## EXTENDED NATURAL GAS ANALYSIS (*DHA)

### MAIN PAGE

| | | | |
|---|---|---|---|
| PRIMARY DB KEY: | **05-045-19137** | NAME/DESCRIP : | **F25 496, SGU 8510AX-25** |
| LEASE #: | **05-045-19137** | | **PRODUCTION CASING** |
| FIELD/AREA: | **GRAND VALLEY** | | |

| | | | |
|---|---|---|---|
| PROJECT NO. : | **202601026** | ANALYSIS NO. : | **01** |
| COMPANY NAME : | **QB ENERGY OPERATING, LLC** | ANALYSIS DATE: | JANUARY 24, 2026 13:59 |
| OFFICE / BRANCH: | PARACHUTE, CO | SAMPLE DATE : | JANUARY 5, 2026 10:45 |
| CUSTOMER REF: | | TO: | |
| PRODUCER : | QB ENERGY OPERATING LLC | EFFECTIVE DATE: | |

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

| | | | | |
|---|---|---|---|---|
| SAMPLE CYCLE: | | | SAMPLE TYPE: | |
| SAMPLE PRES. : | 180 | psig | PROBE : | NO |
| FLOW PRES. : | | psig | CYLINDER NO. : | ECA-734 |
| LAB PRES: | | psig | SAMPLED BY : | JASON SMITH |
| SAMPLE TEMP. : | 31 | 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:

| COMPONENT | MOLE % | MASS % | GPM @ 14.65 | GPM @ 14.73 |
|---|---|---|---|---|
| ALCOHOLS | 0.0007 | 0.0012 | 0.0000 | 0.0000 |
| HELIUM | 0.00 | 0.00 | --- | --- |
| HYDROGEN | 0.01 | 0.00 | --- | --- |
| OXYGEN/ARGON | 0.00 | 0.00 | --- | --- |
| NITROGEN | 0.09 | 0.13 | --- | --- |
| CARBON DIOXIDE | 2.42 | 5.70 | --- | --- |
| METHANE | 88.2649 | 75.7215 | --- | --- |
| ETHANE | 6.5510 | 10.5339 | 1.7460 | 1.7556 |
| PROPANE | 1.4508 | 3.4211 | 0.3988 | 0.4010 |
| I-BUTANE | 0.3699 | 1.1497 | 0.1209 | 0.1216 |
| N-BUTANE | 0.3011 | 0.9359 | 0.0949 | 0.0955 |
| I-PENTANE | 0.1507 | 0.5810 | 0.0540 | 0.0542 |
| N-PENTANE | 0.0818 | 0.3156 | 0.0300 | 0.0301 |
| HEXANES PLUS | 0.3091 | 1.5101 | 0.1180 | 0.1183 |
| TOTALS | 100.00000 | 100.00000 | 2.5626 | 2.5763 |

| BTEX COMPONENTS | MOLE% | WT% |
|---|---|---|
| BENZENE | 0.0198 | 0.0827 |
| TOLUENE | 0.0205 | 0.1010 |
| ETHYLBENZENE | 0.0000 | 0.0000 |
| XYLENES | 0.0001 | 0.0006 |
| TOTAL BTEX | 0.0404 | 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 : | 984.3 /scf | 989.7 /scf |
| | NET WET REAL : | 967.1 /scf | 972.5 /scf |
| HHV | GROSS DRY REAL : | 1089.2 /scf | 1095.1 /scf |
| | GROSS WET REAL : | 1070.2 /scf | 1076.1 /scf |

| | |
|---|---|
| NET HEATING VALUE (60 °F ideal reaction): | 19995.1 **Btu/lbm** |
| GROSS HEATING VALUE (60°F ideal reaction): | 22127.0 **Btu/lbm** |
| RELATIVE DENSITY (AIR=1): | 0.6451 |
| DENSITY | 0.04927 **lbm/scf** |
| COMPRESSIBILITY FACTOR : | 0.9974 |
| REGULAR WOBBE INDEX | 1356.9 |

EMPACT

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

**GLYCALC INFORMATION**

| | | | |
|---|---|---|---|
| PROJECT NO. : | 202601026 | ANALYSIS NO. : | 01 |
| COMPANY NAME : | QB ENERGY OPERATING, LLC | ANALYSIS DATE: | JANUARY 24, 2026 13:59 |
| ACCOUNT NO. : | | SAMPLE DATE : | JANUARY 5, 2026 10:45 |
| PRODUCER : | QB ENERGY OPERATING LLC | CYLINDER NO. : | ECA-734 |
| LEASE NO. : | 05-045-19137 | SAMPLED BY : | JASON SMITH |
| NAME/DESCRIP : | F25 496, SGU 8510AX-25 PRODUCTION CASING | | |
| ***FIELD DATA*** | | SAMPLE TEMP. : | 31 |
| SAMPLE PRES. : | 180 | AMBIENT TEMP.: | |
| H2S BY STAIN TUBE: | _ *ppm mol* | | |
| COMMENTS : | *NO PROBE* | | |

| Componet | Mole % | Wt % |
|---|---|---|
| Helium | 0.00 | 0.00 |
| Hydrogen | 0.01 | 0.00 |
| Carbon Dioxide | 2.42 | 5.70 |
| Nitrogen | 0.09 | 0.13 |
| Methane | 88.2649 | 75.7215 |
| Ethane | 6.5510 | 10.5339 |
| Propane | 1.4508 | 3.4211 |
| Isobutane | 0.3699 | 1.1497 |
| n-Butane | 0.3011 | 0.9359 |
| Isopentane | 0.1467 | 0.5660 |
| n-Pentane | 0.0818 | 0.3156 |
| Cyclopentane | 0.0040 | 0.0150 |
| n-Hexane | 0.0378 | 0.1742 |
| Cyclohexane | 0.0213 | 0.0959 |
| Other Hexanes | 0.0965 | 0.4424 |
| Heptanes | 0.0601 | 0.3210 |
| Methylcyclohexane | 0.0360 | 0.1890 |
| 2,2,4 Trimethylpentane | 0.0001 | 0.0006 |
| Benzene | 0.0198 | 0.0827 |
| Toluene | 0.0205 | 0.1010 |
| Ethylbenzene | 0.0000 | 0.0000 |
| Xylenes | 0.0001 | 0.0006 |
| C8+ Heavies | 0.0169 | 0.1027 |
| ***Subtotal*** | 99.99930 | 99.99880 |
| Oxygen/Argon | 0.00 | 0.00 |
| Alcohols | 0.0007 | 0.0012 |
| **Total** | 100.00000 | 100.00000 |

| **Calculated Values BTU @** **14.65** | | **Total Sample** | **C6+ Fraction** | **C8+ Fraction** | **C10+ Fraction** | |
|---|---|---|---|---|---|---|
| **LHV** | Net Dry Real: | 984.3 | 4594.1 | 5718.0 | #DIV/0! | **Btu/scf** |
| | Net Wet Real: | 967.1 | 4513.8 | 5618.0 | #DIV/0! | **Btu/scf** |
| **HHV** | Gross Dry Real: | 1089.2 | 4932.3 | 6163.7 | #DIV/0! | **Btu/scf** |
| | Gross Wet Real: | 1070.2 | 4846.1 | 6056.0 | #DIV/0! | **Btu/scf** |
| **Other Calculated Values** | | | | | | |
| Regualr Wobbe Index* | | 1356.9 | 2762.8 | 3111.9 | #DIV/0! | **Btu/scf** |
| Net Heating Value (60 °F ideal reaction): | | 19995.1 | 19161.6 | 20241.0 | #DIV/0! | **Btu/lbm** |
| Gross Heating Value (60°F ideal reaction): | | 22127.0 | 20574.1 | 21819.2 | #DIV/0! | **Btu/lbm** |
| Molar Mass (MW): | | 18.70015 | 91.344 | 113.506 | #DIV/0! | **g/mol** |
| Relative Density (AIR=1): | | 0.6451 | 3.1542 | 3.9197 | #DIV/0! | **SG** |
| Density: | | 0.04927 | 0.24071 | 0.29912 | #DIV/0! | **lbm/scf** |
| Compressiblity Factor: | | 0.9974 | 0.9917 | 0.9964 | #DIV/0! | **Z** |
| Liquid Volume real gas @: | **14.65** | 17.8559 | 0.1176 | 0.006 | 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.***

# EXTENDED NATURAL GAS ANALYSIS (*DHA)

## DHA COMPONENT LIST

| | | | |
|---|---|---|---|
| PRIMARY DB KEY: | **05-045-19137** | NAME/DESCRIP : | **F25 496, SGU 8510AX-25** |
| LEASE #: | **05-045-19137** | | **PRODUCTION CASING** |
| FIELD/AREA: | **GRAND VALLEY** | | |
| PROJECT NO. : | **202601026** | ANALYSIS NO. : | **01** |
| COMPANY NAME : | **QB ENERGY OPERATING, LLC** | ANALYSIS DATE: | JANUARY 24, 2026 13:59 |
| OFFICE / BRANCH: | PARACHUTE, CO | SAMPLE DATE : | JANUARY 5, 2026 10:45 |
| CUSTOMER REF: | | TO: | |
| PRODUCER : | QB ENERGY OPERATING LLC | EFFECTIVE DATE: | |
| ***FIELD DATA*** | | | |
| SAMPLE CYCLE: | | SAMPLE TYPE: | |
| SAMPLE PRES. : | 180 psig | PROBE : | NO |
| FLOW PRES. : | psig | CYLINDER NO. : | ECA-734 |
| LAB PRES: | psig | SAMPLED BY : | JASON SMITH |
| SAMPLE TEMP. : | 31 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: | | | |

| COMPONENT | PIANO # | MOLE % | MASS % | GPM @ **14.65** | GPM @ **14.73** |
|---|---|---|---|---|---|
| Hydrogen | --- | 0.01 | 0.00 | --- | --- |
| Nitrogen | --- | 0.09 | 0.13 | --- | --- |
| Carbon Dioxide | --- | 2.42 | 5.70 | --- | --- |
| Methane | P1 | 88.2649 | 75.7215 | --- | --- |
| Ethane | P2 | 6.5510 | 10.5339 | 1.746 | 1.756 |
| Propane | P3 | 1.4508 | 3.4211 | 0.399 | 0.401 |
| i-Butane | I4 | 0.3699 | 1.1497 | 0.121 | 0.122 |
| Methanol | X1 | 0.0007 | 0.0012 | 0.000 | 0.000 |
| n-Butane | P4 | 0.3011 | 0.9359 | 0.095 | 0.096 |
| 2,2-Dimethylpropane | I5 | 0.0061 | 0.0235 | 0.002 | 0.002 |
| i-Pentane | I5 | 0.1406 | 0.5425 | 0.051 | 0.051 |
| n-Pentane | P5 | 0.0818 | 0.3156 | 0.030 | 0.030 |
| 2,2-Dimethylbutane | I6 | 0.0075 | 0.0346 | 0.003 | 0.003 |
| Cyclopentane | N5 | 0.0040 | 0.0150 | 0.001 | 0.001 |
| 2,3-Dimethylbutane | I6 | 0.0101 | 0.0465 | 0.004 | 0.004 |
| 2-Methylpentane | I6 | 0.0370 | 0.1705 | 0.015 | 0.015 |
| 3-Methylpentane | I6 | 0.0208 | 0.0958 | 0.008 | 0.008 |
| n-Hexane | P6 | 0.0378 | 0.1742 | 0.016 | 0.016 |
| 2,2-Dimethylpentane | I7 | 0.0018 | 0.0096 | 0.001 | 0.001 |
| Methylcyclopentane | N6 | 0.0211 | 0.0950 | 0.007 | 0.007 |
| 2,4-Dimethylpentane | I7 | 0.0025 | 0.0134 | 0.001 | 0.001 |
| 2,2,3-Trimethylbutane | I7 | 0.0008 | 0.0043 | 0.000 | 0.000 |
| Benzene | A6 | 0.0198 | 0.0827 | 0.006 | 0.006 |
| 3,3-Dimethylpentane | I7 | 0.0011 | 0.0059 | 0.000 | 0.000 |
| Cyclohexane | N6 | 0.0213 | 0.0959 | 0.007 | 0.007 |
| 2-Methylhexane | I7 | 0.0101 | 0.0541 | 0.005 | 0.005 |
| 2,3-Dimethylpentane | I7 | 0.0026 | 0.0140 | 0.001 | 0.001 |



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| | | | | | |
|---|---|---|---|---|---|
| 1,1-Dimethylcyclopentane | N7 | 0.0022 | 0.0116 | 0.001 | 0.001 |
| 3-Methylhexane | I7 | 0.0090 | 0.0482 | 0.004 | 0.004 |
| 1c,3-Dimethylcyclopentane | N7 | 0.0030 | 0.0158 | 0.001 | 0.001 |
| 1t,3-Dimethylcyclopentane | N7 | 0.0027 | 0.0142 | 0.001 | 0.001 |
| 3-Ethylpentane | I7 | 0.0004 | 0.0021 | 0.000 | 0.000 |
| 1t,2-Dimethylcyclopentane | N7 | 0.0043 | 0.0226 | 0.002 | 0.002 |
| 2,2,4-Trimethylpentane | I8 | 0.0001 | 0.0006 | 0.000 | 0.000 |
| n-Heptane | P7 | 0.0174 | 0.0933 | 0.008 | 0.008 |
| 1c,2-Dimethylcyclopentane | N7 | 0.0007 | 0.0037 | 0.000 | 0.000 |
| Methylcyclohexane | N7 | 0.0360 | 0.1890 | 0.014 | 0.014 |
| 2,2-Dimethylhexane | I8 | 0.0007 | 0.0043 | 0.000 | 0.000 |
| 1,1,3-Trimethylcyclopentane | N7 | 0.0004 | 0.0024 | 0.000 | 0.000 |
| Ethylcyclopentane | N7 | 0.0011 | 0.0058 | 0.000 | 0.000 |
| 2,5-Dimethylhexane | I8 | 0.0009 | 0.0055 | 0.000 | 0.000 |
| 2,2,3-Trimethylpentane | I8 | 0.0008 | 0.0049 | 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 |
| 2,3,3-Trimethylpentane | I8 | 0.0001 | 0.0006 | 0.000 | 0.000 |
| Toluene | A7 | 0.0205 | 0.1010 | 0.007 | 0.007 |
| 2,3-Dimethylhexane | I8 | 0.0005 | 0.0031 | 0.000 | 0.000 |
| 2-Methyl-3-ethylpentane | I8 | 0.0001 | 0.0006 | 0.000 | 0.000 |
| 2-Methylheptane | I8 | 0.0024 | 0.0147 | 0.001 | 0.001 |
| 4-Methylheptane | I8 | 0.0008 | 0.0049 | 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 | 0.0110 | 0.001 | 0.001 |
| 1c,2t,3-Trimethylcyclopentane | N8 | 0.0031 | 0.0186 | 0.002 | 0.002 |
| 3-Ethylhexane | I8 | 0.0002 | 0.0012 | 0.000 | 0.000 |
| 1t,4-Dimethylcyclohexane | N8 | 0.0014 | 0.0084 | 0.001 | 0.001 |
| 1,1-Dimethylcyclohexane | N8 | 0.0005 | 0.0030 | 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 | 0.0012 | 0.0072 | 0.001 | 0.001 |
| 1t,3-Dimethylcyclohexane | N8 | 0.0001 | 0.0006 | 0.000 | 0.000 |
| n-Octane | P8 | 0.0007 | 0.0043 | 0.000 | 0.000 |
| 1,3-Dimethylbenzene (m-Xylene) | A8 | 0.0001 | 0.0006 | 0.000 | 0.000 |
| n-Nonane | P9 | 0.0001 | 0.0007 | 0.000 | 0.000 |
| TOTAL | | 100.00000 | 100.00000 | 2.5626 | 2.5763 |

| **BTEX COMPONENTS** | **MOLE%** | **WT%** |
|---|---|---|
| BENZENE | 0.0198 | 0.0827 |
| TOLUENE | 0.0205 | 0.1010 |
| ETHYLBENZENE | 0.0000 | 0.0000 |
| XYLENES | 0.0001 | 0.0006 |
| TOTAL BTEX | 0.0404 | 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 : | 984.3 | **/scf** | 989.7 | **/scf** |
| | NET WET REAL : | 967.1 | **/scf** | 972.5 | **/scf** |
| **HHV** | GROSS DRY REAL : | 1089.2 | **/scf** | 1095.1 | **/scf** |
| | GROSS WET REAL : | 1070.2 | **/scf** | 1076.1 | **/scf** |
| | NET HEATING VALUE (60 °F ideal reaction): | | | 19995.1 | **Btu/lbm** |
| | GROSS HEATING VALUE (60°F ideal reaction): | | | 22127.0 | **Btu/lbm** |
| | RELATIVE DENSITY (AIR=1): | | | 0.6451 | |
| | DENSITY | | | 0.04927 | **lb/scf** |
| | COMPRESSIBILITY FACTOR : | | | 0.9974 | |
| | REGULAR WOBBE INDEX | | | 1356.9 | |



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

| | | | | | |
|---|---|---|---|---|---|
| Net Dry Ideal BTU | 4570.3 **/scf** | Relative Density - SG (Air=1) | 3.1542 | | ***C6+factors*** |
| Gross Dry Ideal BTU | 4906.7 **/scf** | **Z** Compressiblity Factor | 0.9917 | | 0.99105 |
| Net Dry Ideal BTU | 19161.6 **/lb** | Density Factor | 240.705 | **lbm/1000 ft3** | |
| Gross Dry Ideal BTU | 20574.1 **/lb** | Molar Mass or MW | 91.344 | **g/mol** | |
| | | Volume Liquid Ideal gas | 0.118 | **scf/gal** | 25.3 |

***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.***