

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	8/21/2012
State:	California
County:	Los Angeles Offshore
API Number:	04-237-27278
Operator Name:	Thums Long Beach Co
Well Name and Number:	C-252
Longitude:	-118.137054443
Latitude:	33.739616394
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	10,049
Total Water Volume (gal)*:	182,154

### 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%	82.65210%	
X-Cide 207	Baker Hughes	Biocide	2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.00013%	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	0.00026%	
			Crystalline Silica: Cristobalite	14464-46-1	1.00%	0.00003%	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.00003%	
			Diatomaceous Earth, Calcined	91053-39-3	60.00%	0.00157%	
			Magnesium Chloride	7786-30-3	5.00%	0.00013%	
			Magnesium Nitrate	10377-60-3	10.00%	0.00026%	
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00525%	SmartCare Product
			Water	7732-18-5	97.00%	0.16989%	
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	60.00%	0.00653%	SmartCare Product
			Crystalline Silica Quartz	14808-60-7	30.00%	0.00327%	
Caustic Liquid, 25% Solution	Baker Hughes	Buffer	Sodium Hydroxide	1310-73-2	25.00%	0.00312%	
			Water	7732-18-5	75.00%	0.00937%	
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.58546%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00976%	
			Water	7732-18-5	60.00%	0.58546%	
XLW-56, 330 gal	Baker	Crosslinker	D-Glucitol	50-70-4	10.00%	0.05459%	

