

# Hydraulic Fracturing Fluid Product Component Information Disclosure

<b>Last Fracture Date</b>	<b>03/17/2011</b>
<b>State:</b>	<b>California</b>
<b>County:</b>	<b>Sutter</b>
<b>API Number:</b>	<b>04-101-20871</b>
<b>Operator Name:</b>	<b>Venoco Incorporated</b>
<b>Well Name and Number:</b>	<b>Buttes Community 1 34-6</b>
<b>Longitude:</b>	<b>-121.854031</b>
<b>Latitude:</b>	<b>39.187918</b>
<b>Long/Lat Projection:</b>	<b>NAD83</b>
<b>Production Type:</b>	<b>Gas</b>
<b>True Vertical Depth (TVD):</b>	<b>4,410</b>
<b>Total Water Volume (gal)*:</b>	<b>12,642</b>

## 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	Operator	Carrier	Water	7732-18-5	100.00%	61.89688%	
X-Cide 207	Baker Hughes	Biocide	2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.00070%	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	0.00141%	
			Crystalline Silica: Cristobalite	14464-46-1	1.00%	0.00014%	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.00014%	
			Diatomaceous Earth, Calcined	91053-39-3	60.00%	0.00846%	
			Magnesium Chloride	7786-30-3	5.00%	0.00070%	
			Magnesium Nitrate	10377-60-3	10.00%	0.00141%	
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.02203%	SmartCare Product
			Water	7732-18-5	97.00%	0.71239%	
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	100.00%	0.02349%	SmartCare Product
			Crystalline Silica Quartz	14808-60-7	15.00%	0.00352%	
BC-3	Baker Hughes	Breaker Catalyst	Non-Hazardous Ingredient	Trade Secret	100.00%	0.06460%	
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	50.00%	0.09600%	SmartCare Product
XLW-32	Baker Hughes	Crosslinker	Boric Oxide	1303-86-2	20.00%	0.01560%	
			Methanol	67-56-1	90.00%	0.07019%	
GW-3LDF	Baker Hughes	Gelling Agent	Guar Gum	9000-30-0	40.00%	0.56137%	SmartCare Product

			Petroleum Distillate Blend	Trade Secret	70.00%	0.98239%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	35.23325%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.04073%	SmartCare Product
			Surfactants	Trade Secret	60.00%	0.08147%	
			Water	7732-18-5	70.00%	0.09504%	
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.							
			Acetyl Triethyl Citrate	77-89-4		0.0646007315%	
			Crystalline Silica	14808-60-7			
			Cured Acrylic Resin	Trade Secret		0.0234888348%	
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Poly (oxy-1,2-ethanediyl)	24938-91-8			
			Quaternary Ammonium Compounds bis[Hydrogenated Tallow Alkyl] Dimethyl Salts With Bentonite	68953-58-2			

\* 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%

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