Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	06/23/2011
State:	California
County:	Glenn
API Number:	04-021-20936
Operator Name:	Venoco Incorporated
Well Name and Number:	Carriere 18-3
Longitude:	-122.013264
Latitude:	39.504953
Long/Lat Projection:	NAD83
Production Type:	Gas
True Vertical Depth (TVD):	7,280
Total Water Volume (gal)*:	31,752

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%	77.62934%	
	Baker Hughes	Biocide	2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.00018%	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	0.00035%	
			Crystalline Silica: Cristobalite	14464-46-1	1.00%	0.00004%	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.00004%	
			Diatomaceous Earth, Calcined	91053-39-3	60.00%	0.00211%	
			Magnesium Chloride	7786-30-3	5.00%	0.00018%	
		Magnesium Nitrate	10377-60-3	10.00%	0.00035%		
1 7	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00293%	SmartCare Product
			Water	7732-18-5	97.00%	0.09486%	
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	100.00%	0.00293%	SmartCare Product
			Crystalline Silica Quartz	14808-60-7	15.00%	0.00044%	
BC-3	Baker Hughes	Breaker Catalyst	Non-Hazardous Ingredient	Trade Secret	100.00%	0.00538%	
BF-7L, Tote	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	50.00%	0.05821%	SmartCare Product
XLW-32	Baker Hughes	Crosslinker	Boric Oxide	1303-86-2	20.00%	0.00779%	
			Methanol	67-56-1	90.00%	0.03505%	
GW-3LDF	Baker Hughes	Gelling Agent	Guar Gum	9000-30-0	40.00%	0.26463%	SmartCare Product

	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00209%	
			P/F Resin	9003-35-4	5.00%	1.04477%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	20.26847%	
GasFlo G, 330 gal tote Baker Hughes		Surfactant	Methanol	67-56-1	30.00%	0.02034%	SmartCare Product
			Surfactants	Trade Secret	60.00%	0.04068%	
			Water	7732-18-5	70.00%	0.04746%	
Ingredients shown	above are su	bject to 29 CFR 1910.120	O(i) and appear on Material Safety Data	Sheets (MSDS). Ingredier	nts shown below are	Non-MSDS.	
			Acetyl Triethyl Citrate	77-89-4		0.0053763563%	
			Crystalline Silica	14808-60-7			
			Cured Acrylic Resin	Trade Secret		0.0029322658%	
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Poly (oxy-1,2-ethanediyl)	24938-91-8			
			Quaternary Ammonium Compounds bis[Hydrogenated Tallow Alkyl] Dimethyl	68953-58-2			
			Salts With Bentonite				

Trade Secret

70.00%

0.46310%

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

Petroleum Distillate Blend

^{*} 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%