



EXTENDED NATURAL GAS ANALYSIS (*DHA)

MAIN PAGE

PRIMARY DB KEY:	05-103-10719	NAME/DESCRIP :	PCU T87X-3G5
LEASE #:	05-103-10719		INTERMEDIATE CASING
FIELD/AREA:	PICEANCE CREEK		
PROJECT NO. :	202601077	ANALYSIS NO. :	02
COMPANY NAME :	QB ENERGY OPERATING, LLC	ANALYSIS DATE:	FEBRUARY 02, 2026 13:30
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. :	1353 psig	PROBE :	
FLOW PRES. :	psig	CYLINDER NO. :	TBI-753
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	0.0006	0.0011	0.0000	0.0000
HELIUM	0.01	0.00	---	---
HYDROGEN	0.00	0.00	---	---
OXYGEN/ARGON	0.00	0.00	---	---
NITROGEN	0.08	0.12	---	---
CARBON DIOXIDE	3.40	7.78	---	---
METHANE	87.0336	72.5633	---	---
ETHANE	5.9842	9.3516	1.5952	1.6039
PROPANE	1.8944	4.3414	0.5207	0.5236
I-BUTANE	0.4475	1.3518	0.1459	0.1467
N-BUTANE	0.3873	1.1699	0.1219	0.1226
I-PENTANE	0.1956	0.7326	0.0710	0.0713
N-PENTANE	0.1284	0.4815	0.0460	0.0462
HEXANES PLUS	0.4384	2.1068	0.1750	0.1756
TOTALS	100.00000	100.00000	2.6757	2.6899

<u>BTEX COMPONENTS</u>	<u>MOLE%</u>	<u>WT%</u>
BENZENE	0.0181	0.0735
TOLUENE	0.0269	0.1288
ETHYLBENZENE	0.0002	0.0011
XYLENES	0.0024	0.0132
TOTAL BTEX	0.0476	0.2166

	<u>BTU @ 14.65</u>	<u>14.73</u>
LHV NET DRY REAL :	989.0 /scf	994.4 /scf
NET WET REAL :	971.7 /scf	977.1 /scf
HHV GROSS DRY REAL :	1093.7 /scf	1099.6 /scf
GROSS WET REAL :	1074.6 /scf	1080.5 /scf
NET HEATING VALUE (60 °F ideal reaction):		19520.5 Btu/lbm
GROSS HEATING VALUE (60°F ideal reaction):		21591.9 Btu/lbm
RELATIVE DENSITY (AIR=1):		0.6639
DENSITY		0.05070 lbm/scf
COMPRESSIBILITY FACTOR :		0.9974
REGULAR WOBBE INDEX		1342.9

*(DETAILED HYDROCARBON ANALYSIS/NJ 1993)

Mod ASTM D6730,GPA 2261 & GPA 2286.

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

The data presented herein has been acquired by means of current analytical techniques and represents the judicious conclusion EMPACT Analytical Systems, Inc. Results of the analysis can be affected by the sampling conditions, therefore, are only warranted through proper lab protocol. EMPACT assumes no responsibility for interpretation or any consequences from application of the reported information and is the sole liability of the user. The reproduction in any media of this reported information may not be made, in portion or as a whole, without the written permission of EMPACT Analytical Systems, Inc.



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

PROJECT NO. :	202601077	ANALYSIS NO. :	02
COMPANY NAME :	QB ENERGY OPERATING, LLC	ANALYSIS DATE:	FEBRUARY 02, 2026 13:30
ACCOUNT NO. :		SAMPLE DATE :	JANUARY 13, 2026
PRODUCER :	QB ENERGY OPERATING, LLC	CYLINDER NO. :	TBI-753
LEASE NO. :	05-103-10719	SAMPLED BY :	NICK CROY
NAME/DESCRIP :	PCU T87X-3G5 INTERMEDIATE CASING		

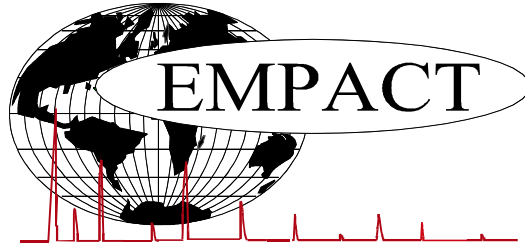
FIELD DATA		SAMPLE TEMP. :	
SAMPLE PRES. :	1353	AMBIENT TEMP.:	
H2S BY STAIN TUBE:	—		
COMMENTS :	—		

<u>Componet</u>	<u>Mole %</u>	<u>Wt %</u>
Helium	0.01	0.00
Hydrogen	0.00	0.00
Carbon Dioxide	3.40	7.78
Nitrogen	0.08	0.12
Methane	87.0336	72.5633
Ethane	5.9842	9.3516
Propane	1.8944	4.3414
Isobutane	0.4475	1.3518
n-Butane	0.3873	1.1699
Isopentane	0.1874	0.7027
n-Pentane	0.1284	0.4815
Cyclopentane	0.0082	0.0299
n-Hexane	0.0628	0.2813
Cyclohexane	0.0319	0.1395
Other Hexanes	0.1276	0.5685
Heptanes	0.0915	0.4744
Methylcyclohexane	0.0518	0.2643
2,2,4 Trimethylpentane	0.0002	0.0012
Benzene	0.0181	0.0735
Toluene	0.0269	0.1288
Ethylbenzene	0.0002	0.0011
Xylenes	0.0024	0.0132
C8+ Heavies	0.0250	0.1610
<u>Subtotal</u>	<u>99.99940</u>	<u>99.99890</u>
Oxygen/Argon	0.00	0.00
Alcohols	0.0006	0.0011
<u>Total</u>	<u>100.00000</u>	<u>100.00000</u>

	<u>Total</u>	<u>C6+</u>	<u>C8+</u>	<u>C10+</u>
Calculated Values BTU @ <u>14.65</u>	Sample	Fraction	Fraction	Fraction
LHV Net Dry Real:	989.0	4657.0	6083.5	11255.4 Btu/scf
Net Wet Real:	971.7	4575.6	5977.2	11058.6 Btu/scf
HHV Gross Dry Real:	1093.7	5002.9	6545.3	12133.6 Btu/scf
Gross Wet Real:	1074.6	4915.4	6430.9	11921.5 Btu/scf
Other Calculated Values				
Regualr Wobbe Index*	1342.9	2786.0	3190.6	4360.4 Btu/scf
Net Heating Value (60 °F ideal reaction):	19520.5	19205.0	19947.2	21121.3 Btu/lbm
Gross Heating Value (60°F ideal reaction):	21591.9	20632.8	21460.9	22762.2 Btu/lbm
Molar Mass (MW):	19.24056	92.457	122.011	225.674 g/mol
Relative Density (AIR=1):	0.6639	3.1926	4.2125	7.7920 SG
Density:	0.05070	0.24364	0.32152	0.59469 lbm/scf
Compressibility Factor:	0.9974	0.9919	0.9974	1.0000 Z
Liquid Volume real gas @:	<u>14.65</u>	17.9267	0.1745	0.011 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.

The data presented herein has been acquired by means of current analytical techniques and represents the judicious conclusion EMPACT Analytical Systems, Inc. Results of the analysis can be affected by the sampling conditions, therefore, are only warranted through proper lab protocol. EMPACT assumes no responsibility for interpretation or any consequences from application of the reported information and is the sole liability of the user. The reproduction in any media of this reported information may not be made, in portion or as a whole, without the written permission of EMPACT Analytical Systems, Inc.



EXTENDED NATURAL GAS ANALYSIS (*DHA)

DHA COMPONENT LIST

PRIMARY DB KEY: **05-103-10719** NAME/DESCRIP : **PCU T87X-3G5**
 LEASE #: **05-103-10719** INTERMEDIATE CASING
 FIELD/AREA: **PICEANCE CREEK**

PROJECT NO. : **202601077** ANALYSIS NO. : **02**
 COMPANY NAME : **QB ENERGY OPERATING, LLC** ANALYSIS DATE: **FEBRUARY 02, 2026 13:30**
 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. : 1353 psig PROBE :
 FLOW PRES. : psig CYLINDER NO. : TBI-753
 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	---	0.01	0.00	---	---
Nitrogen	---	0.08	0.12	---	---
Carbon Dioxide	---	3.40	7.78	---	---
Methane	P1	87.0336	72.5633	---	---
Ethane	P2	5.9842	9.3516	1.595	1.604
Propane	P3	1.8944	4.3414	0.521	0.524
i-Butane	I4	0.4475	1.3518	0.146	0.147
Methanol	X1	0.0005	0.0008	0.000	0.000
n-Butane	P4	0.3873	1.1699	0.122	0.123
2,2-Dimethylpropane	I5	0.0048	0.0180	0.002	0.002
i-Pentane	I5	0.1826	0.6847	0.067	0.067
Acetone	X3	0.0001	0.0003	0.000	0.000
n-Pentane	P5	0.1284	0.4815	0.046	0.046
2,2-Dimethylbutane	I6	0.0070	0.0313	0.003	0.003
Cyclopentane	N5	0.0082	0.0299	0.002	0.002
2,3-Dimethylbutane	I6	0.0124	0.0556	0.005	0.005
2-Methylpentane	I6	0.0506	0.2266	0.021	0.021
3-Methylpentane	I6	0.0286	0.1281	0.012	0.012
n-Hexane	P6	0.0628	0.2813	0.026	0.026
2,2-Dimethylpentane	I7	0.0021	0.0109	0.001	0.001
Methylcyclopentane	N6	0.0290	0.1269	0.010	0.010
2,4-Dimethylpentane	I7	0.0035	0.0182	0.002	0.002
2,2,3-Trimethylbutane	I7	0.0008	0.0042	0.000	0.000
Benzene	A6	0.0181	0.0735	0.005	0.005
3,3-Dimethylpentane	I7	0.0011	0.0057	0.000	0.000
Cyclohexane	N6	0.0319	0.1395	0.011	0.011
2-Methylhexane	I7	0.0150	0.0781	0.007	0.007

2,3-Dimethylpentane	I7	0.0037	0.0193	0.002	0.002
1,1-Dimethylcyclopentane	N7	0.0033	0.0168	0.001	0.001
3-Methylhexane	I7	0.0133	0.0693	0.006	0.006
1c,3-Dimethylcyclopentane	N7	0.0046	0.0235	0.002	0.002
1t,3-Dimethylcyclopentane	N7	0.0042	0.0214	0.002	0.002
3-Ethylpentane	I7	0.0006	0.0031	0.000	0.000
1t,2-Dimethylcyclopentane	N7	0.0064	0.0326	0.003	0.003
2,2,4-Trimethylpentane	I8	0.0002	0.0012	0.000	0.000
n-Heptane	P7	0.0293	0.1526	0.013	0.013
1c,2-Dimethylcyclopentane	N7	0.0017	0.0087	0.001	0.001
Methylcyclohexane	N7	0.0518	0.2643	0.021	0.021
2,2-Dimethylhexane	I8	0.0012	0.0071	0.001	0.001
1,1,3-Trimethylcyclopentane	N7	0.0003	0.0018	0.000	0.000
Ethylcyclopentane	N7	0.0016	0.0082	0.001	0.001
2,5-Dimethylhexane	I8	0.0012	0.0071	0.001	0.001
2,2,3-Trimethylpentane	I8	0.0010	0.0059	0.001	0.001
2,4-Dimethylhexane	I8	0.0001	0.0006	0.000	0.000
1c,2t,4-Trimethylcyclopentane	N8	0.0009	0.0052	0.000	0.000
3,3-Dimethylhexane	I8	0.0003	0.0018	0.000	0.000
Toluene	A7	0.0269	0.1288	0.009	0.009
2,3-Dimethylhexane	I8	0.0006	0.0036	0.000	0.000
2-Methyl-3-ethylpentane	I8	0.0001	0.0006	0.000	0.000
2-Methylheptane	I8	0.0029	0.0172	0.001	0.001
4-Methylheptane	I8	0.0009	0.0053	0.000	0.000
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	0.0018	0.0107	0.001	0.001
1c,2t,3-Trimethylcyclopentane	N8	0.0032	0.0187	0.002	0.002
3-Ethylhexane	I8	0.0002	0.0012	0.000	0.000
1t,4-Dimethylcyclohexane	N8	0.0015	0.0087	0.001	0.001
1,1-Dimethylcyclohexane	N8	0.0005	0.0029	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	0.0001	0.0006	0.000	0.000
1t,2-Dimethylcyclohexane	N8	0.0007	0.0041	0.000	0.000
1t,3-Dimethylcyclohexane	N8	0.0003	0.0018	0.000	0.000
n-Octane	P8	0.0027	0.0160	0.001	0.001
1c,4-Dimethylcyclohexane	N8	0.0005	0.0029	0.000	0.000
2,2-Dimethylheptane	I9	0.0001	0.0007	0.000	0.000
1,1,4-Trimethylcyclohexane	N9	0.0002	0.0013	0.000	0.000
2,2,3-Trimethylhexane	I9	0.0001	0.0007	0.000	0.000
Ethylcyclohexane	N8	0.0001	0.0006	0.000	0.000
n-Propylcyclopentane	N8	0.0001	0.0006	0.000	0.000
2,5-Dimethylheptane	I9	0.0002	0.0013	0.000	0.000
Ethylbenzene	I8	0.0002	0.0011	0.000	0.000
1,3-Dimethylbenzene (m-Xylene)	A8	0.0017	0.0094	0.001	0.001
1,4-Dimethylbenzene (p-Xylene)	A8	0.0005	0.0027	0.000	0.000
2-Methyloctane	I9	0.0001	0.0007	0.000	0.000
1c,2t,4c-Trimethylcyclohexane	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	0.0003	0.0020	0.000	0.000
n-Nonane	P9	0.0001	0.0007	0.000	0.000
1,3-Methylethylbenzene	A9	0.0001	0.0006	0.000	0.000
1,3,5-Trimethylbenzene	A9	0.0001	0.0006	0.000	0.000
t-Butylbenzene	A10	0.0001	0.0007	0.000	0.000
UnknownC9s	U9	0.0001	0.0007	0.000	0.000
1,3-Methyl-n-butylbenzene	A11	0.0001	0.0008	0.000	0.000

UnknownC11s	U11	0.0001	0.0008	0.000	0.000
n-Pentadecane	P15	0.0001	0.0011	0.000	0.000
UnknownC17s	U17	0.0017	0.0213	0.001	0.001
TOTAL		100.00000	100.00000	2.6757	2.6899

CALCULATED VALUES**

BTEX COMPONENTS	MOLE%	WT%	BTU @		14.73
			LHV	HHV	
BENZENE	0.0181	0.0735	NET DRY REAL :	989.0 /scf	994.4 /scf
TOLUENE	0.0269	0.1288	NET WET REAL :	971.7 /scf	977.1 /scf
ETHYLBENZENE	0.0002	0.0011	GROSS DRY REAL :	1093.7 /scf	1099.6 /scf
XYLENES	0.0024	0.0132	GROSS WET REAL :	1074.6 /scf	1080.5 /scf
TOTAL BTEX	0.0476	0.2166	NET HEATING VALUE (60 °F ideal reaction):		19520.5 Btu/lbm
			GROSS HEATING VALUE (60°F ideal reaction):		21591.9 Btu/lbm
			RELATIVE DENSITY (AIR=1):		0.6639
			DENSITY		0.05070 lb/scf
			COMPRESSIBILITY FACTOR :		0.9974
			REGULAR WOBBE INDEX		1342.9

*(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>4633.8</u> /scf	Relative Density - SG (Air=1)	<u>3.1926</u>	C6+factors
Gross Dry Ideal BTU	<u>4978</u> /scf	Z Compressibility Factor	<u>0.9919</u>	<u>0.99129</u>
Net Dry Ideal BTU	<u>19205</u> /lb	Density Factor	<u>243.641</u> lbm/1000 ft3	
Gross Dry Ideal BTU	<u>20632.8</u> /lb	Molar Mass or MW	<u>92.457</u> g/mol	
		Volume Liquid Ideal gas	<u>0.175</u> scf/gal	<u>24.6</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.

The data presented herein has been acquired by means of current analytical techniques and represents the judicious conclusion EMPACT Analytical Systems, Inc. Results of the analysis can be affected by the sampling conditions, therefore, are only warranted through proper lab protocol. EMPACT assumes no responsibility for interpretation or any consequences from application of the reported information and is the sole liability of the user. The reproduction in any media of this reported information may not be made, in portion or as a whole, without the written permission of EMPACT Analytical Systems, Inc.