

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	09/16/2012
State:	North Dakota
County:	Mckenzie
API Number:	33-053-04034
Operator Name:	Hunt Oil Co
Well Name and Number:	Bear Butte 1-4-9H
Longitude:	-103.55105
Latitude:	47.67359
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	10,400
Total Water Volume (gal)*:	2,986,704

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%	86.32585%	
HCl, 5.1 - 7.5%	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	7.50%	0.07917%	
			Water	7732-18-5	92.50%	0.97648%	
Alpha 452	Baker Hughes	Biocide	Tetrakis(hydroxymethyl) Phosphonium Sulfate	55566-30-8	60.00%	0.01071%	
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	60.00%	0.00123%	SmartCare Product
			Crystalline Silica Quartz	14808-60-7	30.00%	0.00061%	
BF-7L, Tote	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.16428%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00274%	
			Water	7732-18-5	60.00%	0.16428%	
CI-27	Baker Hughes	Corrosion Inhibitor	Fatty Acids	Trade Secret	30.00%	0.00973%	SmartCare Product
			Methanol	67-56-1	60.00%	0.01947%	
			Olefin	Trade Secret	5.00%	0.00162%	
			Polyoxyalkylenes	Trade Secret	30.00%	0.00973%	
			Propargyl Alcohol	107-19-7	10.00%	0.00324%	
XLW-30AG, tote	Baker Hughes	Crosslinker	Petroleum Distillates	64742-47-8	60.00%	0.03077%	SmartCare Product
XLW-32, 260 gal tote	Baker Hughes	Crosslinker	Boric Acid (H3BO3)	10043-35-3	30.00%	0.00486%	
			Methanol	67-56-1	60.00%	0.00972%	

			Methyl Borate	121-43-7	30.00%	0.00486%	
FRW-14 (Small Tote)	Baker Hughes	Friction Reducer	No Hazardous Ingredients	N.A.	100.00%	0.01195%	SmartCare Product
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	0.01796%	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	0.01796%	
			Guar Gum	9000-30-0	60.00%	0.21553%	
			Isotridecanol, ethoxylated	9043-30-5	5.00%	0.01796%	
			Paraffinic Petroleum Distillate	64742-55-8	30.00%	0.10777%	
			Petroleum Distillates	64742-47-8	30.00%	0.10777%	
Ferrotrol 300L	Baker Hughes	Iron Control	Citric Acid	77-92-9	60.00%	0.02754%	SmartCare Product
NE-945, tote	Baker Hughes	Non-emulsifier	Oxyalkylated alcohol	Trade Secret	5.00%	0.00428%	SmartCare Product
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	7.69678%	
Sand, White, 40/70	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	2.53578%	
SB Prime, 20/40	Baker Hughes	Proppant	Quartz (SiO2)	14808-60-7	100.00%	1.23763%	
Scaletrol 767W	Baker Hughes	Scale Inhibitor	Methanol	67-56-1	30.00%	0.00776%	
			Organic Phosphonate	Trade Secret	30.00%	0.00776%	
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		0.0002873739%	
			Aliphatic Hydrocarbon	Trade Secret		0.0027841615%	
			Alkoxyated Amine	Trade Secret		0.0085584694%	
			Alkylene Oxide Block Polymer	Trade Secret		0.0097566552%	
			Antifoam	Trade Secret		0.0000171169%	
			Boric Oxide	1303-86-2		0.0164124975%	
			Cured Acrylic Resin	Trade Secret		0.0006135790%	
			Formaldehyde	50-00-0		0.0001711689%	
			Modified Thiourea Polymer	68527-49-1		0.0035693541%	
			Organic Sulfonic Acid	27176-87-0		0.0001711694%	
			Organophilic Clay	Trade Secret		0.0025644527%	
			Oxyalkylated Alcohol	Trade Secret		0.0002150854%	
			Polyglycol	25322-68-3		0.0016261092%	
			Polyglycol Ester	Trade Secret		0.0000955935%	
			Polymeric Suspending Agent	Trade Secret		0.0025644527%	
			Polyol Ester	Trade Secret		0.0001314411%	
			Polyquaternary Amine	Trade Secret		0.0010270163%	
			Sodium Aryl Sulfonate	119345-04-9		0.0001785113%	
			Sodium Chloride	7647-14-5		0.0006491366%	
			Sodium Sulfate	7757-82-6		0.0000089256%	
			Surfactant	Trade Secret		0.0005128905%	
			Vinyl Copolymer	Trade Secret		0.0032979767%	
			Water	7732-18-5		0.1109989849%	

* 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)