## Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	1/23/2012
State:	California
County:	Kern
API Number:	04-030-44506
Operator Name:	ExxonMobil Corporation
Well Name and Number:	Hill 621EW
Longitude:	-119.757791
Latitude:	35.483308
Long/Lat Projection:	WGS84
Production Type:	Oil
True Vertical Depth (TVD):	2,878
Total Water Volume (gal)*:	265,734

## Hydraulic Fracturing Fluid Composition:

Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
			7732-18-5	100.00%	79.05078%	Density = 8.330
BJ Services	Proppant	Crystalline Silica (quartz)	14808-60-7	99.90%	19.86901%	
BJ Services	Gellant - Water					
		Petroleum Distillate Blend	Proprietary	70.00%	0.33311%	
		Guar Gum	009000-30-0	40.00%	0.19035%	
BJ Services	Cross Linker					
		Methanol	67-56-1	90.00%	0.05781%	
		Boric Oxide	68951-67-7	20.00%	0.01285%	
Baker Hughes	Special Buffer Solution	Potassium Carbonate	584-08-7	60.00%	0.09524%	
BJ Services	Breaker - Water	Hemicellulase Enzyme	N.A.	100.00%	0.00246%	
BJ Services	Base Fluid/Salt	Potassium Chloride	7447-40-7	100.00%	0.00246%	
BJ Services	Breaker - Water	Ammonium Persulfate	7727-54-0	99.00%	0.01545%	
Baker Hughes	Bacteria Control					
		5-chloro-2methyl-4-isothiazolin-3-one	26172-55-4	10.00%	0.00021%	
		2-Methyl-4-isothiazoline-3-one	2682-20-4	5.00%	0.00011%	
		Magnesium nitrate	10377-60-3	10.00%	0.00021%	
		Magnesium chloride	7786-30-3	5.00%	0.00011%	
		Diatomaceous earth, calcined	91053-39-3	60.00%	0.00129%	
		Crystalline silica: cristobalite	14464-46-1	1.00%	0.00002%	
		Crystalline silica: Quartz (SiO2)	14808-60-7	1.00%	0.00002%	
Baker Hughes	Special Breaker	N.A.	N.A.	100.00%	0.06812%	
	BJ Services	BJ Services Proppant BJ Services Gellant - Water  BJ Services Cross Linker  Baker Hughes Special Buffer Solution BJ Services Breaker - Water BJ Services Base Fluid/Salt BJ Services Breaker - Water Baker Hughes Bacteria Control	BJ Services Proppant Crystalline Silica (quartz)  BJ Services Gellant - Water Petroleum Distillate Blend Guar Gum  BJ Services Cross Linker  Methanol Boric Oxide  Baker Hughes Special Buffer Solution Potassium Carbonate  BJ Services Breaker - Water Hemicellulase Enzyme  BJ Services Base Fluid/Salt Potassium Chloride  BJ Services Breaker - Water Ammonium Persulfate  Baker Hughes Bacteria Control  5-chloro-2methyl-4-isothiazoline-3-one  Magnesium nitrate Magnesium chloride Diatomaceous earth, calcined Crystalline silica: Cristobalite Crystalline silica: Quartz (SiO2)	BJ Services Proppant Crystalline Silica (quartz) 14808-60-7  BJ Services Gellant - Water Petroleum Distillate Blend Proprietary Guar Gum 009000-30-0  BJ Services Cross Linker Methanol 67-56-1  Boric Oxide 68951-67-7  Baker Hughes Special Buffer Solution Potassium Carbonate 584-08-7  BJ Services Breaker - Water Hemicellulase Enzyme N.A.  BJ Services Base Fluid/Salt Potassium Chloride 7447-40-7  BJ Services Breaker - Water Ammonium Persulfate 7727-54-0  Baker Hughes Bacteria Control 5-chloro-2methyl-4-isothiazolin-3-one 26172-55-4  2-Methyl-4-isothiazoline-3-one 2682-20-4  Magnesium nitrate 10377-60-3  Magnesium chloride 7786-30-3  Diatomaceous earth, calcined 91053-39-3  Crystalline silica: cristobalite 14464-46-1  Crystalline silica: Quartz (SiO2) 14808-60-7	Service Number (CAS #)   Concentration in Additive (% by mass)**   BJ Services   Proppant   Crystalline Silica (quartz)   14808-60-7   99.90%     BJ Services   Gellant - Water   Petroleum Distillate Blend   Proprietary   70.00%     BJ Services   Cross Linker   Petroleum Distillate Blend   Proprietary   70.00%     BJ Services   Cross Linker   Petroleum Distillate Blend   Proprietary   70.00%     BJ Services   Methanol   67-56-1   90.00%     BJ Services   Boric Oxide   68951-67-7   20.00%     BJ Services   Breaker - Water   Hemicellulase Enzyme   N.A.   100.00%     BJ Services   Breaker - Water   Hemicellulase Enzyme   N.A.   100.00%     BJ Services   Breaker - Water   Ammonium Persulfate   7727-54-0   99.00%     Baker Hughes   Bacteria Control   Services   Breaker - Water   Ammonium Persulfate   7727-54-0   99.00%     Baker Hughes   Bacteria Control   Services   Serv	Service Number (CAS #)   Ingredient Concentration in Additive (% by mass)**   Inference (Inference (Inf

<sup>\*</sup> 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.

<sup>\*\*</sup> Information is based on the maximum potential for concentration and thus the total may be over 100%