Hydraulic Fracturing Fluid Product Component Information Disclosure

03/09/2012	Last Fracture Date
California	State:
Kern	County:
04-030-46388	API Number:
Vintage Prod Of Cal	Operator Name:
Blaze 5H	Well Name and Number:
-119.27913	Longitude:
35.55061	Latitude:
NAD27	Long/Lat Projection:
Oil	Production Type:
7,940	True Vertical Depth (TVD):
651,000	Total Water Volume (gal)*:

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%	83.85559%	
Alpha 125, 263 gl tote	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00294%	SmartCare Product
	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00226%	SmartCare Product
			Water	7732-18-5	97.00%	0.07297%	
BC-3	Baker Hughes	Breaker Catalyst	No Hazardous Ingredients	Trade Secret	100.00%	0.00788%	
BF-7L, Tote	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.13582%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00226%	
			Water	7732-18-5	60.00%	0.13582%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.01204%	
			Glyoxal	107-22-2	30.00%	0.03611%	
			Sodium Hydroxide	1310-73-2	5.00%	0.00602%	
			Sodium Tetraborate	1330-43-4	10.00%	0.01204%	
GLFC-1B	Baker Hughes	Gelling Agent	Alkanes / Alkenes	Multiple	45.00%	0.14557%	
			Guar Gum	9000-30-0	50.00%	0.16174%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	12.50795%	
Sand, White, 100 mesh	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	0.41712%	

Prime Plus, 30/50	Baker Hughes	Proppant	Quartz (SiO2)	14808-60-7	100.00%	0.53793%	
' ' '	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00010%	
			P/F Resin	9003-35-4	5.00%	0.05141%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	0.99744%	
	Baker Hughes	Proppant	Crystalline Silica Quartz	14808-60-7	98.00%	0.73247%	
			Hexamethylenetetramine	100-97-0	1.00%	0.00747%	
			Phenolic Resin	9003-35-4	5.00%	0.03737%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.02280%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.04560%	
			Water	7732-18-5	50.00%	0.03800%	
Ingredients shown a	bove are sul	oject to 29 CFR 1910.120	0(i) and appear on Material Safety Data	Sheets (MSDS). Ingredie	nts shown below are	Non-MSDS.	
			Acetyl Triethyl Citrate	77-89-4		0.0078836103%	
			Crystalline Silica	14808-60-7			
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Methanol	67-56-1		0.0000244843%	
			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		0.0073452890%	

^{*} Total Water Volume sources may include fresh water, produced water, and/or recycled water

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%