

## Hydraulic Fracturing Fluid Product Component Information Disclosure

|                                |                               |
|--------------------------------|-------------------------------|
| Job Start Date:                | 7/9/2017                      |
| Job End Date:                  | 7/10/2017                     |
| State:                         | Texas                         |
| County:                        | Ward                          |
| API Number:                    | 42-475-37230-00-00            |
| Operator Name:                 | FELIX ENERGY HOLDINGS II, LLC |
| Well Name and Number:          | UL Fremont 38-17 1H           |
| Latitude:                      | 31.54938760                   |
| Longitude:                     | -103.18959980                 |
| Datum:                         | NAD27                         |
| Federal Well:                  | NO                            |
| Indian Well:                   | NO                            |
| True Vertical Depth:           | 11,434                        |
| Total Base Water Volume (gal): | 17,121,777                    |
| Total Base Non Water Volume:   | 0                             |



### Hydraulic Fracturing Fluid Composition:

| Trade Name  | Supplier     | Purpose      | Ingredients | Chemical Abstract Service Number (CAS #) | Maximum Ingredient Concentration in Additive (% by mass)** | Maximum Ingredient Concentration in HF Fluid (% by mass)** | Comments        |
|-------------|--------------|--------------|-------------|--|--|--|-----------------|
| Fresh Water | Operator     | Base Fluid   |             |  |  |  |                 |
|             |              |              | Water       | 7732-18-5                                | 100.00000  | 90.88117   | Density = 8.340 |
| Ingredients | Listed Above | Listed Above |             |  |  |  |                 |
|             |              |              | Water       | 7732-18-5                                | 100.00000  | 0.36975  |                 |

|   |                        |                     |  |              |  |  |  |
|---|------------------------|---------------------|--|--------------|--|--|--|
| HAI-OS ACID INHIBITOR                               | Halliburton            | Corrosion Inhibitor |  |              |  |  |  |
|   |                        |                     |  | Listed Below |  |  |  |
| SSA-1   | Halliburton            | Additive            |  |              |  |  |  |
|   |                        |                     |  | Listed Below |  |  |  |
| FDP-S1267-16  | Halliburton            | Additive            |  |              |  |  |  |
|   |                        |                     |  | Listed Below |  |  |  |
| SAND-PREMIUM BROWN-8/16, 100 LB SACK                | Halliburton            | Proppant            |  |              |  |  |  |
|   |                        |                     |  | Listed Below |  |  |  |
| OptiKleen-WF (TM)                                   | Halliburton            | Concentrate         |  |              |  |  |  |
|   |                        |                     |  | Listed Below |  |  |  |
| AccessFrac LT material                              | Halliburton            | Diverter            |  |              |  |  |  |
|   |                        |                     |  | Listed Below |  |  |  |
| SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676) | Halliburton            | Proppant            |  |              |  |  |  |
|   |                        |                     |  | Listed Below |  |  |  |
| Petro-Flo   | Bio-Cide International | Biocide             |  |              |  |  |  |
|   |                        |                     |  | Listed Below |  |  |  |

|   |             |                 |  |              |  |  |  |
|---|-------------|-----------------|--|--------------|--|--|--|
| PROP-<br>PREMIUM-<br>16/30, BULK                | Halliburton | Proppant        |  |              |  |  |  |
|   |             |                 |  | Listed Below |  |  |  |
| PROP-CARBO<br>HYDROPROP,<br>BULK<br>(101649541) | Halliburton | Proppant        |  |              |  |  |  |
|   |             |                 |  | Listed Below |  |  |  |
| FDP-S1231-16                                    | Halliburton | Surfactant      |  |              |  |  |  |
|   |             |                 |  | Listed Below |  |  |  |
| Cla-Web(TM) II                                  | Halliburton | Clay Stabilizer |  |              |  |  |  |
|   |             |                 |  | Listed Below |  |  |  |
| SAND-<br>PREMIUM<br>WHITE-40/70,<br>BULK        | Halliburton | Proppant        |  |              |  |  |  |
|   |             |                 |  | Listed Below |  |  |  |
| Scalechek(R)<br>SCP-2 Scale<br>Inhibitor        | Halliburton | Scale Preventer |  |              |  |  |  |
|   |             |                 |  | Listed Below |  |  |  |
| FDP-S1226-15                                    | Halliburton | Surfactant      |  |              |  |  |  |
|   |             |                 |  | Listed Below |  |  |  |
| HYDROCHLORI<br>C ACID                           | Halliburton | Solvent         |  |              |  |  |  |
|   |             |                 |  | Listed Below |  |  |  |

|  |             |                  |   |              |           |         |  |
|--|-------------|------------------|---|--------------|-----------|---------|--|
| FDP-S1176-15   | Halliburton | Friction Reducer |   |              |           |         |  |
|  |             |                  |   | Listed Below |           |         |  |
| Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients. |             |                  |   |              |           |         |  |
|  |             |                  | Crystalline silica, quartz                      | 14808-60-7   | 100.00000 | 8.62176 |  |
|  |             |                  | Hydrochloric acid                               | 7647-01-0    | 60.00000  | 0.14282 |  |
|  |             |                  | Hydrotreated light petroleum distillate         | 64742-47-8   | 30.00000  | 0.03030 |  |
|  |             |                  | Polyacrylate                                    | Proprietary  | 30.00000  | 0.03030 |  |
|  |             |                  | Ethoxylated alcohols                            | Proprietary  | 30.00000  | 0.01905 |  |
|  |             |                  | Fatty nitrogen derived amides                   | Proprietary  | 30.00000  | 0.01877 |  |
|  |             |                  | Ethoxylated fatty acids                         | Proprietary  | 30.00000  | 0.01877 |  |
|  |             |                  | Isopropanol                                     | 67-63-0      | 30.00000  | 0.01877 |  |
|  |             |                  | Hydrotreated light petroleum distillate         | Proprietary  | 30.00000  | 0.01877 |  |
|  |             |                  | Crystalline Silica. quartz                      | 14808-60-7   | 100.00000 | 0.01794 |  |
|  |             |                  | Sodium perborate tetrahydrate                   | 10486-00-7   | 100.00000 | 0.01092 |  |
|  |             |                  | Ammonium compound                               | Proprietary  | 30.00000  | 0.00714 |  |
|  |             |                  | Chlorine compound                               | Proprietary  | 30.00000  | 0.00714 |  |
|  |             |                  | Butyl alcohol                                   | 71-36-3      | 10.00000  | 0.00626 |  |
|  |             |                  | Sodium chloride                                 | 7647-14-5    | 5.00000   | 0.00529 |  |
|  |             |                  | Ammonium chloride                               | 12125-02-9   | 5.00000   | 0.00505 |  |
|  |             |                  | Sorbitan, mono-9-octadecenoate, (Z)             | 1338-43-8    | 5.00000   | 0.00505 |  |
|  |             |                  | Castor oil, ethoxylated                         | 61791-12-6   | 5.00000   | 0.00505 |  |
|  |             |                  | 9-Octadecenamide, n,n-bis-2(hydroxy-ethyl)-,(Z) | 93-83-4      | 5.00000   | 0.00505 |  |
|  |             |                  | Ceramic materials and wares, chemicals          | 66402-68-4   | 100.00000 | 0.00493 |  |
|  |             |                  | Glassy calcium magnesium phosphate              | 65997-17-3   | 100.00000 | 0.00305 |  |
|  |             |                  | Crystalline Silica, quartz                      | 14808-60-7   | 100.00000 | 0.00296 |  |

|  |  |  |   |             |           |         |  |
|--|--|--|---|-------------|-----------|---------|--|
|  |  |  | Sodium Chlorite   | 7758-19-2   | 8.35000   | 0.00252 |  |
|  |  |  | Alcohols  | Proprietary | 1.00000   | 0.00063 | Denise Tuck,<br>Halliburton, 3000 N.<br>Sam Houston Pkwy E.,<br>Houston, TX 77032,<br>281-871-6226 |
|  |  |  | Diethanolamine  | 111-42-2    | 1.00000   | 0.00063 |  |
|  |  |  | Polyethylene glycol   | 25322-68-3  | 1.00000   | 0.00063 |  |
|  |  |  | Sodium Carbonate  | 497-19-8    | 2.00000   | 0.00060 |  |
|  |  |  | Methanol  | 67-56-1     | 60.00000  | 0.00055 |  |
|  |  |  | Quaternary amine  | Proprietary | 1.00000   | 0.00048 |  |
|  |  |  | Sodium Chloride   | 7647-14-5   | 1.00000   | 0.00030 |  |
|  |  |  | Sodium Hydroxide  | 1310-73-2   | 1.00000   | 0.00030 |  |
|  |  |  | Sintered bauxite  | 1318-16-7   | 100.00000 | 0.00029 |  |
|  |  |  | Fatty acids, tall oil   | Proprietary | 30.00000  | 0.00028 |  |
|  |  |  | Reaction product of<br>acetophenone,<br>formaldehyde, thiourea<br>and oleic acid in dimethyl<br>formamide | 68527-49-1  | 30.00000  | 0.00028 |  |
|  |  |  | Amine salts   | Proprietary | 1.00000   | 0.00026 |  |
|  |  |  | Glutaraldehyde  | 111-30-8    | 1.00000   | 0.00018 |  |
|  |  |  | Alcohols, C12-13,<br>ethoxylated  | 66455-14-9  | 30.00000  | 0.00016 | 991739, 990218   |
|  |  |  | Olefins   | Proprietary | 5.00000   | 0.00011 |  |
|  |  |  | Propargyl alcohol   | 107-19-7    | 10.00000  | 0.00009 |  |
|  |  |  | Aluminum silicate   | 1302-76-7   | 10.00000  | 0.00003 |  |
|  |  |  | Alcohols, C12-16,<br>ethoxylated  | 68551-12-2  | 5.00000   | 0.00003 |  |
|  |  |  | Amine   | Proprietary | 0.10000   | 0.00002 |  |
|  |  |  | Crystalline silica,<br>cristobalite   | 14464-46-1  | 5.00000   | 0.00001 |  |
|  |  |  | Aluminum oxide  | 1344-28-1   | 5.00000   | 0.00001 |  |
|  |  |  | Poly lactide resin  | Proprietary | 100.00000 | 0.00001 |  |
|  |  |  | Titanium dioxide  | 13463-67-7  | 1.00000   | 0.00000 |  |
|  |  |  | Iron oxide  | 1309-37-1   | 1.00000   | 0.00000 |  |

|  |  |  |                |         |         |         |  |
|--|--|--|----------------|---------|---------|---------|--|
|  |  |  | Ethylene oxide | 75-21-8 | 0.01000 | 0.00000 |  |
|--|--|--|----------------|---------|---------|---------|--|

\* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

\*\*\* If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)