Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date 11/12/20
State: Texa
County: Mitche
API Number: 42-335-3574
Operator Name: Energen Resources Corporation
Well Name and Number: Westbrook Southeast Unit/Well No. 2314
Longitude: -101.042
Latitude: 32.38
Long/Lat Projection: NAD
Production Type:
True Vertical Depth (TVD): 3,36
Total Water Volume (gal)*: 16,5

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
F105, J567, J589, J590, L071, N002, S012	Schlumberger	Base Fluid, Breaker, Gelling Agent	Water	-	-	57.14338%	
	Schlumberger	Sand	Crystalline silica	14808-60-7	70.89343%	30.38253%	
	Schlumberger	Nitrogen	Oxygen Depletion [Asphyxiant]	7727-37-9	26.20690%	11.23139%	
	Schlumberger	Surfactant	Polyethoxylated alkanol (1)	Proprietary	0.75589%	0.32395%	
	Schlumberger	Gelling Agent	Fatty acid amidoalkyl betaine	Proprietary	0.64136%	0.27487%	
	Schlumberger	Reology Modifier	Propan-2-ol	67-63-0	0.45587%	0.19537%	
	Schlumberger	Surfactant	2-butoxyethanol	111-76-2	0.37795%	0.16198%	
	Schlumberger	Temporary Clay Stabilizer	Cholinium chloride	67-48-1	0.26523%	0.11367%	
	Schlumberger	Surfactant	Butan-1-ol	71-36-3	0.16378%	0.07019%	
	Schlumberger	Surfactant	Polyethoxylated alkanol (2)	Proprietary	0.12598%	0.05399%	
	Schlumberger	Breaker	Sulfonated polystyrene	Proprietary	0.02415%	0.01035%	

^{*} Total Water Volume sources may include fresh water, produced water, and/or recycled water

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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