Hydraulic Fracturing Fluid Product Component Information Disclosure

t Date: 3/13/20	Job Start Date:
d Date: 3/15/20	Job End Date:
State: Oklahor	State:
<mark>County:</mark> Woo	County:
umber: 35-151-23820-00-	API Number:
	Operator Name:
umber: Meier 2816 1-2	Well Name and Number:
<mark>gitude:</mark> -98.915044	Longitude:
atitude: 36.885970	Latitude:
Datum: NAD	Datum:
<mark>al Well:</mark>	Federal/Tribal Well:
e (gal): 1,642,5	Total Base Water Volume (gal):
olume:	Total Base Non Water Volume:







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	Operator	Carrier					
			Water	7732-18-5	100.00000	99.52747	
40/70 White	FTSI	Proppant					
			40/70 White	14808-60-8	100.00000	4.90007	
Hydrochloric Acid (HCI)	FTSI	Acid					
				7732-18-5	63.00000	0.21188	
			Hydrogen Chloride	7647-01-0	37.00000	0.12444	
FRW-200	FTSI	Friction reducer					
			Water	7732-18-5	48.00000	0.02980	
			sodium acrylate	25987-30-8	33.00000	0.02049	
			Petroleum distillate hydrotreated light		26.00000	0.01614	
			ammonium salt	26100-47-0	25.00000	0.01552	
			Ammonium Chloride	12125-02-9	12.00000	0.00745	
				Proprietary	7.00000	0.00435	
			Alcohols (C12-C16), ethoxylated		4.00000	0.00248	
			Alcohols (C12-C14), ethoxylated		4.00000	0.00248	
			Alcohols (C10-C16), ethoxylated	68002-97-1	4.00000	0.00248	
			Polyethylene glycol monooleate	9004-96-0	3.00000	0.00186	

			Sorbitan Monooleate	1338-43-8	3.00000	0.00186	
			Sorbitol Tetraoleate	61723-83-9	2.00000	0.00124	
			Proprietary Component	Proprietary	1.50000	0.00093	
			Alkyloxypolyethyleneoxyethanol	84133-50-6	1.00000	0.00062	
			Ammonium Acrylate	10604-69-0	0.50000	0.00031	
			Acrylamide	79-06-1	0.10000	0.00006	
NE-100	FTSI	Non-emulsifier					
			Water	7732-18-5	90.00000	0.04278	
			2-Butoxyethanol	111-76-2	10.00000	0.00475	
			2-Propanol	67-63-0	10.00000	0.00475	
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00238	
			Benzene, C10-16 Alkyl Derivatives	68648-87-3	0.04000	0.00002	
			Unsulphonated Matter	3rd Party Proprietar	0.03000	0.00001	
			Sulfuric Acid	7664-93-9	0.01000	0.00001	
			Sulfur Dioxide	7446-09-5			
CS-250 SI	FTSI	Scale Inhibitor					
			Water	7732-18-5	81.00000	0.00877	
			Sodium Polyacrylate	9003-04-7	10.00000	0.00108	
			Ethylene glycol	107-21-1	10.00000	0.00108	
			Sodium chloride	7647-14-5	6.00000	0.00065	
BIO-150	FTSI	Biocide					
			Water	7732-18-5	50.00000	0.00558	
			Gluteral	111-30-8	50.00000	0.00558	
			Methanol	67-56-1	0.50000	0.00006	
CI-150	FTSI	Acid Corrosion Inhibitor					
			Organic amine resin salt	Proprietary	30.00000	0.00080	
			Isopropanol	67-63-0	30.00000	0.00080	
			Ethylene Glycol	107-21-1	30.00000	0.00080	
			Aromatic aldehyde	Proprietary	10.00000	0.00027	
			Alkylene Oxide Block Polymer	Proprietary	10.00000	0.00027	
			Dimethylformamide	68-12-2	10.00000	0.00027	
			Quaternary ammonium compound	Proprietary	10.00000	0.00027	
			Water	7732-18-5	5.00000	0.00013	
			Diethylene glycol	111-46-6	1.00000	0.00003	
			Fatty Acid	Proprietary	0.10000		
			Aliphatic alcohol	Proprietary	0.10000		
			Fatty Acid Salt	Proprietary	0.10000		
FE-100L	FTSI	Iron control					
			Water	7732-18-5	60.00000	0.00116	
			Citric acid	77-92-9	55.00000	0.00106	
Ingradiants show	a above are subject to	20 CER 1010 1200(i) and	appear on Material Safety Data She	ooto (MSDS) Ingradiar	oto obowo bolow oro	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)