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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 BOG RESOURCES				Lease or Unit Name EMPANADA 6 FED. COM.			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 2/14/05		Well No. 1	
Completion Date		Total Depth		Plug Back TD 13100		Elevation	
Csg. Size 5 1/2		WL 17 #		Perforations: From: 12730 To: 12776		Unit Ltr - Sec - TWP - Rgs 6 13 35	
Tag. Size 2 7/8		Wt. 6.5 #		Set At 12635		County LEA	
Type Well Single - Horizontal G.O. or G.O. Multiple SINGLE				Packer Set At 12635		Formation MISSISSIPPIAN	
Producing Thru TBG		Reservoir Temp. °F 180.3 @ 12635		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 12635		H 12635		G _g 0.662		G _o 1.016	
N ₂ 0.812		H ₂ S X		Prover N/A		Meter Run 4.026	
Taps FLG							
FLOW DATA				CASINO DATA			
No.	Prover Line Size	Orifice Size	Press. p.s.i.g.	Diff. In. H ₂ O	Temp. °F	Press. p.s.i.g.	Temp. °F
1	4 Y	7.625	471	0.0	64	3810	PKR
2	4 X	2.625	492	3.2	78	5606	"
3	4 X	2.625	521	7.2	68	3435	"
4	4 X	2.625	552	14	66	2650	"
5						2310	"
DURATION OF FLOW							
1	72 HRS						
2	1HR						
3	1HR						
4	1HR						
5	1HR						
RATE OF FLOW AT EACH TEST POINT							
No.	Q (24 Hour)	h.p.	P _w	Factor F ₁	Gravity Factor F ₂	Factor F ₃	Q Mcfd
1	36.66	19.68	484.2	0.9962	1.229	1.051	928
2	36.66	40.21	505.2	0.9831	1.229	1.055	1,870
3	36.66	62.02	534.2	0.9924	1.229	1.054	2,923
4	36.66	88.95	565.2	0.9943	1.229	1.058	4,216
5							
No.	P _w	Temp. °R	T _w	Z	Gas Liquid Hydrocarbon Ratio 59.149 Mcf/bbl		
1	0.71	524	1.38	0.906	A.P.I. Gravity of Liquid Hydrocarbons 34.9 @ 60 Deg.		
2	0.75	538	1.42	0.907	Specific Gravity Separator Gas 0.662 XXXXXXXX		
3	0.79	528	1.4	0.9	Specific Gravity Flowing Fluid XXXXXX Gmix = .712		
4	0.83	526	1.39	0.894	Critical Pressure * 674 P.S.I.A. 668 P.S.I.A.		
5					Critical Temperature * 377 R 395 R		
P ₁	3223.2	P ₂	14616.9				
No.	P ₁ ²	P _w	P _w ²	P ₁ ² - P _w ²			
1		3614.9	13067.8	1549.1			
2		3455.4	11940	2676.9			
3		2683.5	7201.3	7415.5			
4		2369.6	5615	9001.9			
5							
(1) $P_1^2 = 1.624$				(2) $\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^n = 1.482$			
AOF = Q				$\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^n = 6.248$			
79825							
Absolute Open Flow 6.248				Mcf/d @ 15.025			
Angle of Slope (°) 50.9				Slope n: 0.8117			
Remarks: * CORR. TO 1.016 % CO2 - WELL PRODUCED 7 BBLS OF 34.9 API CONDENSATE & 5 BBLS H2O							
Approved By Division: 		Conducted By: BEACON RESOURCES		Calculated By: BM		Checked By: BM	

0 COMPANY : BOG RESOURCES

LEASE : EMP. 6 FED. CON.

WELL NO. : 1

Pc = 3023.2

Pc2 = 14616.9 *

UNIT :

SECTION : 6

TOWNSHIP : 13

L : 12635

H : 12635

L/H : 1

G/GH/LH : 0.712

SCO2 : 1.016

BH2 : 0.012

H2S :

DATE : 2-14-05

d : 2.441

Fr : 0.010763

GH : 0996.1

RANGE : 35

Pt2 = *****

Pw = 3614.9 *

3455.4 *

7092.6

2683.5 *

5397.3

2369.6 *

VOL 1 : 920

PSIA 1 : 3613.2

RESV.TEMP 100.3

VOL 2 : 1870

PSIA 2 : 3440.2

Pc2-Pw2 = 1549.1

Pw2 = 13067.8 *

VOL 3 : 2923

PSIA 3 : 2663.2

SEUY-IN PR = 3023.2

2676.9

11940.0 *

VOL 4 : 4216

PSIA 4 : 2323.2

7415.5

7201.3 *

9001.9

5615.0 *

PCR : 668

TCR : 395

n = 0.012 ✓

Pc2/(Pc2-Pw2) = 9.436

5.460

1.971

1.624 ✓

[Pc2/Pc2-Pw2]n = 6.104

3.966

1.735

1.482 ✓

BOF = Q

5.738

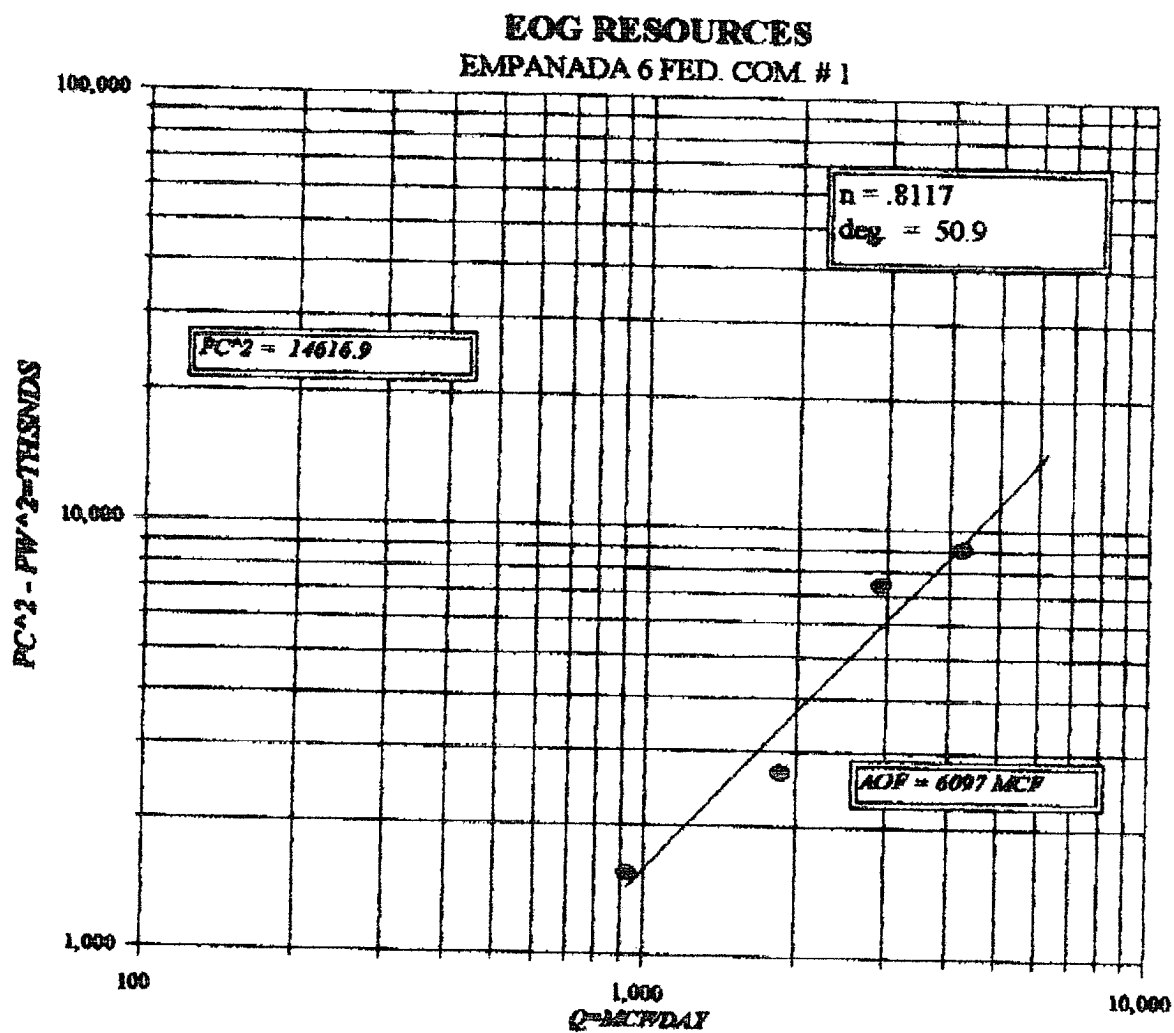
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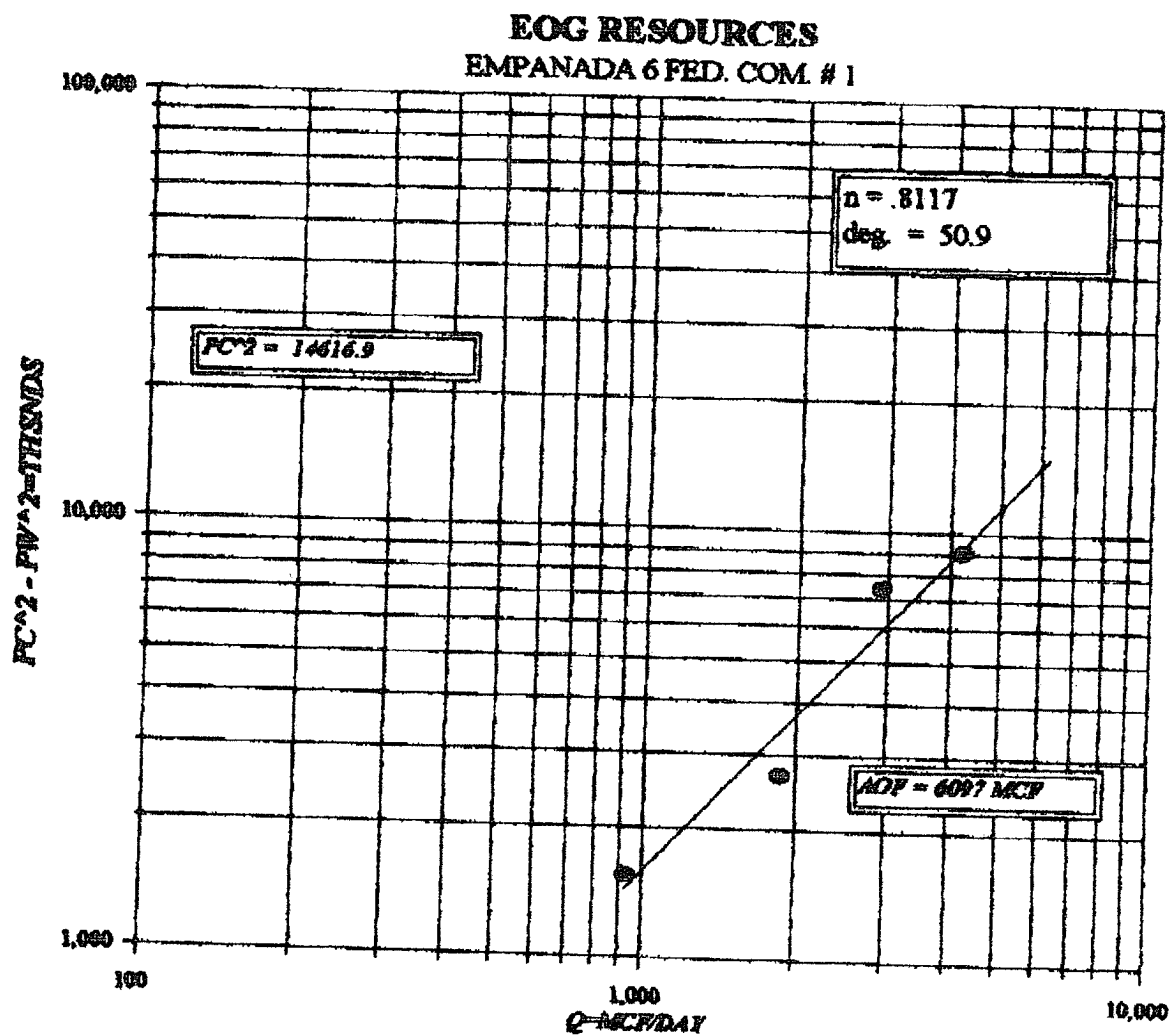
5.070

6.248 ✓

LINE	DATE 1		DATE 2		DATE 3		DATE 4	
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 GH	0.920	0.920	1.870	1.870	2.923	2.923	4.216	4.216
2 TH	534	534	534	534	534	534	534	534
3 To	640.3	640.3	640.3	640.3	640.3	640.3	640.3	640.3
4 Y	587.2	587.2	587.2	587.2	587.2	587.2	587.2	587.2
PR (est)	5.41		5.16		3.99		3.48	
5 R(est)	0.805	0.071	0.793	0.054	0.751	0.703	0.745	0.761
6 TE	472.6	511.1	465.5	501.4	441.1	459.9	437.7	446.6
7 GR/TE	19.037	17.601	19.326	17.942	20.393	19.577	20.554	20.146
8 eE	2.042	1.935	2.064	1.960	2.148	2.084	2.161	2.129
9 1-e-8	0.510	0.483	0.516	0.490	0.535	0.520	0.537	0.530
10 Pt	3613.2	3613.2	3440.2	3440.2	2663.2	2663.2	2323.2	2323.2
11 Pt2 /1000	13055.2	13055.2	11890.1	11890.1	7092.6	7092.6	5397.3	5397.3
12 Pr	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763
13 Pc=PrTE	5.086	5.501	5.010	5.397	4.748	4.946	4.711	4.806
14 PcQm	4.72	5.11	9.37	10.09	13.88	14.46	19.86	20.26
15 L/H(PcQm)	22.3	26.1	87.8	101.8	192.6	209.0	394.5	410.6
16 Pw	11.36019	12.59274	45.25376	49.87515	102.9599	108.6952	211.9575	217.70508
17 Pw2	13066.0	13067.8	11935.3	11940.0	7195.6	7201.3	5609.2	5615.0
18 Pw2	26600.5	25204.0	24636.4	23399.7	15459.2	15005.5	12124.0	11952.0
19 Pn	5165.3	5020.3	4963.5	4837.3	3931.8	3873.7	3482.0	3457.2
20 P	4309.3	4320.8	4205.9	4142.8	3297.5	3268.4	2902.6	2890.2
21 Pr	6.57	6.47	6.30	6.20	4.94	4.89	4.35	4.33
22 Tr	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49
23 X	0.071	0.064	0.054	0.048	0.703	0.701	0.761	0.760

FORM C122-D





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

NO. OF BBLs PRODUCED = 7.0
API GRAVITY @ 60 DEG. = 54.9

SPECIFIC GRAVITY OF GAS = 0.6620

TOTAL GAS PRODUCED = 414

G.O.R. = 59.149

G.MIX = 0.712