

Hydraulic Fracturing Fluid Product Component Information Disclosure

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|----------------------------|------------------------|
| Fracture Date | 1/4/2012 |
| State: | California |
| County: | Kern |
| API Number: | 04-030-44500 |
| Operator Name: | ExxonMobil Corporation |
| Well Name and Number: | Hill 631JW |
| Longitude: | -119.756049 |
| Latitude: | 35.482923 |
| Long/Lat Projection: | WGS84 |
| Production Type: | Oil |
| True Vertical Depth (TVD): | 2,873 |
| Total Water Volume (gal)*: | 268,254 |

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 |
|---------------------------|--------------|-------------------------|---------------------------------------|--|--|--|-----------------|
| Water | | | | 7732-18-5 | 100.00% | 77.59976% | Density = 8.330 |
| Sand | BJ Services | Proppant | Crystalline Silica (quartz) | 14808-60-7 | 99.90% | 21.30789% | |
| GW3-LDF | BJ Services | Gellant - Water | | | | | |
| | | | Petroleum Distillate Blend | Proprietary | 70.00% | 0.33865% | |
| | | | Guar Gum | 009000-30-0 | 40.00% | 0.19352% | |
| XLW-32 | BJ Services | Cross Linker | | | | | |
| | | | Methanol | 67-56-1 | 90.00% | 0.05714% | |
| | | | Boric Oxide | 68951-67-7 | 20.00% | 0.01270% | |
| BF-7L | Baker Hughes | Special Buffer Solution | Potassium Carbonate | 584-08-7 | 60.00% | 0.09491% | |
| ENZYME G Conc (GBW-12 CD) | BJ Services | Breaker - Water | Hemicellulase Enzyme | N.A. | 100.00% | 0.00319% | |
| KCL | BJ Services | Base Fluid/Salt | Potassium Chloride | 7447-40-7 | 100.00% | 0.00319% | |
| GBW-5 | BJ Services | Breaker - Water | Ammonium Persulfate | 7727-54-0 | 99.00% | 0.01535% | |
| XCIDE-207 | Baker Hughes | Bacteria Control | | | | | |
| | | | 5-chloro-2methyl-4-isothiazolin-3-one | 26172-55-4 | 10.00% | 0.00010% | |
| | | | 2-Methyl-4-isothiazoline-3-one | 2682-20-4 | 5.00% | 0.00005% | |
| | | | Magnesium nitrate | 10377-60-3 | 10.00% | 0.00010% | |
| | | | Magnesium chloride | 7786-30-3 | 5.00% | 0.00005% | |
| | | | Diatomaceous earth, calcined | 91053-39-3 | 60.00% | 0.00063% | |
| | | | Crystalline silica: cristobalite | 14464-46-1 | 1.00% | 0.00001% | |
| | | | Crystalline silica: Quartz (SiO2) | 14808-60-7 | 1.00% | 0.00001% | |
| ENZYME G-1 | Baker Hughes | Special Breaker | N.A. | N.A. | 100.00% | 0.08707% | |
| Ferrotrol 300L | BJ Services | Iron Control | Citric Acid | 000077-92-9 | 70.00% | 0.00101% | |
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* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

All component information listed was obtained from the supplier’s Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration’s (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

