30-015-30488

C-15

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

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OIL CONSERVATION DIVISION

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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator: Bonniville Fuels		Lease or Unit Name: Lake Shore Fed S.C. 10	
Type Test: [X] Initial [ ] Annual [ ] Special		Test Date: 5-8-99	Well No.: 3
Completion Date: 3-20-99	Total Depth: 11,100	Plug Back TD: 9912	Elevation: 3195
Unit Ltr. - Sec. - TWP. - Rge.: K 10 21-S 26-E			
Csg. Size: 7" / Wt.: 23# / d: 6.366 / Set At: 10,012	Perforations: From: 9724 To: 9923		County: Eddy
Tbg. Size: 2 7/8 / Wt.: 6.5# / d: 2.441 / Set At: 9575	Perforations: From: To:		Pool: Avalon Strawn Gas
Type Well - Single - Bradenhead - G.G. or G.O. Multiple: Single		Packer Set At: 9552'	Formation: Strawn
Producing Thru: Tbg	Reservoir Temp. °F: 169.8	Mean Annual Temp. °F: 60°	Baro. Press - P_a: 13.2
			Connection: Sales
L: 9575	H: 9575	Gg: .686	% CO_2: .159
% N_2: .966	% H_2S: 0	Prover: 0	Meter Run: 3.068
Taps: F/G			

NO.	FLOW DATA: Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					1290	N/A	PKR		
1.	3.068 X 2.000	526.9	5.3	95°	1270				60 min
2.	3.068 X 2.000	569.1	16.7	94°	1185				60 min
3.	3.068 X 2.000	599.6	34.3	83°	1040				60 min
4.	3.068 X 2.000	622.8	50.7	80°	838				60 min
5.									

RATE OF FLOW CALCULATIONS

NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor F_t	Gravity Factor F_g	Super Compress. Factor, F_{pv}	Rate of Flow Q, Mcfd
1.							1060
2.							1944
3.		GAS MEASURED BY TOTAL FLOW METER					2864
4.							3604
5.							

NO.	P_r	Temp. °R	T_r	Z
1.				
2.				
3.		TOTAL FLOW		
4.				
5.				

Gas Liquid Hydrocarbon Ratio: N/A Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: N/A Deg.
Specific Gravity Separator Gas: XXXXXXXXX
Specific Gravity Flowing Fluid: N/A XXXXX
Critical Pressure: 672 PSIA PSIA
Critical Temperature: 381 R R

P_c 1303.2 P_c^2 1698.3

NO.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1.	1646.6	1287.7	1658.2	40.1
2.	1435.7	1214.6	1475.2	223.1
3.	1109.2	1094.0	1196.9	501.5
4.	724.5	931.6	867.9	830.5
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.04$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.42$

$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 5.147$

Absolute Open Flow: 5.147 Mcfd @ 15.025 | Angle of Slope θ: 63.5 | Slope, n: .498

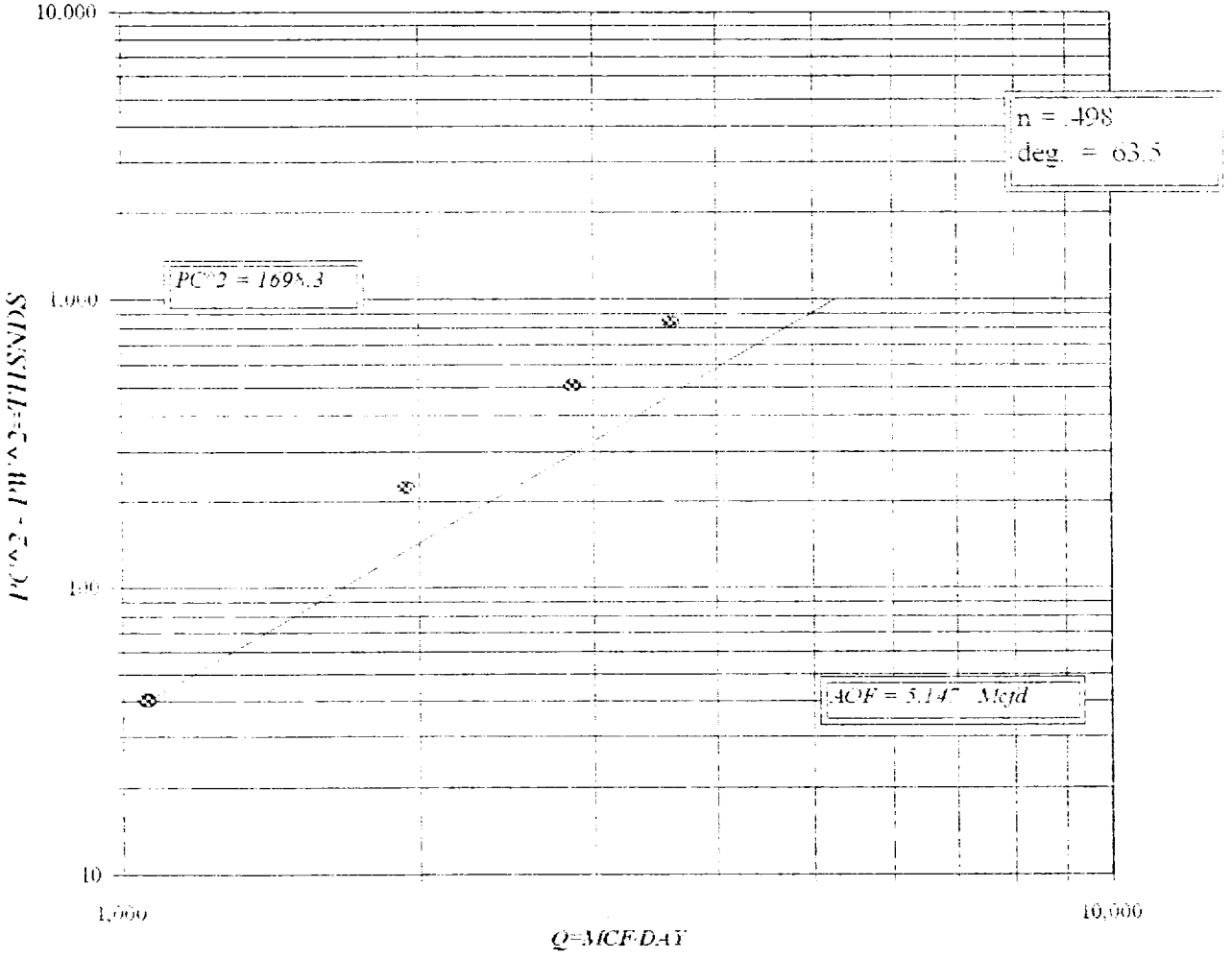
Remarks: *No liquid during test.

Low slope caused by liquid loading during test. Well avg. 25 BOPD (GOR@ 134,000 SCF/BC)

Approved By Division	Conducted By:	Calculated By:	Checked By:
	Pro Well Testing	M.B.	B.M.

BONNIVILLE FUELS

LAKE SHORE FED S.C. 10 - #3



Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pro Well Testing & Wireline
Attention: Mr. Ray Ables
P. O. Box 791
Hobbs, New Mexico 88241

SAMPLE: Lake Shore
IDENTIFICATION: Federal S.C. 10-3
COMPANY: Bonniville Fuels
LEASE:
PLANT:

SAMPLE DATA:
DATE SAMPLED: 5/8/99 9:00AM
ANALYSIS DATE: 5/10/99
PRESSURE – PSIG 500
SAMPLE TEMP. °F 78
ATMOS. TEMP. °F

GAS (XX) LIQUID ( )
SAMPLED BY: Ray Ables
ANALYSIS BY: Rolland Perry

REMARKS:

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)		
Nitrogen	(N2)	0.966	
Carbon Dioxide	(CO2)	0.159	
Methane	(C1)	88.404	
Ethane	(C2)	9.375	2.501
Propane	(C3)	3.335	0.917
I-Butane	(IC4)	0.544	0.178
N-Butane	(NC4)	0.974	0.306
I-Pentane	(IC5)	0.319	0.116
N-Pentane	(NC5)	0.290	0.105
Hexane Plus	(C6+)	0.634	0.260
		100.000	4.383

MOLECULAR WT. 19.8764

BTU/CU.FT. – DRY	1196
AT 14.650 DRY	1193
AT 14.650 WET	1172
AT 14.73 DRY	1199
AT 14.73 WET	1178
SPECIFIC GRAVITY – CALCULATED	0.686
MEASURED	

COMPANY : BONNIVILLE FUELS LEASE : LAKE SHORE WELL NO. : 10-#3

UNIT : K SECTION : 10 TOWNSHIP : 21

L : 9575 H : 9575 L/H : 1 G/GMIX : 0.686

%CO2 : 0.159 %N2 : 0.966 H2S : DATE : 5/8/99

d : 2.441 Fr : 0.010763 GH : 6568.5 RANGE : 26

VOL 1 : 1060 PSIA 1 : 1283.2 RESV.TEMP 169.8

VOL 2 : 1944 PSIA 2 : 1198.2

VOL 3 : 2864 PSIA 3 : 1053.2 SHUT-IN PR= 1303.2

VOL 4 : 3604 PSIA 4 : 851.2

PCR : 672

TCR : 381

LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 QM	1.060	1.060	1.944	1.944	2.864	2.864	3.604	3.604
2 TW	534	534	534	534	534	534	534	534
3 Ts	629.8	629.8	629.8	629.8	629.8	629.8	629.8	629.8
4 T	581.9	581.9	581.9	581.9	581.9	581.9	581.9	581.9
PR (est)	1.91		1.78		1.57		1.27	
5 Z(est)	0.818	0.801	0.826	0.809	0.841	0.823	0.865	0.845
6 TZ	476.0	466.3	480.8	470.7	489.6	478.9	503.0	491.6
7 GH/TZ	13.799	14.085	13.661	13.954	13.415	13.714	13.057	13.361
8 eS	1.678	1.696	1.669	1.688	1.654	1.672	1.632	1.650
9 1-e-S	0.404	0.410	0.401	0.407	0.395	0.402	0.387	0.394
10 Pt	1283.2	1283.2	1198.2	1198.2	1053.2	1053.2	851.2	851.2
11 Pt2 /1000	1646.6	1646.6	1435.7	1435.7	1109.2	1109.2	724.5	724.5
12 Fr	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.0107631
13 Fc=FrTZ	5.123	5.019	5.175	5.067	5.270	5.155	5.414	5.291
14 FcQm	5.43	5.32	10.06	9.85	15.09	14.76	19.51	19.07
15 L/H(FcQm)	29.5	28.3	101.2	97.0	227.8	218.0	380.8	363.7
16 Fw	11.91463	11.61516	40.57314	39.52411	90.05717	87.63972	147.4178	143.32120
17 Pw2	1658.5	1658.2	1476.3	1475.2	1199.3	1196.9	872.0	867.9
18 Ps2	2782.6	2812.1	2464.0	2489.4	1983.4	2001.7	1422.8	1432.3
19 Ps	1668.1	1676.9	1569.7	1577.8	1408.3	1414.8	1192.8	1196.8
20 P	1475.7	1480.1	1384.0	1388.0	1230.8	1234.0	1022.0	1024.0
21 Pr	2.20	2.20	2.06	2.07	1.83	1.84	1.52	1.52
22 Tr	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53
23 Z	0.801	0.801	0.809	0.809	0.823	0.823	0.845	0.845

Pc = 1303.2 Pc2 = 1698.3

Pt2 = 1646.6 Pw = 1287.7

1435.7 1214.6

1109.2 1094.0

724.5 931.6

Pc2-Pw2= 40.1 Pw2 = 1658.2

223.1 1475.2

501.5 1196.9

830.5 867.9

n = 0.498

Pc2/(Pc2-Pw2) = 42.339

7.612

3.387

2.045

[Pc2/Pc2-Pw2]n = 6.458

2.748

1.836

1.428

AOF= Q 6.846

5.342

5.258

5.147

FORM C122-D