

# Hydraulic Fracturing Fluid Product Component Information Disclosure: Maximum Ingredient Weight in Pounds Format



**BAKER  
HUGHES**

|                                    |                 |
|------------------------------------|-----------------|
|                                    | 09/17/2012      |
| Last Fracture Date                 |                 |
| State:                             | California      |
| County:                            | Kern            |
| API Number:                        | 04-030-47966    |
| Operator Name:                     | Aera Energy Llc |
| Well Name and Number:              | 931AR-33        |
| Longitude:                         | -119.7202655    |
| Latitude:                          | 35.4553799      |
| Long/Lat Projection:               | NAD83           |
| Production Type:                   | Oil             |
| True Vertical Depth (TVD):         | 1,474           |
| Total Chemical Mass (lbs)*:        | 435,416         |
| Total Max. Ingredient Mass (lbs)*: | 435,793         |
| Total Product Volume (gal)*:       | 44,690          |
| Total Water Volume (gal)*:         | 39,816          |

## Hydraulic Fracturing Fluid Composition:

| Trade Name | Supplier     | Purpose | Ingredients                            | Chemical Abstract Service Number (CAS #) | Maximum Ingredient Concentration in Additive (% by mass)** | Maximum Ingredient Weight in HF Fluid (lbs mass) | Comments |
|------------|--------------|---------|--|--|--|--|----------|
| Water      | Operator     | Carrier | Water                                  | 7732-18-5                                | 100.00%  | 331,978  |          |
| X-Cide 207 | Baker Hughes | Biocide | 2-Methyl-4-Isothiazolin-3-One          | 2682-20-4                                | 5.00%  | 0.900000   |          |
|            |              |         | 5-Chloro-2-Methyl-4-Isothiazolin-3-One | 26172-55-4                               | 10.00%   | 1.800000   |          |
|            |              |         | Crystalline Silica: Cristobalite       | 14464-46-1                               | 1.00%  | 0.180000   |          |
|            |              |         | Crystalline Silica: Quartz (SiO2)      | 14808-60-7                               | 1.00%  | 0.180000   |          |
|            |              |         | Diatomaceous Earth, Calcined           | 91053-39-3                               | 60.00%   | 10.800000  |          |
|            |              |         | Magnesium Chloride                     | 7786-30-3                                | 5.00%  | 0.900000   |          |

|   |              |                 |                                   |              |         |                |                   |
|---|--------------|-----------------|-----------------------------------|--------------|---------|----------------|-------------------|
|   |              |                 | Magnesium Nitrate                 | 10377-60-3   | 10.00%  | 1.800000       |                   |
| GBW-5   | Baker Hughes | Breaker         | Ammonium Persulfate               | 7727-54-0    | 100.00% | 15.000000      | SmartCare Product |
| Enzyme G-I  | Baker Hughes | Breaker         | Hemicellulase Enzyme Concentrate  | 9025-56-3    | 3.00%   | 8.254422       | SmartCare Product |
|   |              |                 | Water                             | 7732-18-5    | 97.00%  | 266.892978     |                   |
| Clay Master-5C (Tote)   | Baker Hughes | Clay Control    | Oxyakylated Amine Quat            | 138879-94-4  | 60.00%  | 377.756160     |                   |
| XLW-10A   | Baker Hughes | Crosslinker     | Ethylene Glycol                   | 107-21-1     | 30.00%  | 160.650000     | SmartCare Product |
|   |              |                 | Sodium Hydroxide                  | 1310-73-2    | 10.00%  | 53.550000      |                   |
|   |              |                 | Sodium Tetraborate                | 1330-43-4    | 30.00%  | 160.650000     |                   |
| GW-3LDF   | Baker Hughes | Gelling Agent   | 1-Butoxy-2-Propanol               | 5131-66-8    | 5.00%   | 89.479500      | SmartCare Product |
|   |              |                 | Cyrstalline Silica, Quartz (SiO2) | 14808-60-7   | 5.00%   | 89.479500      |                   |
|   |              |                 | Guar Gum                          | 9000-30-0    | 60.00%  | 1,073.754000   |                   |
|   |              |                 | Isotridecanol, ethoxylated        | 9043-30-5    | 5.00%   | 89.479500      |                   |
|   |              |                 | Paraffinic Petroleum Distillate   | 64742-55-8   | 30.00%  | 536.877000     |                   |
|   |              |                 | Petroleum Distillates             | 64742-47-8   | 30.00%  | 536.877000     |                   |
| Sand, White, 20/40  | Baker Hughes | Proppant        | Crystalline Silica (Quartz)       | 14808-60-7   | 100.00% | 100,000.000000 |                   |
| ScaleSorb 3, (25# pail)   | Baker Hughes | Scale Inhibitor | Amino Alkyl Phosphonic Acid       | Trade Secret | 30.00%  | 52.500000      | SmartCare Product |
|   |              |                 | Crystalline Silica: Quartz (SiO2) | 14808-60-7   | 1.00%   | 1.750000       |                   |
|   |              |                 | Diatomaceous Earth, Calcined      | 91053-39-3   | 100.00% | 175.000000     |                   |
|   |              |                 | Phosphonic Acid                   | 13598-36-2   | 1.00%   | 1.750000       |                   |
| <b>Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.</b> |              |                 |                                   |              |         |                |                   |
|   |              |                 | 2-Butoxy-1-Propanol               | 15821-83-7   |         | 1.431672       |                   |
|   |              |                 | Water                             | 7732-18-5    |         | 107.100000     |                   |

\* Total Chemical Mass is the total amount of Trade Name volume, supplied to the customer, converted to pounds.

\* Total Max. Ingredient Mass is the summation of all masses listed in the Maximum Ingredient Weight (pounds) column.

\* Total Product Volume is the total amount of Water plus Trade Name volume in gallons supplied to the customer or Baker Hughes.

\* Total Water Volume is the total amount of water volume in gallons used on the hydraulic fracture treatment.

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

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