

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/19/2016
Job End Date:	8/30/2016
State:	Texas
County:	Reagan
API Number:	42-383-39596-00-00
Operator Name:	Permian Resources
Well Name and Number:	University 10RE 0632HE
Latitude:	31.28895500
Longitude:	-101.47038200
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,200
Total Base Water Volume (gal):	16,091,789
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	Permian Resources, Inc.	Carrier / Base Fluid					
			Carrier / Base Fluid - Water	7732-18-5	100.00000	91.99179	
100 Mesh	WFT	Proppant					
			Crystalline Silica in the form of Quartz	14808-60-7	100.00000	7.87042	
7.5% HCL	WFT	Acid					
			Hydrochloric Acid	7647-01-0	7.50000	0.04891	
WFR-54LA	WFT	Friction Reducer					
			Distillates (petroleum), hydrotreated light	64742-47-8	45.00000	0.03532	
WIC-644L	WFT	Iron Control					
			acetic acid glacial	64-19-7	90.00000	0.00341	
WIC-641L	WFT	Iron Control					
			Citric acid	77-92-9	60.00000	0.00264	
WAI-251LC	WFT	Inhibitor					
			Ethylene Glycol	111-76-2	40.00000	0.00061	
			N,N-Dimethylformamide	68-12-2	20.00000	0.00031	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00015	

			2-Butoxyethanol	111-76-2	10.00000	0.00015	
			1-Decanol	112-30-1	5.00000	0.00008	
			Isopropyl Alcohol	67-63-0	5.00000	0.00008	
			Triethylphosphate	78-40-0	5.00000	0.00008	
			1-Octanol	111-87-5	5.00000	0.00008	
			Ethoxylated Nonylphenol	68412-54-4	5.00000	0.00008	
WNE-366LN	WFT	Surfactant					
			Methanol	67-56-1	45.00000	0.00030	
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.							
Other Ingredients		Other Chemicals					
			Cinnamaldehyde	104-55-2		0.00008	
			Proprietary Surfactant Compound 1	Proprietary		0.00003	
			Proprietary Surfactant Compound 2	Proprietary		0.00003	
			Dioxane	123-91-1		0.00002	
			Acetaldehyde	75-07-0		0.00002	
			Ethylene Oxide	75-21-8		0.00002	

\* 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)