

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/7/2012
Job End Date:	5/12/2012
State:	Texas
County:	Upton
API Number:	42-461-37723-00-00
Operator Name:	Pioneer Natural Resources
Well Name and Number:	University 3-32 #4H
Longitude:	-101.79213100
Latitude:	31.20298700
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	8,372
Total Base Water Volume (gal):	7,535,220
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	Pioneer Natural Resources	Water					
			Water	7732-18-5	100.00000	90.06181	
Sand	Pioneer Natural Resources Pumping Services LLC	Proppant					
			Quartz	14808-60-7	100.00000	6.48879	
Proppant, Santrol 30/50 SDC	Pioneer Natural Resources Pumping Services LLC	Proppant					
			Quartz	14808-60-7	97.00000	2.65104	
			Phenol-Formaldehyde Novolak Resin	9003-35-4	5.00000	0.13665	
			Hexamethylenetetramine	100-97-0	1.00000	0.02733	
Slurry Gel, Polyfrac Alpha	Pioneer Natural Resources Pumping Services LLC	Gelling Agent					
			Petroleum Distillate	64742-47-8	55.00000	0.15152	
			Guar Gum	9000-30-0	50.00000	0.13774	
			Clay	14808-60-7	2.00000	0.00551	
			Surfactant	68439-51-0	2.00000	0.00551	
Hydrochloric Acid 31-36% HCL (15% DILUTED)	Pioneer Natural Resources Pumping Services LLC	Acid					

			Hydrochloric Acid	7647-01-0	36.00000	0.11563	
CNF Stim-Oil FBA	Pioneer Natural Resources Pumping Services LLC	Surfactant					
			Citrus Terpenes	94266-47-4	30.00000	0.04109	
			Isopropyl alcohol	67-63-0	30.00000	0.04109	
Crosslinker -PXL120	Pioneer Natural Resources Pumping Services LLC	Crosslinker					
			Potassium Hydroxide	1310-58-3	50.00000	0.02132	
			Ethylene Glycol	107-21-1	40.00000	0.01706	
			Boric Acid	10043-35-3	25.00000	0.01066	
KSIW-624	Kel-Tech Inc.	Scale Inhibitor					
			Methanol	67-56-1	15.00000	0.02236	
			Polyphosphoric acids, esters with triethanolamine	68131-71-5	7.00000	0.00156	
ProCap MC AP Encapsulated Breaker	Pioneer Natural Resources Pumping Services LLC	Breaker					
			Ammonium persulfate	7727-54-0	100.00000	0.01432	
			Cured resin	Proprietary	24.00000	0.00344	Fritz Industries, 500 Sam Houston Road, Mesquite, TX 75149. Contact: Laurie Meeks, 972-285-5471
LIQUID BIOCID	Pioneer Natural Resources Pumping Services LLC	Biocide					
			Glutaraldehyde	111-30-8	25.00000	0.00992	
Friction Reducer - Stim Lube W	Pioneer Natural Resources Pumping Services LLC	Friction Reducer					
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.00555	
Corrosion Inhibitor, ACI-148A	Pioneer Natural Resources Pumping Services LLC	Corrosion Inhibitor					
			Methanol	67-56-1	25.00000	0.00047	
			Petroleum Distillate	64742-47-8	25.00000	0.00047	
			Alcohol	Proprietary	20.00000	0.00038	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Curtis Sitz, 713-423-7899
			Tall Oil Fatty Acids	61790-12-3	20.00000	0.00038	
			Ethoxylated nonylphenol	9016-45-9	15.00000	0.00028	
			Propargyl Alcohol	107-19-7	3.00000	0.00006	
Versene 100 - EDTA	Pioneer Natural Resources Pumping Services LLC	Iron Control					
			Tetrasodium Ethylenediaminetetraacetate	64-02-8	100.00000	0.00172	
Iron Stabilizer, Erythorbic Acid PL-58	Pioneer Natural Resources Pumping Services LLC	Iron Control					
			Erythorbic Acid	6381-77-7	100.00000	0.00129	

Chemical Frac Tracer	ProTechnics	Diagnostics					
			Water	7732-18-5	91.00000	0.00055	
			Sodium Salt	Proprietary	10.00000	0.00006	Protechnics Regulatory Compliance, Attn: Brad Leonard, 3601 NE Loop 820, Suite 104, Fort Worth, TX 76137, (713) 328-2320

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)