

Appendix B

Chemical Additives Used and FracFocus Reports

* 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%

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(j) and Appendix D.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	1/5/2012
State:	California
County:	Los Angeles
API Number:	0403726421
Operator Name:	Plains Exploration & Production
Well Name and Number:	VIC1 635
Longitude:	-118.3771225
Latitude:	34.00234951
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	8,430
Total Water Volume (gal)*:	125,248

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
7% KCL Water	Operator				100.00%	81.77644%	Density = 8.700
SAND - COMMON WHITE	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	1.42615%	
SAND - PREMIUM WHITE	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	4.30405%	
CRC SAND	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	9.98805%	
			Hexamethylenetetramine	1009-7-0	2.00%	0.19976%	
			Phenol / formaldehyde resin	900303-35-4	5.00%	0.49940%	
LOSURF-300M™	Halliburton	Surfactant	1,2,4 Trimethylbenzene	95-63-6	1.00%	0.00079%	
			Ethanol	64-17-5	60.00%	0.04763%	
			Heavy aromatic petroleum naphtha	64742-94-5	30.00%	0.02382%	
			Naphthalene	91-20-3	1.00%	0.00079%	
			Poly(oxy-1,2-ethanediy), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	10.00%	0.00794%	
K-38	Halliburton	Crosslinker	Disodium octaborate tetrahydrate	12008-41-2	100.00%	0.02099%	
FR-66	Halliburton	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8	30.00%	0.01335%	
SandWedge® NT	Halliburton	Conductivity Enhancer	Dipropylene glycol monomethyl ether	34590-94-8	60.00%	0.29738%	
			Heavy aromatic petroleum naphtha	64742-94-5	10.00%	0.04956%	
BA-40L BUFFERING AGENT	Halliburton	Buffer	Potassium carbonate	584-08-7	60.00%	0.03990%	
CL-28M CROSSLINKER	Halliburton	Crosslinker	Crystalline silica, quartz	14808-60-7	5.00%	0.00250%	
			Borate salts	Confidential Business Information	60.00%	0.02995%	
FE-1A ACIDIZING COMPOSITION	Halliburton	Misc Additive	Acetic acid	64-19-7	60.00%	0.01278%	
			Acetic anhydride	108-24-7	100.00%	0.02130%	

LGC-36 UC	Halliburton	Gelling Agent	Guar gum	9000-30-0	60.00%	0.16582%	
			Naphtha, hydrotreated heavy	64742-48-9	60.00%	0.16582%	
MO-67	Halliburton	Buffer	Sodium hydroxide	1310-73-2	30.00%	0.00283%	
BE-3S BACTERICIDE	Halliburton	Biocide	2,2 Dibromo-3-nitropropionamide	10222-01-2	100.00%	0.00285%	
			2-Monobromo-3-nitropropionamide	1113-55-9	5.00%	0.00014%	
K-38	Halliburton	Crosslinker	Disodium octaborate tetrahydrate	12008-41-2	100.00%	0.01902%	
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100.00%	0.01949%	

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