## Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	05/08/2012
State:	California
County:	Kern
API Number:	04-030-46674
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Good Show 10H
Longitude:	-119.33424
Latitude:	35.63118
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	7,965
Total Water Volume (gal)*:	347,508

## 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%	71.64437%	
Alpha 125	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00523%	SmartCare Product
	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00366%	SmartCare Product
			Water	7732-18-5	97.00%	0.11839%	
BC-3	Baker Hughes	Breaker Catalyst	No Hazardous Ingredients	Trade Secret	100.00%	0.02734%	
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.31352%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00523%	
			Water	7732-18-5	60.00%	0.31352%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol D-Glucitol	50-70-4	10.00%	0.02319%	
			Glyoxal	107-22-2	30.00%	0.06957%	
			Sodium Hydroxide	1310-73-2	5.00%	0.01159%	
			Sodium Tetraborate	1330-43-4	10.00%	0.02319%	
GLFC-1B	Baker Hughes	Gelling Agent	Alkanes / Alkenes	Multiple	45.00%	0.30294%	
			Guar Gum	9000-30-0	50.00%	0.33660%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	20.91333%	
Sand, White, 100 mesh	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	0.43269%	

Super LC, 20/40	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00051%	
			P/F Resin	9003-35-4	5.00%	0.25607%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	4.96775%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.04084%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.08168%	
			Water	7732-18-5	50.00%	0.06807%	
PSA-4L, 55 gl drum	Baker Hughes	Suspension Additive	1-Butoxy-2-Propanol	5131-66-8	100.00%	0.00027%	
Ingredients shown a	ibove are sul	ject to 29 CFR 1910.120	00(i) and appear on Material Safety Data	Sheets (MSDS). Ingredie	nts shown below are	Non-MSDS.	_
			2-Butoxy-1-Propanol	15821-83-7		0.0000135935%	
			Acetyl Triethyl Citrate	77-89-4		0.0273390525%	
			Crystalline Silica	14808-60-7			
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Methanol	67-56-1		0.0000435423%	
			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		0.0130626890%	

<sup>\*</sup> 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)

<sup>\*\*</sup> Information is based on the maximum potential for concentration and thus the total may be over 100%