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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

Form C-122
Revised October, 1999

C15F

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator MURCHISON OIL & GAS, INC.				Lease or Unit Name RINGER FED. COM.			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 11/13/02		Well No. 4	
Completion Date 11/8/02		Total Depth 11648		Plug Back TD 11397		Elevation 3299.5 KB	
Unit Ltr - Sec - TWP - Rge A 3 25 26							
Csg. Size 5 1/2	Wt. 17	d 4.892	Set At 11648	Perforations: From: 10880 To: 11305		County EDDY	
Tbg. Size 2 7/8	Wt. 6.5	d 2.441	Set At 10780	Perforations: From: OPEN To: ENDED		Pool W WHITE CITY PENN.	
Type Well-Single-Bradenhead-G.G. or G.O. Multiple SINGLE				Packer Set At 10748		Formation MORROW	
Producing Thru Tbg. Size		Reservoir Temp. °F 163.6 10780		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
Connection DUKE ENERGY							
L 10780	H 10780	Gg 0.593	%CO ₂ 2.47	%N ₂ 1.513	%H ₂ S N/A	Prover N/A	Meter Run 4.026
						Taps FLG	
FLOW DATA				TUBING DATA		CASING DATA	
No.	Prover Line Size	Orifice x Size	Press p.s.i.g.	Diff. h _w	Temp. °F	Press p.s.i.g.	Temp. °F
SI						2155	
							PKR
1	4 X .750		341	16.2	68	2058	"
2	4 X .750		335	51.8	67	1896	"
3	4 X .750		328	92	65	1775	"
4	4 X .750		321	176	77	1644	"
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}
1							
2							
3	MEASURED			BY	TOTAL	FLOW	METER
4							
5							
No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio DRY GAS Mcf/bbl		
1					A.P. I. Gravity of Liquid Hydrocarbons DRY Deg		
2					Specific Gravity Separator Gas 0.593 XXXXXXXX		
3			N/A		Specific Gravity Flowing Fluid XXXXXX		
4					Critical Pressure 679 P.S.I.A. P.S.I.A.		
5					Critical Temperature 348 R. R.		
P _c 2168.2 P _w 4701.1							
No.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{2.415}{2.058} = 2.381$		
1		2071.4	4290.7	410.4			
2		1909.9	3647.6	1053.5			
3		1789.4	3202.1	1499			
4		1659.7	2754.6	1946.5			
5							
Absolute Open Flow 2.058				Mcf/d @ 15.025	Angle of Slope (°)	45.5	Slope n. 0.984
Remarks: NO FLUID PRODUCED							
Approved By Division:		Conducted By: JARREL SERVICES INC.		Calculated By: BM		Checked By: BM	

0
COMPANY :MURCHISON O & G INC. LEASE :RINGER FED. COM. WELL NO. : 4
UNIT : A SECTION : 3 TOWNSHIP : 25
L : 10780 H : 10780 L/H : 1 G/GMIX : 0.593
%CO2 : 2.47 %N2 : 1.513 H2S : DATE :11-13-02
d : 2.441 Fr :0.010763 GH : 6392.5 RANGE : 26

Pc = 2168.2 Pc2 = 4701.1 *
Pt2 = 4289.9 Pw = 2071.4 *
3645.0 1909.8 *
3197.7 1789.4 *
2746.3 1659.6 *

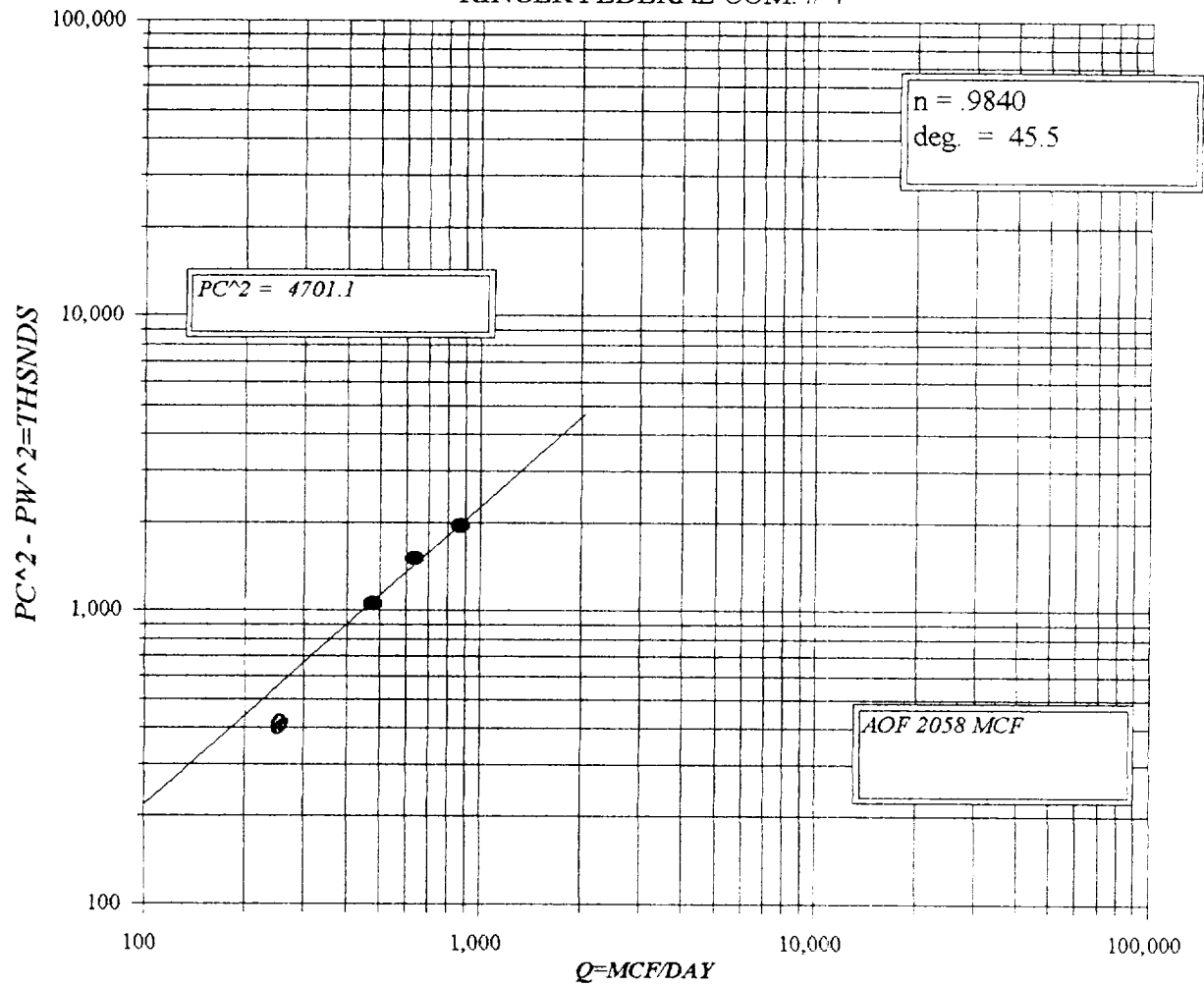
VOL 1 : 269 PSIA 1 : 2071.2 RESV.TEMP 163.6
VOL 2 : 483 PSIA 2 : 1909.2
VOL 3 : 640 PSIA 3 : 1788.2 SHUT-IN PR= 2168.2
VOL 4 : 870 PSIA 4 : 1657.2

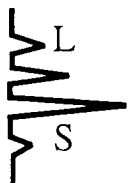
Pc2-Pw2= 410.5 Pw2 = 4290.6 *
1053.6 3647.5 *
1499.1 3202.0 *
1946.8 2754.3 *

PCR : 679 n = 0.984 /
TCR : 348

LINE	RATE 1		RATE 2		RATE 3		RATE 4		
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND	
1 QM	0.269	0.269	0.483	0.483	0.640	0.640	0.870	0.870	
2 TW	534	534	534	534	534	534	534	534	
3 Ts	623.6	623.6	623.6	623.6	623.6	623.6	623.6	623.6	[Pc2/Pc2-Pw2]n = 11.015
4 T	578.8	578.8	578.8	578.8	578.8	578.8	578.8	578.8	4.356
PR (est)	3.05		2.81		2.63		2.44		3.079
5 Z(est)	0.831	0.829	0.835	0.830	0.839	0.832	0.844	0.836	2.381 /
6 TZ	481.2	479.6	483.3	480.3	485.5	481.5	488.5	483.6	AOF= Q 2.963
7 GH/TZ	13.285	13.329	13.226	13.310	13.166	13.276	13.087	13.217	2.104
8 eS	1.646	1.648	1.642	1.647	1.638	1.645	1.634	1.642	1.971
9 l-e-S	0.392	0.393	0.391	0.393	0.390	0.392	0.388	0.391	2.058 /
10 Pt	2071.2	2071.2	1909.2	1909.2	1788.2	1788.2	1657.2	1657.2	
11 Pt2 /1000	4289.9	4289.9	3645.0	3645.0	3197.7	3197.7	2746.3	2746.3	
12 Fr	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.0107631	
13 Fc=FrTZ	5.179	5.162	5.202	5.169	5.226	5.183	5.257	5.206	
14 FcQm	1.39	1.39	2.51	2.50	3.34	3.32	4.57	4.53	
15 L/H(FcQm)	1.9	1.9	6.3	6.2	11.2	11.0	20.9	20.5	
16 Fw	0.761540	0.758463	2.468596	2.449442	4.358453	4.314546	8.114021	8.0159639	
17 Pw2	4290.6	4290.6	3647.5	3647.5	3202.0	3202.0	2754.4	2754.3	
18 Ps2	7061.3	7072.9	5989.6	6008.5	5246.3	5267.7	4499.5	4521.4	
19 Ps	2657.3	2659.5	2447.4	2451.2	2290.5	2295.2	2121.2	2126.4	
20 P	2364.3	2365.3	2178.3	2180.2	2039.3	2041.7	1889.2	1891.8	
21 Pr	3.48	3.48	3.21	3.21	3.00	3.01	2.78	2.79	
22 Tr	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	
23 Z	0.829	0.829	0.830	0.830	0.832	0.832	0.836	0.836	FORM C122-D

MURCHISON OIL & GAS, INC.
RINGER FEDERAL COM. # 4





Laboratory Services, Inc.

4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Jarrel Services Inc.
Attention: Mr. Donnie Dickerson
P. O. Box 1230
Hobbs, New Mexico 88241

SAMPLE:
IDENTIFICATION: Ringer Fed. Com. #4
COMPANY: Murchison Oil & Gas
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 12/2/02 9:00 am
ANALYSIS DATE: 12/2/02
PRESSURE -- PSIG
SAMPLE TEMP. °F
ATMOS. TEMP. °F

GAS (XX) LIQUID ()
SAMPLED BY: Donnie Dickerson
ANALYSIS BY: Vickie Biggs

REMARKS:

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)		
Nitrogen	(N2)	1.513	
Carbon Dioxide	(CO2)	2.470	
Methane	(C1)	94.504	
Ethane	(C2)	1.314	0.351
Propane	(C3)	0.147	0.040
I-Butane	(IC4)	0.020	0.007
N-Butane	(NC4)	0.032	0.010
I-Pentane	(IC5)	0.000	0.000
N-Pentane	(NC5)	0.000	0.000
Hexane Plus	(C6+)	0.000	0.000
		100.000	0.408
BTU/CU.FT. -- DRY		983	MOLECULAR WT. 17.1594
AT 14.650 DRY		980	
AT 14.650 WET		963	
AT 14.73 DRY		985	
AT 14.73 WET		968	
SPECIFIC GRAVITY --			
CALCULATED		0.593	
MEASURED			