Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	**12/1/2012**
State:	**California**
County:	**Kern**
API Number:	**04-030-47787**
Operator Name:	**ExxonMobil Corporation**
Well Name and Number:	**Hill 662FW**
Longitude:	**-119.747545**
Latitude:	**35.481416**
Long/Lat Projection:	**WGS84**
Production Type:	**Oil**
True Vertical Depth (TVD):	**2,999**
Total Water Volume (gal)*:	**269,850**

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				7732-18-5	100.00%	78.09177%	Density = 8.330
Sand	BJ Services	Proppant	Crystalline Silica (quartz)	14808-60-7	99.90%	20.84817%	
GW3-LDF	BJ Services	Gellant - Water					
			Petroleum Distillate Blend	Proprietary	70.00%	0.31993%	
			Guar Gum	009000-30-0	40.00%	0.18282%	
XLW-32	BJ Services	Cross Linker					
			Methanol	67-56-1	90.00%	0.05578%	
			Boric Oxide	68951-67-7	20.00%	0.01240%	
BF-7L	Baker Hughes	Special Buffer Solution	Potassium Carbonate	584-08-7	60.00%	0.09240%	
ENZYME G Conc (GBW-12 CD)	BJ Services	Breaker - Water	Hemicellulase Enzyme	N.A.	100.00%	0.00243%	
KCL	BJ Services	Base Fluid/Salt	Potassium Chloride	7447-40-7	100.00%	0.00243%	
GBW-5	BJ Services	Breaker - Water	Ammonium Persulfate	7727-54-0	99.00%	0.01470%	
XCIDE-207	Baker Hughes	Bacteria Control					
			5-chloro-2methyl-4-isothiazolin-3-one	26172-55-4	10.00%	0.00000%	
			2-Methyl-4-isothiazoline-3-one	2682-20-4	5.00%	0.00000%	
			Magnesium nitrate	10377-60-3	10.00%	0.00000%	
			Magnesium chloride	7786-30-3	5.00%	0.00000%	
			Diatomaceous earth, calcined	91053-39-3	60.00%	0.00000%	
			Crystalline silica: cristobalite	14464-46-1	1.00%	0.00000%	
			Crystalline silica: Quartz (SiO2)	14808-60-7	1.00%	0.00000%	
ENZYME G-1	Baker Hughes	Special Breaker	N.A.	N.A.	100.00%	0.06627%	

* 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)