Hydraulic Fracturing Fluid Product Component Information Disclosure

	10/31/2012	Last Fracture Date
	California	State:
	Kern	County:
	04-030-48611	API Number:
	Aera Energy Llc	Operator Name:
Belridge lii 7155C-3		Well Name and Number:
	-119.6990436	Longitude:
	35.4376862	Latitude:
	NAD83	Long/Lat Projection:
	Oil	Production Type:
	1,211	True Vertical Depth (TVD):
	29,526	Total Water Volume (gal)*:

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	J	Maximum Ingredient Concentratio n in HF Fluid (% by mass)**	Comments
Water	Operator	Carrier	Water	7732-18-5	100.00%	70.15184%	
GBW-5	Baker Hughes	Breaker	Ammonium Phosphate	7727-54-0	100.00%	0.00570%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00128%	SmartCare Product
			Water	7732-18-5	97.00%	0.04148%	
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.04878%	
XLW-10A	Baker Hughes	Crosslinker	Ethylene Glycol	107-21-1	30.00%	0.02424%	SmartCare Product
			Sodium Hydroxide	1310-73-2	10.00%	0.00808%	
			Sodium Tetraborate	1330-43-4	30.00%	0.02424%	
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	0.00954%	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	0.00954%	
			Guar Gum	9000-30-0	60.00%	0.11454%	

			Isotridecanol, ethoxylated	9043-30-5	5.00%	0.00954%	
			Paraffinic Petroleum Distillate	64742-55-8	30.00%	0.05727%	
			Petroleum Distillates	64742-47-8	30.00%	0.05727%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	29.34512%	
ScaleSorb 3, (25# pail)	Baker Hughes	Scale Inhibitor	Amino Alkyl Phosphonic Acid	Trade Secret	30.00%	0.01710%	SmartCare Product
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.00057%	
			Diatomaceous Earth, Calcined	91053-39-3	100.00%	0.05699%	
			Phosphonic Acid	13598-36-2	1.00%	0.00057%	

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Ingredients show	yn ahovo ar	subject to 20 CEP 1	 910.1200(i) and appear on Materia	 al Safety Data Sheets	(MSDS) Ingredie	ints shown below	are Non-MSDS
mgredients silov	above are		2-Butoxy-1-Propanol	15821-83-7	(MSDS). Iligireale	0.0001527154%	are Non-Wisus.
						0.0001527154%	
			Water	7732-18-5		0.01013/1980%	

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

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

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