

November 28, 2022

**FESCO, Ltd.**  
**1100 Fesco Ave. - Alice, Texas 78332**

**For:** Marathon Oil Permian, LLC  
5555 San Felipe Street  
Houston, Texas 77056

**Sample:** Thunderbird 1 TB Federal Com No. 014H  
Sales Gas  
Spot Gas Sample @ 120 psig & 115 °F

Date Sampled: 11/02/2022

Job Number: 223372.011

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286**

| COMPONENT           | MOL%         | GPM          |
|---------------------|--------------|--------------|
| Hydrogen Sulfide*   | 0.002        |              |
| Nitrogen            | 1.470        |              |
| Carbon Dioxide      | 0.232        |              |
| Methane             | 67.078       |              |
| Ethane              | 14.813       | 4.061        |
| Propane             | 9.231        | 2.607        |
| Isobutane           | 1.072        | 0.360        |
| n-Butane            | 3.144        | 1.016        |
| 2-2 Dimethylpropane | 0.005        | 0.002        |
| Isopentane          | 0.669        | 0.251        |
| n-Pentane           | 0.759        | 0.282        |
| Hexanes             | 0.580        | 0.245        |
| Heptanes Plus       | <u>0.945</u> | <u>0.399</u> |
| Totals              | 100.000      | 9.223        |

**Computed Real Characteristics Of Heptanes Plus:**

Specific Gravity ----- 3.406 (Air=1)  
Molecular Weight ----- 98.13  
Gross Heating Value ----- 5299 BTU/CF

**Computed Real Characteristics Of Total Sample:**

Specific Gravity ----- 0.858 (Air=1)  
Compressibility (Z) ----- 0.9947  
Molecular Weight ----- 24.71  
Gross Heating Value  
Dry Basis ----- 1483 BTU/CF  
Saturated Basis ----- 1458 BTU/CF

\*Hydrogen Sulfide tested on location by: Stain Tube Method (GPA 2377)  
Results: 1.509 Gr/100 CF, 24.0 PPMV or 0.002 Mol %

Base Conditions: 15.025 PSI &amp; 60 Deg F

Sampled By: (24) D. Field  
Analyst: KV  
Processor: KV  
Cylinder ID: T-3442

Certified: FESCO, Ltd. - Alice, Texas

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Conan Pierce 361-661-7015

FESCO, Ltd.

Job Number: 223372.011

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286**  
**TOTAL REPORT**

| COMPONENT              | MOL %        | GPM          | WT %         |
|------------------------|--------------|--------------|--------------|
| Hydrogen Sulfide*      | 0.002        |              | 0.003        |
| Nitrogen               | 1.470        |              | 1.666        |
| Carbon Dioxide         | 0.232        |              | 0.413        |
| Methane                | 67.078       |              | 43.546       |
| Ethane                 | 14.813       | 4.061        | 18.024       |
| Propane                | 9.231        | 2.607        | 16.472       |
| Isobutane              | 1.072        | 0.360        | 2.521        |
| n-Butane               | 3.144        | 1.016        | 7.395        |
| 2,2 Dimethylpropane    | 0.005        | 0.002        | 0.015        |
| Isopentane             | 0.669        | 0.251        | 1.953        |
| n-Pentane              | 0.759        | 0.282        | 2.216        |
| 2,2 Dimethylbutane     | 0.005        | 0.002        | 0.017        |
| Cyclopentane           | 0.000        | 0.000        | 0.000        |
| 2,3 Dimethylbutane     | 0.070        | 0.029        | 0.244        |
| 2 Methylpentane        | 0.173        | 0.074        | 0.603        |
| 3 Methylpentane        | 0.100        | 0.042        | 0.349        |
| n-Hexane               | 0.232        | 0.098        | 0.809        |
| Methylcyclopentane     | 0.130        | 0.047        | 0.443        |
| Benzene                | 0.043        | 0.012        | 0.136        |
| Cyclohexane            | 0.161        | 0.056        | 0.548        |
| 2-Methylhexane         | 0.028        | 0.013        | 0.114        |
| 3-Methylhexane         | 0.035        | 0.016        | 0.142        |
| 2,2,4 Trimethylpentane | 0.028        | 0.015        | 0.129        |
| Other C7's             | 0.076        | 0.034        | 0.305        |
| n-Heptane              | 0.072        | 0.034        | 0.292        |
| Methylcyclohexane      | 0.122        | 0.050        | 0.485        |
| Toluene                | 0.036        | 0.012        | 0.134        |
| Other C8's             | 0.095        | 0.045        | 0.424        |
| n-Octane               | 0.027        | 0.014        | 0.125        |
| Ethylbenzene           | 0.004        | 0.002        | 0.017        |
| M & P Xylenes          | 0.010        | 0.004        | 0.043        |
| O-Xylene               | 0.003        | 0.001        | 0.013        |
| Other C9's             | 0.042        | 0.022        | 0.215        |
| n-Nonane               | 0.008        | 0.005        | 0.042        |
| Other C10's            | 0.016        | 0.010        | 0.091        |
| n-Decane               | 0.003        | 0.002        | 0.017        |
| Undecanes (11)         | <u>0.006</u> | <u>0.004</u> | <u>0.039</u> |
| Totals                 | 100.000      | 9.223        | 100.000      |

Computed Real Characteristics of Total Sample

|                           |        |         |
|---------------------------|--------|---------|
| Specific Gravity -----    | 0.858  | (Air=1) |
| Compressibility (Z) ----- | 0.9947 |         |
| Molecular Weight -----    | 24.71  |         |
| Gross Heating Value       |        |         |
| Dry Basis -----           | 1483   | BTU/CF  |
| Saturated Basis -----     | 1458   | BTU/CF  |

November 28, 2022

**FESCO, Ltd.****1100 Fesco Ave. - Alice, Texas 78332****Sample:** Thunderbird 1 TB Federal Com No. 014H

Sales Gas

Spot Gas Sample @ 120 psig &amp; 115 °F

Date Sampled: 11/02/2022

Job Number: 223372.011

**GLYCALC FORMAT**

| <b>COMPONENT</b>       | <b>MOL%</b>  | <b>GPM</b>   | <b>Wt %</b>  |
|------------------------|--------------|--------------|--------------|
| Carbon Dioxide         | 0.232        |              | 0.413        |
| Hydrogen Sulfide       | 0.002        |              | 0.003        |
| Nitrogen               | 1.470        |              | 1.666        |
| Methane                | 67.078       |              | 43.546       |
| Ethane                 | 14.813       | 4.061        | 18.024       |
| Propane                | 9.231        | 2.607        | 16.472       |
| Isobutane              | 1.072        | 0.360        | 2.521        |
| n-Butane               | 3.149        | 1.018        | 7.410        |
| Isopentane             | 0.669        | 0.251        | 1.953        |
| n-Pentane              | 0.759        | 0.282        | 2.216        |
| Cyclopentane           | 0.000        | 0.000        | 0.000        |
| n-Hexane               | 0.232        | 0.098        | 0.809        |
| Cyclohexane            | 0.161        | 0.056        | 0.548        |
| Other C6's             | 0.348        | 0.147        | 1.213        |
| Heptanes               | 0.341        | 0.145        | 1.296        |
| Methylcyclohexane      | 0.122        | 0.050        | 0.485        |
| 2,2,4 Trimethylpentane | 0.028        | 0.015        | 0.129        |
| Benzene                | 0.043        | 0.012        | 0.136        |
| Toluene                | 0.036        | 0.012        | 0.134        |
| Ethylbenzene           | 0.004        | 0.002        | 0.017        |
| Xylenes                | 0.013        | 0.005        | 0.056        |
| Octanes Plus           | <u>0.197</u> | <u>0.102</u> | <u>0.953</u> |
| Totals                 | 100.000      | 9.223        | 100.000      |

**Real Characteristics Of Octanes Plus:**

Specific Gravity ----- 4.144 (Air=1)  
Molecular Weight ----- 119.40  
Gross Heating Value ----- 6307 BTU/CF

**Real Characteristics Of Total Sample:**

Specific Gravity ----- 0.858 (Air=1)  
Compressibility (Z) ----- 0.9947  
Molecular Weight ----- 24.71  
Gross Heating Value  
Dry Basis ----- 1483 BTU/CF  
Saturated Basis ----- 1458 BTU/CF

November 28, 2022

**FESCO, Ltd.**  
**1100 Fesco Ave. - Alice, Texas 78332**

**For:** Marathon Oil Permian, LLC  
5555 San Felipe Street  
Houston, Texas 77056

**Sample:** Thunderbird 1 TB Federal Com No. 014H  
First Stage Separator  
Spot Gas Sample @ 143 psig & 128 °F

Date Sampled: 11/02/2022

Job Number: 223372.001

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286**

| COMPONENT           | MOL%         | GPM          |
|---------------------|--------------|--------------|
| Hydrogen Sulfide*   | 0.003        |              |
| Nitrogen            | 1.504        |              |
| Carbon Dioxide      | 0.300        |              |
| Methane             | 68.729       |              |
| Ethane              | 14.337       | 3.930        |
| Propane             | 8.435        | 2.382        |
| Isobutane           | 0.965        | 0.324        |
| n-Butane            | 2.802        | 0.905        |
| 2-2 Dimethylpropane | 0.001        | 0.000        |
| Isopentane          | 0.605        | 0.227        |
| n-Pentane           | 0.710        | 0.264        |
| Hexanes             | 0.576        | 0.243        |
| Heptanes Plus       | <u>1.033</u> | <u>0.439</u> |
| Totals              | 100.000      | 8.714        |

**Computed Real Characteristics Of Heptanes Plus:**

Specific Gravity ----- 3.428 (Air=1)  
Molecular Weight ----- 98.79  
Gross Heating Value ----- 5331 BTU/CF

**Computed Real Characteristics Of Total Sample:**

Specific Gravity ----- 0.842 (Air=1)  
Compressibility (Z) ----- 0.9950  
Molecular Weight ----- 24.27  
Gross Heating Value  
Dry Basis ----- 1456 BTU/CF  
Saturated Basis ----- 1431 BTU/CF

\*Hydrogen Sulfide tested on location by: Stain Tube Method (GPA 2377)  
Results: 2.013 Gr/100 CF, 32.0 PPMV or 0.003 Mol %

Base Conditions: 15.025 PSI &amp; 60 Deg F

Sampled By: (24) D. Field  
Analyst: KV  
Processor: KV  
Cylinder ID: T-3506

Certified: FESCO, Ltd. - Alice, Texas

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Conan Pierce 361-661-7015

FESCO, Ltd.

Job Number: 223372.001

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2286**  
**TOTAL REPORT**

| COMPONENT              | MOL %        | GPM          | WT %         |
|------------------------|--------------|--------------|--------------|
| Hydrogen Sulfide*      | 0.003        |              | 0.004        |
| Nitrogen               | 1.504        |              | 1.736        |
| Carbon Dioxide         | 0.300        |              | 0.544        |
| Methane                | 68.729       |              | 45.436       |
| Ethane                 | 14.337       | 3.930        | 17.765       |
| Propane                | 8.435        | 2.382        | 15.328       |
| Isobutane              | 0.965        | 0.324        | 2.311        |
| n-Butane               | 2.802        | 0.905        | 6.711        |
| 2,2 Dimethylpropane    | 0.001        | 0.000        | 0.003        |
| Isopentane             | 0.605        | 0.227        | 1.799        |
| n-Pentane              | 0.710        | 0.264        | 2.111        |
| 2,2 Dimethylbutane     | 0.005        | 0.002        | 0.018        |
| Cyclopentane           | 0.000        | 0.000        | 0.000        |
| 2,3 Dimethylbutane     | 0.068        | 0.029        | 0.241        |
| 2 Methylpentane        | 0.170        | 0.072        | 0.604        |
| 3 Methylpentane        | 0.099        | 0.041        | 0.352        |
| n-Hexane               | 0.234        | 0.099        | 0.831        |
| Methylcyclopentane     | 0.132        | 0.048        | 0.458        |
| Benzene                | 0.044        | 0.013        | 0.142        |
| Cyclohexane            | 0.171        | 0.060        | 0.593        |
| 2-Methylhexane         | 0.030        | 0.014        | 0.124        |
| 3-Methylhexane         | 0.038        | 0.018        | 0.157        |
| 2,2,4 Trimethylpentane | 0.029        | 0.015        | 0.137        |
| Other C7's             | 0.080        | 0.036        | 0.327        |
| n-Heptane              | 0.079        | 0.037        | 0.326        |
| Methylcyclohexane      | 0.135        | 0.056        | 0.546        |
| Toluene                | 0.041        | 0.014        | 0.156        |
| Other C8's             | 0.108        | 0.051        | 0.491        |
| n-Octane               | 0.032        | 0.017        | 0.151        |
| Ethylbenzene           | 0.005        | 0.002        | 0.022        |
| M & P Xylenes          | 0.013        | 0.005        | 0.057        |
| O-Xylene               | 0.004        | 0.002        | 0.017        |
| Other C9's             | 0.051        | 0.027        | 0.265        |
| n-Nonane               | 0.010        | 0.006        | 0.053        |
| Other C10's            | 0.020        | 0.012        | 0.116        |
| n-Decane               | 0.004        | 0.003        | 0.023        |
| Undecanes (11)         | <u>0.007</u> | <u>0.005</u> | <u>0.045</u> |
| Totals                 | 100.000      | 8.714        | 100.000      |

Computed Real Characteristics of Total Sample

|                           |        |         |
|---------------------------|--------|---------|
| Specific Gravity -----    | 0.842  | (Air=1) |
| Compressibility (Z) ----- | 0.9950 |         |
| Molecular Weight -----    | 24.27  |         |
| Gross Heating Value       |        |         |
| Dry Basis -----           | 1456   | BTU/CF  |
| Saturated Basis -----     | 1431   | BTU/CF  |

November 28, 2022

**FESCO, Ltd.****1100 Fesco Ave. - Alice, Texas 78332****Sample:** Thunderbird 1 TB Federal Com No. 014H

First Stage Separator

Spot Gas Sample @ 143 psig &amp; 128 °F

Date Sampled: 11/02/2022

Job Number: 223372.001

**GLYCALC FORMAT**

| <b>COMPONENT</b>       | <b>MOL%</b>  | <b>GPM</b>   | <b>Wt %</b>  |
|------------------------|--------------|--------------|--------------|
| Carbon Dioxide         | 0.300        |              | 0.544        |
| Hydrogen Sulfide       | 0.003        |              | 0.004        |
| Nitrogen               | 1.504        |              | 1.736        |
| Methane                | 68.729       |              | 45.436       |
| Ethane                 | 14.337       | 3.930        | 17.765       |
| Propane                | 8.435        | 2.382        | 15.328       |
| Isobutane              | 0.965        | 0.324        | 2.311        |
| n-Butane               | 2.803        | 0.906        | 6.714        |
| Isopentane             | 0.605        | 0.227        | 1.799        |
| n-Pentane              | 0.710        | 0.264        | 2.111        |
| Cyclopentane           | 0.000        | 0.000        | 0.000        |
| n-Hexane               | 0.234        | 0.099        | 0.831        |
| Cyclohexane            | 0.171        | 0.060        | 0.593        |
| Other C6's             | 0.342        | 0.144        | 1.215        |
| Heptanes               | 0.359        | 0.153        | 1.392        |
| Methylcyclohexane      | 0.135        | 0.056        | 0.546        |
| 2,2,4 Trimethylpentane | 0.029        | 0.015        | 0.137        |
| Benzene                | 0.044        | 0.013        | 0.142        |
| Toluene                | 0.041        | 0.014        | 0.156        |
| Ethylbenzene           | 0.005        | 0.002        | 0.022        |
| Xylenes                | 0.017        | 0.007        | 0.074        |
| Octanes Plus           | <u>0.232</u> | <u>0.120</u> | <u>1.144</u> |
| Totals                 | 100.000      | 8.714        | 100.000      |

**Real Characteristics Of Octanes Plus:**

Specific Gravity ----- 4.153 (Air=1)  
Molecular Weight ----- 119.69  
Gross Heating Value ----- 6329 BTU/CF

**Real Characteristics Of Total Sample:**

Specific Gravity ----- 0.842 (Air=1)  
Compressibility (Z) ----- 0.9950  
Molecular Weight ----- 24.27  
Gross Heating Value  
Dry Basis ----- 1456 BTU/CF  
Saturated Basis ----- 1431 BTU/CF

November 30, 2022

**FESCO, Ltd.**  
**1100 FESCO Avenue - Alice, Texas 78332**

**For:** Marathon Oil Permian, LLC  
5555 San Felipe Street  
Houston, Texas 77056

**Sample:** Thunderbird 1 TB Federal Com No. 014H  
First Stage Separator Hydrocarbon Liquid  
Sampled @ 143 psig & 128 °F

Date Sampled: 11/02/2022

Job Number: 223372.002

**CHROMATOGRAPH EXTENDED ANALYSIS - GPA 2186-M**

| COMPONENT           | MOL %         | LIQ VOL %     | WT %          |
|---------------------|---------------|---------------|---------------|
| Nitrogen            | 0.043         | 0.008         | 0.008         |
| Carbon Dioxide      | 0.031         | 0.009         | 0.009         |
| Methane             | 3.175         | 0.902         | 0.344         |
| Ethane              | 3.449         | 1.547         | 0.700         |
| Propane             | 6.237         | 2.882         | 1.858         |
| Isobutane           | 1.433         | 0.786         | 0.563         |
| n-Butane            | 5.677         | 3.002         | 2.229         |
| 2,2 Dimethylpropane | 0.079         | 0.051         | 0.039         |
| Isopentane          | 2.677         | 1.642         | 1.305         |
| n-Pentane           | 4.004         | 2.434         | 1.951         |
| 2,2 Dimethylbutane  | 0.037         | 0.026         | 0.022         |
| Cyclopentane        | 0.000         | 0.000         | 0.000         |
| 2,3 Dimethylbutane  | 0.510         | 0.350         | 0.297         |
| 2 Methylpentane     | 1.753         | 1.221         | 1.021         |
| 3 Methylpentane     | 1.036         | 0.710         | 0.603         |
| n-Hexane            | 3.073         | 2.119         | 1.789         |
| Heptanes Plus       | <u>66.785</u> | <u>82.310</u> | <u>87.263</u> |
| Totals:             | 100.000       | 100.000       | 100.000       |

**Characteristics of Heptanes Plus:**

|                        |                  |
|------------------------|------------------|
| Specific Gravity ----- | 0.8342 (Water=1) |
| °API Gravity -----     | 38.13 @ 60°F     |
| Molecular Weight ----- | 193.4            |
| Vapor Volume -----     | 13.34 CF/Gal     |
| Weight -----           | 6.95 Lbs/Gal     |

**Characteristics of Total Sample:**

|                        |                  |
|------------------------|------------------|
| Specific Gravity ----- | 0.7868 (Water=1) |
| °API Gravity -----     | 48.34 @ 60°F     |
| Molecular Weight ----- | 148.0            |
| Vapor Volume -----     | 16.45 CF/Gal     |
| Weight -----           | 6.56 Lbs/Gal     |

Base Conditions: 15.025 PSI &amp; 60 °F

Certified: FESCO, Ltd. - Alice, Texas

Sampled By: (24) D. Field  
Analyst: JG  
Processor: HHdjv  
Cylinder ID: W-1658

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Conan Pierce 361-661-7015

FESCO, Ltd.

Job Number: 223372.002

**TANKS DATA INPUT REPORT - GPA 2186-M**

| COMPONENT              | Mol %   | LiqVol % | Wt %    |
|------------------------|---------|----------|---------|
| Carbon Dioxide         | 0.031   | 0.009    | 0.009   |
| Nitrogen               | 0.043   | 0.008    | 0.008   |
| Methane                | 3.175   | 0.902    | 0.344   |
| Ethane                 | 3.449   | 1.547    | 0.700   |
| Propane                | 6.237   | 2.882    | 1.858   |
| Isobutane              | 1.433   | 0.786    | 0.563   |
| n-Butane               | 5.757   | 3.053    | 2.268   |
| Isopentane             | 2.677   | 1.642    | 1.305   |
| n-Pentane              | 4.004   | 2.434    | 1.951   |
| Other C-6's            | 3.336   | 2.306    | 1.942   |
| Heptanes               | 8.538   | 5.768    | 5.336   |
| Octanes                | 10.143  | 7.643    | 7.277   |
| Nonanes                | 5.135   | 4.582    | 4.395   |
| Decanes Plus           | 38.445  | 61.463   | 67.207  |
| Benzene                | 0.514   | 0.241    | 0.271   |
| Toluene                | 1.392   | 0.782    | 0.866   |
| E-Benzene              | 0.392   | 0.254    | 0.281   |
| Xylenes                | 1.623   | 1.050    | 1.164   |
| n-Hexane               | 3.073   | 2.119    | 1.789   |
| 2,2,4 Trimethylpentane | 0.603   | 0.526    | 0.466   |
| Totals:                | 100.000 | 100.000  | 100.000 |

**Characteristics of Total Sample:**

|                        |        |           |
|------------------------|--------|-----------|
| Specific Gravity ----- | 0.7868 | (Water=1) |
| °API Gravity -----     | 48.34  | @ 60°F    |
| Molecular Weight-----  | 148.0  |           |
| Vapor Volume -----     | 16.45  | CF/Gal    |
| Weight -----           | 6.56   | Lbs/Gal   |

**Characteristics of Decanes (C10) Plus:**

|                        |        |           |
|------------------------|--------|-----------|
| Specific Gravity ----- | 0.8604 | (Water=1) |
| Molecular Weight-----  | 258.8  |           |

**Characteristics of Atmospheric Sample:**

|                                              |       |        |
|----------------------------------------------|-------|--------|
| °API Gravity -----                           | 42.13 | @ 60°F |
| Reid Vapor Pressure Equivalent (D-6377)----- | 7.46  | psi    |

| QUALITY CONTROL CHECK |                        |              |       |
|-----------------------|------------------------|--------------|-------|
|                       | Sampling<br>Conditions | Test Samples |       |
| Cylinder Number       | -----                  | W-1658*      | ----- |
| Pressure, PSIG        | 143                    | 143          | ----- |
| Probe Temperature, °F | 128                    | 128          | ----- |

\* Sample used for analysis



FESCO, Ltd.

Job Number: 223372.002

**TOTAL EXTENDED REPORT - GPA 2186-M**

| COMPONENT                 | Mol %        | LiqVol %      | Wt %          |
|---------------------------|--------------|---------------|---------------|
| Nitrogen                  | 0.043        | 0.008         | 0.008         |
| Carbon Dioxide            | 0.031        | 0.009         | 0.009         |
| Methane                   | 3.175        | 0.902         | 0.344         |
| Ethane                    | 3.449        | 1.547         | 0.700         |
| Propane                   | 6.237        | 2.882         | 1.858         |
| Isobutane                 | 1.433        | 0.786         | 0.563         |
| n-Butane                  | 5.677        | 3.002         | 2.229         |
| 2,2 Dimethylpropane       | 0.079        | 0.051         | 0.039         |
| Isopentane                | 2.677        | 1.642         | 1.305         |
| n-Pentane                 | 4.004        | 2.434         | 1.951         |
| 2,2 Dimethylbutane        | 0.037        | 0.026         | 0.022         |
| Cyclopentane              | 0.000        | 0.000         | 0.000         |
| 2,3 Dimethylbutane        | 0.510        | 0.350         | 0.297         |
| 2 Methylpentane           | 1.753        | 1.221         | 1.021         |
| 3 Methylpentane           | 1.036        | 0.710         | 0.603         |
| n-Hexane                  | 3.073        | 2.119         | 1.789         |
| Methylcyclopentane        | 1.475        | 0.876         | 0.839         |
| Benzene                   | 0.514        | 0.241         | 0.271         |
| Cyclohexane               | 2.519        | 1.438         | 1.432         |
| 2-Methylhexane            | 0.561        | 0.438         | 0.380         |
| 3-Methylhexane            | 0.729        | 0.561         | 0.493         |
| 2,2,4 Trimethylpentane    | 0.603        | 0.526         | 0.466         |
| Other C-7's               | 1.394        | 1.017         | 0.934         |
| n-Heptane                 | 1.860        | 1.439         | 1.259         |
| Methylcyclohexane         | 3.843        | 2.591         | 2.549         |
| Toluene                   | 1.392        | 0.782         | 0.866         |
| Other C-8's               | 4.901        | 3.850         | 3.649         |
| n-Octane                  | 1.399        | 1.202         | 1.079         |
| E-Benzene                 | 0.392        | 0.254         | 0.281         |
| M & P Xylenes             | 1.178        | 0.767         | 0.845         |
| O-Xylene                  | 0.445        | 0.284         | 0.319         |
| Other C-9's               | 3.975        | 3.487         | 3.389         |
| n-Nonane                  | 1.160        | 1.095         | 1.005         |
| Other C-10's              | 4.312        | 4.158         | 4.115         |
| n-decane                  | 0.980        | 1.009         | 0.942         |
| Undecanes(11)             | 4.080        | 4.036         | 4.051         |
| Dodecanes(12)             | 3.218        | 3.438         | 3.499         |
| Tridecanes(13)            | 3.120        | 3.574         | 3.688         |
| Tetradecanes(14)          | 2.614        | 3.209         | 3.355         |
| Pentadecanes(15)          | 2.359        | 3.101         | 3.282         |
| Hexadecanes(16)           | 1.778        | 2.497         | 2.665         |
| Heptadecanes(17)          | 1.570        | 2.332         | 2.513         |
| Octadecanes(18)           | 1.456        | 2.278         | 2.469         |
| Nonadecanes(19)           | 1.327        | 2.162         | 2.357         |
| Eicosanes(20)             | 1.071        | 1.814         | 1.989         |
| Heneicosanes(21)          | 0.931        | 1.660         | 1.831         |
| Docosanes(22)             | 0.840        | 1.560         | 1.731         |
| Tricosanes(23)            | 0.749        | 1.441         | 1.608         |
| Tetracosanes(24)          | 0.622        | 1.241         | 1.391         |
| Pentacosanes(25)          | 0.569        | 1.178         | 1.326         |
| Hexacosanes(26)           | 0.530        | 1.137         | 1.286         |
| Heptacosanes(27)          | 0.490        | 1.089         | 1.238         |
| Octacosanes(28)           | 0.452        | 1.039         | 1.185         |
| Nonacosanes(29)           | 0.397        | 0.942         | 1.078         |
| Triacontanes(30)          | 0.368        | 0.900         | 1.033         |
| Hentriacontanes Plus(31+) | <u>4.614</u> | <u>15.667</u> | <u>18.576</u> |
| Total                     | 100.000      | 100.000       | 100.000       |

|                                     |             |
|-------------------------------------|-------------|
| Flaring/Venting Event Volume (MCF): | 121.68      |
| Flare or vent:                      | Flare       |
| Date:                               | 12/11/2022  |
| Time discovered:                    | 8:30:00 AM  |
| Time terminated:                    | 12:00:00 PM |
| Total Duration (hrs):               | 3.5         |

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**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

DEFINITIONS  
  
Action 166951

DEFINITIONS

|                                                                                        |                                                        |
|----------------------------------------------------------------------------------------|--------------------------------------------------------|
| Operator:<br>MARATHON OIL PERMIAN LLC<br>990 Town & Country Blvd.<br>Houston, TX 77024 | OGRID:<br>372098                                       |
|                                                                                        | Action Number:<br>166951                               |
|                                                                                        | Action Type:<br>[C-129] Venting and/or Flaring (C-129) |

DEFINITIONS

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| For the sake of brevity and completeness, please allow for the following in all groups of questions and for the rest of this application: <ul style="list-style-type: none"><li>• this application's operator, hereinafter "this operator";</li><li>• venting and/or flaring, hereinafter "vent or flare";</li><li>• any notification or report(s) of the C-129 form family, hereinafter "any C-129 forms";</li><li>• the statements in (and/or attached to) this, hereinafter "the statements in this";</li><li>• and the past tense will be used in lieu of mixed past/present tense questions and statements.</li></ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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QUESTIONS

Action 166951

**QUESTIONS**

|                                                                                        |                                                        |
|----------------------------------------------------------------------------------------|--------------------------------------------------------|
| Operator:<br>MARATHON OIL PERMIAN LLC<br>990 Town & Country Blvd.<br>Houston, TX 77024 | OGRID:<br>372098                                       |
|                                                                                        | Action Number:<br>166951                               |
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**QUESTIONS****Prerequisites**

Any messages presented in this section, will prevent submission of this application. Please resolve these issues before continuing with the rest of the questions.

|                   |                                                      |
|-------------------|------------------------------------------------------|
| Incident Well     | [30-025-46134] THUNDERBIRD 1 36 TB FEDERAL COM #014H |
| Incident Facility | Unavailable.                                         |

**Determination of Reporting Requirements**

Answer all questions that apply. The Reason(s) statements are calculated based on your answers and may provide additional guidance.

|                                                                                                            |                                                   |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Was this vent or flare caused by an emergency or malfunction                                               | No                                                |
| Did this vent or flare last eight hours or more cumulatively within any 24-hour period from a single event | No                                                |
| Is this considered a submission for a vent or flare event                                                  | Yes, minor venting and/or flaring of natural gas. |

An operator shall file a form C-141 instead of a form C-129 for a release that, includes liquid during venting and/or flaring that is or may be a major or minor release under 19.15.29.7 NMAC.

|                                                                                                                                                                                                                                                                                            |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Was there at least 50 MCF of natural gas vented and/or flared during this event                                                                                                                                                                                                            | Yes |
| Did this vent or flare result in the release of <b>ANY</b> liquids (not fully and/or completely flared) that reached (or has a chance of reaching) the ground, a surface, a watercourse, or otherwise, with reasonable probability, endanger public health, the environment or fresh water | No  |
| Was the vent or flare within an incorporated municipal boundary or within 300 feet from an occupied permanent residence, school, hospital, institution or church in existence                                                                                                              | No  |

**Equipment Involved**

|                                                           |               |
|-----------------------------------------------------------|---------------|
| Primary Equipment Involved                                | Not answered. |
| Additional details for Equipment Involved. Please specify | Not answered. |

**Representative Compositional Analysis of Vented or Flared Natural Gas**

Please provide the mole percent for the percentage questions in this group.

|                                                              |    |
|--------------------------------------------------------------|----|
| Methane (CH4) percentage                                     | 67 |
| Nitrogen (N2) percentage, if greater than one percent        | 1  |
| Hydrogen Sulfide (H2S) PPM, rounded up                       | 0  |
| Carbon Dioxide (CO2) percentage, if greater than one percent | 0  |
| Oxygen (O2) percentage, if greater than one percent          | 0  |

If you are venting and/or flaring because of Pipeline Specification, please provide the required specifications for each gas.

|                                                     |               |
|-----------------------------------------------------|---------------|
| Methane (CH4) percentage quality requirement        | Not answered. |
| Nitrogen (N2) percentage quality requirement        | Not answered. |
| Hydrogen Sulfide (H2S) PPM quality requirement      | Not answered. |
| Carbon Dioxide (CO2) percentage quality requirement | Not answered. |
| Oxygen (O2) percentage quality requirement          | Not answered. |

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QUESTIONS, Page 2

Action 166951

QUESTIONS (continued)

|                                                                                        |                                                        |
|----------------------------------------------------------------------------------------|--------------------------------------------------------|
| Operator:<br>MARATHON OIL PERMIAN LLC<br>990 Town & Country Blvd.<br>Houston, TX 77024 | OGRID:<br>372098                                       |
|                                                                                        | Action Number:<br>166951                               |
|                                                                                        | Action Type:<br>[C-129] Venting and/or Flaring (C-129) |

QUESTIONS

| Date(s) and Time(s)                            |            |
|------------------------------------------------|------------|
| Date vent or flare was discovered or commenced | 12/11/2022 |
| Time vent or flare was discovered or commenced | 08:30 AM   |
| Time vent or flare was terminated              | 12:00 PM   |
| Cumulative hours during this event             | 4          |

| Measured or Estimated Volume of Vented or Flared Natural Gas              |                                                                                                                                |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Natural Gas Vented (Mcf) Details                                          | Cause: Downhole Well Maintenance   Producing Well   Natural Gas Vented   Released: 122 Mcf   Recovered: 0 Mcf   Lost: 122 Mcf. |
| Natural Gas Flared (Mcf) Details                                          | Not answered.                                                                                                                  |
| Other Released Details                                                    | Not answered.                                                                                                                  |
| Additional details for Measured or Estimated Volume(s). Please specify    | Not answered.                                                                                                                  |
| Is this a gas only submission (i.e. only significant Mcf values reported) | Yes, according to supplied volumes this appears to be a "gas only" report.                                                     |

| Venting or Flaring Resulting from Downstream Activity             |               |
|-------------------------------------------------------------------|---------------|
| Was this vent or flare a result of downstream activity            | No            |
| Was notification of downstream activity received by this operator | Not answered. |
| Downstream OGRID that should have notified this operator          | Not answered. |
| Date notified of downstream activity requiring this vent or flare | Not answered. |
| Time notified of downstream activity requiring this vent or flare | Not answered. |

| Steps and Actions to Prevent Waste                                                                                               |                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| For this event, this operator could not have reasonably anticipated the current event and it was beyond this operator's control. | False                                                                                                                                                                                |
| Please explain reason for why this event was beyond this operator's control                                                      | WO rig supervisor was trying to reduce wellhead pressure prior to nipping down the production tree and nipping up the BOP. The pressure reduction was conducted for safety reasons.  |
| Steps taken to limit the duration and magnitude of vent or flare                                                                 | The WO supervisor did not blow the well down to zero psi but rather limited the blow down period.                                                                                    |
| Corrective actions taken to eliminate the cause and reoccurrence of vent or flare                                                | In the future the WO supervisor will seek prior approval before blowing down any wells with high pressure. Communication with the CTB operator will be improved to reduce oversight. |

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ACKNOWLEDGMENTS

Action 166951

**ACKNOWLEDGMENTS**

|                                                                                        |                                                        |
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|                                                                                        | Action Type:<br>[C-129] Venting and/or Flaring (C-129) |

**ACKNOWLEDGMENTS**

|                                     |                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | I acknowledge that I am authorized to submit a <i>Venting and/or Flaring</i> (C-129) report on behalf of this operator and understand that this report can be a <b>complete</b> C-129 submission per 19.15.27.8 and 19.15.28.8 NMAC.                                                                                      |
| <input checked="" type="checkbox"/> | I acknowledge that upon submitting this application, I will be creating a new incident file (assigned to this operator) to track any C-129 forms, pursuant to 19.15.27.7 and 19.15.28.8 NMAC and understand that this submission meets the notification requirements of Paragraph (1) of Subsection G and F respectively. |
| <input checked="" type="checkbox"/> | I hereby certify the statements in this report are true and correct to the best of my knowledge and acknowledge that any false statement may be subject to civil and criminal penalties under the Oil and Gas Act.                                                                                                        |
| <input checked="" type="checkbox"/> | I acknowledge that the acceptance of any C-129 forms by the OCD does not relieve this operator of liability should their operations have failed to adequately investigate, report, and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment.                       |
| <input checked="" type="checkbox"/> | I acknowledge that OCD acceptance of any C-129 forms does not relieve this operator of responsibility for compliance with any other applicable federal, state, or local laws and/or regulations.                                                                                                                          |

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CONDITIONS  
  
Action 166951

CONDITIONS

|                                                                                        |                                                        |
|----------------------------------------------------------------------------------------|--------------------------------------------------------|
| Operator:<br>MARATHON OIL PERMIAN LLC<br>990 Town & Country Blvd.<br>Houston, TX 77024 | OGRID:<br>372098                                       |
|                                                                                        | Action Number:<br>166951                               |
|                                                                                        | Action Type:<br>[C-129] Venting and/or Flaring (C-129) |

CONDITIONS

| Created By | Condition                                                                                                                                                                          | Condition Date |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| icastro    | If the information provided in this report requires an amendment, submit a [C-129] Amend Venting and/or Flaring Incident (C-129A), utilizing your incident number from this event. | 12/19/2022     |