

KANSAS CORPORATION COMMISSION  
MULTIPOINT BACK PRESSURE TEST

FORM G-1  
8-7-58

TYPE TEST: <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special		TEST DATE: 5/5/2005			
COMPANY Ritchie Exploration		LEASE Lang		WELL NO. 30 C	
COUNTY Clark	LOCATION 900'FSL&1700'FW	SECTION 30 30s 25w	TWP 25w	RNG	ACRES 640
FIELD L/KC		PIPELINE CONNECTION Duke			
COMPLETION DATE		PLUG BACK DEPTH 5081		PACKER SET AT	
		TOTAL DEPTH 5081			
CASING SIZE 5.500	WT. 15.500	ID 4.825	SET AT 5202	PERF. 4543	TO 4548
TUBING SIZE 2.375	WT. 4.700	ID 1.901	SET AT 4516	PERF.	TO
TYPE COMPLETION (Describe)			TYPE FLUID PRODUCTION water		
PRODUCING THRU(Annulus/Tubing) Tubing			RESERVOIR TEMPERATURE F 103		BAR PRESS - Pa 14.4 psia
GAS GRAVITY - Gg .743		% CARBON DIOXIDE .070		% NITROGEN 22.930	
API GRAVITY OF LIQUID					
VERTICAL DEPTH (H) 4545		TYPE METER CONN. Flange		METER RUN SIZE 3.067	
REMARKS Pac freezing off during beginning of test, had to adjust flame, Meter run locate					

OBSERVED SURFACE DATA

RATE NO.	ORIFICE SIZE in.	(METER) PRESSURE psig	DIFF. (h <sub>w</sub> ) (h <sub>t</sub> )	FLOWING TEMP. t.	WELLHEAD TEMP. t.	CASING WELLHEAD PRESS.		TUBING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) psia	psig	(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) psia		
SHUT-IN						1206	1220	1061	1075	72.00	
1.	1.500	84.70	13.70			1134	1148	964	978	.80	
2.	1.500	86.80	12.70			1057	1071	902	916	.80	
3.	1.500	90.10	27.90			955	969	773	787	.80	.8
4.	1.500	92.60	39.70			835	849	670	684	.80	

FLOW STREAM ATTRIBUTES

RATE NO.	COEFFICIENT (F <sub>b</sub> ) Mcfd	(METER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR Fg	FLOWING TEMP FACTOR Ft	DEVIATION FACTOR Fpv	RATE OF FLOW Q Mcfd	GOR	G <sub>m</sub>
1.	11.410	99.1	36.85	1.1601	1.0632	1.0121	524		.743
2.	11.410	101.2	35.85	1.1601	1.0632	1.0123	510		.743
3.	11.410	104.5	54.00	1.1601	1.0632	1.0127	769	32066.4	.867
4.	11.410	107.0	65.18	1.1601	1.0632	1.0130	929		.743

PRESSURE CALCULATION

RATE NO.	P <sub>t</sub> psia	P <sub>c</sub> psia	P <sub>w</sub> psia	(P <sub>c</sub> ) <sup>2</sup> Thousands	(P <sub>w</sub> ) <sup>2</sup> Thousands	PLOTTING POINTS		% SHUT-IN 100 $\left[ \frac{P_w - P_a}{P_c - P_a} \right]$
						(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> Thousands	Q Mcfd	
1.	978.4	1220.4	1148.4	1489.4	1318.8	170.6	524.8	94.0
2.	916.4	1220.4	1071.4	1489.4	1147.9	341.5	510.8	87.6
3.	787.4	1220.4	969.4	1489.4	939.7	549.6	769.6	79.2
4.	684.4	1220.4	849.4	1489.4	721.5	767.9	929.2	69.2

INDICATED WELLHEAD OPEN FLOW

1573

Mcf @ 14.65 psia

"n" = .756

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein and that said report is true and correct. Executed this the 11 day of May, 2005

Witness (if any)

For Commission

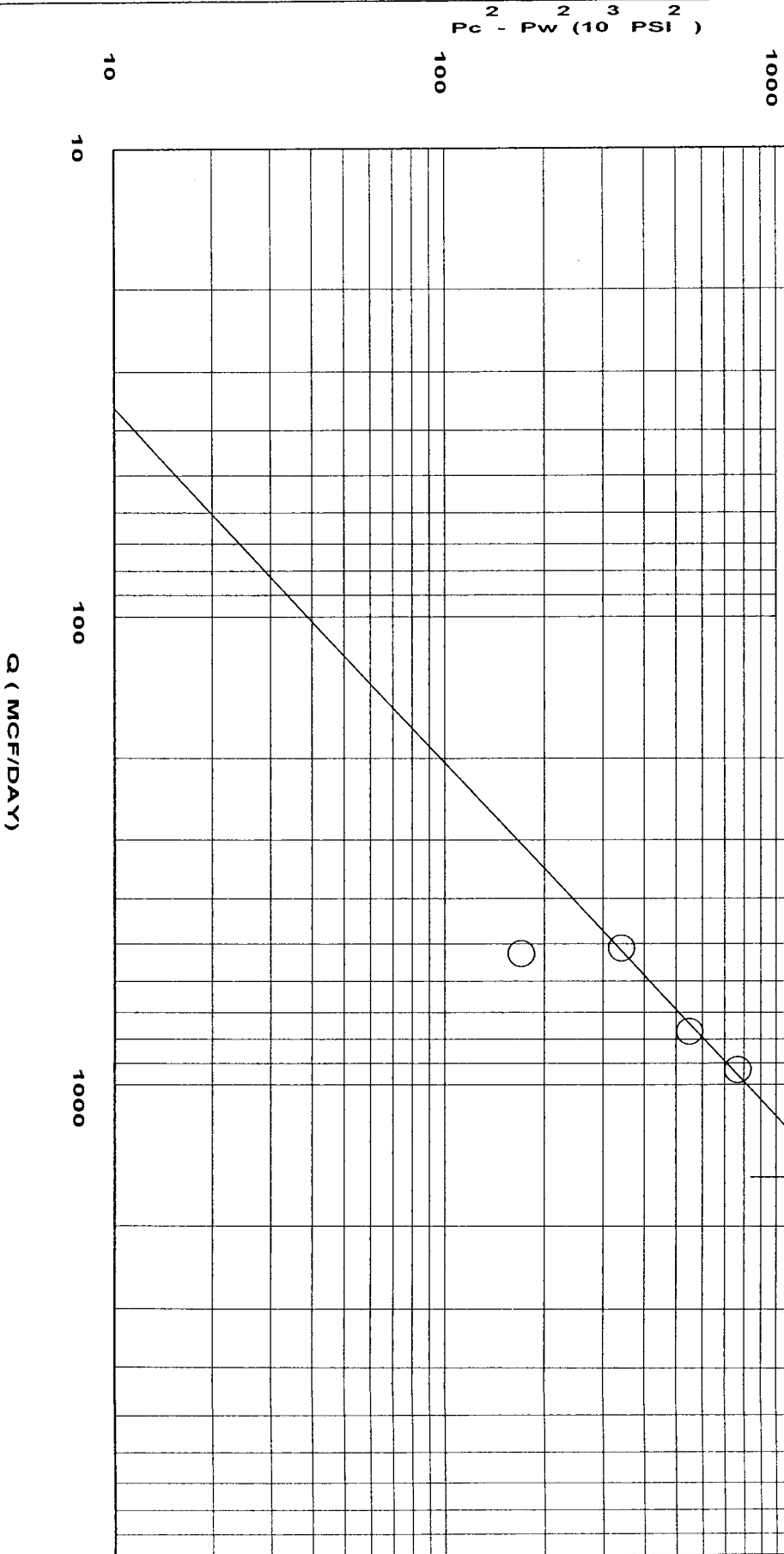
For Company

Checked by

GAS WELL BACK PRESSURE CURVE

WELL TESTER: Trilobite Testing  
 TEST DATE: 5/5/2005

Ritchie Exploration  
 Lang 30 C  
 30 30s 25w  
 Clark  
 Exponent n: 0.7559  
 AOF: 1573.  
 ,K.S.



**KANSAS CORPORATION COMMISSION  
ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST**

FORM G-2  
(Rev. 8/98)

TYPE TEST:

- Open Flow  
 Deliverability

TEST DATE: 5/6/2005 API No. 025-21274-00-00

Company Ritchie Exploration		Lease Lang			Well Number 30 C	
County Clark	Location 900'FSL&1700'FW	Section 30	TWP 30s	RNG(E/W) 25w	Acres Attributed 640	
Field	Reservoir L/KC	Gas Gathering Connection Duke				
Completion Date	Plug Back Total Depth 5081	Packer Set at				
Casing Size 5.500	Weight 15.500	Internal Diameter 4.825	Set at 5202	Perforations 4543	To 4548	
Tubing Size 2.375	Weight 4.700	Internal Diameter 1.901	Set at 4516	Perforations	To	
Type Completion (Describe)	Type Fluid Production water	Pump Unit or Traveling Plunger? no				
Producing Thru (Annulus/Tubing) tubing	% Carbon Dioxide .070	% Nitrogen 22.930			Gas Gravity- Gg .743	
Vertical Depth (ft) 4545	Pressure Taps flange	Meter Run Size 3.068				
Pressure Buildup: Shut in	5/2/2005@1000	TAKEN		5/5/2005@1000		
Well on Line: Started	5/5/2005@1005	TAKEN		5/6/2005@1300		

**OBSERVED SURFACE DATA**

Static/ Dynamic Property	Orifice Size in.	Meter Pressure psig	Pressure Diff. In. H <sub>2</sub> O	Flowing Temp. t.	WellHead Temp. t.	Casing WellHead Press. (P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> )		Tubing WellHead Press. (P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> )		Duration (Hours)	Liquid Prod. Barrels
						psig	psia	psig	psia		
Shut-in						1206	1220	1061	1075	72.0	
Flow	1.500	98.3	5.80	59		1086	1100	840	854	27.0	

**FLOW STREAM ATTRIBUTES**

COEFFICIENT (F <sub>b</sub> ) Mcf/d	(METER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR F <sub>g</sub>	FLOWING TEMP FACTOR F <sub>t</sub>	DEVIATION FACTOR F <sub>p</sub> v	RATE OF FLOW R Mcf/d	GOR	G <sub>m</sub>
11.410	112.7	25.57	1.1601	1.0010	1.0093	341		.743

**(OPEN FLOW)(DELIVERABILITY) CALCULATIONS**

(P<sub>c</sub>)<sup>2</sup> = 1489.4      (P<sub>w</sub>)<sup>2</sup> = 1210.9      P<sub>d</sub> = 8.1      %      (P<sub>c</sub> - 14.4) + 14.4 =      (P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> = 9.66

$(P_c)^2 - (P_a)^2$ or $(P_c)^2 - (P_d)^2$	$(P_c)^2 - (P_w)^2$	$\left[ \frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_d)^2} \right]$ or $\left[ \frac{(P_c)^2 - (P_d)^2}{(P_c)^2 - (P_w)^2} \right]$	LOG	Backpressure Curve Slope "n" ----- or ----- Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability = R x Antilog Mcf/d
1489.17	278.50	5.347	.7281	.756	.5505	3.552	1214
1479.71	278.50	5.313	.7254	.756	.5484	3.535	1208

OPEN FLOW      1214      Mcfd @ 14.65 psia      DELIVERABILITY      1208      Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein and that said report is true and correct. Executed this the 11 day of May, 2005

Witness (if any)

For Company

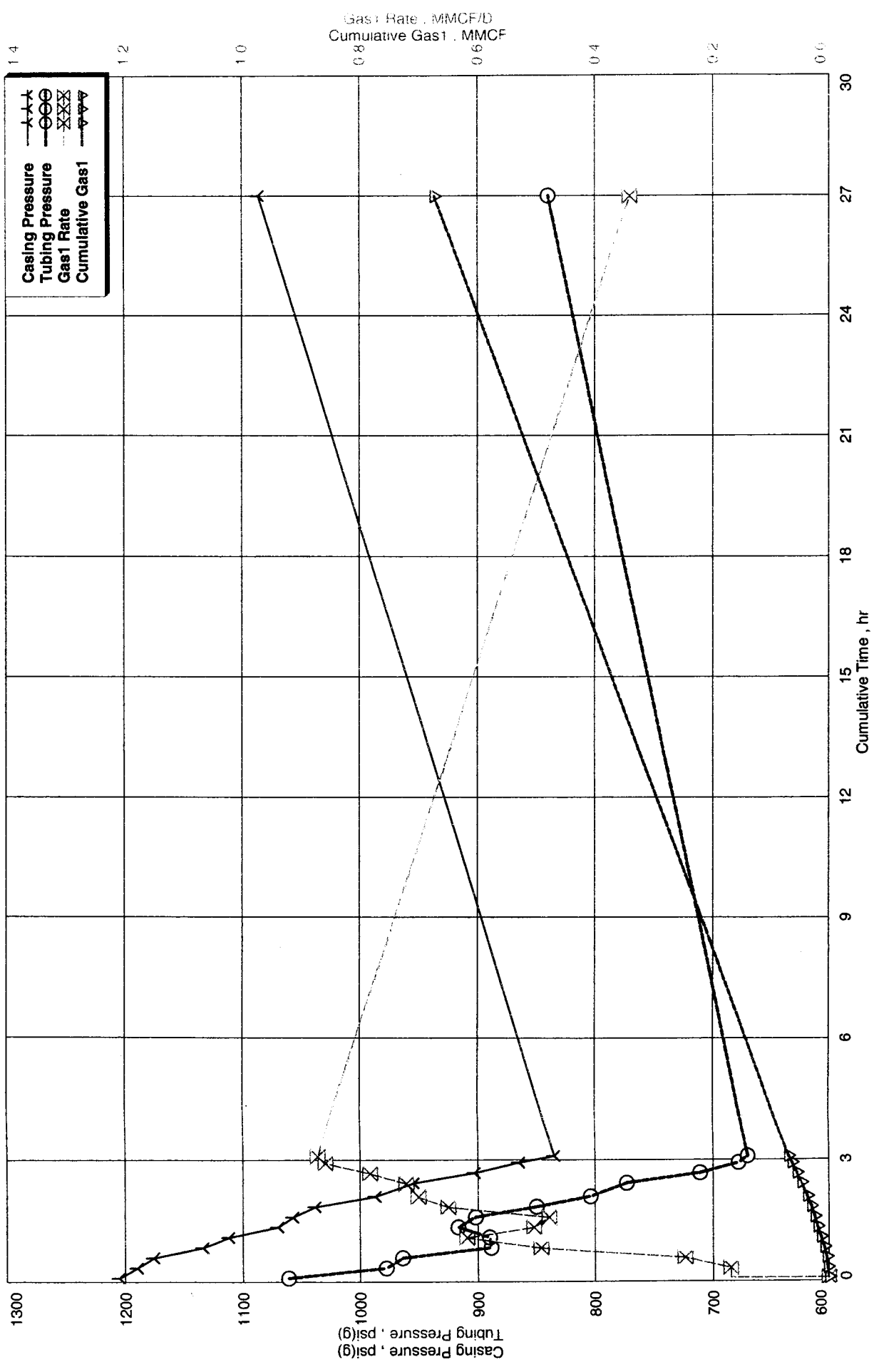
For Commission

Checked by

Ritchie Exploration  
 Sec 30 30s 25w Clark  
 Start Test Date: 2005/05/06

Lang 30C

# Plot



# FieldNotes Field Measurements

Date	Clock	Time	Comments	Tubing Pres	Casing Pres	Diff1 Pres	Meter1 Temp	Static1 Pres	Gas1 Rate	Cum. Gas1	Measured Fld1 Lev	Oil1 Rate
yyyy/mm/dd	hh:mm:ss			psi(g)	psi(g)	in of H2O	°F	psi(g)	MMCF/D	MMCF	in	bb/d
1	2005/05/05	10:00:00	shutin									
2		10:05:00		1061.00	1205.00	0.00	0.00	0.00	0.000	0.000		
3		10:20:00		978.00	1190.00	1.65	54.36	83.21	0.170	0.002		
4		10:35:00		964.00	1176.00	3.50	54.44	83.72	0.248	0.004		
5		10:50:00	1st pt									
6		10:50:00		889.00	1134.00	13.73	53.82	84.69	0.493	0.008		
7		11:05:00		890.00	1112.00	21.47	53.85	85.54	0.619	0.014		
8		11:20:00		917.00	1070.00	14.20	54.14	86.19	0.505	0.019		
9		11:35:00	2nd pt									
10		11:35:00		902.00	1057.00	12.70	54.35	86.80	0.479	0.025		
11		11:50:00		850.00	1038.00	23.40	54.47	87.17	0.651	0.030		
12		12:05:00		804.00	987.00	26.74	54.23	88.72	0.702	0.037		
13		12:25:00	3rd pt									
14		12:25:00		773.00	955.00	27.90	53.63	90.09	0.722	0.047		
15		12:40:00		711.00	903.00	32.51	53.71	90.89	0.783	0.055		
16		12:55:00		678.00	865.00	38.69	53.76	91.95	0.859	0.064		
17		13:05:00	4th pt									
18		13:05:00		670.00	835.00	39.67	53.80	92.55	0.872	0.070		
19	2005/05/06	13:00:00	1 pt									
20		13:00:00		840.00	1086.00	5.80	59.00	98.30	0.340	0.674		
21												

# NATURAL GAS ANALYSIS REPORT

Sampled by:  
 Trilobite Testing, Inc.  
 Hays, Kansas  
 Scott City, Kansas  
 Phone: 800-728-5369  
 Fax: 785-625-5620

Analyzed by:  
 Caraway Analytical, Inc  
 P. O. Box 2137  
 Liberal, Kansas 67905  
 Phone: 620-624-5389  
 Fax: 620-626-7108

<b>Lab Number:</b> 20052217	<b>Analyzed:</b> 05/10/05
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Sample From: Lang 30-C	Pressure:	
Producer: Ritchie Exp.	Temperature:	

<b>Date: Location:</b> 30-30-25
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Time:	County:	Clark
Sampler:	State:	Kansas
Source:	Formation:	

	Mole %	GPM
Helium	He: 0.395	0.000
Hydrogen	H2: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 22.930	0.000
Carbon Dioxide	CO2: 0.074	0.000
Methane	C1: 66.000	0.000
Ethane	C2: 4.840	1.294
Propane	C3: 3.677	1.013
Iso Butane	iC4: 0.540	0.177
Normal Butane	nC4: 0.959	0.302
Iso Pentane	iC5: 0.209	0.076
Normal Pentane	nC5: 0.185	0.067
Hexanes Plus	C6+: 0.191	0.083

TOTAL: 100.000    3.013

Z Fact: 0.9979

SP.GR.: 0.7432

BTU (SAT): 907.2 @ 14.73 psia  
 BTU (DRY): 923.3 @ 14.73 psia  
 OCTANE RATING: 96.1

COMMENTS:

0.000





