

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/8/2014
Job End Date:	5/10/2014
State:	Colorado
County:	Weld
API Number:	05-123-37301-00-00
Operator Name:	Encana Oil & Gas (USA) Inc.
Well Name and Number:	PEPPLER FARMS 1B-4H
Longitude:	-104.99976200
Latitude:	40.25816900
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,378
Total Base Water Volume (gal):	1,599,024
Total Base Non Water Volume:	0



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	7732-18-5	100.00000	90.90202	Fresh, Recycled, Reused
40/70 Mesh	Mississippi Sand, LLC	Proppant					
			Largely composed of Silica (SiO2)	14808-60-7	100.00000	3.07436	
			Remainder is made up of various other oxides and trace elements, of which CaO, MgO, and FE2O3 are the largest percentages	Not Listed	5.00000	0.15372	
40/70 Mesh	Superior Silica Sands LLC	Proppant					
			Crystalline silica (quartz)	14808-60-7	99.90000	3.22446	
40/70 Mesh	Barton Sand & Gravel Co.	Proppant					
			Crystalline Silica	14808-60-7	99.00000	2.16973	
40/70 Mesh	Preferred Sands LLC	Proppant					
			Crystalline silica (quartz)	14808-60-7	99.90000	0.16789	
FR 1205	Chem Rock Technologies, L.L.C.	Friction Reducer					
			Hydrotreated Light Distillate	64742-47-8	80.00000	0.08253	
			Polyacrylamide	05/08/9003	40.00000	0.04126	

SURF 664	Chem Rock Technologies, L.L.C.	Surfactant					
			Water	7732-18-5	65.00000	0.06689	
			NonHazardous Esters	67784-80-9	25.00000	0.02573	
			Ethoxylate	68439-45-2	25.00000	0.02573	
Hydrochloric Acid 15% Aq	Chem Rock Technologies, L.L.C.	Acid					
			Water	7732-18-5	90.00000	0.05475	
			Hydrochloric acid	7647-01-0	20.00000	0.01217	
GB 1102 L	Chem Rock Technologies, L.L.C.	Guar Breaker					
			Water	7732-18-5	75.00000	0.02240	
			Sodium Chlorite	7758-19-2	30.00000	0.00896	
			Ethylene Glycol	107-21-1	25.00000	0.00747	
Rapid Biocontrol 265LT	Chem Rock Technologies, L.L.C.	Microbiocide					
			Isopropanol	67-63-0	36.00000	0.00871	
			Glutaraldehyde	111-30-8	27.00000	0.00653	
			Water	7732-18-5	27.00000	0.00653	
			Didecyl dimethyl ammonium chloride	111-42-20	8.00000	0.00194	
			Alkyl dimethyl benzyl ammonium chloride	68424-85-1	5.50000	0.00133	
			Ethanol	64-17-5	4.00000	0.00097	
			Methanol	67-56-1	0.25000	0.00006	
CC 1503	Chem Rock Technologies, L.L.C.	Permanent Clay Stabilizer					
			Calcium chloride	10043-52-4	15.00000	0.01729	

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.

* 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%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

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