

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

State of New Mexico
Energy, Minerals and Natural Resources Department

CIS 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 Name Lincoln State Corn			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 3/23/01		Well No. 1	
Completion Date 3/20/01		Total Depth 8638		Plug Back TD 6780		Elevation 3674' KB	
Csg. Size 4 1/2		Wt. 10.5#		Set At 8638		Perforations: From: 6262 To: 6644	
Tbg. Size 2 3/8		Wt. 4.7#		Set At 6159		Perforations: From: Open To: Ended	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 6159		Formation Penn	
Producing Thru Tbg		Reservoir Temp. °F 60		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2	
L 6159		H 6159		Gg 0.648		% CO ₂ 0.243	
				% N ₂ 1.130		% H ₂ S	
				Prover		Meter Run 2.067	
						Taps FLG	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
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						1745		PACKER		72 Hrs
1.	2.067 x 1.000		267	1.0	72	1622				1.0 Hr
2.	2.067 x 1.000		267	2.0	74	1485				1.0 Hr
3.	2.067 x 1.000		267	3.0	75	1327				1.0 Hr
4.	2.067 x 1.000		267	4.5	73	1129				1.0 Hr
5.										

RATE OF FLOW CALCULATIONS

NO.	COEFFICIENT (24 HOUR)	$h_w P_m$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	4.946	16.74	280.2	.9887	1.242	1.025	104
2.	4.946	23.67	280.2	.9868	1.242	1.025	147
3.	4.946	28.99	280.2	.9859	1.242	1.025	180
4.	4.946	35.51	280.2	.9877	1.242	1.025	221
5.							

NO.	P _r	Temp. °R	γ _r	Z	Gas Liquid Hydrocarbon Ratio	Dry Gas	Mcf/bbl.
1.	.41	532	1.44	.951	A.P. I. Gravity of Liquid Hydrocarbons	Dry	Deg
2.	.41	534	1.44	.951	Specific Gravity Separator Gas	.648	XXXXXXXXXX
3.	.41	535	1.44	.951	Specific Gravity Flowing Fluid	XXXXXX	
4.	.41	533	1.44	.951	Critical Pressure * 669	P.S.I.A.	P.S.I.A.
5.					Critical Temperature * 369	R	R

P _c	1758.2	P _c ²	3091.3	1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.731$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.329$
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	
1.	1635.3	2674.1	417.2		
2.	1498.3	2245.0	846.3		
3.	1340.4	1796.8	1294.5		
4.	1142.6	1305.6	1785.7		
5.					

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .294$$

Absolute Open Flow **294** Mcfd @ 15.025 Angle of Slope θ **62.58** Slope, n **.5186**

Remarks **Well produced no fluid**

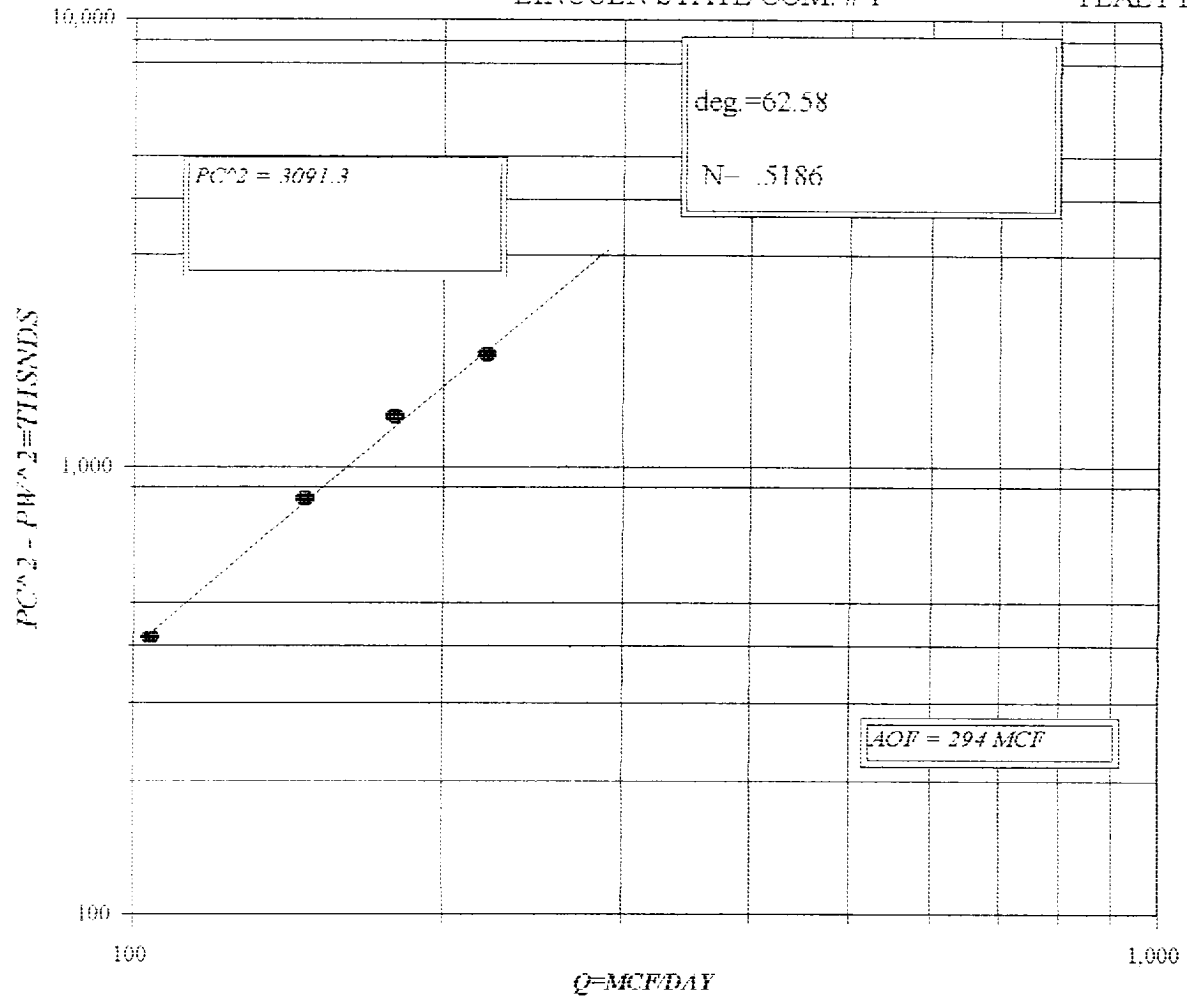
* = corrected to 1.130% N2

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

MURCHISON OIL & GAS INC

LINCOLN STATE COM. # 1

YLALTY0.



UNIT : H SECTION : 24 TOWNSHIP : 18
 L : 6159 H : 6159 L/H : 1 G/GMIX : 0.648
 %CO2 : 0.243 %N2 : 1.13 H2S : DATE : 3 23 01
 d : 1.996 Pr : 0.018207 GH : 3991.0 RANGE : 24

Pt2 = 2673.9 Pw = 1635.3 *
 2244.6 1498.3 *
 1796.1 1340.4 *
 1304.6 1142.6 *

VOL 1 : 104 PSIA 1 : 1635.2 RESV.TEMP 135.6
 VOL 2 : 147 PSIA 2 : 1498.2
 VOL 3 : 180 PSIA 3 : 1340.2 SHUT-IN PR= 1758.2
 VOL 4 : 221 PSIA 4 : 1142.2

Pc2-Pw2= 417.2 Pw2 = 2674.1 *
 846.3 2245.0 *
 1294.5 1796.8 *
 1785.7 1305.6 *

PCR : 669
 TCR : 369

n = 0.519 ✓

Pc2/(Pc2-Pw2) = 7.410
 3.653
 2.388
 1.731 ✓

LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 QM	0.104	0.104	0.147	0.147	0.180	0.180	0.221	0.221
2 TW	534	534	534	534	534	534	534	534
3 Ts	595.6	595.6	595.6	595.6	595.6	595.6	595.6	595.6
4 T	564.8	564.8	564.8	564.8	564.8	564.8	564.8	564.8
PR (est)	2.44		2.24		2.00		1.71	
5 Z(est)	0.791	0.783	0.801	0.791	0.814	0.804	0.833	0.823
6 TZ	446.9	442.1	452.2	446.9	459.6	454.0	470.3	464.8
7 GH/TZ	8.931	9.028	8.825	8.930	8.684	8.792	8.486	8.587
8 eS	1.398	1.403	1.392	1.398	1.385	1.391	1.375	1.380
9 l-e-S	0.285	0.287	0.282	0.285	0.278	0.281	0.273	0.275
10 Pt	1635.2	1635.2	1498.2	1498.2	1340.2	1340.2	1142.2	1142.2
11 Pt2 /1000	2673.9	2673.9	2244.6	2244.6	1796.1	1796.1	1304.6	1304.6
12 Pr	0.018207	0.018207	0.018207	0.018207	0.018207	0.018207	0.018207	0.0182073
13 Pc-PrTZ	8.136	8.049	8.234	8.137	8.368	8.265	8.563	8.462
14 PcQm	0.85	0.84	1.21	1.20	1.51	1.49	1.89	1.87
15 L/H(PcQm)	0.7	0.7	1.5	1.4	2.3	2.2	3.6	3.5
16 Fw	0.203769	0.201255	0.412794	0.407185	0.630562	0.621657	0.976135	0.9628987
17 Pw2	2674.1	2674.1	2245.0	2245.0	1796.8	1796.8	1305.6	1305.6
18 Ps2	3737.9	3751.4	3125.7	3138.0	2488.4	2498.4	1794.8	1801.6
19 Ps	1933.4	1936.9	1768.0	1771.4	1577.5	1580.6	1339.7	1342.2
20 P	1784.3	1786.0	1633.1	1634.8	1458.8	1460.4	1240.9	1242.2
21 Pr	2.67	2.67	2.44	2.44	2.18	2.18	1.85	1.86
22 Tr	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53
23 Z	0.783	0.783	0.791	0.791	0.804	0.804	0.823	0.823

[Pc2/Pc2-Pw2]n = 2.828
 1.959
 1.571
 1.330

AOP= Q 0.294
 0.288
 0.283
 0.294 ✓

FORM C122-D



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: Lincoln St. Com. #1
COMPANY: Murchison Oil & Gas
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 3/23/01
ANALYSIS DATE: 3/26/01
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)	1.130	
Carbon Dioxide (CO2)	0.243	
Methane (C1)	88.008	
Ethane (C2)	6.420	1.713
Propane (C3)	2.321	0.638
I-Butane (IC4)	0.362	0.118
N-Butane (NC4)	0.675	0.212
I-Pentane (IC5)	0.203	0.074
N-Pentane (NC5)	0.206	0.074
Hexane Plus (C6+)	0.432	0.187
	100.000	3.016
BTU/CU.FT. - DRY	1132	MOLECULAR WT. 18.7914
AT 14.650 DRY	1128	
AT 14.650 WET	1108	
AT 14.73 DRY	1134	
AT 14.73 WET	1115	
SPECIFIC GRAVITY - CALCULATED	0.648	
MEASURED		