## Hydraulic Fracturing Fluid Product Component Information Disclosure

| Last Fracture Date         | 04/30/2013      |
|----------------------------|-----------------|
| State:                     | California      |
| County:                    | Kern            |
| API Number:                | 04-030-44982    |
| Operator Name:             | Aera Energy Llc |
| Well Name and Number:      | 928NR-18        |
| Longitude:                 | -119.7576817    |
| Latitude:                  | 35.4850484      |
| Long/Lat Projection:       | NAD83           |
| Production Type:           | Oil             |
| True Vertical Depth (TVD): | 1,671           |
| Total Water Volume (gal)*: | 27,216          |

## Hydraulic Fracturing Fluid Composition:

| Trade Name               | Supplier        | Purpose       | Ingredients                            | Chemical Abstract<br>Service Number<br>(CAS #) | Maximum Ingredient Concentration in Additive (% by mass)** | Maximum Ingredient Concentration in HF Fluid (% by mass)** | Comments          |
|--------------------------|-----------------|---------------|--|--|--|--|-------------------|
| Water                    | Operator        | Carrier       | Water                                  | 7732-18-5                                      | 100.00%  | 81.35055%  |                   |
| X-Cide 207               | Baker<br>Hughes | Biocide       | 2-Methyl-4-Isothiazolin-3-One          | 2682-20-4                                      | 5.00%  | 0.00011%   |                   |
|                          |                 |               | 5-Chloro-2-Methyl-4-Isothiazolin-3-One | 26172-55-4                                     | 10.00%   | 0.00022%   |                   |
|                          |                 |               | Crystalline Silica: Cristobalite       | 14464-46-1                                     | 1.00%  | 0.00002%   |                   |
|                          |                 |               | Crystalline Silica: Quartz (SiO2)      | 14808-60-7                                     | 1.00%  | 0.00002%   |                   |
|                          |                 |               | Diatomaceous Earth, Calcined           | 91053-39-3                                     | 60.00%   | 0.00129%   |                   |
|                          |                 |               | Magnesium Chloride                     | 7786-30-3                                      | 5.00%  | 0.00011%   |                   |
|                          |                 |               | Magnesium Nitrate                      | 10377-60-3                                     | 10.00%   | 0.00022%   |                   |
| GBW-5                    | Baker<br>Hughes | Breaker       | Ammonium Phosphate                     | 7727-54-0                                      | 100.00%  | 0.00717%   | SmartCare Product |
| Enzyme G-I               | Baker<br>Hughes | Breaker       | Hemicellulase Enzyme Concentrate       | 9025-56-3                                      | 3.00%  | 0.00412%   | SmartCare Product |
|                          |                 |               | Water                                  | 7732-18-5                                      | 97.00%   | 0.13337%   |                   |
| Clay Master-5C<br>(Tote) | Baker<br>Hughes | Clay Control  | Oxyakylated Amine Quat                 | 138879-94-4                                    | 60.00%   | 0.05290%   |                   |
| XLW-10A                  | Baker<br>Hughes | Crosslinker   | Ethylene Glycol                        | 107-21-1                                       | 30.00%   | 0.03049%   |                   |
|                          |                 |               | Sodium Hydroxide                       | 1310-73-2                                      | 10.00%   | 0.01016%   |                   |
|                          |                 |               | Sodium Tetraborate                     | 1330-43-4                                      | 30.00%   | 0.03049%   |                   |
| GW-3LDF                  | Baker<br>Hughes | Gelling Agent | 1-Butoxy-2-Propanol                    | 5131-66-8                                      | 5.00%  | 0.01287%   | SmartCare Product |
|                          |                 |               | Cyrstalline Silica, Quartz (SiO2)      | 14808-60-7                                     | 5.00%  | 0.01287%   |                   |

|  |                 |          | Guar Gum                        | 9000-30-0  | 60.00%  | 0.15439%      |  |
|--|-----------------|----------|---------------------------------|------------|---------|---------------|--|
|  |                 |          | Isotridecanol, ethoxylated      | 9043-30-5  | 5.00%   | 0.01287%      |  |
|  |                 |          | Paraffinic Petroleum Distillate | 64742-55-8 | 30.00%  | 0.07719%      |  |
|  |                 |          | Petroleum Distillates           | 64742-47-8 | 30.00%  | 0.07719%      |  |
| Sand, White, 20/40   | Baker<br>Hughes | Proppant | Crystalline Silica (Quartz)     | 14808-60-7 | 100.00% | 18.01086%     |  |
| 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 |         | 0.0002058486% |  |
|  |                 |          | Water                           | 7732-18-5  |         | 0.0203267428% |  |

<sup>\*</sup> Total Water Volume sources may include fresh water, produced water, and/or recycled water

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

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