

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



**BAKER
HUGHES**

| | |
|------------------------------------|---------------------|
| | 08/06/2012 |
| Last Fracture Date | |
| State: | California |
| County: | Kern |
| API Number: | 04-030-46185 |
| Operator Name: | Aera Energy Llc |
| Well Name and Number: | Lost Hills Two 7243 |
| Longitude: | -119.7557327 |
| Latitude: | 35.6537875 |
| Long/Lat Projection: | NAD83 |
| Production Type: | Oil |
| True Vertical Depth (TVD): | 2,021 |
| Total Chemical Mass (lbs)*: | 915,557 |
| Total Max. Ingredient Mass (lbs)*: | 916,179 |
| Total Product Volume (gal)*: | 94,584 |
| Total Water Volume (gal)*: | 84,798 |

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% | 707,029 | |
| X-Cide 207 | Baker Hughes | Biocide | 2-Methyl-4-Isothiazolin-3-One | 2682-20-4 | 5.00% | 1.200000 | |
| | | | 5-Chloro-2-Methyl-4-Isothiazolin-3-One | 26172-55-4 | 10.00% | 2.400000 | |
| | | | Crystalline Silica: Cristobalite | 14464-46-1 | 1.00% | 0.240000 | |
| | | | Crystalline Silica: Quartz (SiO2) | 14808-60-7 | 1.00% | 0.240000 | |
| | | | Diatomaceous Earth, Calcined | 91053-39-3 | 60.00% | 14.400000 | |
| | | | Magnesium Chloride | 7786-30-3 | 5.00% | 1.200000 | |

| | | | | | | | |
|---|--------------|-----------------|-----------------------------------|--------------|---------|----------------|-------------------|
| | | | Magnesium Nitrate | 10377-60-3 | 10.00% | 2.400000 | |
| GBW-5 | Baker Hughes | Breaker | Ammonium Persulfate | 7727-54-0 | 100.00% | 70.000000 | SmartCare Product |
| Enzyme G-I | Baker Hughes | Breaker | Hemicellulase Enzyme Concentrate | 9025-56-3 | 3.00% | 18.259782 | SmartCare Product |
| | | | Water | 7732-18-5 | 97.00% | 590.399618 | |
| Clay Master-5C (Tote) | Baker Hughes | Clay Control | Oxyakylated Amine Quat | 138879-94-4 | 60.00% | 584.341560 | |
| XLW-10A | Baker Hughes | Crosslinker | Ethylene Glycol | 107-21-1 | 30.00% | 352.800000 | SmartCare Product |
| | | | Sodium Hydroxide | 1310-73-2 | 10.00% | 117.600000 | |
| | | | Sodium Tetraborate | 1330-43-4 | 30.00% | 352.800000 | |
| GW-3LDF | Baker Hughes | Gelling Agent | 1-Butoxy-2-Propanol | 5131-66-8 | 5.00% | 155.512500 | SmartCare Product |
| | | | Cyrstalline Silica, Quartz (SiO2) | 14808-60-7 | 5.00% | 155.512500 | |
| | | | Guar Gum | 9000-30-0 | 60.00% | 1,866.150000 | |
| | | | Isotridecanol, ethoxylated | 9043-30-5 | 5.00% | 155.512500 | |
| | | | Paraffinic Petroleum Distillate | 64742-55-8 | 30.00% | 933.075000 | |
| | | | Petroleum Distillates | 64742-47-8 | 30.00% | 933.075000 | |
| Sand, White, 20/40 | Baker Hughes | Proppant | Crystalline Silica (Quartz) | 14808-60-7 | 100.00% | 202,440.000000 | |
| ScaleSorb 3, (25# pail) | Baker Hughes | Scale Inhibitor | Amino Alkyl Phosphonic Acid | Trade Secret | 30.00% | 37.500000 | SmartCare Product |
| | | | Crystalline Silica: Quartz (SiO2) | 14808-60-7 | 1.00% | 1.250000 | |
| | | | Diatomaceous Earth, Calcined | 91053-39-3 | 100.00% | 125.000000 | |
| | | | Phosphonic Acid | 13598-36-2 | 1.00% | 1.250000 | |
| 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. | | | | | | | |
| | | | 2-Butoxy-1-Propanol | 15821-83-7 | | 2.488200 | |
| | | | Water | 7732-18-5 | | 235.200000 | |

* 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)