



ISOTOPIC NATURAL GAS ANALYSIS

PRIMARY DB KEY: **05-045-10733** NAME/DESCRIP : **300105029 PF31 FEDERAL 31-7**
 LEASE #: **C007090886C125** CASING
 FIELD/AREA:
 PROJECT NO. : **202501048** ANALYSIS NO. : **02**
 COMPANY NAME : **QB ENERGY OPERATING, LLC** ANALYSIS DATE: JANUARY 22, 2025 00:00
 OFFICE / BRANCH: PARACHUTE, CO SAMPLE DATE : JANUARY 6, 2025
 CUSTOMER REF: TO:
 PRODUCER : QB ENERGY OPERATING, LLC EFFECTIVE DATE:

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

SAMPLE CYCLE: SAMPLE TYPE: SPOT
 SAMPLE PRES. : 880 psig PROBE : NO
 FLOW PRES. : psig CYLINDER NO. : ECA-708
 LAB PRES: psig SAMPLED BY : MIKE KELLEY
 SAMPLE TEMP. : 39 °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	0.00	-	-	-
HYDROGEN	0.01	-	-	-
OXYGEN/ARGON	0.00	-	-	-
NITROGEN	0.07	-	-	-
CO2	3.32	-	-4.3	-
METHANE	89.64	-	-35.1	-159
ETHANE	4.97	1.3250	-26.2	-
PROPANE	1.14	0.3128	-22.7	-
ISOBUTANE	0.26	0.0849	-20.0	-
N-BUTANE	0.19	0.0600	-19.9	-
ISOPENTANE	0.09	0.0290	-21.0	-
N-PENTANE	0.05	0.0180	0.0	-
HEXANES+	0.27	0.0689	-	-
TOTAL	100.00	1.8986		

BTU @ 60 DEG F

14.65
 GROSS DRY REAL = 1050.4 /scf
 GROSS SATURATED REAL = 1032.0 /scf

RELATIVE DENSITY (AIR=1 @14.696 PSIA 60F) 0.6347
 GRAVITY (LB/SCF) 0.04844
 COMPRESSIBILITY FACTOR : 0.99760

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 #: **202501048-02-A-327**
 The Isotopic Data File #: **DIG-038680**

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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