Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	**2/19/2012**
State:	**California**
County:	**Kern**
API Number:	**0402901980**
Operator Name:	**Occidental of Elk Hills, Inc.**
Well Name and Number:	**512-28B**
Longitude:	**-119.517075**
Latitude:	**35.205632**
Long/Lat Projection:	**NAD83**
Production Type:	**Oil**
True Vertical Depth (TVD):	**3,272**
Total Water Volume (gal)*:	**94,752**

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
4% KCL Water	Operator				100.00%	20.66325%	Density = 8.540
SAND - PREMIUM WHITE	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	33.37954%	
CRC SAND	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	25.24645%	
			Hexamethylenetetramine	100-97-0	2.00%	0.50493%	
			Phenol / formaldehyde resin	9003-35-4	5.00%	1.26232%	
SAND - PREMIUM BROWN	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	17.20893%	
LoSurf-300M	Halliburton	Non-ionic Surfactant	1,2,4 Trimethylbenzene	95-63-6	1.00%	0.00344%	
			Ethanol	64-17-5	60.00%	0.20642%	
			Heavy aromatic petroleum naphtha	64742-94-5	30.00%	0.10321%	

			Naphthalene	91-20-3	5.00%	0.01720%
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00%	0.01720%
CL-28M CROSSLINKER	Halliburton	Crosslinker	Crystalline silica, quartz	14808-60-7	5.00%	0.00222%
			Borate salts	Confidential Business Information	60.00%	0.02669%
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive	Acetic acid	64-19-7	60.00%	0.01367%
			Acetic anhydride	108-24-7	100.00%	0.02278%
LGC-36 UC	Halliburton	Liquid Gel Concentrate	Guar gum	9000-30-0	60.00%	1.53005%
			Naphtha, hydrotreated heavy	64742-48-9	60.00%	1.53005%
VICON NF BREAKER	Halliburton	Breaker	Chlorous acid, sodium salt	7758-19-2	10.00%	0.03062%
			Sodium chloride	7647-14-5	30.00%	0.09186%
MO-67	Halliburton	pH Control Additive	Sodium hydroxide	1310-73-2	30.00%	0.01566%
LoSurf-300M	Halliburton	Non-ionic Surfactant	1,2,4 Trimethylbenzene	95-63-6	1.00%	0.00344%
			Ethanol	64-17-5	60.00%	0.20642%
			Heavy aromatic petroleum naphtha	64742-94-5	30.00%	0.10321%
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			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00%	0.01720%
GBW-30 BREAKER	Halliburton	Breaker	Hemicellulase enzyme	9012-54-8	15.00%	0.00159%
			Carbohydrates	Confidential Business Information	95.00%	0.01006%
BC-140	Halliburton	Crosslinker	Ethylene glycol	107-21-1	30.00%	0.01677%
			Monoethanolamine borate	26038-87-9	60.00%	0.03355%
BE-3S BACTERICIDE	Halliburton	Biocide	2,2 Dibromo-3-nitrilopropionamide	10222-01-2	100.00%	0.00796%
			2-Monobromo-3-nitrilopropionamide	1113-55-9	5.00%	0.00040%
K-38	Halliburton	Crosslinker	Disodium octaborate tetrahydrate	12008-41-2	100.00%	0.00508%
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100.00%	0.00847%
GBW-30 BREAKER	Halliburton	Breaker	Hemicellulase enzyme	9012-54-8	15.00%	0.00013%
			Carbohydrates	Confidential Business Information	95.00%	0.00080%
			Crystalline silica, quartz	14808-60-7		

	Fatty alcohol polyglycol ether surfactant	9043-30-5
	Inorganic mineral	Proprietary
	Oxyalkylated Phenolic Resin	Confidential Business Information
	Oxyalkylated Phenolic Resin	Confidential Business Information
	Polymer	Proprietary
	Quaternary ammonium compounds, bis(hydrogenated tallow alkyl) dimethyl,salts with bentonite	68953-58-2
	Sodium chloride	7647-14-5
	Sodium sulfate	7757-82-6
	Water	7732-18-5

* 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.

Ingredients Listed Below (white line). This Line Are Part of the Fluid Composition Provided by Halliburton Which Do Not Appear On the Material Safety Data Sheets (MSDS)

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