

## Hydraulic Fracturing Fluid Product Component Information Disclosure

|                                   |  |
|-----------------------------------|--|
| <b>Last Fracture Date:</b>        | <b>December 03, 2016</b>                 |
| <b>Last Submission Date:</b>      | <b>January 20, 2017</b>                  |
| <b>Province:</b>                  | <b>AB</b>                                |
| <b>AER Field Centre:</b>          | <b>St. Albert</b>                        |
| <b>Surface location:</b>          | <b>02-04-062-22W5</b>                    |
| <b>Well Licence Number:</b>       | <b>0475404</b>                           |
| <b>Licensee Name:</b>             | <b>Chevron Canada Limited</b>            |
| <b>Unique Well Identifier:</b>    | <b>02/15-09-062-22W5/0</b>               |
| <b>Well Name:</b>                 | <b>CHEVRON HZ 102 GRIZZLY 15-9-62-22</b> |
| <b>Number of Stages:</b>          | <b>31</b>                                |
| <b>Bottom Hole Latitude:</b>      | <b>54.355048</b>                         |
| <b>Bottom Hole Longitude:</b>     | <b>-117.237099</b>                       |
| <b>Lat/Long Projection:</b>       | <b>NAD 83</b>                            |
| <b>Production Fluid Type:</b>     | <b>SHALE GAS ONLY</b>                    |
| <b>True Vertical Depth (TVD):</b> | <b>3,448.94</b>                          |
| <b>Total Water Volume (m3):</b>   | <b>42,259</b>                            |

### Hydraulic Fracturing Fluid Composition:

| Fracture Start/End Date: | Component Type | Trade Name  | Supplier    | Purpose             | Ingredient/Family Name                                     | CAS # / HMIRC # | Concentration in Component (% by mass) | Concentration in HFF (% by mass) |
|--------------------------|----------------|---|-------------|---------------------|--|-----------------|--|----------------------------------|
| Nov 18 2016 - Dec 3 2016 | CARRIER FLUID  |   |             |                     | Fresh Water  | Not Available   | 100.000000%                            | 88.164043%                       |
|                          | CARRIER FLUID  |   |             |                     | water  | Not Available   | 100.000000%                            | 1.854069%                        |
|                          | CARRIER FLUID  |   |             |                     | Hydrochloric acid  | Not Available   | 60.000000%                             | 1.112441%                        |
|                          | PROPPANT       | SAND-PREMIUM WHITE-40/70, BULK                      | Halliburton |                     | Crystalline silica, quartz                                 | 14808-60-7      | 100.000000%                            | 8.753641%                        |
|                          | PROPPANT       | SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676) | Halliburton |                     | Crystalline silica,quartz                                  | 14808-60-7      | 100.000000%                            | 1.002449%                        |
|                          | ADDITIVE       | Aqucar 742  | Halliburton | Bactericide/Biocide | Inert ingredient(s)  | Not Available   | 100.000000%                            | 0.001788%                        |
|                          | ADDITIVE       | Aqucar 742  | Halliburton | Bactericide/Biocide | Glutaraldehyde   | 111-30-8        | 42.000000%                             | 0.000751%                        |
|                          | ADDITIVE       | Aqucar 742  | Halliburton | Bactericide/Biocide | Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl | 68424-85-1      | 7.500000%                              | 0.000134%                        |
|                          | ADDITIVE       | Aqucar 742  | Halliburton | Bactericide/Biocide | Ethanol  | 64-17-5         | 1.000000%                              | 0.000017%                        |

| Fracture Start/End Date: | Component Type | Trade Name                          | Supplier    | Purpose             | Ingredient/Family Name                  | CAS # / HMIRC # | Concentration in Component (% by mass) | Concentration in HFF (% by mass) |
|--------------------------|----------------|-------------------------------------|-------------|---------------------|---|-----------------|--|----------------------------------|
| Nov 18 2016 - Dec 3 2016 | ADDITIVE       | OPTIFLO-III DELAYED RELEASE BREAKER | Halliburton | Breaker             | Ammonium persulfate                     | 7727-54-0       | 100.000000%                            | 0.004662%                        |
|                          | ADDITIVE       | OPTIFLO-III DELAYED RELEASE BREAKER | Halliburton | Breaker             | Crystalline silica, quartz              | 14808-60-7      | 30.000000%                             | 0.001398%                        |
|                          | ADDITIVE       | OPTIFLO-III DELAYED RELEASE BREAKER | Halliburton | Breaker             | Proprietary ingredient(s)               | Trade Secret    | 0.010000%                              | 0.000001%                        |
|                          | ADDITIVE       | MO-67                               | Halliburton | Buffer              | Inert ingredient(s)                     | Not Available   | 100.000000%                            | 0.060424%                        |
|                          | ADDITIVE       | MO-67                               | Halliburton | Buffer              | Sodium hydroxide                        | 1310-73-2       | 30.000000%                             | 0.017948%                        |
|                          | ADDITIVE       | HAI-OS ACID INHIBITOR               | Halliburton | Corrosion Inhibitor | Methanol                                | 67-56-1         | 60.000000%                             | 0.000932%                        |
|                          | ADDITIVE       | HAI-OS ACID INHIBITOR               | Halliburton | Corrosion Inhibitor | Fatty acids, tall oil                   | 8943            | 30.000000%                             | 0.000466%                        |
|                          | ADDITIVE       | HAI-OS ACID INHIBITOR               | Halliburton | Corrosion Inhibitor | propargyl alcohol                       | 107-19-7        | 10.000000%                             | 0.000155%                        |
|                          | ADDITIVE       | HAI-OS ACID INHIBITOR               | Halliburton | Corrosion Inhibitor | Proprietary ingredient(s)               | Trade Secret    | 0.010000%                              | 0.000001%                        |
|                          | ADDITIVE       | CL-31 CROSSLINKER                   | Halliburton | Crosslinker         | Inert ingredient(s)                     | Not Available   | 100.000000%                            | 0.020689%                        |
|                          | ADDITIVE       | CL-22 UC                            | Halliburton | Crosslinker         | Proprietary ingredient(s)               | Trade Secret    | 100.000000%                            | 0.048194%                        |
|                          | ADDITIVE       | CL-22 UC                            | Halliburton | Crosslinker         | Potassium formate                       | 590-29-4        | 60.000000%                             | 0.028630%                        |
|                          | ADDITIVE       | CL-31 CROSSLINKER                   | Halliburton | Crosslinker         | Potassium metaborate                    | 13709-94-9      | 60.000000%                             | 0.012290%                        |
|                          | ADDITIVE       | CL-31 CROSSLINKER                   | Halliburton | Crosslinker         | Potassium hydroxide                     | 1310-58-3       | 5.000000%                              | 0.001024%                        |
|                          | ADDITIVE       | CL-22 UC                            | Halliburton | Crosslinker         | Inert ingredient(s)                     | Not Available   | 0.010000%                              | 0.000004%                        |
|                          | ADDITIVE       | FR-66                               | Halliburton | Friction Reducer    | Inert ingredient(s)                     | Not Available   | 100.000000%                            | 0.041749%                        |
|                          | ADDITIVE       | FR-66                               | Halliburton | Friction Reducer    | Hydrotreated light petroleum distillate | 64742-47-8      | 30.000000%                             | 0.012400%                        |
|                          | ADDITIVE       | FR-66                               | Halliburton | Friction Reducer    | ammonium chloride                       | 12125-02-9      | 5.000000%                              | 0.002066%                        |
|                          | ADDITIVE       | FR-66                               | Halliburton | Friction Reducer    | Ethoxylated alcohols                    | 9068            | 5.000000%                              | 0.002066%                        |
|                          | ADDITIVE       | FR-66                               | Halliburton | Friction Reducer    | Fatty nitrogen derived amides           | 9068            | 5.000000%                              | 0.002066%                        |
|                          | ADDITIVE       | FR-66                               | Halliburton | Friction Reducer    | Proprietary ingredient(s)               | Trade Secret    | 0.010000%                              | 0.000004%                        |
|                          | ADDITIVE       | WG-36 GELLING AGENT                 | Halliburton | Gelling Agent       | Guar gum                                | 9000-30-0       | 100.000000%                            | 0.087663%                        |

| Fracture Start/End Date: | Component Type | Trade Name                    | Supplier    | Purpose         | Ingredient/Family Name          | CAS # / HMIRC # | Concentration in Component (% by mass) | Concentration in HFF (% by mass) |
|--------------------------|----------------|-------------------------------|-------------|-----------------|---------------------------------|-----------------|--|----------------------------------|
| Nov 18 2016 - Dec 3 2016 | ADDITIVE       | FERCHEK FERRIC IRON INHIBITOR | Halliburton | Iron Control    | Isoascorbic acid, sodium salt   | 6381-77-7       | 100.000000%                            | 0.011206%                        |
|                          | ADDITIVE       | MC S-2730                     | Halliburton | Scale Inhibitor | Inert ingredient(s)             | Not Available   | 100.000000%                            | 0.007783%                        |
|                          | ADDITIVE       | MC S-2730                     | Halliburton | Scale Inhibitor | Methyl Alcohol                  | 67-56-1         | 30.000000%                             | 0.002335%                        |
|                          | ADDITIVE       | MC S-2730                     | Halliburton | Scale Inhibitor | Phosphonic acid                 | 22042-96-2      | 20.000000%                             | 0.001556%                        |
|                          | ADDITIVE       | OilPerm A                     | Halliburton | Surfactant      | Ethanol                         | 64-17-5         | 60.000000%                             | 0.000948%                        |
|                          | ADDITIVE       | OilPerm A                     | Halliburton | Surfactant      | Heavy Aromatic Petroleum Naptha | 64742-94-5      | 30.000000%                             | 0.000474%                        |
|                          | ADDITIVE       | OilPerm A                     | Halliburton | Surfactant      | Napthalene                      | 91-20-3         | 5.000000%                              | 0.000078%                        |
|                          | ADDITIVE       | OilPerm A                     | Halliburton | Surfactant      | Poly(oxy-1,2-ethanediyl)        | 127087-87-0     | 5.000000%                              | 0.000078%                        |
|                          | ADDITIVE       | OilPerm A                     | Halliburton | Surfactant      | 1,2,4 Trimethylbenzene          | 95-63-6         | 1.000000%                              | 0.000015%                        |

### Comments:

\*Information provided in this form is submitted in accordance with the requirements of AER Directive 59 Well Drilling and Completion Data Filing Requirements.

\*Total Water Volume sources may include fresh water, produced water, recycled water, and/or other water types as listed in The "DDS Well Drilling Completion Data Submission System: A User Guide - Appendix D".

\*CAS # - Chemical Abstract Service Number. Individual chemical ingredients have a unique CAS #. Specific ingredient names are shown for each CAS #. "Not Available" indicates the ingredient CAS # is not available.

\*HMIRC # - Hazardous Material Information Review Commission (registry) number. The HMIRC # indicates the (hazardous) additive ingredient is considered to be confidential business information and is subject to a Hazardous Material Information Review Act claim exemption. General chemical family names are shown for each HMIRC #. "Not Available" indicates the ingredient HMIRC # is not available.

\*"Trade Secret" indicates the (non-hazardous) additive ingredient is considered to be confidential business information. General chemical family names are reported for ingredients considered "Trade Secret".

\*Any public concerns related to this information should be directed to the AER Field Centre shown on the report.

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