Hydraulic Fracturing Fluid Product Component Information Disclosure: Maximum Ingredient Weight in Pounds Format

09/08/2012	
09/00/2012	
	Last Frantisco Bata
California	Last Fracture Date
California	State:
Kern	County:
04-030-46977	API Number:
Aera Energy Llc	Operator Name:
728ZL-20	Well Name and Number:
-119.7388806	Longitude:
35.4713054	Latitude:
NAD83	Long/Lat Projection:
Oil	Production Type:
1,976	True Vertical
226 627	Depth (TVD): Total Chemical
236,637	Mass (lbs)*:
236,797	Total Max.
	Ingredient
	Mass (lbs)*:
24,453	Total Product
04.004	Volume (gal)*:
21,924	Total Water Volume (gal)*:
	Volume (gai) .



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Weight in HF Fluid (Ibs mass)	Comments
Water	Operator	Carrier	Water	7732-18-5	100.00%	182,798	
X-Cide 207	Baker Hughes	Biocide	2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.600000	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	1.200000	
			Crystalline Silica: Cristobalite	14464-46-1	1.00%	0.120000	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.120000	
			Diatomaceous Earth, Calcined	91053-39-3	60.00%	7.200000	
			Magnesium Chloride	7786-30-3	5.00%	0.600000	

			Magnesium Nitrate	10377-60-3	10.00%	1.200000		
GBW-5	Baker Hughes	Breaker	Ammonium Persulfate	7727-54-0	100.00%	20.000000 SmartCare Product		
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	7.003752 SmartCare Product		
			Water	7732-18-5	97.00%	226.454648		
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	135.756120		
XLW-10A	Baker Hughes	Crosslinker	Ethylene Glycol	107-21-1	30.00%	81.900000 SmartCare Product		
			Sodium Hydroxide	1310-73-2	10.00%	27.300000		
			Sodium Tetraborate	1330-43-4	30.00%	81.900000		
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	39.715500 SmartCare Product		
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	39.715500		
			Guar Gum	9000-30-0	60.00%	476.586000		
			Isotridecanol, ethoxylated	9043-30-5	5.00%	39.715500		
			Paraffinic Petroleum Distillate	64742-55-8	30.00%	238.293000		
			Petroleum Distillates	64742-47-8	30.00%	238.293000		
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	52,280.000000		
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		0.635448		
			Water	7732-18-5		54.600000		

^{*} Total Chemical Mass is the total amount of Trade Name volume, supplied to the customer, converted to pounds.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

^{*} Total Max. Ingredient Mass is the summation of all masses listed in the Maximum Ingredient Weight (pounds) column.

^{*} Total Product Volume is the total amount of Water plus Trade Name volume in gallons supplied to the customer or Baker Hughes.

^{*} Total Water Volume is the total amount of water volume in gallons used on the hydraulic fracture treatment.

^{**} Information is based on the maximum potential for concentration and thus the total may be over 100%