

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L. L. C.
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Scott City, Kansas
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Analyzed by:
Caraway Analytical, Inc
P. O. Box 2137
Liberal, Kansas 67905
Phone: 316-624-5389
Fax: 316-626-7108

Lab Number:	980865	Analyzed:	04/09/98
Sample From:	Koehn #1	Pressure:	
Producer:	Western Operating Company	Temperature:	
Date:		Location:	11-10-43
Time:		County:	Greeley
Sampler:		State:	Kansas
Source:		Formation:	

	Mole %	GPM
Helium	He: 1.795	0.000
Hydrogen	H2: 0.047	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 57.093	0.000
Carbon Dioxide	CO2: 0.586	0.000
Methane	C1: 33.222	0.000
Ethane	C2: 3.790	1.014
Propane	C3: 1.796	0.495
Iso Butane	iC4: 0.231	0.076
Normal Butane	nC4: 0.443	0.140
Iso Pentane	iC5: 0.166	0.061
Normal Pentane	nC5: 0.176	0.064
Hexanes Plus	C6+: 0.655	0.286

TOTAL:	100.000	2.134
Z Fact:	0.9988	
SP.GR.:	0.8588	
BTU (SAT):	510.0 @ 14.73 psia	
BTU (DRY):	519.0 @ 14.73 psia	
OCTANE RATING:	49.8	

COMMENTS:

0.000

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Lab Number:	981192	Analyzed:	04/24/98
Sample From:	Koehn #1	Pressure:	
Producer:	Western Operating Company	Temperature:	
Date:		Location:	11-19-43
Time:		County:	Greeley
Sampler:	Rod	State:	Kansas
Source:	Completion Rig	Formation:	

	Mole %	GPM
Helium	He: 1.851	0.000
Hydrogen	H2: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 57.686	0.000
Carbon Dioxide	CO2: 0.555	0.000
Methane	C1: 33.257	0.000
Ethane	C2: 3.764	1.007
Propane	C3: 1.772	0.488
Iso Butane	iC4: 0.208	0.068
Normal Butane	nC4: 0.392	0.124
Iso Pentane	iC5: 0.131	0.048
Normal Pentane	nC5: 0.131	0.047
Hexanes Plus	C6+: 0.253	0.110
	TOTAL: 100.000	1.892
	Z Fact: 0.9989	
	SP.GR.: 0.8472	
	BTU (SAT): 483.2 @ 14.73 psia	
	BTU (DRY): 491.8 @ 14.73 psia	
	OCTANE RATING: 49.6	

COMMENTS:

0.000

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

Analyzed by:
 Caraway Analytical, Inc
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 Liberal, Kansas 67905
 Phone: 620-624-5389
 Fax: 620-626-7108

Lab Number:	20033544	Analyzed:	07/22/03
Sample From:	Koehn 1	Pressure:	
Producer:	Starlite	Temperature:	
Date:		Location:	
Time:		County:	
Sampler:		State:	
Source:	4 pt	Formation:	

	Mole %	GPM
Helium	He: 1.926	0.000
Hydrogen	H2: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 60.739	0.000
Carbon Dioxide	CO2: 0.938	0.000
Methane	C1: 29.324	0.000
Ethane	C2: 3.954	1.057
Propane	C3: 1.818	0.501
Iso Butane	iC4: 0.205	0.067
Normal Butane	nC4: 0.402	0.127
Iso Pentane	iC5: 0.140	0.051
Normal Pentane	nC5: 0.145	0.053
Hexanes Plus	C6+: 0.409	0.178
TOTAL:		100.000 2.034
Z Fact:		0.9990
SP.GR.:		0.8692
BTU (SAT):		457.5 @ 14.73 psia
BTU (DRY):		465.6 @ 14.73 psia
OCTANE RATING:		44.8

COMMENTS: BOTTLE CONTAINED LIQUIDS 0.000