

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	10/09/2012
State:	California
County:	Kern
API Number:	04-030-44776
Operator Name:	Aera Energy Llc
Well Name and Number:	512GR3-29
Longitude:	-119.7415787
Latitude:	35.4684825
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	1,811
Total Water Volume (gal)*:	21,336

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%	77.54857%	
X-Cide 207	Baker Hughes	Biocide	2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.00013%	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	0.00026%	
			Crystalline Silica: Cristobalite	14464-46-1	1.00%	0.00003%	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.00003%	
			Diatomaceous Earth, Calcined	91053-39-3	60.00%	0.00157%	
			Magnesium Chloride	7786-30-3	5.00%	0.00013%	
			Magnesium Nitrate	10377-60-3	10.00%	0.00026%	
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00185%	SmartCare Product
			Water	7732-18-5	97.00%	0.05994%	
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.05661%	
XLW-10A	Baker Hughes	Crosslinker	Ethylene Glycol	107-21-1	30.00%	0.03708%	SmartCare Product
			Sodium Hydroxide	1310-73-2	10.00%	0.01236%	
			Sodium Tetraborate	1330-43-4	30.00%	0.03708%	
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	0.01147%	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	0.01147%	
			Guar Gum	9000-30-0	60.00%	0.13767%	
			Isotridecanol, ethoxylated	9043-30-5	5.00%	0.01147%	

