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EXTENDED NATURAL GAS ANALYSIS (*DHA)

MAIN PAGE

PRIMARY DB KEY:	**05-103-10650**	NAME/DESCRIP :	**PICEANCE CREEK UNIT T35X-2G5**
LEASE #:			**PRODUCTION CASING**
FIELD/AREA:			
PROJECT NO. :	**202509075**	ANALYSIS NO. :	**01**
COMPANY NAME :	**QB ENERGY OPERATING, LLC**	ANALYSIS DATE:	SEPTEMBER 21, 2025 08:19
OFFICE / BRANCH:	PARACHUTE, CO	SAMPLE DATE :	SEPTEMBER 05, 2025
CUSTOMER REF:		TO:	
PRODUCER :		EFFECTIVE DATE:	
FIELD DATA			
SAMPLE CYCLE:		SAMPLE TYPE:	
SAMPLE PRES. :	900 psig	PROBE :	
FLOW PRES. :	psig	CYLINDER NO. :	TBI-551
LAB PRES:	psig	SAMPLED BY :	NICK CROY
SAMPLE TEMP. :	ºf	SAMPLING COMPANY:	QB ENERGY
AMBIENT TEMP.:	ºf	H2S BY STAIN TUBE:	ppm mol
H2O BY STAIN TUBE:	#/mmcf	CO2 BY STAIN TUBE:	Mol %
FIELD COMMENTS:			
LAB COMMENTS:	***LOW PRESSURE.***		

COMPONENT	MOLE %	MASS %	GPM @ 14.65	GPM @ 14.73
GLYCOLS	0.0002	0.0008	0.0000	0.0000
ALCOHOLS	0.1344	0.2297	0.0180	0.0181
HELIUM	0.01	0.00	---	---
HYDROGEN	0.21	0.02	---	---
OXYGEN/ARGON	0.66	1.11	---	---
NITROGEN	2.53	3.71	---	---
CARBON DIOXIDE	5.53	12.74	---	---
METHANE	86.5741	72.7042	---	---
ETHANE	2.8589	4.5000	0.7623	0.7665
PROPANE	0.6030	1.3919	0.1659	0.1668
I-BUTANE	0.1528	0.4649	0.0500	0.0502
N-BUTANE	0.1367	0.4159	0.0430	0.0432
I-PENTANE	0.0886	0.3342	0.0310	0.0311
N-PENTANE	0.0597	0.2255	0.0220	0.0221
HEXANES PLUS	0.4516	2.1529	0.1780	0.1787
TOTALS	100.00000	100.00000	1.2702	1.2767

BTEX COMPONENTS	MOLE%	WT%
BENZENE	0.0238	0.0973
TOLUENE	0.0178	0.0858
ETHYLBENZENE	0.0000	0.0000
XYLENES	0.0002	0.0012
TOTAL BTEX	0.0418	0.1843

*(DETAILED HYDROCARBON ANALYSIS/NJ 1993)
Mod ASTM D6730,GPA 2261 & GPA 2286.

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

CALCULATED VALUES**

	BTU @	14.65	14.73
LHV	NET DRY REAL :	883.0 /scf	887.9 /scf
	NET WET REAL :	867.6 /scf	872.5 /scf
HHV	GROSS DRY REAL :	978.3 /scf	983.7 /scf
	GROSS WET REAL :	961.2 /scf	966.6 /scf
	NET HEATING VALUE (60 °F ideal reaction):		17562.3 Btu/lbm
	GROSS HEATING VALUE (60°F ideal reaction):		19461.7 Btu/lbm
	RELATIVE DENSITY (AIR=1):		0.6590
	DENSITY		0.05033 lbm/scf
	COMPRESSIBILITY FACTOR :		0.9977
	REGULAR WOBBE INDEX		1206.2

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EXTENDED NATURAL GAS ANALYSIS (*DHA)

GLYCALC INFORMATION

PROJECT NO. :	202509075	ANALYSIS NO. :	01
COMPANY NAME :	QB ENERGY OPERATING, LLC	ANALYSIS DATE:	SEPTEMBER 21, 2025 08:19
ACCOUNT NO. :		SAMPLE DATE :	SEPTEMBER 05, 2025
PRODUCER :		CYLINDER NO. :	TBI-551
LEASE NO. :		SAMPLED BY :	NICK CROY
NAME/DESCRIP :	PICEANCE CREEK UNIT T35X-2G5 PRODUCTION CASING		
FIELD DATA		SAMPLE TEMP. :	
SAMPLE PRES. :	900	AMBIENT TEMP.:	
H2S BY STAIN TUBE:	_ *ppm mol*		
COMMENTS :	*LOW PRESSURE.*		

Componet	Mole %	Wt %
Helium	0.01	0.00
Hydrogen	0.21	0.02
Carbon Dioxide	5.53	12.74
Nitrogen	2.53	3.71
Methane	86.5741	72.7042
Ethane	2.8589	4.5000
Propane	0.6030	1.3919
Isobutane	0.1528	0.4649
n-Butane	0.1367	0.4159
Isopentane	0.0840	0.3173
n-Pentane	0.0597	0.2255
Cyclopentane	0.0046	0.0169
n-Hexane	0.0696	0.3140
Cyclohexane	0.0445	0.1960
Other Hexanes	0.1238	0.5545
Heptanes	0.1044	0.5450
Methylcyclohexane	0.0570	0.2930
2,2,4 Trimethylpentane	0.0000	0.0000
Benzene	0.0238	0.0973
Toluene	0.0178	0.0858
Ethylbenzene	0.0000	0.0000
Xylenes	0.0002	0.0012
C8+ Heavies	0.0105	0.0661
Subtotal	99.20540	98.65950
Oxygen/Argon	0.66	1.11
Glycols	0.0002	0.0008
Alcohols	0.1344	0.2297
Total	100.00000	100.00000

Calculated Values BTU @ **14.65**		**Total Sample**	**C6+ Fraction**	**C8+ Fraction**	**C10+ Fraction**	
LHV	Net Dry Real:	883.0	4586.3	5801.3	6912.2	**Btu/scf**
	Net Wet Real:	867.6	4506.1	5699.9	6791.4	**Btu/scf**
HHV	Gross Dry Real:	978.3	4927.9	6286.1	7602.4	**Btu/scf**
	Gross Wet Real:	961.2	4841.8	6176.2	7469.5	**Btu/scf**
Other Calculated Values						
Regualr Wobbe Index*		1206.2	2765.2	3092.7	3529.0	**Btu/scf**
Net Heating Value (60 °F ideal reaction):		17562.3	19165.5	18826.0	18801.1	**Btu/lbm**
Gross Heating Value (60°F ideal reaction):		19461.7	20595.1	20387.2	20662.4	**Btu/lbm**
Molar Mass (MW):		19.10258	91.054	119.834	135.151	**g/mol**
Relative Density (AIR=1):		0.6590	3.1441	4.1377	4.6664	**SG**
Density:		0.05033	0.23995	0.31577	0.35615	**lbm/scf**
Compressiblity Factor:		0.9977	0.9919	0.9976	0.9996	**Z**
Liquid Volume real gas @:	**14.65**	17.1541	0.1774	0.001	0	**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 uderscore) indicates there was no tube pulled for H2S.

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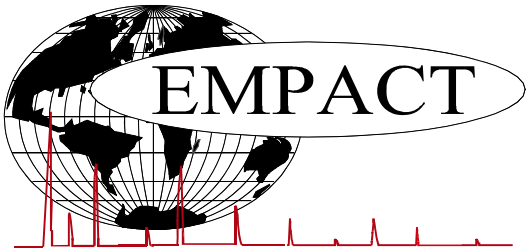

EXTENDED NATURAL GAS ANALYSIS (*DHA)

DHA COMPONENT LIST

PRIMARY DB KEY: **05-103-10650** NAME/DESCRIP : **PICEANCE CREEK UNIT T35X-2G5**
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FIELD/AREA:

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OFFICE / BRANCH: PARACHUTE, CO SAMPLE DATE : SEPTEMBER 05, 2025
CUSTOMER REF: TO:
PRODUCER : EFFECTIVE DATE:
FIELD DATA
SAMPLE CYCLE: SAMPLE TYPE:
SAMPLE PRES. : 900 psig PROBE :
FLOW PRES. : psig CYLINDER NO. : TBI-551
LAB PRES: psig SAMPLED BY : NICK CROY
SAMPLE TEMP. : ºf SAMPLING COMPANY: QB ENERGY
AMBIENT TEMP.: ºf H2S BY STAIN TUBE: _ ppm mol
H2O BY STAIN TUBE: - #/mmcf CO2 BY STAIN TUBE: - Mol %
FIELD COMMENTS:
LAB COMMENTS: ***LOW PRESSURE.***

COMPONENT	PIANO #	MOLE %	MASS %	GPM @ **14.65**	GPM @ **14.73**
Helium	---	0.01	0.00	---	---
Hydrogen	---	0.21	0.02	---	---
Oxygen/Argon	---	0.66	1.11	---	---
Nitrogen	---	2.53	3.71	---	---
Carbon Dioxide	---	5.53	12.74	---	---
Methane	P1	86.5741	72.7042	---	---
Ethane	P2	2.8589	4.5000	0.762	0.767
Propane	P3	0.6030	1.3919	0.166	0.167
i-Butane	I4	0.1528	0.4649	0.050	0.050
Methanol	X1	0.1325	0.2223	0.017	0.017
n-Butane	P4	0.1367	0.4159	0.043	0.043
2,2-Dimethylpropane	I5	0.0036	0.0136	0.001	0.001
i-Pentane	I5	0.0804	0.3037	0.029	0.029
n-Pentane	P5	0.0597	0.2255	0.022	0.022
t-Butanol	X4	0.0019	0.0074	0.001	0.001
2,2-Dimethylbutane	I6	0.0048	0.0217	0.002	0.002
Cyclopentane	N5	0.0046	0.0169	0.001	0.001
2,3-Dimethylbutane	I6	0.0098	0.0442	0.004	0.004
2-Methylpentane	I6	0.0426	0.1922	0.018	0.018
3-Methylpentane	I6	0.0275	0.1241	0.011	0.011
n-Hexane	P6	0.0696	0.3140	0.029	0.029
2,2-Dimethylpentane	I7	0.0025	0.0131	0.001	0.001
Methylcyclopentane	N6	0.0391	0.1723	0.014	0.014
2,4-Dimethylpentane	I7	0.0041	0.0215	0.002	0.002
2,2,3-Trimethylbutane	I7	0.0007	0.0037	0.000	0.000
Benzene	A6	0.0238	0.0973	0.007	0.007
3,3-Dimethylpentane	I7	0.0016	0.0084	0.001	0.001
Cyclohexane	N6	0.0445	0.1960	0.015	0.015

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2-Methylhexane	I7	0.0174	0.0913	0.008	0.008
2,3-Dimethylpentane	I7	0.0048	0.0252	0.002	0.002
1,1-Dimethylcyclopentane	N7	0.0042	0.0216	0.002	0.002
3-Methylhexane	I7	0.0150	0.0787	0.007	0.007
1c,3-Dimethylcyclopentane	N7	0.0062	0.0319	0.003	0.003
1t,3-Dimethylcyclopentane	N7	0.0055	0.0283	0.003	0.003
3-Ethylpentane	I7	0.0008	0.0042	0.000	0.000
1t,2-Dimethylcyclopentane	N7	0.0087	0.0447	0.004	0.004
n-Heptane	P7	0.0306	0.1605	0.014	0.014
1c,2-Dimethylcyclopentane	N7	0.0006	0.0031	0.000	0.000
Methylcyclohexane	N7	0.0570	0.2930	0.023	0.023
2,2-Dimethylhexane	I8	0.0012	0.0072	0.001	0.001
1,1,3-Trimethylcyclopentane	N7	0.0002	0.0011	0.000	0.000
Propylene Glycol	GL3	0.0002	0.0008	0.000	0.000
Ethylcyclopentane	N7	0.0015	0.0077	0.001	0.001
2,5-Dimethylhexane	I8	0.0007	0.0042	0.000	0.000
2,2,3-Trimethylpentane	I8	0.0005	0.0030	0.000	0.000
2,4-Dimethylhexane	I8	0.0001	0.0006	0.000	0.000
1c,2t,4-Trimethylcyclopentane	N8	0.0006	0.0035	0.000	0.000
3,3-Dimethylhexane	I8	0.0002	0.0012	0.000	0.000
2,3,3-Trimethylpentane	I8	0.0001	0.0006	0.000	0.000
Toluene	A7	0.0178	0.0858	0.006	0.006
2,3-Dimethylhexane	I8	0.0002	0.0012	0.000	0.000
2-Methylheptane	I8	0.0006	0.0036	0.000	0.000
3-Methyl-3-ethylpentane	I8	0.0002	0.0012	0.000	0.000
3,4-Dimethylhexane	I8	0.0001	0.0006	0.000	0.000
3-Methylheptane	I8	0.0003	0.0018	0.000	0.000
1c,2t,3-Trimethylcyclopentane	N8	0.0006	0.0035	0.000	0.000
3-Ethylhexane	I8	0.0001	0.0006	0.000	0.000
1t,4-Dimethylcyclohexane	N8	0.0003	0.0018	0.000	0.000
1,1-Dimethylcyclohexane	N8	0.0001	0.0006	0.000	0.000
n-Octane	P8	0.0005	0.0030	0.000	0.000
1c,4-Dimethylcyclohexane	N8	0.0001	0.0006	0.000	0.000
1,1,4-Trimethylcyclohexane	N9	0.0001	0.0007	0.000	0.000
2,2,3-Trimethylhexane	I9	0.0001	0.0007	0.000	0.000
2,5-Dimethylheptane	I9	0.0001	0.0007	0.000	0.000
1,3-Dimethylbenzene (m-Xylene)	A8	0.0001	0.0006	0.000	0.000
1,4-Dimethylbenzene (p-Xylene)	A8	0.0001	0.0006	0.000	0.000
3,6-Dimethyloctane	I10	0.0002	0.0015	0.000	0.000
1,3-Methylethylbenzene	A9	0.0005	0.0031	0.000	0.000
1,4-Methylethylbenzene	A9	0.0003	0.0019	0.000	0.000
1,3,5-Trimethylbenzene	A9	0.0002	0.0013	0.000	0.000
1,2-Methylethylbenzene	A9	0.0001	0.0006	0.000	0.000
t-Butylbenzene	A10	0.0008	0.0056	0.000	0.000
1,3-Methyl-i-propylbenzene	A10	0.0006	0.0042	0.000	0.000
1,2-Methyl-i-propylbenzene	A10	0.0002	0.0014	0.000	0.000
1,3-Dimethyl-5-ethylbenzene	A10	0.0007	0.0049	0.000	0.000
UnknownC10s	U10	0.0001	0.0007	0.000	0.000
TOTAL		100.00000	100.00000	1.2702	1.2767

BTEX COMPONENTS	MOLE%	WT%
BENZENE	0.0238	0.0973
TOLUENE	0.0178	0.0858
ETHYLBENZENE	0.0000	0.0000
XYLENES	0.0002	0.0012
TOTAL BTEX	0.0418	0.1843

*(DETAILED HYDROCARBON ANALYSIS/NJ 1993)
Mod ASTM D6730,GPA 2261 & GPA 2286.

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

CALCULATED VALUES**

BTU @		14.65	14.73
LHV	NET DRY REAL :	883.0 /scf	887.9 /scf
	NET WET REAL :	867.6 /scf	872.5 /scf
HHV	GROSS DRY REAL :	978.3 /scf	983.7 /scf
	GROSS WET REAL :	961.2 /scf	966.6 /scf

NET HEATING VALUE (60 °F ideal reaction):	17562.3 Btu/lbm
GROSS HEATING VALUE (60°F ideal reaction):	19461.7 Btu/lbm
RELATIVE DENSITY (AIR=1):	0.6590
DENSITY	0.05033 lb/scf
COMPRESSIBILITY FACTOR :	0.9977
REGULAR WOBBE INDEX	1206.2

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

Net Dry Ideal BTU	4563.2 /scf	Relative Density - SG (Air=1)	3.1441	***C6+factors***
Gross Dry Ideal BTU	4903.1 /scf	**Z** Compressiblity Factor	0.99185	0.99127
Net Dry Ideal BTU	19165.5 /lb	Density Factor	239.948 lbm/1000 ft3	
Gross Dry Ideal BTU	20595.1 /lb	Molar Mass or MW	91.054 g/mol	
		Volume Liquid Ideal gas	0.178 scf/gal	25

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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