

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	06/06/2012
State:	California
County:	Kern
API Number:	04-030-46641
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Twisselman 18-14W
Longitude:	-119.69132
Latitude:	35.3984
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	7,142
Total Water Volume (gal)*:	354,564

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%	81.26188%	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	15.00%	0.16144%	
			Water	7732-18-5	85.00%	0.91480%	
12% HCl - 3% HF (ABF30)	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	12.00%	0.24757%	
			Hydrofluoric Acid	7664-39-3	3.00%	0.06189%	
One Shot Acid Plus	Baker Hughes	Acidizing	Ethylbenzene	100-41-4	8.00%	0.08577%	
			Hydrochloric Acid (15% solution)	7647-01-0	90.00%	0.96494%	
			Xylene	1330-20-7	30.00%	0.32165%	
Alpha 125	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00545%	SmartCare Product
GBW-5	Baker Hughes	Breaker	Ammonium Persulfate	7727-54-0	100.00%	0.00220%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00124%	SmartCare Product
			Water	7732-18-5	97.00%	0.04024%	
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	60.00%	0.00132%	SmartCare Product
			Crystalline Silica Quartz	14808-60-7	30.00%	0.00066%	
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.04870%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00081%	
			Water	7732-18-5	60.00%	0.04870%	
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.10627%	

CI-27	Baker Hughes	Corrosion Inhibitor	Fatty Acids	Trade Secret	30.00%	0.00104%	SmartCare Product
			Methanol	67-56-1	60.00%	0.00208%	
			Olefin	Trade Secret	5.00%	0.00017%	
			Polyoxyalkylenes	Trade Secret	30.00%	0.00104%	
			Propargyl Alcohol	107-19-7	10.00%	0.00035%	
CI-27 (260 gal tote)	Baker Hughes	Corrosion Inhibitor	Fatty Acids	Trade Secret	30.00%	0.00282%	SmartCare Product
			Methanol	67-56-1	60.00%	0.00564%	
			Olefin	Trade Secret	5.00%	0.00047%	
			Polyoxyalkylenes	Trade Secret	30.00%	0.00282%	
			Propargyl Alcohol	107-19-7	10.00%	0.00094%	
XLW-32, 260 gal tote	Baker Hughes	Crosslinker	Boric Acid (H3BO3)	10043-35-3	30.00%	0.00934%	
			Methanol	67-56-1	60.00%	0.01868%	
			Methyl Borate	121-43-7	30.00%	0.00934%	
FRW-18	Baker Hughes	Friction Reducer	Petroleum Distillates	64742-47-8	30.00%	0.00547%	SmartCare Product
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	0.01335%	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	0.01335%	
			Guar Gum	9000-30-0	60.00%	0.16020%	
			Isotridecanol, ethoxylated	9043-30-5	5.00%	0.01335%	
			Paraffinic Petroleum Distillate	64742-55-8	30.00%	0.08010%	
			Petroleum Distillates	64742-47-8	30.00%	0.08010%	
Ferrotrol 300L (Totes)	Baker Hughes	Iron Control	Citric Acid	77-92-9	60.00%	0.02080%	SmartCare Product
Ferrotrol 210	Baker Hughes	Iron Control	Erythorbic Acid	89-65-6	100.00%	0.01130%	SmartCare Product
NE-118, 55 gal drum	Baker Hughes	Non-emulsifier	1,2,4-Trimethylbenzene	95-63-6	5.00%	0.00023%	
			Isopropanol	67-63-0	100.00%	0.00453%	
			Light Aromatic Naphtha	64742-95-6	5.00%	0.00023%	
			Polyoxyalkylenes	Trade Secret	5.00%	0.00023%	
Sand, White, 30/50	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	6.46679%	
Sand, White, 40/70	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	2.11931%	
Super LC, 30/50	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00061%	
			P/F Resin	9003-35-4	5.00%	0.30712%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	5.95816%	
Ammonium Chloride, bulk	Baker Hughes	Salts	Ammonium Chloride	12125-02-9	100.00%	0.03117%	
Xylene	Baker Hughes	Solvent	Ethylbenzene	100-41-4	30.00%	0.02693%	
			Xylene	1330-20-7	100.00%	0.08978%	
InFlo 250W	Baker Hughes	Surfactant	2-Butoxyethanol	111-76-2	5.00%	0.00023%	
			Methanol	67-56-1	30.00%	0.00138%	
			Surfactants	Trade Secret	80.00%	0.00367%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.04527%	SmartCare Product

