Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	**05/10/2012**
State:	**California**
County:	**Kern**
API Number:	**04-030-46039**
Operator Name:	**Aera Energy Llc**
Well Name and Number:	**754ZL-29**
Longitude:	**-119.7321334**
Latitude:	**35.4641563**
Long/Lat Projection:	**NAD83**
Production Type:	**Oil**
True Vertical Depth (TVD):	**1,900**
Total Water Volume (gal)*:	**20,706**

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%	76.29941%	
GBW-5	Baker Hughes	Breaker	Ammonium Persulfate	7727-54-0	100.00%	0.00442%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00276%	SmartCare Product
			Water	7732-18-5	97.00%	0.08936%	
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.05739%	
XLW-10A	Baker Hughes	Crosslinker	Ethylene Glycol	107-21-1	30.00%	0.03202%	SmartCare Product
			Sodium Hydroxide	1310-73-2	10.00%	0.01067%	
			Sodium Tetraborate	1330-43-4	30.00%	0.03202%	
GW-3LDF	Baker Hughes	Gelling Agent	Acyclic Hydrocarbon Blend	Trade Secret	60.00%	0.26899%	SmartCare Product
			Alcohols, C12-14, Ethoxylated Propoxylated	68439-51-0	5.00%	0.02242%	
			Crystalline Silica, Quartz	14808-60-7	5.00%	0.02242%	
			Guar Gum	9000-30-0	60.00%	0.26899%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	22.77812%	
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.							
			Isotridecanol, Ethoxylated (TDA-6)	9043-30-5		0.0224161632%	
			Isotridecanol, Ethoxylated (TDA-9)	9043-30-5		0.0224161632%	
			Quaternary Ammonium Compounds	68953-58-2		0.0224161632%	

			bis[Hydrogenated Tallow Alkyl] Dimethyl Salts With Bentonite				
			Water	7732-18-5		0.0437623647%	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** 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)