Fracture Start Date/Time:	**1/9/17 0:00**
Fracture End Date/Time:	**1/23/17 0:00**
State:	**Texas**
County:	**Upton**
API Number:	**42-461-40342-0000**
Operator Number:	**PR411620**
Well Name:	**University Red 4253B**
Federal Well:	**No**
Tribal Well:	**No**
Longitude:	**-101.865892**
Latitude:	**31.136667**
Long/Lat Projection:	**NAD27**
True Vertical Depth (TVD):	**8,405'**
Total Clean Fluid Volume* (gal):	**16,158,638**

FracFocus Chemical Disclosure Registry

Reg. XX-XXX-XXXXX-00000

Additive	*Specific Gravity*	*Additive Quantity*	*Mass (lbs)*	
Water	1.00	**16,150,638**	*134,777,074*	gal
Sand	2.65	**13,811,155**	*13,811,155*	lb
HAI04-10-15% HCL	1.18	**102,000**	*1,004,404*	gal
IC5-Iron Control	1.13	**910**	*4,805*	gal
CI200-Corrosion Inhibitor	0.84	**204**	*1,430*	gal
NE116-Pitchwork 116	0.87	**102**	*741*	gal
NE601-NE/Surfactant	1.10	**0**	*0*	gal
LGW01-Liquid Gellant	1.05	**0**	*0*	gal
EC200-Crosslinker	1.42	**0**	*0*	gal
BR1-AP Breaker	1.98	**18,785**	*312,780*	lb
BREC-High Temp Encap	1.72	**0**	*0*	lb
LEB1-Liquid Enzyme Breaker	1.13	**0**	*0*	gal
HEXPA-Plexgel XPA Breaker	1.03	**0**	*0*	gal
HEM-Liquid Magnesium Breaker	1.05	**0**	*0*	gal
FRB01-Friction Breaker	1.98	**0**	*0*	lb
RHEO FLO	1.05	**14,006**	*140,249*	gal
FR02-Cationic Friction Reducer	1.05	**0**	*0*	gal
FR03-15WF766 GelFR	1.10	**0**	*0*	gal
BC1058-Liquid Biocide	1.13	**0**	*0*	gal
ISP100	1.05	**5,141**	*47,475*	gal
BC202-25% Glutaraldehyde	1.06	**0**	*0*	gal
BC01-MECTWSI Dry Bio	1.25	**0**	*0*	lb
PS102	1.07	**7,837**	*69,970*	gal
SI42-Chelating Agent	1.09	**0**	*0*	gal
SPD600-Scale Inh. (Solid)	1.30	**0**	*0*	lb
CS01-Clay Stabilizer	1.12	**0**	*0*	gal
K205-KCL Substitute	1.00	**15,981**	*133,303*	gal
CS03-KCL Potassium Chloride	1.99	**0**	*0*	lb
RC03-Activator for CRS	0.91	**0**	*0*	gal
PC2-Xylene	0.87	**0**	*0*	gal
BH04-BioBalls LR 1.2	1.20	**0**	*0*	gal
HT175-HT Diverting Agen	1.20	**0**	*0*	lb
A600-Acetic Acid	1.04	**0**	*0*	gal
H001-pH Buffer	1.17	**0**	*0*	gal
BAF01-Benzoic Acid Flakes	1.32	**0**	*0*	gal
STIMENX-StimOil ENX	0.98	**23,248**	*190,577*	gal
AL701-Acolbak 701	0.96	**0**	*0*	gal
PLS01-Plexsurf WRS	0.95	**0**	*0*	gal
M210K-Acid Gelling Agent	0.88	**0**	*0*	gal
O2G-Pickard OS-30	1.28	**0**	*0*	gal
Corrtreat IC-2340	0.93	**0**	*0*	gal
Gyptreat T-390	1.05	**0**	*0*	gal
Biocleen IC-139	0.99	**0**	*0*	gal
Surfactron 613	1.03	**0**	*0*	gal
CoorSorb 6000	0.53	**0**	*0*	gal
ParaSorb 5000	2.00	**0**	*0*	lb
BioSorb 1250	1.00	**0**	*0*	gal
ScaleSorb 3	1.00	**0**	*0*	gal
CS-111 Corrosion Inhibitor	1.00	**0**	*0*	gal
ISR-100 Biocide	1.00	**0**	*0*	gal
SI-208 Scale Inhibitor	1.06	**0**	*0*	gal
PD-603 Paraffin Inhibitor	1.06	**0**	*0*	gal
FSI2175 Scale Inhibitor	1.06	**0**	*0*	gal
S-644 Scale Inhibitor	1.08	**0**	*0*	gal
D-3056 Surfactant	0.95	**0**	*0*	gal
Aktivok HaCO2	1.25	**0**	*0*	gal
		Total Slurry Mass (Lbs)		
		150,052,533		

Ingredients Section:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Mass per Component (LBS)	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments	Claimant Company	Claimant First Name	Claimant Last Name	Claimant Email	Claimant Phone (nnn-nnn-nnnn)
Water	Operator	Carrier/Base Fluid	Water	7732-18-5	100.00%	*134,777,074*	83.75628%						
Sand	Santrol	Proppant	Silica	14808-60-7	100.00%	*13,811,155*	8.58437%						
HAI04-10-15% HCL	Reagent Chemical	Acidizing	Hydrogen Chloride	7647-01-0	15.00%	*150,661*	0.10031%						
			Water	7732-18-5	85.00%	*853,744*	0.56841%						
IC5-Iron Control	Soluscus	Iron Control	Acetic Acid	64-19-7	60.00%	*2,886*	0.00192%						
			Citric Acid	77-92-9	30.00%	*1,443*	0.00096%						
			Water	7732-18-5	60.00%	*2,886*	0.00192%						
CI200-Corrosion Inhibitor	Economy Polymers	Corrosion Inhibitor	Methanol	67-56-1	60.00%	*858*	0.00057%						
NE116-Pitchwork 116	Chemplex	N/E Surfactant	Methanol	67-56-1	50.00%	*370*	0.00025%						
			Alkyl Quarternary Ammonium Chlorides	7173-51-5	25.00%	*185*	0.00012%						
			Isopropanol	67-63-0	5.00%	*37*	0.00002%						
			Diethanolamide	111-42-2	2.00%	*15*	0.00001%						
NE601-NE/Surfactant	Soluscus	Surfactant	Methanol	67-56-1	70.00%	*0*	0.00000%						
			Polyoxyalkylene glycol butyl ether	9004-77-7	50.00%	*0*	0.00000%						
			Diethanolamide	111-42-2	70.00%	*0*	0.00000%						
LGW01-Liquid Gellant	Acr Completions	Liquid Gellant	Guar Gum	9000-30-0	50.00%	*0*	0.00000%						
			Petroleum Distillate	64742-47-8	60.00%	*0*	0.00000%						
			Surfactant	Proprietary	10.00%	*0*	0.00000%		Acr Completions	Ben	Nickens	bnickens@acrcompletions.com	817-939-3936
			Clay	Proprietary	10.00%	*0*	0.00000%		Acr Completions	Ben	Nickens	bnickens@acrcompletions.com	817-939-3936
EC200-Crosslinker	ASK Chemical	Crosslinker	Potassium Hydroxide	1310-73-2	25.00%	*0*	0.00000%						
			Ethylene Glycol	107-21-1	25.00%	*0*	0.00000%						
			Potassium Metaborate	16481-66-6	50.00%	*0*	0.00000%						
BR1-AP Breaker	Rockwater	AP Breaker	Ammonium Persulfate	7727-54-0	99.00%	*18,672*	0.00711%						
BREC-High Temp Encap	Economy Polymers	High Temp. Encap Breaker	Ammonium Persulfate	7727-54-0	60.00%	*0*	0.00000%						
			Cured Acrylic Resin	Proprietary	25.00%	*0*	0.00000%		Economy Polymers	Bobby	Hyatt	bobby.hyatt@economypoly.com	281-702-2569
			Silica, Crystalline-Quartz	14808-60-7	15.00%	*0*	0.00000%						
LEB1-Liquid Enzyme Break	Economy Polymers	Liquid Enzyme Breaker	Cellulase Enzyme	9012-54-8	100.00%	*0*	0.00000%						
HXPA-Plexgel XPA Break	Chemplex	Breaker	Hydrogen Peroxide	7722-84-1	7.00%	*0*	0.00000%						
HEM-Liquid Magnesium Brea	Chemplex	Liquid Magnesium Breaker	Methanol	67-56-1	100.00%	*0*	0.00000%						
FRB01-Friction Breaker	ASK Chemical	Friction Breaker	Ammonium Persulfate	7727-54-0	100.00%	*0*	0.00000%						
RHEO FLO	Flotek	Anionic Friction Reducer	Petroleum Hydrotreated Light Distillate	64742-47-8	25.00%	*35,062*	0.02334%						
FR2-Cationic Friction Reduc	Soluscus	Cationic Friction Reducer	Petroleum Hydrotreated Light Distillate	64742-47-8	25.00%	*0*	0.00000%						
			Trade Secret	Proprietary	100.00%	*0*	0.00000%		Solucus Chemicals	John	Davis	jdavis@solucuschem.com	432-694-1994
			Oxyalkylated Alcohol	68227-21-0	5.00%	*0*	0.00000%						
			Ammonium Chloride	12125-02-9	5.00%	*0*	0.00000%						
			Ethoxylated Sorbitan Monooleate	9005-65-6	5.00%	*0*	0.00000%						
BC1058-Liquid Biocide	Buckman Lab.	Liquid Biocide	5-chloro-3,5-dimethyl-1,2H-1,3,5 -thiadiazine-2-t	533-74-4	24.00%	*0*	0.00000%						
			Sodium Hydroxide	1310-73-2	11.00%	*0*	0.00000%						
ISP100	Flotek	Liquid Biocide	dimethylmonocyclicdimethylbenzylammoniu	51732-74-8	2.27%	*1,141*	0.00076%						
			Tributyltetradecyl Phosphonium Chloride	81741-28-8	2.78%	*1,325*	0.00088%						
BC202-25% Glutaraldehyde	ASK Chemical	Biocide (Glutaraldehyde)	Glutaral	111-30-8	25.00%	*0*	0.00000%						
			Water	7732-18-5	75.00%	*0*	0.00000%						
			Methanol	67-56-1	0.25%	*0*	0.00000%						
BC01-MECTWSI Dry Bio	Economy Polymers	Biocide (Dry)	Dibromo - Nitrilopropionamide	10222-01-2	100.00%	*0*	0.00000%						
PS102	Flotek	Scale Inhibitor	Phosphoric Acid Salt	35657-77-3	35.00%	*24,492*	0.01631%						
			Glacial Acetic Acid	64-19-7	12.00%	*8,397*	0.00559%						
SI42-Chelating Agent	Soluscus	Scale Inhibitor	Trade Secret	Proprietary	45.00%	*0*	0.00000%		Solucus Chemicals	John	Davis	jdavis@solucuschem.com	432-694-1994
			Water	7732-18-5	55.00%	*0*	0.00000%						
SPD600-Scale Inh. (Solid)	EES	Scale Inhibitor (Solid)	ethylene Triamine Penta (Methylene Phosp	35657-77-3	70.00%	*0*	0.00000%						
			Precipitated (Spherical Amorphous) Sil	7631-86-9	30.00%	*0*	0.00000%						
CS01-Clay Stabilizer	Solucus	Clay Stabilizer	Methanol	67-56-1	50.00%	*0*	0.00000%						
			Isopropyl Alcohol	67-63-0	50.00%	*0*	0.00000%						
K205-KCL Substitute	Solucus	KCL Substitute	Water	7732-18-5	80.00%	*106,689*	0.07103%						
			Calcium Chloride	10043-52-4	20.00%	*26,672*	0.01776%						
			Trade Secret	Proprietary	1.50%	*1,000*	0.00133%		Solucus Chemicals	John	Davis	jdavis@solucuschem.com	432-694-1994
			Isopropyl Alcohol	67-63-0	0.10%	*133*	0.00009%						
CS03-KCL Potassium Chlor	Agri-Empresa	KCL Potassium Chloride	Potassium Chloride	7447-40-7	100.00%	*0*	0.00000%						
RC03-Activator for CRS	Solucus	CRS Activator	Methanol	67-56-1	50.00%	*0*	0.00000%						
			Nonylphenol Ethoxylate	9016-45-9	50.00%	*0*	0.00000%						
PC2-Xylene	Dakota	Diverter	Xylenes	1330-20-7	100.00%	*0*	0.00000%						
			Ethylbenzene	100-41-4	30.00%	*0*	0.00000%						
BH04-BioBalls LR 1.2	Santrol	Diverter	Polylactide Resin	9051-89-2	100.00%	*0*	0.00000%						
HT175-HT Diverting Agen	Solucus	Diverter	Bisphenol A	80-05-7	95.00%	*0*	0.00000%						
			Organic Ester	Proprietary	20.00%	*0*	0.00000%		Solucus Chemicals	John	Davis	jdavis@solucuschem.com	432-694-1994
A600-Acetic Acid	Economy Polymers	Ph Control	Acetic Acid	64-19-7	100.00%	*0*	0.00000%						
H001-pH Buffer	Acr Completions	Ph Control	Sodium Hydroxide	1310-58-3	35.00%	*0*	0.00000%						
BAF01-Benzoic Acid Flake	Sigma-Aldrich	Benzoic Acid Flakes	Benzoic Acid	65-85-0	100.00%	*0*	0.00000%						
STIMENX-StimOil ENX	Flotek	Surfactant	Isopropyl Alcohol	67-63-0	30.00%	*37,265*	0.01811%						
AL701-Acolbak 701	Chemplex	Surfactant	Nonyl Phenol Ethoxylate	9016-45-9	20.00%	*0*	0.00000%						
PLS01-Plexsurf WRS	Chemplex	Surfactant	Methanol	67-56-1	20.00%	*0*	0.00000%						
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00%	*0*	0.00000%						
			Diethanolamine	111-42-2	6.00%	*0*	0.00000%						
M210K-Acid Gelling Agent	Economy Polymers	Acid Gelling Agent	Methanol	67-56-1	50.00%	*0*	0.00000%						
			Fatty Amine Ethoxylate	31017-83-1	50.00%	*0*	0.00000%						
O2G-Pickard OS-30	Chemplex	Oxygen Scavenger	Ammonium Bisulfite	10192-30-0	53.00%	*0*	0.00000%						
Corrtreat IC-2340	Nalco Champion	Corrosion Inhibitor	Methanol	67-56-1	60.00%	*0*	0.00000%						
			Acetic Acid	64-19-7	5.00%	*0*	0.00000%						
			Fatty Amine Salt	31017-83-1	10.00%	*0*	0.00000%						
Gyptreat T-390	Nalco Champion	Scale Inhibitor	Amine Phosphonate	6419-19-8	60.00%	*0*	0.00000%						
			Hydrochloric Acid	7647-01-0	10.00%	*0*	0.00000%						
			Phosphoric Acid	7664-38-2	1.00%	*0*	0.00000%						
Biocleen IC-139	Nalco Champion	Biocide	Benzyl-Dimethyl-Ammonium Chloride	68424-85-1	30.00%	*0*	0.00000%						
			Glutaraldehyde	111-30-8	10.00%	*0*	0.00000%						
			Ethanol	64-17-5	5.00%	*0*	0.00000%						
Surfactron 613	Nalco Champion	Corrosion Inhibitor/Surfactant	Quaternary Salt	68424-85-1	60.00%	*0*	0.00000%						
CoorSorb 6000	Baker Hughes	Corrosion Inhibitor	Diatomaceous earth, calcined	91053-39-3	100.00%	*0*	0.00000%						
			Quaternary ammonium chloride	68424-85-1	30.00%	*0*	0.00000%						
			Acid phosphate ester	9016-45-9	10.00%	*0*	0.00000%						
			Crystalline silica: Quartz	14808-60-7	1.00%	*0*	0.00000%						
ParaSorb 5000	Baker Hughes	Paraffin Inhibitor	Diatomaceous earth, calcined	91053-39-3	60.00%	*0*	0.00000%						
			Mineral Oil	8042-47-5	30.00%	*0*	0.00000%						
			Crystalline silica: Quartz	14808-60-7	1.00%	*0*	0.00000%						
BioSorb 1250	Baker Hughes	Biocide	Diatomaceous earth, calcined	91053-39-3	60.00%	*0*	0.00000%						
			Glutaraldehyde	111-30-8	30.00%	*0*	0.00000%						
			Crystalline silica: Quartz	14808-60-7	1.00%	*0*	0.00000%						
ScaleSorb 3	Baker Hughes	Scale Inhibitor	Diatomaceous earth, calcined	91053-39-3	100.00%	*0*	0.00000%						
			Amino Alkyl Phosphonic Acid	7664-38-2	30.00%	*0*	0.00000%						
			Phosphonic Acid	13598-36-2	1.00%	*0*	0.00000%						
			Crystalline silica: Quartz	14808-60-7	1.00%	*0*	0.00000%						
CS-111 Corrosion Inhibitor	WadeCo Specialties	Corrosion Inhibitor	Isopropyl Alcohol	67-63-0	100.00%	*0*	0.00000%						
ISR-100 Biocide	WadeCo Specialties	Biocide	Trade Secret	Proprietary	100.00%	*0*	0.00000%		WadeCo Specialties	Josh	McMahan	joshmcmahan@wadecospec.com	432-563-4340
SI-208 Scale Inhibitor	WadeCo Specialties	Scale Inhibitor	Phosphonic Acid	7664-38-2	50.00%	*0*	0.00000%						
			Phosphonous Acid	13598-36-2	50.00%	*0*	0.00000%						
PD-603 Paraffin Inhibitor	WadeCo Specialties	Paraffin Inhibitor	Dimethylamine Benzyl Quarternary Chlorid	54-85-9	45.00%	*0*	0.00000%						
			Ammonium Acetate	9016-45-9	40.00%	*0*	0.00000%						
			Water	7732-18-5	15.00%	*0*	0.00000%						
FSI2175 Scale Inhibitor	Aegis Chem.	Scale Inhibitor/Iron Chelant	ctrakis(hydroxymethyl Phosphonium Sulfat	55566-30-8	10.00%	*0*	0.00000%						
S-644 Scale Inhibitor	Aegis Chem.	Scale Inhibitor	Phosphoric Acid	7664-38-2	50.00%	*0*	0.00000%						
			Hydrochloric Acid	7647-01-0	50.00%	*0*	0.00000%						
D-3056 Surfactant	Aegis Chem.	Surfactant	Methanol	67-56-1	15.00%	*0*	0.00000%						
Aktivok HaCO2	OxyChem	Oxidizing/Bleaching Agent	Sodium Chlorite	7758-19-2	26.00%	*0*	0.00000%						
			Sodium Chloride	7647-14-5	3.00%	*0*	0.00000%						
			Water	7732-18-5	76.00%	*0*	0.00000%						