

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	02/24/2012
State:	California
County:	Kern
API Number:	04-030-46395
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Vintage Nurseries 34-13H
Longitude:	-119.25988
Latitude:	35.53137
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	7,882
Total Water Volume (gal)*:	361,074

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%	79.36871%	
Alpha 125, 263 gl tote	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00759%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00462%	SmartCare Product
			Water	7732-18-5	97.00%	0.14947%	
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	60.00%	0.00047%	SmartCare Product
			Crystalline Silica Quartz	14808-60-7	30.00%	0.00024%	
BF-7L, Tote	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.43006%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00717%	
			Water	7732-18-5	60.00%	0.43006%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.02481%	
			Glyoxal	107-22-2	30.00%	0.07443%	
			Sodium Hydroxide	1310-73-2	5.00%	0.01241%	
			Sodium Tetraborate	1330-43-4	10.00%	0.02481%	
GLFC-1B	Baker Hughes	Gelling Agent	Alkanes / Alkenes	Multiple	45.00%	0.30427%	
			Guar Gum	9000-30-0	50.00%	0.33807%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	17.94558%	
Sand, White, 100	Baker	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	0.63404%	

mesh	Hughes						
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.04798%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.09597%	
			Water	7732-18-5	50.00%	0.07997%	
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.							
			Crystalline Silica	14808-60-7			
			Cured Acrylic Resin	Trade Secret		0.0002372707%	
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Methanol	67-56-1		0.0000632534%	
			Poly (oxy-1,2-ethanediyl)	24938-91-8			
			Quaternary Ammonium Compounds bis[Hydrogenated Tallow Alkyl] Dimethyl Salts With Bentonite	68953-58-2			
			Sodium Bicarbonate	144-55-8			
			Water	7732-18-5		0.0189760126%	
* 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)							