

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	8/22/2012
State:	California
County:	Kern County
API Number:	04-030-22893
Operator Name:	Chevron USA Inc
Well Name and Number:	17Z 714
Longitude:	-119.638871
Latitude:	35.319683
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	10,836
Total Water Volume (gal)*:	1,509,948

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	Chevron	Base Fluid			100.00%	72.85099%	
WG-36	Halliburton	Gelling Agent	Guar gum	9000-30-0	100.00%	0.36997%	
BE-3S	Halliburton	Biocide	2-Monobromo-3- nitrilopropionamide	1113-55-9	5.00%	0.00012%	
			2,2 Dibromo-3-nitrilopropionamide	10222-01-2	100.00%	0.00241%	
BA-20	Halliburton	Buffer	Ammonium acetate	631-61-8	100.00%	0.03296%	
			Acetic acid	64-19-7	30.00%	0.00989%	
LOSURF-300M	Halliburton	Surfactant	Ethanol	64-17-5	60.00%	0.03362%	
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	10.00%	0.00560%	
			Naphthalene	91-20-3	1.00%	0.00056%	
			1,2,4 Trimethylbenzene	95-63-6	1.00%	0.00056%	
			Heavy aromatic petroleum naphtha	64742-94-5	30.00%	0.01681%	
GEL-ST A L	Halliburton	Gel Stabilizer	Sodium thiosulfate	7772-98-7	60.00%	0.08077%	
BA-40L	Halliburton	Buffer	Potassium carbonate	584-08-7	60.00%	0.03768%	
MO-67	Halliburton	Buffer	Sodium hydroxide	1310-73-2	30.00%	0.02640%	
CL-28M X-LINKER	Halliburton	Crosslinker	Borate salts	Confidential Business Information	60.00%	0.04537%	
			Crystalline silica, quartz	14808-60-7	5.00%	0.00378%	
VICON NF	Halliburton	Breaker	Chlorous acid, sodium salt	7758-19-2	10.00%	0.00332%	
			Sodium chloride	7647-14-5	30.00%	0.00997%	
K-38	Halliburton	Crosslinker	Disodium octaborate tetrahydrate	12008-41-2	100.00%	0.00009%	
Sand-Premium White-20/40	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	23.69123%	
Prop-Ceramic-20/40	Halliburton	Proppant	Silica, amorphous - fumed	7631-86-9	30.00%	0.77801%	
			Crystalline silica, cristobalite	14464-46-1	30.00%	0.77801%	
			Mullite	1302-93-8	100.00%	2.59338%	
Sand-Common	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	0.00867%	

