

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/29/2014
Job End Date:	4/3/2014
State:	Texas
County:	Reagan
API Number:	42-383-38443-00-00
Operator Name:	Enduring Resources LLC
Well Name and Number:	University Land 09 #1806H
Longitude:	-101.56945800
Latitude:	31.26825000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,770
Total Base Water Volume (gal):	8,467,998
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 (CLEAN - ACID)	Enduring Resources, LLC	Carrier / Base Fluid					
			Water	7732-18-5	100.00000	83.75786	None
Texas Brite 40-70 mesh	Universal	White Sand					
			Silica, Quartz, SiO2	14808-60-7	100.00000	9.26040	None
100 mesh White Sand, Area 1	Universal	PROPPANT					
			Silica, Quartz, SiO2	14808-60-7	100.00000	2.30271	None
Preferred RCS	Universal	Resin Coated Proppants					
			QUARTZ (SiO2) (CRYSTALLINE SILICA)	14808-60-7	98.00000	1.82547	None
40-70 mesh White Sand, Area 1	Universal	PROPPANT					
			Silica, Quartz, SiO2	14808-60-7	100.00000	1.63879	None
7 1/2% HCl Acid, Area 1	Universal	HYDROCHLORIC ACID (Uninhibited)					
			Water	7732-18-5	74.00000	0.62687	None
7 1/2% HCl Acid, Area 1	Universal	HYDROCHLORIC ACID (Uninhibited)					
			Hydrogen Chloride	7647-01-0	37.00000	0.31343	None
Preferred RCS	Universal	Resin Coated Proppants					

			POLYURETHANE RESIN	00-00-0	5.00000	0.09314	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Water	7732-18-5	66.00000	0.05685	None
WFR-5	Universal	FRICTION REDUCERS					
			Water	7732-18-5	35.00000	0.03202	None
WFR-5	Universal	FRICTION REDUCERS					
			Poly (Acrylamide and Adam methyl Chloride)	69418-26-4	31.00000	0.02836	None
WFR-5	Universal	FRICTION REDUCERS					
			Isoparaffinic Solvent	64742-47-8	26.00000	0.02379	None
Preferred RCS	Universal	Resin Coated Proppants					
			COLORANT	00-00-0	1.00000	0.01863	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00000	0.01292	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Methyl Alcohol	67-56-1	15.00000	0.01292	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Cocamide Diethanolamine Salt	68603-42-9	10.00000	0.00861	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Diethanolamine	111-42-2	5.00000	0.00431	None
BIO-15G	Universal	BIOCIDES					
			Glutaraldehyde	111-30-8	14.00000	0.00372	None
Universal Polybreak XPA	Universal	BREAKERS AND BREAKER CATALYSTS					
			Hydrogen peroxide.	7722-84-1	7.00000	0.00306	None
WFR-5	Universal	FRICTION REDUCERS					
			Ethoxylated Tridecyl Alcohol	78330-21-9	3.00000	0.00274	None
WFR-5	Universal	FRICTION REDUCERS					
			Sorbitan Monooleate	1338-43-8	3.00000	0.00274	None
IR-1	Universal	IRON CONTROL ADDITIVES					
			THIOGLYCOL	60-24-2	75.00000	0.00100	None
WFR-5	Universal	FRICTION REDUCERS					
			Ammonium Chloride	12125-02-9	1.00000	0.00091	None
WFR-5	Universal	FRICTION REDUCERS					

			Adipic Acid	124-04-9	1.00000	0.00091	None
BIO-15G	Universal	BIOCIDES					
			Ethanol	64-17-5	3.00000	0.00080	None
BIO-15G	Universal	BIOCIDES					
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00080	None
BIO-15G	Universal	BIOCIDES					
			Alkyl Dimethyl Benzyl Ammonium Chloride	68424-85-1	3.00000	0.00080	None
CIA - 5	Universal	ACID CORROSION INHIBITORS					
			Methyl Alcohol	67-56-1	40.00000	0.00070	None
CIA - 5	Universal	ACID CORROSION INHIBITORS					
			PROPARGYL ALCOHOL	107-19-7	8.00000	0.00014	None
IR-1	Universal	IRON CONTROL ADDITIVES					
			CUPRIC CHLORIDE DIHYDRATE	10125-13-0	7.00000	0.00009	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)