

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/21/2016
Job End Date:	8/28/2016
State:	Texas
County:	Winkler
API Number:	42-495-33705-00-00
Operator Name:	Shell Oil Company affiliate
Well Name and Number:	University 20 1503H
Latitude:	31.71463536
Longitude:	-103.31482009
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,992
Total Base Water Volume (gal):	6,458,256
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
Water	Shell	Carrier/Base Fluid	Water	7732-18-5	100.00000	81.08635	None
100 Mesh	Preferred Sands	Proppant	Crystalline Silica (quartz)	14808-60-7	100.00000	18.50677	None
15% HCL Acid	FSTI	Acid	Hydrochloric Acid	7647-01-0	100.00000	0.28347	None
AIC100D	Nalco	Iron Control	Citric Acid	77-92-9	100.00000	0.02220	None
Flojet DR 42	SNF	Friction Reducer	Poly(oxy-1, 2-ethanediyl), a-tridecyl-w-hydroxy, branched	69011-36-5	30.00000	0.01902	None
			Distillantes, Petroleum, Hydrotreated Light	64742-47-8	5.00000	0.00317	None
B-84	Xchem	Biocide	Glutaraldehyde	111-30-8	30.00000	0.00523	None
			n-Alkyl(C12-C16) dimethyl benzyl ammonium chloride	68424-85-1	10.00000	0.00174	None
			Didecyl dimethyl ammonium chloride	7173-51-5	10.00000	0.00174	None
			Ethanol	64-17-5	5.00000	0.00087	None

S-212	Rockwater	Gelling Agent					
			Distillates, Petroleum, Hydrotreated Light	64742-47-8	60.00000	0.00164	None
			Guar Gum	9000-30-0	45.00000	0.00123	None
Payzone 217 SI	Catalyst	Scale Inhibitor					
			Phosphorous Compound	Proprietary	10.00000	0.00171	None
X-Corr LT	Nalco	Corrosion Inhibitor					
			Isopropyl Alcohol	67-63-0	60.00000	0.00014	None
			Fatty Alcohol Ethoxylate	Proprietary	30.00000	0.00007	None
			Ethoxylated Alcohol	Proprietary	10.00000	0.00002	None
Product 6191	Nalco	Surfactant					
			Branched Alcohol Oxyalkylate	Proprietary	30.00000	0.00007	None
FWB100D	Nalco	Live Breaker					
			Ammonium Persulphate	7727-54-0	100.00000	0.00007	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)