Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	05/25/2012
State:	California
County:	Kern
API Number:	04-030-46675
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Goodshow 11H
Longitude:	-119.34973
Latitude:	35.63027
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	8,369
Total Water Volume (gal)*:	290,388

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%	72.55985%	
Alpha 125	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00483%	SmartCare Product
	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00461%	SmartCare Product
			Water	7732-18-5	97.00%	0.14906%	
BC-3	Baker Hughes	Breaker Catalyst	No Hazardous Ingredients	Trade Secret	100.00%	0.03767%	
BF-7L, Tote	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.03585%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00060%	
			Water	7732-18-5	60.00%	0.03585%	
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.21329%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00355%	
			Water	7732-18-5	60.00%	0.21329%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.02224%	
			Glyoxal	107-22-2	30.00%	0.06673%	
			Sodium Hydroxide	1310-73-2	5.00%	0.01112%	
			Sodium Tetraborate	1330-43-4	10.00%	0.02224%	
GLFC-1B	Baker Hughes	Gelling Agent	Alkanes / Alkenes	Multiple	45.00%	0.29476%	
			Guar Gum	9000-30-0	50.00%	0.32751%	

GW-4LBF	Baker Hughes	Gelling Agent	Guar Gum	9000-30-0	60.00%	0.12476%	SmartCare Product
			Paraffinic Petroleum Distillate	64742-55-8	60.00%	0.12476%	
			Petroleum Distillate	64742-47-8	60.00%	0.12476%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	19.81223%	
Sand, White, 100 mesh	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	0.38060%	
Super LC, 20/40	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00050%	
			P/F Resin	9003-35-4	5.00%	0.25126%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	4.87438%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.04972%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.09944%	
			Water	7732-18-5	50.00%	0.08287%	
PSA-4L, 55 gl drum	Baker Hughes	Suspension Additive	1-Butoxy-2-Propanol	5131-66-8	100.00%	0.00103%	
Ingredients shown a	above are sul	bject to 29 CFR 1910.120	0(i) and appear on Material Safety Data	Sheets (MSDS). Ingredi	ients shown below ar	e Non-MSDS.	
			2-Butoxy-1-Propanol	15821-83-7		0.0000516224%	
			Acetyl Triethyl Citrate	77-89-4		0.0376660185%	
			Crystalline Silica	14808-60-7			
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Methanol	67-56-1		0.0000402361%	
			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		0.0207929548%	
			Water	7732-18-5		0.0120708373%	

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

^{**} Information is based on the maximum potential for concentration and thus the total may be over 100%