



EXTENDED NATURAL GAS ANALYSIS (*DHA)

MAIN PAGE

PRIMARY DB KEY: **05-103-10729** NAME/DESCRIP : **PCU 297 10A5**
 LEASE #: **05-103-10729** **PRODUCTION CASING**
 FIELD/AREA: **PICEANCE CREEK**

PROJECT NO. : **202601076** ANALYSIS NO. : **01**
 COMPANY NAME : **QB ENERGY OPERATING, LLC** ANALYSIS DATE: **FEBRUARY 02, 2026 06:34**
 OFFICE / BRANCH: **PARACHUTE, CO** SAMPLE DATE : **JANUARY 13, 2026**
 CUSTOMER REF: TO:
 PRODUCER : **QB ENERGY OPERATING, LLC** EFFECTIVE DATE:

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

SAMPLE CYCLE: SAMPLE TYPE:
 SAMPLE PRES. : 812 psig PROBE :
 FLOW PRES. : psig CYLINDER NO. : TBI/UT-039
 LAB PRES: psig SAMPLED BY : NICK CROY
 SAMPLE TEMP. : °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:

<u>COMPONENT</u>	<u>MOLE %</u>	<u>MASS %</u>	<u>GPM @</u>	<u>GPM @</u>
			<u>14.65</u>	<u>14.73</u>
ALCOHOLS	0.0021	0.0039	0.0000	0.0000
HELIUM	0.00	0.00	---	---
HYDROGEN	0.04	0.00	---	---
OXYGEN/ARGON	0.00	0.00	---	---
NITROGEN	0.07	0.10	---	---
CARBON DIOXIDE	4.23	9.91	---	---
METHANE	88.3714	75.4994	---	---
ETHANE	5.1436	8.2365	1.3711	1.3786
PROPANE	1.2924	3.0349	0.3548	0.3567
I-BUTANE	0.2777	0.8596	0.0909	0.0914
N-BUTANE	0.1949	0.6033	0.0610	0.0613
I-PENTANE	0.0761	0.2922	0.0280	0.0281
N-PENTANE	0.0464	0.1783	0.0170	0.0171
HEXANES PLUS	0.2554	1.2819	0.0990	0.0992
<u>TOTALS</u>	<u>100.00000</u>	<u>100.00000</u>	<u>2.0218</u>	<u>2.0324</u>

<u>BTEX COMPONENTS</u>	<u>MOLE%</u>	<u>WT%</u>
BENZENE	0.0114	0.0474
TOLUENE	0.0191	0.0937
ETHYLBENZENE	0.0009	0.0051
XYLENES	0.0073	0.0412
<u>TOTAL BTEX</u>	<u>0.0387</u>	<u>0.1874</u>

	<u>CALCULATED VALUES**</u>	
	<u>BTU @</u>	<u>BTU @</u>
	<u>14.65</u>	<u>14.73</u>
LHV NET DRY REAL :	946.4 /scf	951.5 /scf
NET WET REAL :	929.9 /scf	935.0 /scf
HHV GROSS DRY REAL :	1048.0 /scf	1053.7 /scf
GROSS WET REAL :	1029.7 /scf	1035.4 /scf
NET HEATING VALUE (60 °F ideal reaction):		19152.1 Btu/lbm
GROSS HEATING VALUE (60°F ideal reaction):		21208.5 Btu/lbm
RELATIVE DENSITY (AIR=1):		0.6480
DENSITY		0.04948 lbm/scf
COMPRESSIBILITY FACTOR :		0.9975
REGULAR WOBBE INDEX		1302.8

*(DETAILED HYDROCARBON ANALYSIS/NJ 1993)

Mod ASTM D6730,GPA 2261 & GPA 2286.

** (CALC: GPA 2172, GPA 2145 & TP-17 @14.696 & 60 F)

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**EXTENDED NATURAL GAS ANALYSIS (*DHA)
GLYCALC INFORMATION**

PROJECT NO. :	202601076	ANALYSIS NO. :	01
COMPANY NAME :	QB ENERGY OPERATING, LLC	ANALYSIS DATE:	FEBRUARY 02, 2026 06:34
ACCOUNT NO. :		SAMPLE DATE :	JANUARY 13, 2026
PRODUCER :	QB ENERGY OPERATING, LLC	CYLINDER NO. :	TBI/UT-039
LEASE NO. :	05-103-10729	SAMPLED BY :	NICK CROY
NAME/DESCRIP :	PCU 297 10A5 PRODUCTION CASING		

FIELD DATA

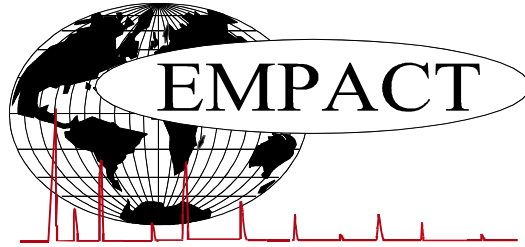
SAMPLE PRES. :	812	SAMPLE TEMP. :	
H2S BY STAIN TUBE:	— ppm mol	AMBIENT TEMP.:	
COMMENTS :			

<u>Componet</u>	<u>Mole %</u>	<u>Wt %</u>
Helium	0.00	0.00
Hydrogen	0.04	0.00
Carbon Dioxide	4.23	9.91
Nitrogen	0.07	0.10
Methane	88.3714	75.4994
Ethane	5.1436	8.2365
Propane	1.2924	3.0349
Isobutane	0.2777	0.8596
n-Butane	0.1949	0.6033
Isopentane	0.0734	0.2821
n-Pentane	0.0464	0.1783
Cyclopentane	0.0027	0.0101
n-Hexane	0.0321	0.1473
Cyclohexane	0.0164	0.0735
Other Hexanes	0.0630	0.2876
Heptanes	0.0441	0.2344
Methylcyclohexane	0.0270	0.1412
2,2,4 Trimethylpentane	0.0002	0.0012
Benzene	0.0114	0.0474
Toluene	0.0191	0.0937
Ethylbenzene	0.0009	0.0051
Xylenes	0.0073	0.0412
C8+ Heavies	0.0339	0.2093
<u>Subtotal</u>	<u>99.99790</u>	<u>99.99610</u>
Oxygen/Argon	0.00	0.00
Alcohols	0.0021	0.0039
Total	100.00000	100.00000

	Total	C6+	C8+	C10+
Calculated Values BTU @	Sample	Fraction	Fraction	Fraction
14.65				
LHV Net Dry Real:	946.4	4723.6	5653.5	9018.5 Btu/scf
Net Wet Real:	929.9	4641.0	5554.7	8860.8 Btu/scf
HHV Gross Dry Real:	1048.0	5069.3	6068.5	9951.6 Btu/scf
Gross Wet Real:	1029.7	4980.7	5962.4	9777.6 Btu/scf
Other Calculated Values				
Regualr Wobbe Index*	1302.8	2799.1	3062.4	3985.8 Btu/scf
Net Heating Value (60 °F ideal reaction):	19152.1	19145.5	19448.6	18631.8 Btu/lbm
Gross Heating Value (60°F ideal reaction):	21208.5	20549.3	20878.8	20546.8 Btu/lbm
Molar Mass (MW):	18.77991	94.228	113.862	181.674 g/mol
Relative Density (AIR=1):	0.6480	3.2532	3.9315	6.2728 SG
Density:	0.04948	0.24831	0.30006	0.47874 lbm/scf
Compressibility Factor:	0.9975	0.9928	0.9975	1.0000 Z
Liquid Volume real gas @:	14.65	17.6426	0.0987	0.0159 gal/1000 scf

* The Wobbe pressure base in the number considered is based upon the given Pb of the HHV above.
 #DIV/0 or 0 (zero) will appear in the Calculated Value Section when there is no C6+, C8+ or C10+ in the sample to calculate these factors.
 BDL - Below Detection Limit. The H2S LOS has a detection limit of 0.25 ppm. A _ (an underscore) indicates there was no tube pulled for H2S.

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DHA COMPONENT LIST

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

SAMPLE CYCLE: SAMPLE TYPE:
 SAMPLE PRES. : 812 psig PROBE :
 FLOW PRES. : psig CYLINDER NO. : TBI/UT-039
 LAB PRES: psig SAMPLED BY : NICK CROY
 SAMPLE TEMP. : °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:

COMPONENT	PIANO #	MOLE %	MASS %	GPM @ 14.65	GPM @ 14.73
Hydrogen	---	0.04	0.00	---	---
Nitrogen	---	0.07	0.10	---	---
Carbon Dioxide	---	4.23	9.91	---	---
Methane	P1	88.3714	75.4994	---	---
Ethane	P2	5.1436	8.2365	1.371	1.379
Propane	P3	1.2924	3.0349	0.355	0.357
i-Butane	I4	0.2777	0.8596	0.091	0.091
Methanol	X1	0.0019	0.0033	0.000	0.000
n-Butane	P4	0.1949	0.6033	0.061	0.061
2,2-Dimethylpropane	I5	0.0027	0.0104	0.001	0.001
i-Pentane	I5	0.0707	0.2717	0.026	0.026
i-Propanol	X3	0.0002	0.0006	0.000	0.000
n-Pentane	P5	0.0464	0.1783	0.017	0.017
2,2-Dimethylbutane	I6	0.0034	0.0156	0.001	0.001
Cyclopentane	N5	0.0027	0.0101	0.001	0.001
2,3-Dimethylbutane	I6	0.0061	0.0280	0.002	0.002
2-Methylpentane	I6	0.0251	0.1152	0.010	0.010
3-Methylpentane	I6	0.0146	0.0670	0.006	0.006
n-Hexane	P6	0.0321	0.1473	0.013	0.013
2,2-Dimethylpentane	I7	0.0011	0.0059	0.001	0.001
Methylcyclopentane	N6	0.0138	0.0618	0.005	0.005
2,4-Dimethylpentane	I7	0.0017	0.0091	0.001	0.001
2,2,3-Trimethylbutane	I7	0.0004	0.0021	0.000	0.000
Benzene	A6	0.0114	0.0474	0.003	0.003
3,3-Dimethylpentane	I7	0.0006	0.0032	0.000	0.000
Cyclohexane	N6	0.0164	0.0735	0.006	0.006

2-Methylhexane	I7	0.0075	0.0400	0.003	0.003
2,3-Dimethylpentane	I7	0.0017	0.0091	0.001	0.001
1,1-Dimethylcyclopentane	N7	0.0017	0.0089	0.001	0.001
3-Methylhexane	I7	0.0066	0.0352	0.003	0.003
1c,3-Dimethylcyclopentane	N7	0.0022	0.0115	0.001	0.001
1t,3-Dimethylcyclopentane	N7	0.0020	0.0104	0.001	0.001
3-Ethylpentane	I7	0.0003	0.0016	0.000	0.000
1t,2-Dimethylcyclopentane	N7	0.0030	0.0157	0.001	0.001
2,2,4-Trimethylpentane	I8	0.0002	0.0012	0.000	0.000
n-Heptane	P7	0.0142	0.0758	0.007	0.007
1c,2-Dimethylcyclopentane	N7	0.0002	0.0011	0.000	0.000
Methylcyclohexane	N7	0.0270	0.1412	0.011	0.011
2,2-Dimethylhexane	I8	0.0008	0.0049	0.000	0.000
1,1,3-Trimethylcyclopentane	N7	0.0001	0.0006	0.000	0.000
Ethylcyclopentane	N7	0.0008	0.0042	0.000	0.000
2,5-Dimethylhexane	I8	0.0008	0.0049	0.000	0.000
2,2,3-Trimethylpentane	I8	0.0007	0.0043	0.000	0.000
2,4-Dimethylhexane	I8	0.0001	0.0006	0.000	0.000
1c,2t,4-Trimethylcyclopentane	N8	0.0005	0.0030	0.000	0.000
3,3-Dimethylhexane	I8	0.0003	0.0018	0.000	0.000
Toluene	A7	0.0191	0.0937	0.006	0.006
2,3-Dimethylhexane	I8	0.0006	0.0037	0.000	0.000
2-Methyl-3-ethylpentane	I8	0.0001	0.0006	0.000	0.000
2-Methylheptane	I8	0.0031	0.0189	0.002	0.002
4-Methylheptane	I8	0.0010	0.0061	0.001	0.001
3-Methyl-3-ethylpentane	I8	0.0001	0.0006	0.000	0.000
3,4-Dimethylhexane	I8	0.0001	0.0006	0.000	0.000
3-Methylheptane	I8	0.0024	0.0146	0.001	0.001
1c,2t,3-Trimethylcyclopentane	N8	0.0038	0.0227	0.002	0.002
3-Ethylhexane	I8	0.0004	0.0025	0.000	0.000
1t,4-Dimethylcyclohexane	N8	0.0018	0.0108	0.001	0.001
1,1-Dimethylcyclohexane	N8	0.0007	0.0042	0.000	0.000
2,2,5-Trimethylhexane	I9	0.0001	0.0007	0.000	0.000
3c-Ethylmethylcyclopentane	N8	0.0001	0.0006	0.000	0.000
3t-Ethylmethylcyclopentane	N8	0.0001	0.0006	0.000	0.000
2t-Ethylmethylcyclopentane	N8	0.0002	0.0012	0.000	0.000
1t,2-Dimethylcyclohexane	N8	0.0012	0.0072	0.001	0.001
1t,3-Dimethylcyclohexane	N8	0.0003	0.0018	0.000	0.000
n-Octane	P8	0.0085	0.0517	0.004	0.004
1c,4-Dimethylcyclohexane	N8	0.0008	0.0048	0.000	0.000
2,3,5-Trimethylhexane	I9	0.0001	0.0007	0.000	0.000
2,2-Dimethylheptane	I9	0.0003	0.0020	0.000	0.000
1,1,4-Trimethylcyclohexane	N9	0.0010	0.0067	0.001	0.001
2,2,3-Trimethylhexane	I9	0.0004	0.0027	0.000	0.000
2,4-Dimethylheptane	I9	0.0001	0.0007	0.000	0.000
Ethylcyclohexane	N8	0.0008	0.0048	0.000	0.000
n-Propylcyclopentane	N8	0.0004	0.0024	0.000	0.000
1c,3c,5-Trimethylcyclohexane	N9	0.0001	0.0007	0.000	0.000
2,5-Dimethylheptane	I9	0.0008	0.0055	0.000	0.000
3,3-Dimethylheptane	I9	0.0002	0.0014	0.000	0.000
2,6-Dimethylheptane	I9	0.0001	0.0007	0.000	0.000
Ethylbenzene	I8	0.0009	0.0051	0.000	0.000
1,3-Dimethylbenzene (m-Xylene)	A8	0.0051	0.0288	0.002	0.002
1,4-Dimethylbenzene (p-Xylene)	A8	0.0020	0.0113	0.001	0.001
3,4-Dimethylheptane (2)	I9	0.0001	0.0007	0.000	0.000
4-Methyloctane	I9	0.0001	0.0007	0.000	0.000
1,2-Dimethylbenzene (o-Xylene)	A8	0.0002	0.0011	0.000	0.000
i-Butylcyclopentane	N9	0.0002	0.0013	0.000	0.000
UnknownC9s	U9	0.0003	0.0020	0.000	0.000

1,3-Methyl-n-butylbenzene	A11	0.0001	0.0008	0.000	0.000
n-Tetradecane	P14	0.0002	0.0021	0.000	0.000
TOTAL		100.00000	100.00000	2.0218	2.0324

CALCULATED VALUES**

BTEX COMPONENTS	MOLE%	WT%	BTU @		
			14.65	14.73	
BENZENE	0.0114	0.0474	LHV NET DRY REAL :	946.4 /scf	951.5 /scf
TOLUENE	0.0191	0.0937	NET WET REAL :	929.9 /scf	935.0 /scf
ETHYLBENZENE	0.0009	0.0051	HHV GROSS DRY REAL :	1048.0 /scf	1053.7 /scf
XYLENES	0.0073	0.0412	GROSS WET REAL :	1029.7 /scf	1035.4 /scf
TOTAL BTEX	0.0387	0.1874	NET HEATING VALUE (60 °F ideal reaction):		19152.1 Btu/lbm
			GROSS HEATING VALUE (60°F ideal reaction):		21208.5 Btu/lbm
			RELATIVE DENSITY (AIR=1):		0.6480
			DENSITY		0.04948 lb/scf
			COMPRESSIBILITY FACTOR :		0.9975
			REGULAR WOBBE INDEX		1302.8

*(DETAILED HYDROCARBON ANALYSIS/NJ 1993)

Mod ASTM D6730, GPA 2261 & GPA 2286.

** (CALC: GPA 2172, GPA 2145 & TP-17 @14.696 & 60 F)

C6+ Fraction of DHA Gas Analysis @60°F, 14.696 psia

Net Dry Ideal BTU	4704.4 /scf	Relative Density - SG (Air=1)	3.2532	C6+ factors
Gross Dry Ideal BTU	5048.7 /scf	Z Compressibility Factor	0.99282	0.99204
Net Dry Ideal BTU	19145.5 /lb	Density Factor	248.312 lbm/1000 ft3	
Gross Dry Ideal BTU	20549.3 /lb	Molar Mass or MW	94.228 g/mol	
		Volume Liquid Ideal gas	0.099 scf/gal	24.7

This hexanes plus fraction may be applied in place of published C6+ factors. The Z & GPM need additional calc for C6+ factors. #DIV/0 or 0 (zero) will appear in this section when there is no hexanes plus in the sample to calculate C6+ factors.

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