

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/24/2015
Job End Date:	9/11/2015
State:	Texas
County:	Reagan
API Number:	42-383-38926-00-00
Operator Name:	Pioneer Natural Resources
Well Name and Number:	UNIVERSITY 2-20 49H
Longitude:	-101.74712100
Latitude:	31.28094700
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	8,201
Total Base Water Volume (gal):	14,422,380
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	Carrier/Base Fluid	Water	7732-18-5	100.00000	90.89895	
SAND (WHOLE GRAIN)	Pioneer Natural Resources Pumping Services LLC	Proppant	Crystalline Silica Quartz	14808-60-7	99.50000	7.90507	
Crystalline Silica in the form of Quartz - various grades	Pioneer Natural Resources Pumping Services LLC	Proppant	Crystalline Silica	14808-60-7	99.90000	0.66883	
Hydrochloric Acid, 33-40%	Pioneer Natural Resources Pumping Services LLC	Stimulation	Water	7732-18-5	67.00000	0.11587	
			Hydrogen chloride	7647-01-0	40.00000	0.06918	
POLYfrac PLUS M-4.0	Pioneer Natural Resources Pumping Services LLC	Gelling Agent	Petroleum distillate	64742-47-8	55.00000	0.04499	
			Guar Gum	9000-30-0	50.00000	0.04090	
			Clay -	1302-78-9	5.00000	0.00409	
			Surfactant -	154518-36-2	1.00000	0.00082	

PXL-120X	Pioneer Natural Resources Pumping Services LLC	Crosslinker					
			Potassium hydroxide (CESI)	1310-58-3	50.00000	0.01060	
			Glycerine	56-81-5	40.00000	0.00848	
			Boric acid	10043-35-3	25.00000	0.00530	
FLOJET DR 6250	Pioneer Natural Resources Pumping Services LLC	Friction Reducer					
			Isoparaffinic Solvent	64742-47-8	26.00000	0.01317	
			Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	3.00000	0.00152	
StimOil ENHF	Pioneer Natural Resources Pumping Services LLC	Surfactant					
			Citrus terpenes - CESI	68647-72-3	5.00000	0.00546	
			Isopropyl alcohol	67-63-0	1.50000	0.00164	
POLYstim SI-110N Scale Inhibitor	Pioneer Natural Resources Pumping Services LLC	Scale Inhibitor					
			Proprietary blend	Proprietary	30.00000	0.00647	PIP Technology, 14227 Fern, Houston, TX 77079. Contact: Mo Hossain, 281-584-0047
PROCAP MC-AP	Pioneer Natural Resources Pumping Services LLC	Gel Breaker					
			Ammonium persulfate	7727-54-0	76.00000	0.00323	
			Cured Resin	Proprietary	24.00000	0.00102	Fritz Industries, 500 Sam Houston Road, Mesquite, TX 75149. Contact: Laurie Meeks, 972-285-5471
B-1203 Biocide	Pioneer Natural Resources Pumping Services LLC	Biocide					
			Glutaraldehyde	111-30-8	12.50000	0.00252	
			Didecyl dimethyl ammonium chloride	68424-85-1	1.80000	0.00036	
			Alkyl (50%C14, 40%C12, 10%C16) dimethyl benzyl ammonium chloride	7173-51-5	1.20000	0.00024	
X-Corr HT-W	Pioneer Natural Resources Pumping Services LLC	Corrosion Inhibitor					
			2-Butoxy ethanol	111-76-2	60.00000	0.00150	
			Aromatic Aldehyde	Proprietary	30.00000	0.00075	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Fatty alcohol Ethoxylate	Proprietary	5.00000	0.00012	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
VERSENE 100 Chelating Agent Liquid	Pioneer Natural Resources Pumping Services LLC	Scale Inhibitor					
			Water	7732-18-5	56.00000	0.00103	

			tetrasodium ethylenediamine tetraacetate	64-02-8	39.00000	0.00071	
			Sodium hydroxyacetate	2836-32-0	3.00000	0.00005	
			Sodium Hydroxide	1310-73-2	1.60000	0.00003	
			Nitrilotriacetate, trisodium salt (NTA)	5064-31-3	1.00000	0.00002	
Sodium Erythorbate	Pioneer Natural Resources Pumping Services LLC	Iron Control					
			Sodium erythorbate	5381-77-7	100.00000	0.00063	
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.							
		Other Chemicals					
			Water - TS	7732-18-5		0.07643	
			Polyamine Polyethers - TS	Proprietary		0.03276	CESI Chemical, 1004 S. Plainsman Road, Marlow, OK 73055. Contact: Jason White, 580-658-6608
			Propylene glycol - TS	57-55-6		0.03276	
			Water - TS	7732-18-5		0.01941	
			Copolymer of acrylamide and sodium acrylate - TS	25987-30-8		0.01773	
			Water - TS	7732-18-5		0.01773	
			Water - TS	7732-18-5		0.01685	
			Nonionic Alkoxylate - TS	Proprietary		0.01092	CESI Chemical, 1004 S. Plainsman Road, Marlow, OK 73055. Contact: Jason White, 580-658-6608
			Water - TS	7732-18-5		0.00636	
			Surfactants - TS	Proprietary		0.00546	CESI Chemical, 1004 S. Plainsman Road, Marlow OK, 73055. Contact: Jason White, 580-658-6608
			Surfactant - TS (SNF)	Proprietary		0.00304	SNF Oil and Gas, 1 Chemical Plant Road, Riceboro, GA 31323. Contact: Ruben Weston, 912-884-3366
			Fatty amino compound salt - TS	Proprietary		0.00125	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Ethoxylated alcohols - TS	Proprietary		0.00075	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Ethanol - TS	64-17-5		0.00020	
			Water - TS	7732-18-5		0.00012	
			Acetophenone - TS	98-86-2		0.00002	
			Methanol - TS	67-56-1		0.00002	
			Formaldehyde - TS	50-00-0		0.00000	

* 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)

Charles Miller

Hydraulic Fracturing Fluid Composition:

*** Information is based on the maximum potential for concentration and thus the total may be over 100%.

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of the information. Please note that Federal Law protects "proprietary," "trade secret," and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(b) and Appendix D.

PIONEER

NATURAL RESOURCES PUMPING SERVICES LLC

Remit to: Pioneer Natural Resources Pumping
Services LLC
5205 N. O'Connor Blvd, Suite 200
Irving, TX 75039-3746

Invoice#:	1467685	Representative:	
Well Name:	UNIVERSITY 2-20 #49H ✓	Start(M/D/Y):	08-24-2015 ✓
Job Type:	FRAC CASING	Release(M/D/Y):	09-11-2015 ✓
Field:	BIG LAKE AREA	Job Days:	9.5
Invoice Date:	09-16-2015	AFE: 032997 For Accounting Purposes: 927351-049	

Services								
Part #	Description	T	Quantity	UOM	Quantity2	UOM2	Unit Price	Total Cost
BF00710	Automated Blender, 71 - 80 BPM (2 hr min)	X	0.5	ea	1	ea	889.029	444.51
BF00711	Automated Blender, 71 - 80 BPM, Additional hrs	X	88.37	hr	1	ea	198.9484	17,581.07
ES20000	Frac Manifold Trailer	X	89.37	hr	1	ea	267.2286	23,882.22
ES24000	Chemical Van	X	9.5	day	1	ea	48.0041	456.04
ES25000	Chemical Float	X	9.5	day	3	ea	48.0041	1,368.12
ES26000	Iron Truck	X	9.5	day	1	ea	177.8058	1,689.16
ES31000	Sand Silo 40 ton (first two days)	X	0.5	ea	8	ea	407.255	1,629.02
ES31001	Sand Silo 40 ton additional days	X	8.5	day	8	ea	129.975	8,838.30
ES32000	Prop Transfer belt (first two days)	X	0.5	ea	2	ea	188.3771	188.38
ES32001	Prop Transfer belt additional days	X	8.5	day	2	ea	86.65	1,473.05
FS10001	Prop Pump Charge 20-40 or smaller mesh sand	X	113,852.58	cwt			0.181965	20,717.18
FS20006	Non Viscous Fluid Serv >1,000,000 gallons	X	4,086,390	gal			0.012131	49,572.00
HF00710	Hydration Unit, 71 - 80 BPM (2 hr min)	X	0.5	ea	1	ea	1,389.6927	694.85
HF00711	Hydration Unit, 71 - 80 BPM, Additional hrs	X	88.37	hr	1	ea	272.885112	24,114.86
MD10000	Proppant Delivery Charge- Frac		60	mi	5,692.629	ton	0.315406	107,729.36
MD20000	Heavy Vehicle round trip milage	X	60	mi	23	ea	1.194037	1,647.77
MD20001	Light Vehicle Mileage (Round Trip per unit)	X	60	mi	4	ea	0.701865	168.45
MF10000	Frac Monitoring, Computerized	X	68	stage			340.8811	23,179.91
PF50010	Pump, Frac 5,001-6,000 psi (2 hr min)	X	0.5	ea	11,368.12	HHP	1.746864	9,929.28
PF50011	Pump, Frac 5,001-6,000 psi, Additional hr	X	88.37	hr	11,368.12	HHP-hp	0.698399	701,612.17
SP10001	Supervisor	X	89.37	hr	2	ea	27.29475	4,878.66
SP10002	Wellsite Job coordinator	X	9.5	day	0.16	ea	389.925	592.69
SP10003	Equipment Operator/Technician	X	89.37	hr	20	ea	15.4237	27,568.32
TF00010	Acid Transport (four hour minimum)	X	89.37	hr	2	ea	15.4237	2,756.83
							Services Subtotal	\$1,032,712.20

Materials									
Part #	Reference Code	Description	T	Quantity	UOM	Quantity2	UOM2	Unit Price	Total Cost
10024154	GB10005	PROCAP MC AP ENCAPSULATED BREAKER		5,625	lbs ✓			6.339314	35,658.64
10024207	HA0000B	ACID BLENDING CHARGE		55,489	gal			0.476575	26,444.67

Materials									
Part #	Reference Code	Description	T	Quantity	UOM	Quantity2	UOM2	Unit Price	Total Cost
10024212	HA00036	HYDROCHLORIC ACID 31-36% HCL		23,274	gal			2.528447	58,847.08
10035419	NH50003	IRON STABILIZER, ERYTHORBIC ACID PL-58		832	lbs			2.646291	2,201.71
10035447	PW00100	SAND, 100 MESH		8,848.6	cwt			3.972036	35,146.96
10035472	SB03050	SAND, STANDARD (BROWN), 30-50 MESH		105,003.98	cwt			4.129739	433,639.03
10035502	WG20003	SLURRY GEL, POLYFRAC PLUS		12,130	gal			15.600466	189,233.65
10040422		PXL-120X CROSSLINKER, GLYCERINE BASED		2,506	gal			17.71126	44,384.42
10063105		CORROSION INHIBITOR, CORSITECH X-CORR HT-W		408	gal			28.5945	11,666.56
10066185		VERSENE 100-EDTA LIQUID		222	gal			14.500011	3,219.00
10067867		STIMOIL ENHF		16,984	gal			12.40828	210,742.23
10068217		FRICTION REDUCER FLOJET DR 6250		7,656	gal			6.056835	46,371.13
10068371		(BI123) BIOCID, AQUASERV B-1203		3,050	gal			15.588335	47,544.42
10068663		SCALE INHIBITOR POLYSTIM SI-110N		3,168	gal			7.95447	25,199.76
								Materials Subtotal	\$1,170,299.26

Undiscounted Items								
Part #	Description	T	Quantity	UOM	Quantity2	UOM2	Unit Price	Total Cost
MD20007	DOT Vehicle Charge	X	0.5	ea	23	ea	261.9	3,011.85
TF00000	Fuel Transport (non-discounted charge)	X	89.37	hr			89	7,953.93
					Undiscounted Items Subtotal			\$10,965.78

Comments

TX Oil Well Services Tax

\$22,649.96

Job Total **\$2,236,627.20**

Approved By Supervisor:

Print Name:

Approved By Company Man:

Print Name:

$$\begin{array}{r} 343390 \\ \times 42 \\ \hline 14,422,380 \end{array} \checkmark$$
[illegible]

Frac Date ✓	State ✓	County ✓	Well Name ✓	API/UWI ✓	Longitude (°) ✓	Latitude (°) ✓
8/24/2015 ✓	TEXAS ✓	REAGAN ✓	UNIVERSITY 2-20 49H ✓	42-383-38926-0000 ✓	-101.747121 ✓	31.280947 ✓
Max TVD (ftKB)						8,200.63 ✓
Phase		Step		Actual Start Date	Actual End Date	
STIM		OPS		8/24/2015 ✓	9/11/2015 ✓	