

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	03/20/2013
State:	California
County:	Kern
API Number:	04-030-50008
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Betty Boop 32H
Longitude:	-119.35346
Latitude:	35.63848
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	7,925
Total Water Volume (gal)*:	440,370

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%	79.00770%	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	15.00%	0.24963%	
			Water	7732-18-5	85.00%	1.41456%	
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00128%	SmartCare Product
			Water	7732-18-5	97.00%	0.04142%	
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	60.00%	0.00052%	SmartCare Product
			Crystalline Silica Quartz	14808-60-7	30.00%	0.00026%	
BF-8L	Baker Hughes	Buffer	Monoethanolamine	141-43-5	85.00%	0.17356%	
CI-27	Baker Hughes	Corrosion Inhibitor	Fatty Acids	Trade Secret	30.00%	0.00192%	SmartCare Product
			Methanol	67-56-1	60.00%	0.00384%	
			Olefin	Trade Secret	5.00%	0.00032%	
			Polyoxyalkylenes	Trade Secret	30.00%	0.00192%	
			Propargyl Alcohol	107-19-7	10.00%	0.00064%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.00316%	
			Glyoxal	107-22-2	30.00%	0.00947%	
			Sodium Hydroxide	1310-73-2	5.00%	0.00158%	
			Sodium Tetraborate	1330-43-4	10.00%	0.00316%	
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	0.03334%	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	0.03334%	
			Guar Gum	9000-30-0	60.00%	0.40007%	

