



EXTENDED NATURAL GAS ANALYSIS (*DHA)

MAIN PAGE

PRIMARY DB KEY:	05-103-10729	NAME/DESCRIP :	PCU 297 10A5
LEASE #:	05-103-10729		INTERMEDIATE CASING
FIELD/AREA:	PICEANCE CREEK		
PROJECT NO. :	202601076	ANALYSIS NO. :	02
COMPANY NAME :	QB ENERGY OPERATING, LLC	ANALYSIS DATE:	FEBRUARY 02, 2026 08:18
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. :	140 psig	PROBE :	
FLOW PRES. :	psig	CYLINDER NO. :	ECA-772
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 @ 14.65</u>	<u>GPM @ 14.73</u>
ALCOHOLS	0.0804	0.1585	0.0100	0.0100
HELIUM	0.03	0.01	---	---
HYDROGEN	0.20	0.02	---	---
OXYGEN/ARGON	0.01	0.02	---	---
NITROGEN	1.24	2.12	---	---
CARBON DIOXIDE	0.04	0.11	---	---
METHANE	97.3279	95.1581	---	---
ETHANE	0.8620	1.5796	0.2297	0.2310
PROPANE	0.0967	0.2599	0.0270	0.0271
I-BUTANE	0.0101	0.0358	0.0030	0.0030
N-BUTANE	0.0253	0.0897	0.0080	0.0080
I-PENTANE	0.0122	0.0536	0.0040	0.0040
N-PENTANE	0.0131	0.0576	0.0050	0.0050
HEXANES PLUS	0.0523	0.3272	0.0180	0.0180
TOTALS	100.00000	100.00000	0.3047	0.3061

<u>BTEX COMPONENTS</u>	<u>MOLE%</u>	<u>WT%</u>	<u>CALCULATED VALUES**</u>	
			<u>BTU @ 14.65</u>	<u>14.73</u>
BENZENE	0.0001	0.0005		
TOLUENE	0.0056	0.0314	LHV NET DRY REAL :	905.3 /scf
ETHYLBENZENE	0.0001	0.0007		910.2 /scf
XYLENES	0.0005	0.0033	NET WET REAL :	889.5 /scf
TOTAL BTEX	0.0063	0.0359	HHV GROSS DRY REAL :	1005.1 /scf
				1010.6 /scf
			GROSS WET REAL :	987.5 /scf
			NET HEATING VALUE (60 °F ideal reaction):	20978.9 Btu/lbm
			GROSS HEATING VALUE (60°F ideal reaction):	23291.6 Btu/lbm
			RELATIVE DENSITY (AIR=1):	0.5660
			DENSITY	0.04323 lbm/scf
			COMPRESSIBILITY FACTOR :	0.9980
			REGULAR WOBBE INDEX	1337.4

*(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. :	02
COMPANY NAME :	QB ENERGY OPERATING, LLC	ANALYSIS DATE:	FEBRUARY 02, 2026 08:18
ACCOUNT NO. :		SAMPLE DATE :	JANUARY 13, 2026
PRODUCER :	QB ENERGY OPERATING, LLC	CYLINDER NO. :	ECA-772
LEASE NO. :	05-103-10729	SAMPLED BY :	NICK CROY
NAME/DESCRIP :	PCU 297 10A5 INTERMEDIATE CASING		

FIELD DATA

SAMPLE PRES. :	140	SAMPLE TEMP. :	
H2S BY STAIN TUBE:	— ppm mol	AMBIENT TEMP.:	
COMMENTS :			

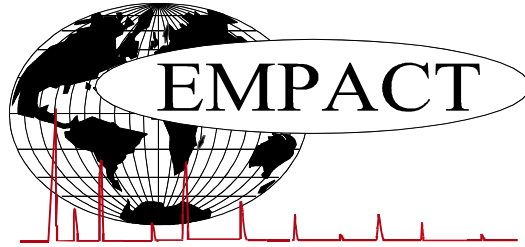
<u>Componet</u>	<u>Mole %</u>	<u>Wt %</u>
Helium	0.03	0.01
Hydrogen	0.20	0.02
Carbon Dioxide	0.04	0.11
Nitrogen	1.24	2.12
Methane	97.3279	95.1581
Ethane	0.8620	1.5796
Propane	0.0967	0.2599
Isobutane	0.0101	0.0358
n-Butane	0.0253	0.0897
Isopentane	0.0121	0.0532
n-Pentane	0.0131	0.0576
Cyclopentane	0.0001	0.0004
n-Hexane	0.0068	0.0357
Cyclohexane	0.0010	0.0051
Other Hexanes	0.0100	0.0525
Heptanes	0.0114	0.0694
Methylcyclohexane	0.0054	0.0323
2,2,4 Trimethylpentane	0.0001	0.0007
Benzene	0.0001	0.0005
Toluene	0.0056	0.0314
Ethylbenzene	0.0001	0.0007
Xylenes	0.0005	0.0033
C8+ Heavies	0.0113	0.0956
<u>Subtotal</u>	<u>99.90960</u>	<u>99.82150</u>
Oxygen/Argon	0.01	0.02
Alcohols	0.0804	0.1585
Total	100.00000	100.00000

Calculated Values BTU @		Total	C6+	C8+	C10+
LHV	Net Dry Real:	905.3	5164.5	6879.9	11050.6 Btu/scf
	Net Wet Real:	889.5	5074.2	6759.6	10857.4 Btu/scf
HHV	Gross Dry Real:	1005.1	5553.7	7421.1	11974.5 Btu/scf
	Gross Wet Real:	987.5	5456.6	7291.4	11765.2 Btu/scf

Other Calculated Values					
Regualr Wobbe Index*		1337.4	2939.4	3412.2	4354.2 Btu/scf
Net Heating Value (60 °F ideal reaction):		20978.9	19393.7	20158.4	21200.4 Btu/lbm
Gross Heating Value (60°F ideal reaction):		23291.6	20855.6	21736.4	22944.6 Btu/lbm
Molar Mass (MW):		16.40757	102.736	137.368	220.427 g/mol
Relative Density (AIR=1):		0.5660	3.5472	4.7430	7.6106 SG
Density:		0.04323	0.27073	0.36198	0.58086 lbm/scf
Compressibility Factor:		0.9980	0.9937	0.9982	1.0000 Z
Liquid Volume real gas @:	14.65	16.875	0.0179	0.004	0.002 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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EXTENDED NATURAL GAS ANALYSIS (*DHA)

DHA COMPONENT LIST

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 LEASE #: **05-103-10729** INTERMEDIATE CASING
 FIELD/AREA: **PICEANCE CREEK**

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

SAMPLE CYCLE: SAMPLE TYPE:
 SAMPLE PRES. : 140 psig PROBE :
 FLOW PRES. : psig CYLINDER NO. : **ECA-772**
 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
Helium	---	0.03	0.01	---	---
Hydrogen	---	0.20	0.02	---	---
Oxygen/Argon	---	0.01	0.02	---	---
Nitrogen	---	1.24	2.12	---	---
Carbon Dioxide	---	0.04	0.11	---	---
Methane	P1	97.3279	95.1581	---	---
Ethane	P2	0.8620	1.5796	0.230	0.231
Propane	P3	0.0967	0.2599	0.027	0.027
i-Butane	I4	0.0101	0.0358	0.003	0.003
Methanol	X1	0.0796	0.1555	0.010	0.010
n-Butane	P4	0.0252	0.0893	0.008	0.008
2,2-Dimethylpropane	I5	0.0010	0.0044	0.000	0.000
i-Pentane	I5	0.0111	0.0488	0.004	0.004
Acetone	X3	0.0001	0.0004	0.000	0.000
i-Propanol	X3	0.0007	0.0026	0.000	0.000
UnknownC4s	U4	0.0001	0.0004	0.000	0.000
n-Pentane	P5	0.0131	0.0576	0.005	0.005
2,2-Dimethylbutane	I6	0.0009	0.0047	0.000	0.000
Cyclopentane	N5	0.0001	0.0004	0.000	0.000
2,3-Dimethylbutane	I6	0.0009	0.0047	0.000	0.000
2-Methylpentane	I6	0.0051	0.0268	0.002	0.002
3-Methylpentane	I6	0.0027	0.0142	0.001	0.001
n-Hexane	P6	0.0068	0.0357	0.003	0.003
2,2-Dimethylpentane	I7	0.0002	0.0012	0.000	0.000
Methylcyclopentane	N6	0.0004	0.0021	0.000	0.000
2,4-Dimethylpentane	I7	0.0004	0.0024	0.000	0.000
2,2,3-Trimethylbutane	I7	0.0001	0.0006	0.000	0.000

Benzene	A6	0.0001	0.0005	0.000	0.000
3,3-Dimethylpentane	I7	0.0002	0.0012	0.000	0.000
Cyclohexane	N6	0.0010	0.0051	0.000	0.000
2-Methylhexane	I7	0.0018	0.0110	0.001	0.001
2,3-Dimethylpentane	I7	0.0006	0.0037	0.000	0.000
1,1-Dimethylcyclopentane	N7	0.0003	0.0018	0.000	0.000
3-Methylhexane	I7	0.0018	0.0110	0.001	0.001
1c,3-Dimethylcyclopentane	N7	0.0001	0.0006	0.000	0.000
1t,3-Dimethylcyclopentane	N7	0.0002	0.0012	0.000	0.000
3-Ethylpentane	I7	0.0001	0.0006	0.000	0.000
1t,2-Dimethylcyclopentane	N7	0.0004	0.0024	0.000	0.000
2,2,4-Trimethylpentane	I8	0.0001	0.0007	0.000	0.000
n-Heptane	P7	0.0049	0.0299	0.002	0.002
1c,2-Dimethylcyclopentane	N7	0.0002	0.0012	0.000	0.000
Methylcyclohexane	N7	0.0054	0.0323	0.002	0.002
2,2-Dimethylhexane	I8	0.0003	0.0021	0.000	0.000
Ethylcyclopentane	N7	0.0001	0.0006	0.000	0.000
2,5-Dimethylhexane	I8	0.0004	0.0028	0.000	0.000
2,2,3-Trimethylpentane	I8	0.0003	0.0021	0.000	0.000
2,4-Dimethylhexane	I8	0.0001	0.0007	0.000	0.000
1c,2t,4-Trimethylcyclopentane	N8	0.0001	0.0007	0.000	0.000
3,3-Dimethylhexane	I8	0.0001	0.0007	0.000	0.000
Toluene	A7	0.0056	0.0314	0.002	0.002
2,3-Dimethylhexane	I8	0.0002	0.0014	0.000	0.000
2-Methylheptane	I8	0.0012	0.0083	0.001	0.001
4-Methylheptane	I8	0.0004	0.0028	0.000	0.000
3-Methyl-3-ethylpentane	I8	0.0001	0.0007	0.000	0.000
3-Methylheptane	I8	0.0008	0.0055	0.000	0.000
1c,2t,3-Trimethylcyclopentane	N8	0.0007	0.0048	0.000	0.000
3-Ethylhexane	I8	0.0001	0.0007	0.000	0.000
1t,4-Dimethylcyclohexane	N8	0.0002	0.0013	0.000	0.000
1,1-Dimethylcyclohexane	N8	0.0001	0.0007	0.000	0.000
2,2,5-Trimethylhexane	I9	0.0001	0.0008	0.000	0.000
2t-Ethylmethylcyclopentane	N8	0.0001	0.0007	0.000	0.000
1t,2-Dimethylcyclohexane	N8	0.0002	0.0013	0.000	0.000
1t,3-Dimethylcyclohexane	N8	0.0002	0.0013	0.000	0.000
n-Octane	P8	0.0012	0.0083	0.001	0.001
1c,4-Dimethylcyclohexane	N8	0.0002	0.0013	0.000	0.000
2,2-Dimethylheptane	I9	0.0001	0.0008	0.000	0.000
1,1,4-Trimethylcyclohexane	N9	0.0001	0.0008	0.000	0.000
Ethylcyclohexane	N8	0.0001	0.0007	0.000	0.000
n-Propylcyclopentane	N8	0.0001	0.0007	0.000	0.000
2,5-Dimethylheptane	I9	0.0001	0.0008	0.000	0.000
Ethylbenzene	I8	0.0001	0.0007	0.000	0.000
1,3-Dimethylbenzene (m-Xylene)	A8	0.0003	0.0019	0.000	0.000
1,4-Dimethylbenzene (p-Xylene)	A8	0.0001	0.0007	0.000	0.000
4-Methyloctane	I9	0.0001	0.0008	0.000	0.000
2-Methyloctane	I9	0.0001	0.0008	0.000	0.000
1c,2t,4c-Trimethylcyclohexane	I9	0.0001	0.0008	0.000	0.000
1,2-Dimethylbenzene (o-Xylene)	A8	0.0001	0.0007	0.000	0.000
i-Butylcyclopentane	N9	0.0005	0.0038	0.000	0.000
n-Nonane	P9	0.0003	0.0023	0.000	0.000
UnknownC9s	U9	0.0001	0.0008	0.000	0.000
1,2-Methyl-n-propylbenzene	A10	0.0002	0.0016	0.000	0.000
UnknownC10s	U10	0.0002	0.0017	0.000	0.000
1,3-Methyl-n-butylbenzene	A11	0.0001	0.0009	0.000	0.000
UnknownC17s	U17	0.0020	0.0293	0.002	0.002
TOTAL		100.00000	100.00000	0.3047	0.3061

BTEX COMPONENTS	MOLE%	WT%	CALCULATED VALUES**		
			BTU @	14.65	14.73
BENZENE	0.0001	0.0005	LHV NET DRY REAL :	905.3 /scf	910.2 /scf
TOLUENE	0.0056	0.0314	NET WET REAL :	889.5 /scf	894.4 /scf
ETHYLBENZENE	0.0001	0.0007	HHV GROSS DRY REAL :	1005.1 /scf	1010.6 /scf
XYLENES	0.0005	0.0033	GROSS WET REAL :	987.5 /scf	993.0 /scf
TOTAL BTEX	0.0063	0.0359	NET HEATING VALUE (60 °F ideal reaction):		20978.9 Btu/lbm
			GROSS HEATING VALUE (60°F ideal reaction):		23291.6 Btu/lbm
			RELATIVE DENSITY (AIR=1):		0.5660
			DENSITY		0.04323 lb/scf
			COMPRESSIBILITY FACTOR :		0.9980
			REGULAR WOBBE INDEX		1337.4

*(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	<u>5148.1</u> /scf	Relative Density - SG (Air=1)	<u>3.5472</u>	C6+ factors
Gross Dry Ideal BTU	<u>5536.1</u> /scf	Z Compressibility Factor	<u>0.99371</u>	<u>0.99268</u>
Net Dry Ideal BTU	<u>19393.7</u> /lb	Density Factor	<u>270.733</u> lbm/1000 ft3	
Gross Dry Ideal BTU	<u>20855.6</u> /lb	Molar Mass or MW	<u>102.736</u> g/mol	
		Volume Liquid Ideal gas	<u>0.018</u> scf/gal	<u>22.6</u>

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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