

## NATURAL GAS ANALYSIS REPORT

Sampled by:  
Trilobite Testing, L.L.C.  
Hays, Kansas  
Scott City, Kansas  
Phone: 800-728-5369  
Fax: 913-625-5620

Analyzed by:  
Caraway Analytical, L.L.C.  
728 North Roosevelt  
Liberal, Kansas 67901  
Phone: 316-624-5389  
Fax: 316-626-7108

Lab Number:	950564	Analyzed:	10/18/95
Sample From:	Helfrich #4	Pressure:	
Producer:	Claussen Oil & Gas	Temperature:	
Date:		Location:	6-25S-42W
Time:		County:	Hamilton
Sampler:		State:	Kansas
Source:		Formation:	

	Mole %	GPM
Helium	He: 0.225	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 98.368	0.000
Carbon Dioxide	CO2: 0.077	0.000
Methane	C1: 1.140	0.000
Ethane	C2: 0.097	0.026
Propane	C3: 0.032	0.009
Iso Butane	iC4: 0.020	0.007
Normal Butane	nC4: 0.023	0.007
Iso Pentane	iC5: 0.000	0.000
Normal Pentane	nC5: 0.000	0.000
Hexanes Plus	C6+: 0.018	0.008
	TOTAL: 100.000	0.056
	Z Fact: 0.9997	
	SP.GR.: 0.9624	
	BTU (SAT): 16.1 @ 14.73 psia	
	BTU (DRY): 16.4 @ 14.73 psia	
	OCTANE RATING: 1.7	

COMMENTS:

0.010

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Lab Number:	950579	Analyzed:	10/23/95
Sample From:	Helfrich #4 DST 3	Pressure:	
Producer:	Claassen Oil & Gas	Temperature:	
Date:		Location:	6-25S-42W
Time:		County:	Hamilton
Sampler:		State:	Kansas
Source:		Formation:	Keyes

	Mole %	GPM
Helium	He: 1.285	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 61.183	0.000
Carbon Dioxide	CO2: 1.026	0.000
Methane	C1: 30.436	0.000
Ethane	C2: 2.824	0.755
Propane	C3: 1.428	0.393
Iso Butane	iC4: 0.278	0.091
Normal Butane	nC4: 0.513	0.162
Iso Pentane	iC5: 0.224	0.082
Normal Pentane	nC5: 0.259	0.094
Hexanes Plus	C6+: 0.544	0.237
	TOTAL: 100.000	1.815
	Z Fact: 0.9989	
	SP.GR.: 0.8751	
	BTU (SAT): 459.8 @ 14.73 psia	
	BTU (DRY): 467.9 @ 14.73 psia	
	OCTANE RATING: 45.0	

COMMENTS: Sample entered under vacuum

0.080