



ISOTOPIC NATURAL GAS ANALYSIS

PRIMARY DB KEY: **05-045-11795** NAME/DESCRIP : **300115023 1D CASS-KNOXS 1-21C**
 LEASE #: **BRAIDEN HEAD**
 FIELD/AREA:

PROJECT NO. : **202501048** ANALYSIS NO. : **03**
 COMPANY NAME : **QB ENERGY OPERATING, LLC** ANALYSIS DATE: **JANUARY 22, 2025 00:00**
 OFFICE / BRANCH: **PARACHUTE, CO** SAMPLE DATE : **JANUARY 2, 2025**
 CUSTOMER REF: **TO:**
 PRODUCER : **QB ENERGY OPERATING, LLC** EFFECTIVE DATE:

*****FIELD DATA*****

SAMPLE CYCLE: SAMPLE TYPE: **SPOT**
 SAMPLE PRES. : **275** psig PROBE : **NO**
 FLOW PRES. : psig CYLINDER NO. : **ECA-777**
 LAB PRES: psig SAMPLED BY : **MIKE KELLEY**
 SAMPLE TEMP. : **38** °f SAMPLING COMPANY: **QB ENERGY**
 AMBIENT TEMP.: °f H2S BY STAIN TUBE: - ppm mol
 H2O BY STAIN TUBE: - #/mmcf CO2 BY STAIN TUBE: - Mol %
 FIELD COMMENTS:
 LAB COMMENTS:

COMPONENTS	NORM. MOLE%	GPM @ 14.65	d13C ‰ VPDB	dD ‰ VSMOW
HELIUM	0.01	-	-	-
HYDROGEN	0.01	-	-	-
OXYGEN/ARGON	0.00	-	-	-
NITROGEN	0.17	-	-	-
CO2	0.01	-	0.0	-
METHANE	94.74	-	-36.9	-174
ETHANE	3.56	0.9492	-26.2	-
PROPANE	0.88	0.2418	-24.5	-
ISOBUTANE	0.17	0.0550	-24.3	-
N-BUTANE	0.17	0.0530	-24.8	-
ISOPENTANE	0.07	0.0260	0.0	-
N-PENTANE	0.05	0.0180	0.0	-
HEXANES+	0.15	0.0430	-	-
TOTAL	100.00	1.3860		

BTU @ 60 DEG F

14.65
 GROSS DRY REAL = **1062.6** /scf
 GROSS SATURATED REAL = **1044.0** /scf

RELATIVE DENSITY (AIR=1 @14.696 PSIA 60F) 0.5902
 GRAVITY (LB/SCF) 0.04505
 COMPRESSIBILITY FACTOR : 0.99770

NOTE: REFERENCE GPA 2261(ASTM D1945 & ASME-PTC), 2145, & 2172 CURRENT PUBLICATIONS

Reference: Per GPA 2172-14 sec 9 **The C6+ is derived from the following ratios of C6, C7 & C8+ respectively: 60% 30% 10%**

The NG Composition File #: **202501048-03-A-327**
 The Isotopic Data File #: **DIG-038681**

Note: Stable isotope results based on multi-point laboratory calibration

Precision δ¹³C < 0.5 ‰ Precision δD < 5.0 ‰

Values in red represent low peak heights. Interpret with caution.

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