

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/30/2018
Job End Date:	11/30/2018
State:	Texas
County:	Ward
API Number:	42-475-37576-00-00
Operator Name:	FELIX ENERGY HOLDINGS II, LLC
Well Name and Number:	UL LOVELAND 1920-17 7H
Latitude:	31.55413800
Longitude:	-103.16226100
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	10,801
Total Base Water Volume (gal):	24,100,937
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	Base Fluid					
			Water	7732-18-5	100.00000	84.38675	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.55861	

HCL >10%	Halliburton	Solvent					
				Listed Below			
OptiKleen-WF (TM)	Halliburton	Concentrate					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
Transcend 350W	HES	Surfactant					
				Listed Below			
EXCELERATE LX-1	HES	Friction Reducer					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

			Crystalline silica, quartz	14808-60-7	100.00000	14.86635	
			Hydrochloric acid	7647-01-0	30.00000	0.16758	
			Polyacrylate	Proprietary	30.00000	0.03582	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.03582	
			Ethoxylated alcohols	Proprietary	30.00000	0.02026	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Fatty amine salt	Proprietary	5.00000	0.00338	
			Sodium perborate tetrahydrate	10486-00-7	100.00000	0.00137	

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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)