

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

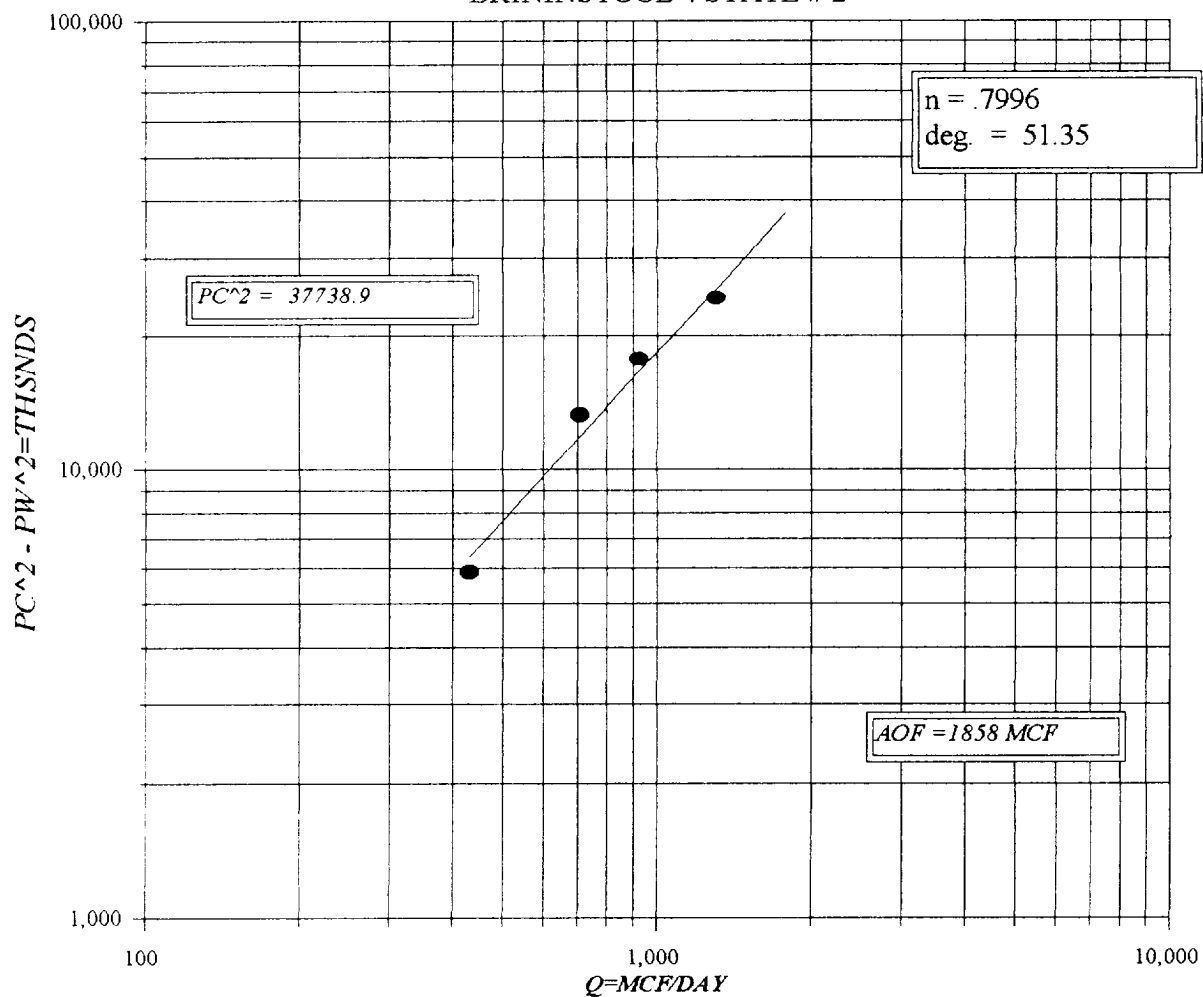
State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-122
Revised October, 1999

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator MURCHISON OIL & GAS, INC.					Lease or Unit Name BRININSTOOL 4 STATE				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 12/10/01		Well No. 2		
Completion Date 11/16/01		Total Depth 13852		Plug Back TD 13790		Elevation 3612 GL		Unit Ltr - Sec - TWP - Rge N 4 24 33	
Csg Size 4 1/2	Wt 15.1	d 3.826	Set At 13852	Perforations: From: 13217 To: 13708			County LEA		
Tbg Size 2 7/8 & 2 3/8	Wt 6.5 4.7	d 2.4 1.9	Set At 12230-13100	Perforations: From: To:			Pool JAMES R. WOLFCAMP		
Type Well-Single-Bradenhead-G.G. or G.O. Multiple SINGLE				Packer Set At 13100			Formation WOLFCAMP		
Producing Thru TBg		Reservoir Temp °F 205 @ 13100		Mean Annual Temp. °F 60		Baro. Press.-P _a 13.2		Connection DUKE ENERGY	
I. 13100	H 13100	Gg 0.759	%CO ₂ 4.608	%N ₂ 0.961	%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 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						6130		PKR	
1	4 X	1.000				5631		"	
2	4 X	1.000				4937		"	
3	4 X	2.000				4467		"	
4	4 X	2.000				3662		"	
5									
Duration of Flow									
23 DAYS									
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								432	
2								707	
3	MEASURED			BY	TOTAL	FLOW	METER	924	
4								1303	
5									
No	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 5.009 Mcf bbl.				
1					A.P. I. Gravity of Liquid Hydrocarbons 56.0 @ 60 Deg.				
2		N/A			Specific Gravity Separator Gas 0.759 XXXXXXXX				
3					Specific Gravity Flowing Fluid XXXXXX Gmix = 1.257				
4					Critical Pressure 684 P.S.I.A. 644 P.S.I.A.				
5					Critical Temperature 401 R. 573 R				
P _c 6143.2 P _{c2} 37738.9									
No	P ₁ ²	P _w	P _w ²	P _c ² - P _w ²	(1) $P_c^2 = \frac{1.558}{P_c^2 - P_w^2}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.425$				
1		5644.2	31857.5	5881.4					
2		4950.3	24505.9	13233					
3		4480.5	20074.7	17664.2					
4		3675.9	13512.2	24226.7					
5									
Absolute Open Flow 1.858 Mcfd @ 15.025					Angle of Slope (°): 51.35 Slope n: 0.799				
Remarks WELL PRODUCED 28 BBLS CONDENSATE DURING TEST									
Approved By Division:			Conducted By: JARREL SERVICES, INC.		Calculated By: BM		Checked By: BM		

MURCHISON OIL & GAS, INC.
BRININSTOOL 4 STATE # 2



UNIT : N SECTION : 4 TOWNSHIP : 24
 L : 13100 H : 13100 L/H : 1 G/GMIX : 1.257
 %CO2 : 4.608 %N2 : 0.961 H2S : DATE : 12-10-01
 d : 2.806 Fr : 0.007479 GH : 16466.7 RANGE : 33

Pt2 = ***** Pw = 5644.2 *
 ***** 4950.3 *
 ***** 4480.5 *
 ***** 3675.9 *

VOL 1 : 432 PSIA 1 : 5644.2 RESV.TEMP 205.0
 VOL 2 : 707 PSIA 2 : 4950.2
 VOL 3 : 924 PSIA 3 : 4480.2 SHUT-IN PR= 6143.2
 VOL 4 : 1303 PSIA 4 : 3675.2

Pc2-Pw2= 5881.4 Pw2 = 31857.5 *
 ***** 24505.9 *
 13233.0
 ***** 20074.7 *
 17664.2
 ***** 13512.2 *
 24226.7

PCR : 644
 TCR : 573

n = 0.799 ✓

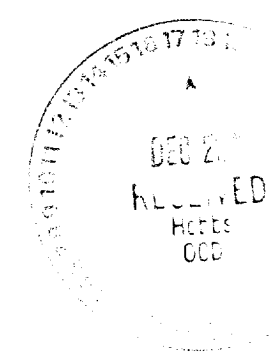
LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 QM	0.432	0.432	0.707	0.707	0.924	0.924	1.303	1.303
2 TW	534	534	534	534	534	534	534	534
3 Ts	665.0	665.0	665.0	665.0	665.0	665.0	665.0	665.0
4 T	599.5	599.5	599.5	599.5	599.5	599.5	599.5	599.5
PR (est)	8.76		7.69		6.96		5.71	
5 Z(est)	0.414	0.389	0.421	0.392	0.426	0.395	0.436	0.401
6 TZ	248.3	232.9	252.2	234.9	255.3	236.5	261.4	240.5
7 GH/TZ	66.308	70.690	65.304	70.112	64.511	69.613	62.997	68.463
8 eS	12.020	14.166	11.576	13.862	11.236	13.606	10.616	13.032
9 l-e-S	0.917	0.929	0.914	0.928	0.911	0.927	0.906	0.923
10 Pt	5644.2	5644.2	4950.2	4950.2	4480.2	4480.2	3675.2	3675.2
11 Pt2 /1000	31857.0	31857.0	24504.5	24504.5	20072.2	20072.2	13507.1	13507.1
12 Fr	0.007479	0.007479	0.007479	0.007479	0.007479	0.007479	0.007479	0.007479
13 Fc=FrTZ	1.857	1.742	1.886	1.757	1.909	1.769	1.955	1.799
14 FcQm	0.80	0.75	1.33	1.24	1.76	1.63	2.55	2.34
15 L/H(FcQm)	0.6	0.6	1.8	1.5	3.1	2.7	6.5	5.5
16 Fw	0.590262	0.526495	1.624250	1.431119	2.834887	2.475953	5.877904	5.0726279
17 Pw2	31857.6	31857.5	24506.1	24505.9	20075.0	20074.7	13513.0	13512.2
18 Ps2	382920.1	451304.7	283674.5	339713.1	225568.1	273130.1	143455.1	176084.2
19 Ps	19568.3	21243.9	16842.6	18431.3	15018.9	16526.6	11977.3	13269.7
20 P	12606.3	13444.1	10896.4	11690.8	9749.6	10503.4	7826.2	8472.4
21 Pr	19.57	20.88	16.92	18.15	15.14	16.31	12.15	13.16
22 Tr	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
23 Z	0.389	0.387	0.392	0.390	0.395	0.393	0.401	0.399

Pc2/(Pc2-Pw2) = 6.417
 2.852
 2.136
 1.558 ✓

[Pc2/Pc2-Pw2]n = 4.416
 2.310
 1.834
 1.425 ✓

AOF= Q 1.908
 1.633
 1.695
 1.858 ✓

FORM C122-D



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

NO. OF BBLs PRODUCED = 28.0
API GRAVITY @ 60 DEG. = 56.0

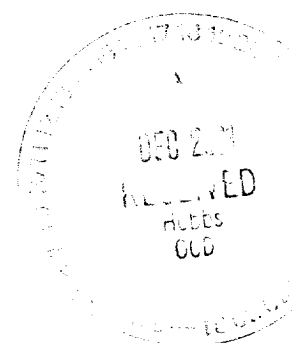
SPECIFIC GRAVITY OF GAS = 0.7590

XX

TOTAL GAS PRODUCED = 140

G.O.R. = 5.009

G.MIX = 1.257

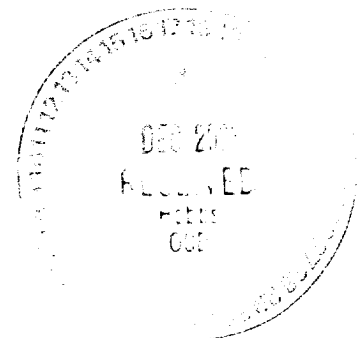


Equivalent Diameter Program

Author: Bob Murray

Date: December 26, 1990

L1 =	12230 ft.	L5 =	0 ft.	Lt =	31100 ft.
D1 =	2.441 in.	D5 =	1 in.	C =	0.10797
L2 =	870 ft.	L6 =	0 ft.		
D2 =	1.995 in.	D6 =	1 in.	Deff =	2.806 in.
L3 =	0 ft.	L7 =	0 ft.	Fr =	0.00729
D3 =	1 in.	D7 =	1 in.		
L4 =	0 ft.	L8 =	0 ft.		
D4 =	1 in.	D8 =	1 in.		





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: Brininstool 4 St. #2
COMPANY: Murchison Oil & Gas
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 12/10/01
ANALYSIS DATE: 12/11/01
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)	0.961	
Carbon Dioxide (CO2)	4.608	
Methane (C1)	75.665	
Ethane (C2)	10.739	2.865
Propane (C3)	4.580	1.259
I-Butane (IC4)	0.669	0.218
N-Butane (NC4)	1.377	0.433
I-Pentane (IC5)	0.331	0.121
N-Pentane (NC5)	0.344	0.124
Hexane Plus (C6+)	0.726	0.315
	100.000	5.335

BTU/CU.FT. - DRY 1198
AT 14.650 DRY 1194
AT 14.650 WET 1173
AT 14.73 DRY 1201
AT 14.73 WET 1180

SPECIFIC GRAVITY -
CALCULATED 0.759
MEASURED

MOLECULAR WT. 22.0304

