

CENTURY REFINING COMPANY

Gas Analysis

Laboratory No. K77NG-1701 Date September 12, 1977
Sample of Natural Gas Date Sampled August 31, 1977
Company Kansas-Nebraska Natural Gas - M and R Corporation
Description _____
Well Name Schartz 1 Location NE-SW-NW Sec. 31-23-16W
County Pawnee State Kansas Zone _____
Perf. From _____ To _____ Sampled From _____ at 1:30 PM
Requested By LHeeke Sampled By Turner

CHROMATOGRAPH METHOD

Component	Mol %	G.P.M.*
Helium	0.55	
Hydrogen	-	
Carbon Dioxide	0.12	
Nitrogen	4.57	
Methane	88.82	
Ethane	3.60	
Propane	1.33	0.365
i-Butane	0.21	0.067
n-Butane	0.42	0.130
i-Pentane	0.11	0.039
n-Pentane	0.14	0.049
Hexanes-Plus	0.13	0.055
TOTALS	100.00	

* Calculated value based on ideal gas values from latest G.P.A. pub. 2145.

** Calculated value using method from G.P.A. pub. 2172 and latest gas values from 2145.

** Z Factor @ 60° F - 14.696 psia

** Gross Heating Value per cu. ft. @ 60° F - 30" Hg Sat. 1017.7 B.T.U.

** Gross Heating Value per cu. ft. @ 60° F - 30" Hg Dry 1035.8 B.T.U.

** Net Heating Value per cu. ft. @ 60° F - 30" Hg Sat. 918.7 B.T.U.

** Net Heating Value per cu. ft. @ 60° F - 30" Hg Dry 935.0 B.T.U.

** Specific Gravity (Air = 1.00) 0.6205

Gross Heating Value per cu. ft. @ 60° F - 30" Hg Sat.

Determined by recording calorimeter

_____ B.T.U.

REMARKS _____

cc: LHeeke(5) CRC INVOICE: KNNG
% H. Truskett
Lakin, Ks. 67860

D. F. Truskett
Analyst

GAS ANALYSIS

Date April 11, 1977

Laboratory No. K77NG-795 Date Sampled March 30, 1977

Sample of Natural Gas

Company Kansas-Nebraska Natural Gas Company, Inc.

Description M & R

Well Name Schartz #1 Location Sec. 31-23-16

County Pawnee State Kansas Zone _____

Perf. From _____ To _____ Sampled From _____ @ 1:45

CHROMATOGRAPH METHOD

Component	Mol %	G.P.M.*	Calculated V.P. _____
Helium	<u>0.54</u>	_____	Reid V.P. _____
Hydrogen	<u>0.01</u>	_____	L.P.G. V.P. _____
Carbon Dioxide	<u>0.09</u>	_____	Vapor Volume _____ cu. ft./gal.
Nitrogen	<u>4.70</u>	_____	@ _____
Methane	<u>88.98</u>	_____	Requested by <u>LHeeke</u>
Ethane	<u>3.48</u>	_____	Sampled by <u>Turner</u>
Propane	<u>1.29</u>	<u>0.354</u>	
i - Butane	<u>0.20</u>	<u>0.065</u>	
n - Butane	<u>0.39</u>	<u>0.124</u>	
i - Pentane	<u>0.10</u>	<u>0.037</u>	
n - Pentane	<u>0.12</u>	<u>0.042</u>	
Hexanes - Plus	<u>0.10</u>	<u>0.042</u>	
TOTALS	<u>100.00</u>	_____	

* Calculated value based on ideal gas values
from N.G.P.A. pub. 2145-66

** Calculated value based on actual gas values
from N.G.P.A. pub. 2145-57

G.P.M. _____ lb. R.V.P. Gasoline _____ . Liq. Vol. % Pentanes - Plus _____

**Gross B.T.U. per cu. ft. @ 60° F - 30'' Hg dry 1030.4

**Gross B.T.U. per cu. ft. @ 60° F - 30'' Hg sat. 1012.4

**Net B.T.U. per cu. ft. @ 60° F - 30'' Hg dry 930.0

**Net B.T.U. per cu. ft. @ 60° F - 30'' Hg sat. 913.8

**Specific Gravity 0.6180

Gross B.T.U. per cu. ft. @ 60° F - 30'' Hg sat.
determined by recording calorimeter _____

Remarks Invoice: KNNG

cc: Mr. H. Truskett
Lakin, Kansas 67860
Kansas-Nebraska Natural Gas Company, Inc.

CRC(2)

LHeeke(5)

D. F. Truford
Analyst