

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	06/20/2012
State:	California
County:	Ventura
API Number:	04-111-22159
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Shaw 5
Longitude:	-118.92536
Latitude:	34.35813
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	6,401
Total Water Volume (gal)*:	179,340

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%	69.31218%	
Superset-W, 55 gal drum	Baker Hughes	Activator	Methanol	67-56-1	50.00%	0.02743%	
			Poly (Oxyethylene) Nonylphenol Ether	9016-45-9	50.00%	0.02743%	
Alpha 125	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00833%	SmartCare Product
GBW-5	Baker Hughes	Breaker	Ammonium Persulfate	7727-54-0	100.00%	0.00209%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00499%	SmartCare Product
			Water	7732-18-5	97.00%	0.16120%	
BC-3	Baker Hughes	Breaker Catalyst	No Hazardous Ingredients	Trade Secret	100.00%	0.01840%	
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.05856%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00098%	
			Water	7732-18-5	60.00%	0.05856%	
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.06922%	
XLW-32, 260 gal tote	Baker Hughes	Crosslinker	Boric Acid (H3BO3)	10043-35-3	30.00%	0.01543%	
			Methanol	67-56-1	60.00%	0.03087%	
			Methyl Borate	121-43-7	30.00%	0.01543%	
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	0.02799%	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	0.02799%	
			Guar Gum	9000-30-0	60.00%	0.33589%	

			Isotridecanol, ethoxylated	9043-30-5	5.00%	0.02799%	
			Paraffinic Petroleum Distillate	64742-55-8	30.00%	0.16795%	
			Petroleum Distillates	64742-47-8	30.00%	0.16795%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	13.79290%	
Sand, White, 100 mesh	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	1.38133%	
Super LC, 20/40	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00138%	
			P/F Resin	9003-35-4	5.00%	0.69025%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	13.39080%	
FSA-1	Baker Hughes	StimPlus	Ethanol	64-17-5	5.00%	0.00444%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.02835%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.05670%	
			Water	7732-18-5	50.00%	0.04725%	
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		0.0004478599%	
			Acetyl Triethyl Citrate	77-89-4		0.0183976349%	
			Methanol	67-56-1		0.0000693761%	
			Water	7732-18-5		0.0208128286%	
* 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)							