

R03035-Attachment

DRAFT COMPARISON OF PIPELINE NATURAL GAS QUALITY SPECIFICATIONS

[REVISED 12/15/03]

PIPELINE	HOW HV DETERMINED	HEAT VALUE (HV) [BTU/SCF]	WATER (H ₂ O) [lbs/million cf]	HYDROGEN SULFIDE (H ₂ S) [grains/100 cuft]	MERCAPTAN [grains/100 cuft]	TOTAL SULFUR (S) [grains/100 cuft]	OXYGEN (O) [% by volume]	NITROGEN (N) [% by volume]	CARBON DIOXIDE (CO ₂) [% by volume]
A	Industry Practice	≥960	≤7	<1	No Spec	≤20 <i>NOTE 1.c</i>	No Spec	No Spec	No Spec
B	Standard Instrument	967-1200	≤7	≤¼ - Mainline ≤1 - SE & SW	No Spec	≤20 <i>NOTE 1.b & 1.d</i>	≤1	≤3	≤2
C	Not Defined	≥978	≤7	≤1	No Spec	≤20	≤1	4 less % by volume of CO ₂	≤3
D	AGA Rpt#5 -or- Other	967-1100	≤7	≤1/4	No Spec	≤20	≤.2 <i>NOTE 2.a</i>	≤4 + <i>NOTE 2.a</i>	≤3 + <i>NOTE 2.a</i>
E	Continuous Sampling AGA Rpts	≥967	≤7	≤0.25	≤0.75	≤5 Includes all forms of sulfur	≤.2 <i>NOTE 2.b</i>	<i>NOTE 2.b</i>	≤2 + <i>NOTE 2.b</i>
F	GPA Std 2172	≤1000	≤7	≤1/4	No Spec	≤10	≤1/4	<i>NOTE 2.c</i>	<i>NOTE 2.c</i>
G	Continuous Sampling -or- Other	No Spec	≤7	≤0.25	No Spec	≤20	≤.2	<i>NOTE 2.c</i>	2 + <i>NOTE 2.c</i>
H	Standard Methods	1000-1075	≤7	≤1/4	No Spec	≤10 <i>NOTE 1.b & 1.d</i>	≤.25	<i>NOTE 2.c</i>	<i>NOTE 2.c</i>
I	AGA Rpt#3	950-1175	≤7	16 PPM	No Spec	320 PPM	≤.2	≤3	≤3
J	Not Defined	≥950	≤4	≤1	No Spec	≤20	≤.2	4 less % by volume of CO ₂	≤3
K	Not Defined	≥950	≤7	≤1/4	≤1/4	≤1/2	10 PPM	≤3	≤2
L	Not Defined	≥950							

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M	Standard Instrument	≥970	≤7	≤1/4	≤1/4	≤5	≤.2	NOTE 2.c	NOTE 2.c
N	Not Defined	≥950	≤7	≤10	No Spec	200 total	≤1	3 total (combined with CO ₂)	3 total (combined with N)
O	Not Defined	≥967	No Spec	≤0.25	No Spec	≤20	No Spec	No Spec	No Spec
P	Not Defined	≥967	≤7	≤.5 -or- 8PPM	No Spec	≤10	No Spec	4 less % by volume of CO ₂	≤3
Q	Not Defined	≥967	≤7	≤1/4	No Spec	≤20	No Spec	4 less % by volume of CO ₂	≤3
R	Not Defined	980-1100	≤7	≤.3	No Spec	≤20	No Spec	No Spec	No Spec
S	Not Defined	950-1100	≤7	≤1/4	1	≤5	≤.05	No Spec	≤2

NOTES:

1	Total Sulfur Content Notes 1.a Total Sulfur content not specified. 1.b Total Sulfur includes mercaptan. 1.c Total Sulfur excludes mercaptan. 1.d Total Sulfur includes H ₂ S. 1.e Total Sulfur excludes H ₂ S.
2	Nonhydrocarbon Gases Notes 2.a Gas shall not contain more than 5% by volume of nonhydrocarbon gases including, but not limited to, carbon dioxide, nitrogen, oxygen. 2.b Gas shall not contain more than 3% by volume of nonhydrocarbon gases including, but not limited to, carbon dioxide, nitrogen, oxygen, helium. 2.c Gas shall not contain more than 3% by volume of carbon dioxide + nitrogen..
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