

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/21/2014
Job End Date:	4/25/2014
State:	Texas
County:	Reagan
API Number:	42-383-37800-00-00
Operator Name:	Enduring Resources LLC
Well Name and Number:	University Land 09 #1803H
Longitude:	-101.57529700
Latitude:	31.26829200
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,850
Total Base Water Volume (gal):	8,079,834
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	85.00880	None
Texas Brite 40-70 mesh	Universal	White Sand					
			Silica, Quartz, SiO2	14808-60-7	100.00000	10.01801	None
100 mesh White Sand, Area 1	Universal	PROPPANT					
			Silica, Quartz, SiO2	14808-60-7	100.00000	2.12983	None
Preferred RCS	Universal	Resin Coated Proppants					
			QUARTZ (SiO2) (CRYSTALLINE SILICA)	14808-60-7	98.00000	1.68038	None
7 1/2% HCl Acid, Area 1	Universal	HYDROCHLORIC ACID (Uninhibited)					
			Water	7732-18-5	74.00000	0.55295	None
7 1/2% HCl Acid, Area 1	Universal	HYDROCHLORIC ACID (Uninhibited)					
			Hydrogen Chloride	7647-01-0	37.00000	0.27648	None
Preferred RCS	Universal	Resin Coated Proppants					
			POLYURETHANE RESIN	00-00-0	5.00000	0.08573	None
40-70 mesh White Sand, Area 1	Universal	PROPPANT					

			Silica, Quartz, SiO2	14808-60-7	100.00000	0.05917	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Water	7732-18-5	66.00000	0.05518	None
WFR-5	Universal	FRICTION REDUCERS					
			Water	7732-18-5	35.00000	0.02968	None
WFR-5	Universal	FRICTION REDUCERS					
			Poly (Acrylamide and Adam methyl Chloride)	69418-26-4	31.00000	0.02629	None
WFR-5	Universal	FRICTION REDUCERS					
			Isoparaffinic Solvent	64742-47-8	26.00000	0.02205	None
Preferred RCS	Universal	Resin Coated Proppants					
			COLORANT	00-00-0	1.00000	0.01715	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Methyl Alcohol	67-56-1	15.00000	0.01254	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00000	0.01254	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Cocamide Diethanolamine Salt	68603-42-9	10.00000	0.00836	None
NE-1	Universal	NON-EMULSIFIER AND DE- EMULSIFIERS					
			Diethanolamine	111-42-2	5.00000	0.00418	None
BIO-15G	Universal	BIOCIDES					
			Glutaraldehyde	111-30-8	14.00000	0.00385	None
Universal Polybreak XPA	Universal	BREAKERS AND BREAKER CATALYSTS					
			Hydrogen peroxide.	7722-84-1	7.00000	0.00310	None
WFR-5	Universal	FRICTION REDUCERS					
			Ethoxylated Tridecyl Alcohol	78330-21-9	3.00000	0.00254	None
WFR-5	Universal	FRICTION REDUCERS					
			Sorbitan Monooleate	1338-43-8	3.00000	0.00254	None
IR-1	Universal	IRON CONTROL ADDITIVES					
			THIOGLYCOL	60-24-2	75.00000	0.00178	None
WFR-5	Universal	FRICTION REDUCERS					
			Adipic Acid	124-04-9	1.00000	0.00085	None
WFR-5	Universal	FRICTION REDUCERS					

			Ammonium Chloride	12125-02-9	1.00000	0.00085	None
BIO-15G	Universal	BIOCIDES					
			Ethanol	64-17-5	3.00000	0.00082	None
BIO-15G	Universal	BIOCIDES					
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00082	None
BIO-15G	Universal	BIOCIDES					
			Alkyl Dimethyl Benzyl Ammonium Chloride	68424-85-1	3.00000	0.00082	None
CIA - 5	Universal	ACID CORROSION INHIBITORS					
			Methyl Alcohol	67-56-1	40.00000	0.00074	None
IR-1	Universal	IRON CONTROL ADDITIVES					
			CUPRIC CHLORIDE DIHYDRATE	10125-13-0	7.00000	0.00017	None
CIA - 5	Universal	ACID CORROSION INHIBITORS					
			PROPARGYL ALCOHOL	107-19-7	8.00000	0.00015	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)