

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/14/2017
Job End Date:	5/27/2017
State:	Texas
County:	Pecos
API Number:	42-371-39502-00-00
Operator Name:	Periscope Operating LLC
Well Name and Number:	Cunning Wolf UL 1903H
Latitude:	30.82024400
Longitude:	-102.70139700
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,856
Total Base Water Volume (gal):	20,744,640
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	Approach	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	87.80879	None
100 White Mesh	Python	Proppant					
			Silica Substrate	Not Assigned	100.00000	5.28535	None
40/70 White	Python	Proppant					
			Silica Substate	Not Assigned	100.00000	4.19054	None
30/50 Resin Coat	Python	Proppant					
			Silica Substitute with bonded coatings	Not Assigned	100.00000	1.48893	None
Hydrochloric Acid (15%)	Python	Acidizing					
			Hydrochloric acid	7647-01-0	15.00000	0.88771	None
Plexbreak 150	Python	Fracturing Non Emulsifier					
			Salt of Phophono-Methylated Diamine	67-56-1	45.00000	0.13184	None
Plexgel 907	Python	4# Guar System in Emulsion Form					
			Petroleum Hydro Light Distillate	Not Assigned	25.00000	0.08871	None
Greenhib 677	Python	Fracturing Scale Inhibitor					

			Salt of Phophono-Methylated Diamine	Not Assigned	25.00000	0.04953	None
Plexslick 957	Python	Anionic Polymer in Emulsion Form					
			Petroleum Hydro Light Distillate	Proprietary	20.00000	0.04818	None
Plexcide 15-G	Python	Fracturing Bacteria Aid					
			Glutaraldehyde	111-30-8	14.00000	0.01824	None
The Reducer	Python	Iron Control for HCL Acid					
			Methyl alcohol	67-56-1	40.00000	0.00111	None
Plexhib 256	Python	Corrosion Inhibitor for HCL Acid					
			Methyl alcohol	67-56-1	40.00000	0.00107	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)