Submit within 45 days of well completion

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Revised November 6, 2013

1. WELL API NO. 30-015-42487
2. Well Name: MARQUARDT FEDERAL #016H
3. Well Number: 016H

HYDRAULIC FRACTURING FLUID DISCLOSURE

☒ Original

☐ Amendment

4. Surface Hole Location: Unit:D Lot:D Section:12 Township:25S Range:26E Feet from:20 N/S Line:N Feet from:610 E/W Line:W
5. Bottom Hole Location: Unit:D Lot:D Section:12 Township:25S Range:26E Feet from:20 N/S Line:N Feet from:610 E/W Line:W
6. latitude: 32.1517334 longitude: -104.2532959
7. County: Eddy

8. Operator Name and Address: CIMAREX ENERGY CO. OF COLORADO, 202 S. Cheyenne Ave, Ste 1000, Tulsa 74103
9. OGRID: 162683
10. Phone Number: 918-295-1763
11. Last Fracture Date: 2/7/2016 Frac Performed by: Halliburton
12. Production Type: O
13. Pool Code(s): 13367, 97494
14. Gross Fractured Interval: 7,088 ft to 7,161 ft
15. True Vertical Depth (TVD): 7,161 ft
16. Total Volume of Fluid Pumped: 5,300,408 gals
17. Total Volume of Re-Use Water Pumped: N/A
18. Percent of Re-Use Water in Fluid Pumped: Not Disclosed

19. **HYDRAULIC FLUID COMPOSITION AND CONCENTRATION:**

Trade Name	Supplier	Purpose	Ingredients	(CAS #) Chemical Abstract Service #	Maximum Ingredient Concentration in Additive (% by mass)	Maximum Ingredient Concentration in HF Fluid (% by mass)
Fresh Water	Operator	Base Fluid	Fresh Water	7732-18-5	100%	83.44013%
BA-40L, BC-140 X2, LOSURF-360W, OPTIFLO-IIIA, Opti	Halliburton	Breaker, Buffer, Concentrate, Friction Reducer, Gelling Agent, Initiator, Proppant, Surfactant	Crystalline silica, quartz	14808-60-7	100%	16.2523%
			Water	7732-18-5	100%	0.09375%
			Guar gum	9000-30-0	100%	0.07539%
			Poly(oxy-1,2-ethanediyl), .alpha.-isodecyl-.omega.-hydroxy-	61827-42-7	30%	0.02383%
			Monoethanolamine borate	26038-87-9	100%	0.00894%
			Glycerine	56-81-5	10%	0.00794%
			Inorganic salt	Proprietary	30%	0.00756%
			Hydrotreated light petroleum distillate	64742-47-8	30%	0.00754%
			Polyacrylate	Proprietary	30%	0.00754%
			Complex alkylamine	Proprietary	5%	0.00397%
			Bentonite, benzyl(hydrogenated tallow alkyl) dimethylammonium stearate complex	121888-68-4	5%	0.00377%
			Potassium carbonate	584-08-7	60%	0.00335%
			Sodium perborate tetrahydrate	10486-00-7	100%	0.00304%
			Ethylene glycol	107-21-1	30%	0.00268%
			Alcohols, C12-16, ethoxylated	68551-12-2	10%	0.00251%
			Ammonium chloride	12125-02-9	10%	0.00251%
			Ammonium persulfate	7727-54-0	100%	0.00247%
			Surfactant mixture	Proprietary	1%	0.00151%
			9-Octadecenamide, n,n-bis-2 (hydroxy-ethyl)-,(Z)	93-83-4	5%	0.00126%
			Fatty acid ester	Proprietary	5%	0.00126%
			Sodium persulfate	7775-27-1	100%	0.00113%
			Alkane	Proprietary	1%	0.00079%
			Silica gel	112926-00-8	1%	0.00075%
			Polymer	Proprietary	30%	0.00074%
			Crystalline Silica, Quartz	14808-60-7	0.1%	8E-05%
			Talc	14807-96-6	1%	2E-05%
			2,7-Naphthalenedisulfonic acid, 3-hydroxy-4-[(4-sulfor-1-naphthalenyl) azo] -, trisodium salt	915-67-3	0.1%	1E-05%
			Ethylenediaminetetraacetic acid, tetrasodium salt	64-02-8	0.01%	1E-05%
			Hydrogen peroxide	7722-84-1	0.01%	1E-05%
			Nitrotriacetic acid, trisodium salt monohydrate	5064-31-3	0.01%	1E-05%
			Sodium bicarbonate	144-55-8	0.01%	1E-05%
			Sodium glycollate	2836-32-0	0.01%	1E-05%
			Sodium hydroxide	1310-73-2	0.01%	1E-05%
			Sodium sulfate	7757-82-6	0.1%	0%
HCL 15%	Petroplex	Acid	Hydrochloric Acid	7647-01-0	15%	0.00612%
Cronox AK-50	Petroplex	Corrosion Inhibitor	Oxyalkylated Alkylphenol	Proprietary	30%	2E-05%
			Heavy Aromatic Naptha	64742-94-5	30%	2E-05%
			Isopropanol	67-63-0	30%	2E-05%
			Fatty Acids	Proprietary	10%	1E-05%
			Complex Alkylaryl Polyo-Ester	Proprietary	10%	1E-05%
			Tar Bases, Quinoline Derivatives, Benzyl Chloride-Quaternized	72480-70-7	10%	1E-05%
			Formaldehyde	50-00-0	10%	1E-05%
			Acetylenic Alcohol	Proprietary	5%	0%
			Propargyl Alcohol	107-19-7	5%	0%
			Napthalene	91-20-3	5%	0%
Citric Acid	Petroplex	Iron Control	Citric Acid	77-92-9	100%	0.00204%
EC9546A	Petroplex	Surfactant	Heavy Aromatic Naptha	64742-94-5	10%	1E-05%
			Isopropanol	67-63-0	60%	4E-05%
			Polyethylene Glycol	25322-68-3	5%	0%
			Napthalene	91-20-3	1%	0%
			Phosphoric Acid Ester	Proprietary	0.1%	0%
			Oxyalkylated Alcohol	Proprietary	0.1%	0%
			Oxyalkylated Alkyl Alcohol	Proprietary	0.1%	0%
ClO2	Bosque	Biocide	Chlorine Dioxide	10049-04-4	1%	0%

20. I, as Operator, hereby certify that the information shown on this disclosure form is true and complete to the best of my knowledge and belief.

Signature: Signed Electronically Printed Name: Skipper Herring Title: Manager Stimulation Operations

Date: 3/2/2016

E-mail Address: sherring@cimarex.com

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