

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	2/18/2013
State:	California
County:	Kern
API Number:	04-030-49847
Operator Name:	Occidental of Elk Hills, Inc.
Well Name and Number:	82-19R
Longitude:	-119.536605
Latitude:	35.309129
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	3,069
Total Water Volume (gal)*:	21,439

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
Produced Water (Oxy Provided), YF125 Flex	Schlumberger	Activator , Surfactant , Breaker, Breaker Aid, Gelling Agent, Crosslinker, Clay Control Agent, Scale Inhibitor, Industrial Antimicrobial, Emulsion Preventer, Propping Agent	Water (Including Mix Water Supplied by Client)*	-		83.91724%	
			Crystalline silica	14808-60-7	93.79883%	15.08544%	
			Phenolic resin	9003-35-4	1.91426%	0.30787%	
			Guar gum	9000-30-0	0.94185%	0.15148%	
			Propan-2-ol	67-63-0	0.75913%	0.12209%	
			Alcohol, C7-9-iso, C8, ethoxylated	78330-19-5	0.58224%	0.09364%	
			2,2',2"-nitrilotriethanol	102-71-6	0.47052%	0.07567%	
			Potassium borate	1332-77-0	0.35735%	0.05747%	
			Diammonium peroxidisulphate	7727-54-0	0.28871%	0.04643%	
			Zirconium dichloride oxide	7699-43-6	0.16306%	0.02622%	
			Glycerol	56-81-5	0.15881%	0.02554%	
			Ethane-1,2-diol	107-21-1	0.14577%	0.02344%	
			2-Propenoic acid, polymer with sodium phosphinate	129898-01-7	0.13988%	0.02250%	
			Potassium hydroxide	1310-58-3	0.11673%	0.01877%	
			Polyethylene glycol monohexyl ether	31726-34-8	0.10201%	0.01641%	
			Crosslinked PO/EO-block polymer	68123-18-2	0.03824%	0.00615%	
			Vinylidene chloride/methylacrylate copolymer	25038-72-6	0.03048%	0.00490%	
			Sodium chloride	7647-14-5	0.02871%	0.00462%	
			Non-crystalline silica	7631-86-9	0.02006%	0.00323%	
			Tetrakis(hydroxymethyl)phosphonium	55566-30-8	0.01750%	0.00281%	

