

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	1/26/2012
State:	Colorado
County:	Garfield
API Number:	05-045-19822
Operator Name:	Encana Oil & Gas (USA) Inc.
Well Name and Number:	SGU 8503D-36 B36 496
Longitude:	-108.113536
Latitude:	39.664206
Long/Lat Projection:	NAD83
Production Type:	Gas
True Vertical Depth (TVD):	12,092
Total Water Volume (gal)*:	8,435,616

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	Encana	Base Fluid	Water		100.00%	99.90680%	Recycled
ALPHA 1427	Baker Petrolite	Biocide	Glutaraldehyde	111-30-8	30.00%	0.01586%	
			Didecyl dimethyl ammonium chloride	7173-51-5	10.00%	0.00529%	
			Quaternary ammonium compound	68424-85-1	5.00%	0.00264%	
			Ethanol	64-17-5	5.00%	0.00264%	
FR-5	Quest Chemical, Inc.	Friction Reducer	Sodium Chloride	7647-14-5	10.00%	0.00403%	
			Ammonium chloride	12125-02-9	7.00%	0.00282%	
			Petroleum Distillates	64742-47-8	40.00%	0.01613%	
			Alcohols, C12-16, Ethoxylated	68551-12-2	7.00%	0.00282%	

* 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)