

NM OIL CONSERVATION
ARTESIA DISTRICT

30-005-64297

MAR 04 2019

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/17/2018
Job End Date:	12/21/2018
State:	New Mexico
County:	Chaves
API Number:	30-005-64297-00-00
Operator Name:	Hadaway Consulting and Engineering, LLC
Well Name and Number:	Bandon Dunes #2H
Latitude:	33.46745800
Longitude:	-104.12508700
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	1,161,426
Total Base Non Water Volume:	0



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
Fresh Water	Operator	Carrier Fluid	Water	7732-18-5	100.00000	90.53004	None
Proppant (Sand)	Basic Energy Services	Propping Agent	Crystalline Silica, quartz	14808-60-7	100.00000	5.04892	None
15% HCl	Basic Energy Services	Acid	Water	7732-18-5	85.00000	3.07516	None
15% HCl	Basic Energy Services	Acid	Hydrochloric Acid	7647-01-0	15.00000	0.54265	None
LGW-1	ACE Completions	Gel	Distillates, Petroleum, Hydrotreated Light	8742-47-8	55.00000	0.21963	None
LGW-1	ACE Completions	Gel	Guar Gum	9000-30-0	45.00000	0.17970	None
Ammonium Persulfate	Chemplex	Breaker	Ammonium Persulfate	7727-54-0	98.00000	0.08757	None
SI-329	Colossal Chemical	Scale Inhibitor	Amino Tris(methylene phosphonic acid)	8419-19-8	52.00000	0.05102	None
BXL-4	ACE Completions	Crosslinker					

			Sodium Metaborate	Proprietary	40.00000	0.04665	None
BXL-4	ACE Completions	Crosslinker					
			Water	7732-18-5	30.00000	0.03499	None
BXL-4	ACE Completions	Crosslinker					
			Glycerol	56-81-5	30.00000	0.03499	None
SI-328	Colossal Chemical	Scale Inhibitor					
			Polycarboxylic acid, sodium salt	2601-60-9	28.00000	0.02551	None
S-100	Colossal Chemical	Surfactant					
			Water	7732-18-5	100.00000	0.01624	None
Buffer 11	Chemplex	Buffer					
			Potassium Carbonate	584-08-7	40.00000	0.00981	None
ACI-100	ACE Completions	Acid Inhibitor					
			Monoethylene glycol	107-21-1	65.00000	0.00712	None
Total-4	ACE Completions	Total Acidizing System					
			Dipropylene glycol monomethyl ether	34590-94-8	25.00000	0.00553	None
Total-4	ACE Completions	Total Acidizing System					
			Acetic Acid	64-19-7	25.00000	0.00553	None
Tolcide PS20A	ChemPlex	Biocide					
			Tetrakis (Hydroxymethyl) Phosphonium Sulfate	55568-30-8	22.00000	0.00552	None
Total-4	ACE Completions	Total Acidizing System					
			Monoethylene glycol	107-21-1	22.00000	0.00486	None
S-100	Colossal Chemical	Surfactant					
			Nonylphenol Ethoxide	Proprietary	25.00000	0.00406	None
LGW-1	ACE Completions	Gel					
			Organophilic Clay	Proprietary	1.00000	0.00399	None
LGW-1	ACE Completions	Gel					
			Surfactants	Proprietary	1.00000	0.00399	None
Buffer 11	Chemplex	Buffer					
			Potassium Hydroxide	1310-58-3	15.00000	0.00368	None
Total-4	ACE Completions	Total Acidizing System					
			Citric Acid	77-92-9	12.00000	0.00265	None
ACI-100	ACE Completions	Acid Inhibitor					
			Dipropylene glycol monomethyl ether	34590-94-8	20.00000	0.00219	None
S-100	Colossal Chemical	Surfactant					
			Methanol	67-58-1	10.00000	0.00162	None
Total-4	ACE Completions	Total Acidizing System					
			Pyridine, alkyl deriva	88391-11-7	4.00000	0.00088	None
Total-4	ACE Completions	Total Acidizing System					
			Copolymer	9003-11-6	4.00000	0.00088	None
Total-4	ACE Completions	Total Acidizing System					
			Amine Sulfonate	26836-07-7	4.00000	0.00088	None
Total-4	ACE Completions	Total Acidizing System					

			3-Phenylpropenal	104-55-2	4.00000	0.00088	None
Total-4	ACE Completions	Total Acidizing System					
			Alkyl (C12-C14-secondary) alcohol, ethoxylated	84133-50-6	3.00000	0.00066	None
ACI-100	ACE Completions	Acid Inhibitor					
			3-Phenylpropenal	104-55-2	8.00000	0.00066	None
ACI-100	ACE Completions	Acid Inhibitor					
			Pyridine, alkyl derivs	88391-11-7	6.00000	0.00066	None
ACI-100	ACE Completions	Acid Inhibitor					
			Alkyl (C12-C14-secondary) alcohol, ethoxylated	84133-50-6	5.00000	0.00055	None
Plexgel Breaker 10L	Chemplex	Breaker					
			Sodium Chloride	7647-14-5	15.00000	0.00042	None
Plexgel Breaker 10L	Chemplex	Breaker					
			Mannanase Enzymes	Proprietary	2.00000	0.00006	None

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* 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.

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