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

Last Fracture Date	07/06/2012
State:	California
County:	Kern
API Number:	04-030-47006
Operator Name:	Aera Energy Llc
Well Name and Number:	744NL-29
Longitude:	-119.7349248
Latitude:	35.463995
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	1,670
Total Chemical Mass (lbs)*:	83,191
Total Max. Ingredient Mass (lbs)*:	83,220
Total Product Volume (gal)*:	9,969
Total Water Volume (gal)*:	9,912

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 (lbs mass)	Comments
Water	Operator	Carrier	Water	7732-18-5	100.00%	82,644	
X-Cide 207	Baker Hughes	Biocide	2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.300000	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	0.600000	
			Crystalline Silica: Cristobalite	14464-46-1	1.00%	0.060000	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.060000	
			Diatomaceous Earth, Calcined	91053-39-3	60.00%	3.600000	
			Magnesium Chloride	7786-30-3	5.00%	0.300000	

			Magnesium Nitrate	10377-60-3	10.00%	0.600000	
GBW-5	Baker Hughes	Breaker	Ammonium Persulfate	7727-54-0	100.00%	5.000000	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	2.751474	SmartCare Product
			Water	7732-18-5	97.00%	88.964326	
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	59.024400	
XLW-10A	Baker Hughes	Crosslinker	Ethylene Glycol	107-21-1	30.00%	34.650000	SmartCare Product
			Sodium Hydroxide	1310-73-2	10.00%	11.550000	
			Sodium Tetraborate	1330-43-4	30.00%	34.650000	
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	11.484000	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	11.484000	
			Guar Gum	9000-30-0	60.00%	137.808000	
			Isotridecanol, ethoxylated	9043-30-5	5.00%	11.484000	
			Paraffinic Petroleum Distillate	64742-55-8	30.00%	68.904000	
			Petroleum Distillates	64742-47-8	30.00%	68.904000	

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		0.183744	
			Water	7732-18-5		23.100000	

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

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