

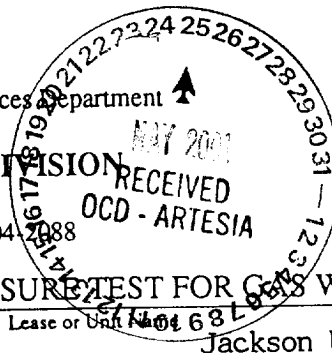
Submit in duplicate to appropriate district office
See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088



MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Murchison Oil & Gas, Inc.				Lease or Unit No. 681			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 05-22-01		Well No. 8	
Completion Date 05-22-01		Total Depth 13926		Plug Back TD 13786		Elevation 3612' KB	
Csg. Size 3 1/2		Wt. 12.95		Set At 2.750		Perforations: From: 13276 To: 13754	
Tbg. Size None		Wt. None		Set At None		Perforations: From: None To: None	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At None		Formation Wolfcamp	
Producing Thru Csg		Reservoir Temp. °F 186.1 @ 13296		Mean Annual Temp. °F 60°		Baro. Press - P. 13.2	
L 13276		H 13276		Gg 0.793		% CO ₂ 4.581	
				% N ₂ 0.677		% H ₂ S Prover	
						Meter Run 4.026	
						Taps FLG	

FLOW DATA

TUBING DATA

CASING DATA

NO.	Prover Line Size	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								3967		86.5 Hrs
1.	4.026 x 1.125	225	1.6	82				3500		1.0 Hr
2.	4.026 x 1.125	219	3.4	86				2870		1.0 Hr
3.	4.026 x 1.125	214	3.8	85				2151		1.0 Hr
4.	4.026 x 1.125	208	14.0	83				1510		1.0 Hr
5.										

RATE OF FLOW CALCULATIONS

NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg.	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	6.031	19.52	238.2	.9795	1.123	1.028	133
2.	6.031	28.10	232.2	.9759	1.123	1.028	191
3.	6.031	29.38	227.2	.9768	1.123	1.028	200
4.	6.031	55.65	221.2	.9786	1.123	1.027	379
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	3.420	Mcf/bbl
1.	.34	542	1.31	.946	A.P.I. Gravity of Liquid Hydrocarbons	53 @ 60	Deg
2.	.33	546	1.32	.947	Specific Gravity Separator Gas	.793	XXXXXXXXXX
3.	.33	545	1.32	.947	Specific Gravity Flowing Fluid	XXXXXX	GMIX = 1.497
4.	.32	543	1.31	.949	Critical Pressure	* 687	P.S.I.A. 620 P.S.I.A.
5.					Critical Temperature	* 412	R 567 R

P_c **3980.2** P_c² **15842.0**

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²
1.		3513.2	12342.6	3499.4
2.		2883.2	8312.9	7529.1
3.		2164.2	4683.9	11158.1
4.		1523.3	2320.5	13521.5
5.				

$$1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.172 \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.172$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .444$$

Absolute Open Flow **444** Mcfd @ 15.025 Angle of Slope θ **45** Slope, n **1.000**

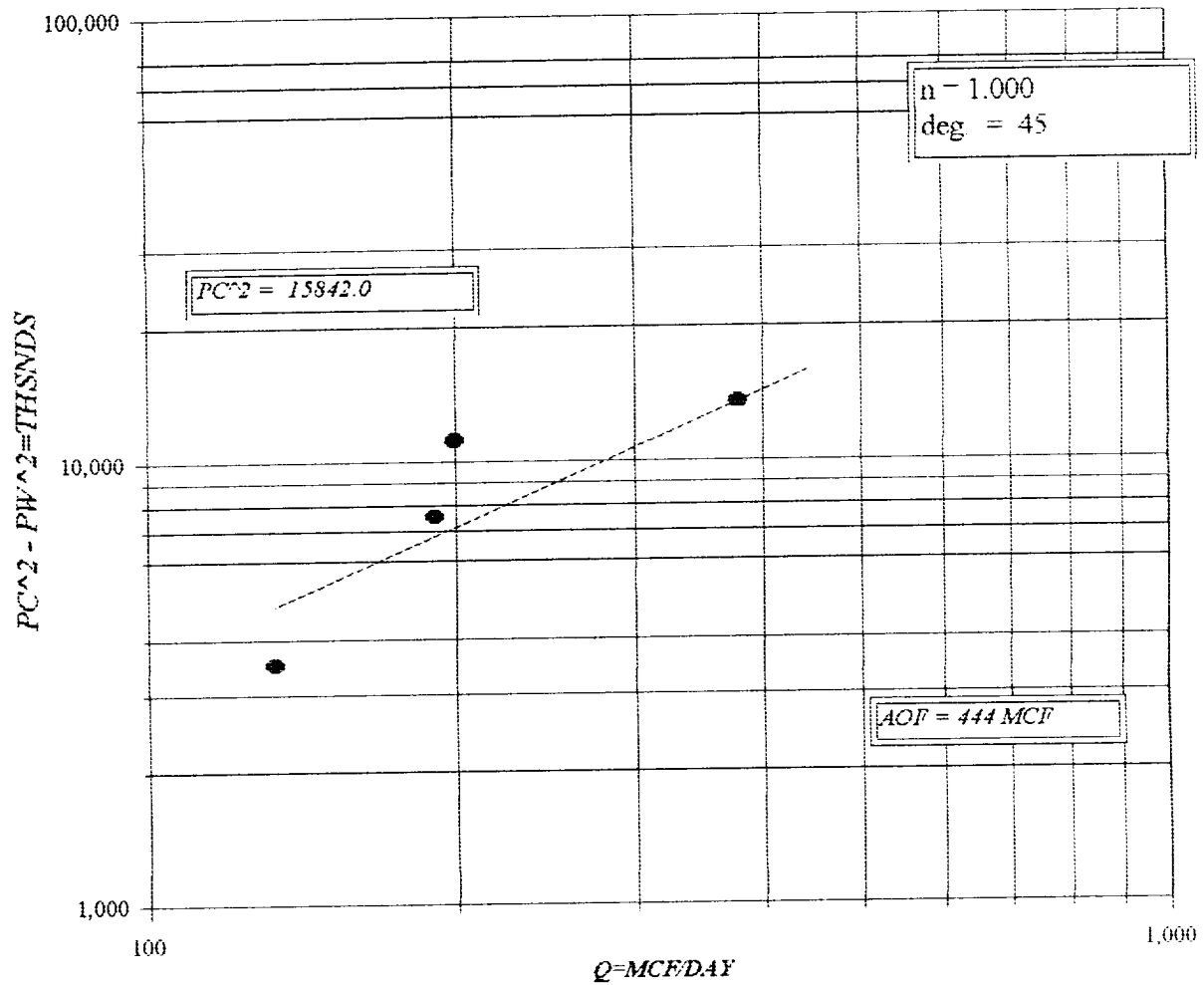
Remarks: **Well produced 11 bbls condensate during test**

* = Corrected to 4.581% CO₂

Approved By Division **Conducted By: Jarrel Services, Inc.** Calculated By: **Bob Murray** Checked By: **Bob Murray**

Original signed by Paul Jarrel

MURCHISON OIL & GAS INC.
JACKSON UNIT # 8



O COMPANY : MURCHISON OIL & GAS LEASE : JACKSON UNIT WELL NO. : 8 Pc = 3980.2 Pc2 = 15842.0
 UNIT : F SECTION : 22 TOWNSHIP : 24
 L : 13276 H : 13276 L/H : 1 G/GMIX : 1.497 Pt2 = ***** Pw = 3513.2
 %CO2 : 4.581 %N2 : 0.677 H2S : DATE : 5-22-01 8312.8 2883.2
 d : 2.75 Fr : 0.007883 GH : 19874.2 RANGE : 33 4683.8 2164.2
 2320.1 1523.3

VOL 1 : 133 PSIA 1 : 3513.2 RESV.TEMP 186.1
 VOL 2 : 191 PSIA 2 : 2883.2
 VOL 3 : 200 PSIA 3 : 2164.2 SHUT-IN PR= 3980.2
 VOL 4 : 379 PSIA 4 : 1523.2

PCR : 620
 TCR : 567

LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 QM	0.133	0.133	0.191	0.191	0.200	0.200	0.379	0.379
2 TW	534	534	534	534	534	534	534	534
3 Ts	646.1	646.1	646.1	646.1	646.1	646.1	646.1	646.1
4 T	590.1	590.1	590.1	590.1	590.1	590.1	590.1	590.1
PR (est)	5.67		4.65		3.49		2.46	
5 Z(est)	0.356	0.312	0.368	0.317	0.379	0.325	0.359	0.335
6 TZ	209.9	184.0	217.0	186.8	223.8	192.0	211.7	197.9
7 GH/TZ	94.692	108.030	91.601	106.409	88.818	103.529	93.866	100.420
8 eS	34.847	57.463	31.033	54.072	27.957	48.537	33.784	43.196
9 l-e-S	0.971	0.983	0.968	0.982	0.964	0.979	0.970	0.977
10 Pt	3513.2	3513.2	2883.2	2883.2	2164.2	2164.2	1523.2	1523.2
11 Pt2 /1000	12342.6	12342.6	8312.8	8312.8	4683.8	4683.8	2320.1	2320.1
12 Fr	0.007883	0.007883	0.007883	0.007883	0.007883	0.007883	0.007883	0.007883
13 Fc=FrTZ	1.655	1.450	1.710	1.472	1.764	1.513	1.669	1.560
14 FcQm	0.22	0.19	0.33	0.28	0.35	0.30	0.63	0.59
15 L/H(FcQm)	0.0	0.0	0.1	0.1	0.1	0.1	0.4	0.3
16 Fw	0.047039	0.036561	0.103293	0.077632	0.120025	0.089729	0.388368	0.3415862
17 Pw2	12342.6	12342.6	8312.9	8312.9	4683.9	4683.9	2320.5	2320.5
18 Ps2	430097.7	709238.6	257974.5	449498.3	130948.7	227339.1	78396.7	100235.7
19 Ps	20738.8	26631.5	16061.6	21201.4	11443.3	15077.8	8854.2	10011.8
20 P	12126.0	15072.4	9472.4	12042.3	6803.7	8621.0	5188.7	5767.5
21 Pr	19.56	24.31	15.28	19.42	10.97	13.90	8.37	9.30
22 Tr	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
23 Z	0.312	0.309	0.317	0.312	0.325	0.319	0.335	0.331

Pc2-Pw2= 3499.4 Pw2 = 12342.6
 7529.1 8312.9
~~*****~~
~~7775.81~~
~~*****~~
 13521.5 4683.9
 2320.5

n = 1.000

Pc2/(Pc2-Pw2) = 4.527
 2.104
 1.420
 1.172

[Pc2/Pc2-Pw2]n = 4.527
 2.104
 1.420
 1.172

AOF= Q 0.602
 0.402
 0.284
 0.444

FORM C122-D

=====

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

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NO. OF BBLs PRODUCED = 11.0

API GRAVITY @ 60 DEG. = 53.0

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SPECIFIC GRAVITY OF GAS = 0.7930

XX

TOTAL GAS PRODUCED = 38

G.O.R. = 3.420

G.MIX = 1.497





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 88240

SAMPLE:
IDENTIFICATION: Jackson Unit #8
COMPANY: Murchison Oil & Gas
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 5/22/01
ANALYSIS DATE: 5/23/01
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)	0.677	
Carbon Dioxide (CO2)	4.581	
Methane (C1)	70.415	
Ethane (C2)	14.068	3.753
Propane (C3)	6.543	1.799
I-Butane (IC4)	0.914	0.298
N-Butane (NC4)	1.738	0.547
I-Pentane (IC5)	0.348	0.127
N-Pentane (NC5)	0.342	0.124
Hexane Plus (C6+)	0.374	0.162
	100.000	6.810
BTU/CU.FT. - DRY	1257	MOLECULAR WT. 23.0011
AT 14.650 DRY	1253	
AT 14.650 WET	1231	
AT 14.73 DRY	1260	
AT 14.73 WET	1238	
SPECIFIC GRAVITY - CALCULATED	0.793	
MEASURED		

