

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	02/14/2013
State:	California
County:	Los Angeles Offshore
API Number:	04-237-27461
Operator Name:	Thums Long Beach Co
Well Name and Number:	B-532
Longitude:	-118.15905
Latitude:	33.75213
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	5,771
Total Water Volume (gal)*:	146,160

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%	72.59944%	
Superset-W, 330 gal tote	Baker Hughes	Activator	Methanol	67-56-1	50.00%	0.10487%	
			Poly (Oxyethylene) Nonylphenol Ether	9016-45-9	50.00%	0.10487%	
X-Cide 207	Baker Hughes	Biocide	2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.00021%	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	0.00043%	
			Crystalline Silica: Cristobalite	14464-46-1	1.00%	0.00004%	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.00004%	
			Diatomaceous Earth, Calcined	91053-39-3	60.00%	0.00257%	
			Magnesium Chloride	7786-30-3	5.00%	0.00021%	
			Magnesium Nitrate	10377-60-3	10.00%	0.00043%	
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00384%	SmartCare Product
			Water	7732-18-5	97.00%	0.12431%	
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	60.00%	0.00536%	SmartCare Product
			Crystalline Silica Quartz	14808-60-7	30.00%	0.00268%	
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.55271%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00921%	
			Water	7732-18-5	60.00%	0.55271%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.05082%	
			Glyoxal	107-22-2	30.00%	0.15246%	
			Sodium Hydroxide	1310-73-2	5.00%	0.02541%	

			Sodium Tetraborate	1330-43-4	10.00%	0.05082%	
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	0.03141%	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	0.03141%	
			Guar Gum	9000-30-0	60.00%	0.37696%	
			Isotridecanol, ethoxylated	9043-30-5	5.00%	0.03141%	
			Paraffinic Petroleum Distillate	64742-55-8	30.00%	0.18848%	
			Petroleum Distillates	64742-47-8	30.00%	0.18848%	
Super LC, 16/30	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00241%	
			P/F Resin	9003-35-4	5.00%	1.20553%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	23.38728%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.04499%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.08999%	
			Water	7732-18-5	50.00%	0.07499%	
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
			2-Butoxy-1-Propanol	15821-83-7		0.0005026165%	
			Cured Acrylic Resin	Trade Secret		0.0026808082%	