	4.3	4.3	ERR	ERR	ERR	ERR	ERR	ERR
16 Fw	1.608316	1.600776	ERR	ERR	ERR	ERR	ERR	ERR
17 Pw2	53.7	53.7	ERR	ERR	ERR	ERR	ERR	ERR
18 Ps2	85.5	85.7	ERR	ERR	ERR	ERR	ERR	ERR
19 Ps	292.4	292.7	ERR	ERR	ERR	ERR	ERR	ERR
20 P	260.3	260.4	ERR	ERR	ERR	ERR	ERR	ERR
21 Pr	0.39	0.39	ERR	ERR	ERR	ERR	ERR	ERR
22 Tr	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
23 Z	0.945	0.945	ERR	ERR	ERR	ERR	ERR	ERR

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JUN- 1-00 THU 14:37 Laboratory Services

P.02

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

Telephone: (505) 307-3713

*no flow***FOR:**Pro Well Testing & Wireline
P. O. Box 791
Hobbs, New Mexico 88241**SAMPLE:**IDENTIFICATION: Empire 20 Fed. Com. #2
COMPANY: Gruy Petroleum
LEASE:
PLANT:**SAMPLE DATA:**DATE SAMPLED: 5/31/00 8:30 pm
ANALYSIS DATE: 6/1/00
PRESSURE - PSIG 242
SAMPLE TEMP. °F 67
ATMOS. TEMP. °FGAS (XX) LIQUID ()
SAMPLED BY: R. Hicks
ANALYSIS BY: Vickie Walker**REMARKS:**Sample taken @ the meter run.
Wellhead Pressure = 1525 PSIA**COMPONENT ANALYSIS**

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H ₂ S)		
Nitrogen (N ₂)	0.001	
Carbon Dioxide (CO ₂)	0.067	
Methane (C ₁)	90.120	
Ethane (C ₂)	5.964	1.431
Propane (C ₃)	1.780	0.489
I-Butane (IC ₄)	0.270	0.088
N-Butane (NC ₄)	0.458	0.143
I-Pentane (IC ₅)	0.172	0.068
N-Pentane (NC ₅)	0.157	0.057
Hexane Plus (C ₆₊)	0.843	0.141
	100.000	2.412

BTU/CU.FT. - DRY 1103
AT 14.650 DRY 1100
AT 14.650 WET 1081
AT 14.73 DRY 1108
AT 14.73 WET 1087

MOLECULAR WT. 18.2884

SPECIFIC GRAVITY -
CALCULATED
MEASURED

0.832

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