

**KANSAS CORPORATION COMMISSION**  
**ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST**

FORM G-2  
(Rev.8/98)

TYPE TEST:

- ☒ Open Flow  
☒ Deliverability

TEST DATE: 3-18-1999

API No. 15-129-21566-0000

|                                                |                               |                            |                |                                         |                         |  |
|------------------------------------------------|-------------------------------|----------------------------|----------------|-----------------------------------------|-------------------------|--|
| Company<br>Bonneville Fuels Corp               |                               | Lease<br>Warring Trust     |                |                                         | Well Number<br>#1       |  |
| County<br>Morton                               | Location<br>nw se sw          | Section<br>3               | TWP<br>32s     | RNG (E/W)<br>40w                        | Acres Attributed<br>320 |  |
| Field<br>Kinsler                               | Reservoir<br>Lwr Mrw/Keyes    |                            |                | Gas Gathering Connection<br>Duke Energy |                         |  |
| Completion Date<br>12-20-98                    | Plug Back Total Depth<br>5452 |                            |                | Packer Set at<br>5154                   |                         |  |
| Casing Size<br>5.500                           | Weight<br>15.500              | Internal Diameter<br>4.950 | Set at<br>5616 | Perforations<br>5192                    | To<br>5203              |  |
| Tubing Size<br>2.875                           | Weight<br>6.500               | Internal Diameter<br>2.441 | Set at<br>5163 | Perforations<br>5223                    | To<br>5246              |  |
| Type Completion (Describe)<br>Flowing Gas Well | Type Fluid Production<br>oil  |                            |                | Pump Unit or Traveling Plunger?<br>no   |                         |  |
| Producing Thru (Annulus/Tubing)<br>tubing      |                               | % Carbon Dioxide<br>.100   |                | % Nitrogen<br>3.000                     | Gas Gravity- Gg<br>.636 |  |
| Vertical Depth (H)<br>5225                     | Pressure Taps<br>flange       |                            |                | Meter Run Size<br>2"                    |                         |  |
| Pressure Buildup: Shut in                      | 3-14-1999@ 8am                |                            |                | TAKEN                                   | 3-17-1999@ 2pm          |  |
| Well on Line: Started                          | 3-17-1999@ 2pm                |                            |                | TAKEN                                   | 3-18-1999@ 2pm          |  |

**OBSERVED SURFACE DATA**

| Static/<br>Dynamic<br>Property | Orifice<br>Size<br>in. | Meter<br>Pressure<br>psig | Pressure<br>Diff.<br>In. H <sub>2</sub> O | Flowing<br>Temp.<br>t. | WellHead<br>Temp.<br>t. | Casing WellHead Press.<br>(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) |      | Tubing WellHead Press.<br>(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) |      | Duration<br>(Hours) | Liquid<br>Prod.<br>Barrels |
|--------------------------------|------------------------|---------------------------|-------------------------------------------|------------------------|-------------------------|---------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------|------|---------------------|----------------------------|
|                                |                        |                           |                                           |                        |                         | psig                                                                            | psia | psig                                                                            | psia |                     |                            |
| Shut-in                        |                        |                           |                                           |                        |                         |                                                                                 |      | 1055                                                                            | 1069 | 78.0                |                            |
| Flow                           | .625                   | 360.0                     | 11.00                                     | 25                     |                         |                                                                                 |      | 966                                                                             | 980  | 24.0                |                            |

**FLOW STREAM ATTRIBUTES**

| COEFFICIENT<br>(F <sub>b</sub> )<br>Mcfd | (METER)<br>PRESSURE<br>psia | EXTENSION<br>$\sqrt{P_m \times H_w}$ | GRAVITY<br>FACTOR<br>Fg | FLOWING TEMP<br>FACTOR<br>Ft | DEVIATION<br>FACTOR<br>Fpv | RATE OF FLOW<br>R<br>Mcfd | GOR | G <sub>m</sub> |
|------------------------------------------|-----------------------------|--------------------------------------|-------------------------|------------------------------|----------------------------|---------------------------|-----|----------------|
| 1.910                                    | 374.4                       | 64.17                                | 1.2539                  | 1.0355                       | 1.0425                     | 165                       |     | .636           |

**(OPEN FLOW)(DELIVERABILITY) CALCULATIONS**

$(P_c)^2 = 1143.6$      
 $(P_w)^2 = 961.4$      
33.7     
%     
 $(P_c - 14.4) + 14.4 =$      
 $(P_a)^2 = 0.207$      
 $(P_d)^2 = 129.60$

|                                                  |                     |                                                                                                      |       |                                                                               |         |         |                                                      |
|--------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------|---------|---------|------------------------------------------------------|
| $(P_c)^2 - (P_a)^2$<br>or<br>$(P_c)^2 - (P_d)^2$ | $(P_c)^2 - (P_w)^2$ | $\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_d)^2}$<br>or<br>$\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_d)^2}$ | LOG   | Backpressure<br>Curve Slope "n"<br>---- or ----<br>Assigned<br>Standard Slope | n x LOG | Antilog | Open Flow<br>Deliverability<br>= R x Antilog<br>Mcfd |
| 1143.41                                          | 182.19              | 6.276                                                                                                | .7977 | .879                                                                          | .7012   | 5.025   | 833                                                  |
| 1014.02                                          | 182.19              | 5.566                                                                                                | .7455 | .879                                                                          | .6553   | 4.522   | 750                                                  |

OPEN FLOW      833      Mcfd @ 14.65 psia      DELIVERABILITY      750      Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein and that said report is true and correct. Executed this the \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_

Witness (if any)

For Company

For Commission

Checked by

**KANSAS CORPORATION COMMISSION**  
**ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST**

FORM G-2  
(Rev.8/98)

TYPE TEST:

- ☒ Open Flow  
☒ Deliverability

TEST DATE: 3-18-1999

API No. 15-129-21566-0000

|                                                |                               |                                         |                |                      |                         |  |
|------------------------------------------------|-------------------------------|-----------------------------------------|----------------|----------------------|-------------------------|--|
| Company<br>Bonneville Fuels Corp               |                               | Lease<br>Warring Trust                  |                |                      | Well Number<br>#1       |  |
| County<br>Morton                               | Location<br>nw se sw          | Section<br>3                            | TWP<br>32s     | RNG (E/W)<br>40w     | Acres Attributed<br>320 |  |
| Field<br>Kinsler                               | Reservoir<br>Lwr Mrrw/Keyes   | Gas Gathering Connection<br>Duke Energy |                |                      |                         |  |
| Completion Date<br>12-20-98                    | Plug Back Total Depth<br>5452 | Packer Set at<br>5154                   |                |                      |                         |  |
| Casing Size<br>5.500                           | Weight<br>15.500              | Internal Diameter<br>4.950              | Set at<br>5616 | Perforations<br>5192 | To<br>5203              |  |
| Tubing Size<br>2.875                           | Weight<br>6.500               | Internal Diameter<br>2.441              | Set at<br>5163 | Perforations<br>5223 | To<br>5246              |  |
| Type Completion (Describe)<br>Flowing Gas Well | Type Fluid Production<br>oil  | Pump Unit or Traveling Plunger?<br>no   |                |                      |                         |  |
| Producing Thru (Annulus/Tubing)<br>tubing      | % Carbon Dioxide<br>.100      | % Nitrogen<br>3.000                     |                |                      | Gas Gravity- Gg<br>.636 |  |
| Vertical Depth (ft)<br>5225                    | Pressure Taps<br>flange       | Meter Run Size<br>2"                    |                |                      |                         |  |
| Pressure Buildup: Shut in                      | 3-14-1999                     | TAKEN                                   |                | 3-17-1999 @ 2pm      |                         |  |
| Well on Line: Started                          | 3-17-1999 @ 2pm               | TAKEN                                   |                | 3-18-1999 @ 4pm      |                         |  |

**OBSERVED SURFACE DATA**

| Static/<br>Dynamic<br>Property | Orifice<br>Size<br>in. | Meter<br>Pressure<br>psig | Pressure<br>Diff.<br>In. H <sub>2</sub> O | Flowing<br>Temp.<br>t. | WellHead<br>Temp.<br>t. | Casing WellHead Press.<br>(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) |      | Tubing WellHead Press.<br>(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) |      | Duration<br>(Hours) | Liquid<br>Prod.<br>Barrels |
|--------------------------------|------------------------|---------------------------|-------------------------------------------|------------------------|-------------------------|---------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------|------|---------------------|----------------------------|
|                                |                        |                           |                                           |                        |                         | psig                                                                            | psia | psig                                                                            | psia |                     |                            |
| Shut-in                        |                        |                           |                                           |                        |                         |                                                                                 |      | 1203                                                                            | 1217 | 72.0                |                            |
| Flow                           | .625                   | 360.0                     | 11.00                                     | 25                     |                         |                                                                                 |      | 1106                                                                            | 1120 | 26.0                |                            |

**FLOW STREAM ATTRIBUTES**

| COEFFICIENT<br>(F <sub>b</sub> )<br>Mofd | (METER)<br>PRESSURE<br>psia | EXTENSION<br>$\sqrt{P_m \times H_w}$ | GRAVITY<br>FACTOR<br>Fg | FLOWING TEMP<br>FACTOR<br>Ft | DEVIATION<br>FACTOR<br>Fpv | RATE OF FLOW<br>R<br>Mcf/d | GOR | G <sub>m</sub> |
|------------------------------------------|-----------------------------|--------------------------------------|-------------------------|------------------------------|----------------------------|----------------------------|-----|----------------|
| 1.910                                    | 374.4                       | 64.17                                | 1.2539                  | 1.0355                       | 1.0425                     | 165                        |     | .636           |

**(OPEN FLOW)(DELIVERABILITY) CALCULATIONS**

(Pc)<sup>2</sup> = 1482.1

(Pw)<sup>2</sup> = 1255.5

29.6

%

(Pc - 14.4) + 14.4 =

(Pa)<sup>2</sup> = 0.207

(Pd)<sup>2</sup> = 129.60

| $(P_c)^2 - (P_a)^2$<br>or<br>$(P_c)^2 - (P_d)^2$ | $(P_c)^2 - (P_w)^2$ | $\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_d)^2}$ or $\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_d)^2}$ | LOG   | Backpressure<br>Curve Slope "n"<br>---- or ----<br>Assigned<br>Standard Slope | n x LOG | Antilog | Open Flow<br>Deliverability<br>= R x Antilog<br>Mcf/d |
|--------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------|---------|---------|-------------------------------------------------------|
| 1481.86                                          | 226.53              | 6.541                                                                                          | .8157 | .879                                                                          | .7170   | 5.212   | 864                                                   |
| 1352.46                                          | 226.53              | 5.970                                                                                          | .7760 | .879                                                                          | .6821   | 4.810   | 797                                                   |

OPEN FLOW 864 Mcfd @ 14.65 psia DELIVERABILITY 797 Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein and that said report is true and correct. Executed this the \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_

Witness (if any)

For Company

For Commission

Checked by

**KANSAS CORPORATION COMMISSION**  
**ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST**

FORM G-2  
(Rev.8/98)

TYPE TEST:

- ☒ Open Flow  
☒ Deliverability

TEST DATE: 3-22-1999

API No. 15-129-21566-0000

|                                                |                               |                                         |                |                      |                         |  |
|------------------------------------------------|-------------------------------|-----------------------------------------|----------------|----------------------|-------------------------|--|
| Company<br>Bonneville Fuels Corp               |                               | Lease<br>Warring Trust                  |                |                      | Well Number<br>#1       |  |
| County<br>Morton                               | Location<br>nw se sw          | Section<br>3                            | TWP<br>32s     | RNG(E/W)<br>40w      | Acres Attributed<br>320 |  |
| Field<br>Kinsler                               | Reservoir<br>Lwr Mrw/Keyes    | Gas Gathering Connection<br>Duke Energy |                |                      |                         |  |
| Completion Date<br>12-20-98                    | Plug Back Total Depth<br>5452 | Packer Set at<br>5154                   |                |                      |                         |  |
| Casing Size<br>5.500                           | Weight<br>15.500              | Internal Diameter<br>4.950              | Set at<br>5616 | Perforations<br>5192 | To<br>5203              |  |
| Tubing Size<br>2.875                           | Weight<br>6.500               | Internal Diameter<br>2.441              | Set at<br>5163 | Perforations<br>5223 | To<br>5246              |  |
| Type Completion (Describe)<br>Flowing Gas Well | Type Fluid Production<br>oil  | Pump Unit or Traveling Plunger?<br>no   |                |                      |                         |  |
| Producing Thru (Annulus/Tubing)<br>tubing      | % Carbon Dioxide<br>.100      | % Nitrogen<br>3.000                     |                |                      | Gas Gravity- Gg<br>.636 |  |
| Vertical Depth (H)<br>5225                     | Pressure Taps<br>flange       | Meter Run Size<br>2                     |                |                      |                         |  |
| Pressure Buildup: Shut in                      | 3-18-1999@8:00am              | TAKEN                                   |                | 3-22-1999@8:00am     |                         |  |
| Well on Line: Started                          | 3-22-1999@8:00am              | TAKEN                                   |                | 3-23-1999@9:00am     |                         |  |

**OBSERVED SURFACE DATA**

| Static/<br>Dynamic<br>Property | Orifice<br>Size<br>in. | Meter<br>Pressure<br>psig | Pressure<br>Diff.<br>In. H <sub>2</sub> O | Flowing<br>Temp.<br>t. | WellHead<br>Temp.<br>t. | Casing WellHead Press.<br>(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) |      | Tubing WellHead Press.<br>(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) |      | Duration<br>(Hours) | Liquid<br>Prod.<br>Barrels |
|--------------------------------|------------------------|---------------------------|-------------------------------------------|------------------------|-------------------------|---------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------|------|---------------------|----------------------------|
|                                |                        |                           |                                           |                        |                         | psig                                                                            | psia | psig                                                                            | psia |                     |                            |
| Shut-in                        |                        |                           |                                           |                        |                         |                                                                                 |      | 1055                                                                            | 1069 | 78.0                |                            |
| Flow                           | 1.000                  | 348.0                     | 14.00                                     | 59                     |                         |                                                                                 |      | 901                                                                             | 915  | 29.0                |                            |

**FLOW STREAM ATTRIBUTES**

| COEFFICIENT<br>(F <sub>b</sub> )<br>Mcfd | (METER)<br>PRESSURE<br>psia | EXTENSION<br>$\sqrt{P_m \times H_w}$ | GRAVITY<br>FACTOR<br>Fg | FLOWING TEMP<br>FACTOR<br>Ft | DEVIATION<br>FACTOR<br>Fpv | RATE OF FLOW<br>R<br>Mcfd | GOR | G <sub>m</sub> |
|------------------------------------------|-----------------------------|--------------------------------------|-------------------------|------------------------------|----------------------------|---------------------------|-----|----------------|
| 5.070                                    | 362.4                       | 71.23                                | 1.2539                  | 1.0010                       | 1.0321                     | 467                       |     | .636           |

**(OPEN FLOW)(DELIVERABILITY) CALCULATIONS**

$(P_c)^2 = 1143.6$        $(P_w)^2 = 839.6$       33.7      %       $(P_c - 14.4) + 14.4 =$        $(P_a)^2 = 0.207$   
 $(P_d)^2 = 129.60$

| $(P_c)^2 - (P_a)^2$<br>or<br>$(P_c)^2 - (P_d)^2$ | $(P_c)^2 - (P_w)^2$ | $\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_d)^2}$<br>or<br>$\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_d)^2}$ | LOG   | Backpressure<br>Curve Slope "n"<br>----- or -----<br>Assigned<br>Standard Slope | n x LOG | Antilog | Open Flow<br>Deliverability<br>= R x Antilog<br>Mcfd |
|--------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------|---------|---------|------------------------------------------------------|
| 1143.41                                          | 304.03              | 3.761                                                                                                | .5753 | .879                                                                            | .5057   | 3.204   | 1498                                                 |
| 1014.02                                          | 304.03              | 3.335                                                                                                | .5231 | .879                                                                            | .4598   | 2.883   | 1348                                                 |

OPEN FLOW      1498      Mcfd @ 14.65 psia      DELIVERABILITY      1348      Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein and that said report is true and correct. Executed this the \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_

Witness (if any)

For Commission

For Company

Checked by

**KANSAS CORPORATION COMMISSION**  
**ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST**

FORM G-2  
(Rev.8/98)

TYPE TEST:

- ☒ Open Flow  
☒ Deliverability

TEST DATE: 3-22-1999

API No. 15-129-21566-0000

|                                                |                               |                                         |                |                         |                         |
|------------------------------------------------|-------------------------------|-----------------------------------------|----------------|-------------------------|-------------------------|
| Company<br>Bonneville Fuels Corp               |                               | Lease<br>Warring Trust                  |                | Well Number<br>#1       |                         |
| County<br>Morton                               | Location<br>nw se sw          | Section<br>3                            | TWP<br>32s     | RNG(E/W)<br>40w         | Acres Attributed<br>320 |
| Field<br>Kinsler                               | Reservoir<br>Lwr Mrrw/Keyes   | Gas Gathering Connection<br>Duke Energy |                |                         |                         |
| Completion Date<br>12-20-98                    | Plug Back Total Depth<br>5452 | Packer Set at<br>5154                   |                |                         |                         |
| Casing Size<br>5.500                           | Weight<br>15.500              | Internal Diameter<br>4.950              | Set at<br>5616 | Perforations<br>5192    | To<br>5203              |
| Tubing Size<br>2.875                           | Weight<br>6.500               | Internal Diameter<br>2.441              | Set at<br>5163 | Perforations<br>5223    | To<br>5246              |
| Type Completion (Describe)<br>Flowing Gas Well | Type Fluid Production<br>oil  | Pump Unit or Traveling Plunger?<br>no   |                |                         |                         |
| Producing Thru (Annulus/Tubing)<br>tubing      | % Carbon Dioxide<br>.239      | % Nitrogen<br>2.800                     |                | Gas Gravity- Gg<br>.625 |                         |
| Vertical Depth (ft)<br>5225                    | Pressure Taps<br>flange       | Meter Run Size<br>2"                    |                |                         |                         |
| Pressure Buildup: Shut in<br>3-19-1999@8:00am  | TAKEN<br>3-22-1999@8:00am     |                                         |                |                         |                         |
| Well on Line: Started<br>3-22-1999@8:00am      | TAKEN<br>3-23-1999@9:00am     |                                         |                |                         |                         |

**OBSERVED SURFACE DATA**

| Static/<br>Dynamic<br>Property | Orifice<br>Size<br>in. | Meter<br>Pressure<br>psig | Pressure<br>Diff.<br>In. H <sub>2</sub> O | Flowing<br>Temp.<br>t. | WellHead<br>Temp.<br>t. | Casing WellHead Press.<br>(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) |      | Tubing WellHead Press.<br>(P <sub>w</sub> ) (P <sub>t</sub> ) (P <sub>c</sub> ) |      | Duration<br>(Hours) | Liquid<br>Prod.<br>Barrels |
|--------------------------------|------------------------|---------------------------|-------------------------------------------|------------------------|-------------------------|---------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------|------|---------------------|----------------------------|
|                                |                        |                           |                                           |                        |                         | psig                                                                            | psia | psig                                                                            | psia |                     |                            |
| Shut-in                        |                        |                           |                                           |                        |                         |                                                                                 |      | 1022                                                                            | 1036 | 72.0                |                            |
| Flow                           | 1.000                  | 348.0                     | 14.00                                     | 59                     |                         |                                                                                 |      | 923                                                                             | 937  | 25.0                | .5                         |

**FLOW STREAM ATTRIBUTES**

| COEFFICIENT<br>(F <sub>b</sub> )<br>Mcf/d | (METER)<br>PRESSURE<br>psia | EXTENSION<br>$\sqrt{P_m \times H_w}$ | GRAVITY<br>FACTOR<br>F <sub>g</sub> | FLOWING TEMP<br>FACTOR<br>F <sub>t</sub> | DEVIATION<br>FACTOR<br>F <sub>p</sub> v | RATE OF FLOW<br>R<br>Mcf/d | GOR      | G <sub>m</sub> |
|-------------------------------------------|-----------------------------|--------------------------------------|-------------------------------------|------------------------------------------|-----------------------------------------|----------------------------|----------|----------------|
| 5.070                                     | 362.4                       | 71.23                                | 1.2649                              | 1.0010                                   | 1.0311                                  | 471                        | 982171.9 | .629           |

**(OPEN FLOW)(DELIVERABILITY) CALCULATIONS**

$(P_c)^2 = 1074.1$      
 $(P_w)^2 = 880.4$      
34.7     
%     
 $(P_c - 14.4) + 14.4 =$      
 $(P_a)^2 = 0.207$      
 $(P_d)^2 = 129.60$

| $(P_c)^2 - (P_a)^2$<br>or<br>$(P_c)^2 - (P_d)^2$ | $(P_c)^2 - (P_w)^2$ | $\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_d)^2}$<br>or<br>$\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_d)^2}$ | LOG   | Backpressure<br>Curve Slope "n"<br>--- or ---<br>Assigned<br>Standard Slope | n x LOG | Antilog | Open Flow<br>Deliverability<br>= R x Antilog<br>Mcf/d |
|--------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------|---------|---------|-------------------------------------------------------|
| 1073.92                                          | 193.76              | 5.542                                                                                                | .7437 | .879                                                                        | .6537   | 4.505   | 2123                                                  |
| 944.53                                           | 193.76              | 4.875                                                                                                | .6879 | .879                                                                        | .6047   | 4.024   | 1897                                                  |

OPEN FLOW      2123      Mcfd @ 14.65 psia      DELIVERABILITY      1897      Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein and that said report is true and correct. Executed this the 22 day of April, 19 99

Witness (if any)

For Commission

For Company

Checked by