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.
30-015-39825

2. Well Name:
CRESCENT HALE 10 FEDERAL #002

3. Well Number:
002

HYDRAULIC FRACTURING FLUID DISCLOSURE

☒ Original

☐ Amendment

4. Surface Hole Location:
Unit:F Lot:F Section:11 Township:19S Range:30E
Feet from:1560 N/S Line:N
Feet from:1960 E/W Line:W

5. Bottom Hole Location:
Unit:F Lot:F Section:11 Township:19S Range:30E
Feet from:1560 N/S Line:N
Feet from:1960 E/W Line:W

6. latitude: 32.6778561345524 longitude: -103.944885843475

7. County:
Eddy

8. Operator Name and Address:
CIMAREX ENERGY CO. OF COLORADO
600 N. Marienfeld St
Suite 600
Midland 79701

9. OGRID: 162683

10. Phone Number: 918-295-1763

11. Last Fracture Date: 10/28/2013 Frac Performed by: Halliburton

12. Production Type:
O

13. Pool Code(s):
5200

14. Gross Fractured Interval:
8,472 ft to 8,549 ft

15. True Vertical Depth (TVD):
8,549 ft

16. Total Volume of Fluid Pumped:
2,184,234 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%	83.77901%
Premium White - 20/40	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100%	11.04464%
CRC Garnet- 20/40	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100%	4.41595%
			Hexamethylenetetramine	100-97-0	2%	0.08832%
			Phenol / formaldehyde resin	9003-35-4	5%	0.2208%
BC-140 X2	Halliburton	Initiator	Ethylene glycol	107-21-1	30%	0.01976%
			Monoethanolamine borate	26038-87-9	100%	0.06586%
LOSURF-360	Halliburton	Surfactant	Poly(oxy-1,2-ethanediyl), .alpha.-isodecyl-.omega. -hydroxy-	61827-42-7	30%	0.08264%
			Complex alkylamine		5%	0.00413%
BA-40L BUFFERING AGENT	Halliburton	Buffer	Potassium carbonate	584-08-7	60%	0.02057%
WG-36 GELLING AGENT	Halliburton	Gelling Agent	Guar gum	9000-30-0	100%	0.1445%
OPTIFLO-HTE	Halliburton	Breaker	Crystalline silica, quartz	14808-60-7	30%	0.00145%
			Walnut hulls	Proprietary	100%	0.00482%
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100%	0.00379%
HCL 15%	Petroplex	Acid	Hydrochloric Acid	7647-01-0	15%	0.01477%
Cronox AK-50	Petroplex	Corrosion Inhibitor	Oxyalkylated Alkylphenol	Proprietary	30%	5E-05%
			Heavy Aromatic Naptha	64742-94-5	30%	5E-05%
			Isopropanol	67-63-0	30%	5E-05%
			Fatty Acids	Proprietary	10%	2E-05%
			Complex Alkylaryl Polyo-Ester	Proprietary	10%	2E-05%
			Tar Bases, Quinoline Derivatives, Benzyl Chloride-Quaternized	72480-70-7	10%	2E-05%
			Formaldehyde	50-00-0	10%	2E-05%
			Acetylenic Alcohol	Proprietary	5%	1E-05%
			Propargyl Alcohol	107-19-7	5%	1E-05%
			Napthalene	91-20-3	5%	1E-05%
Citric Acid	Petroplex	Iron Control	Citric Acid	77-92-9	100%	0.00493%
EC9546A	Petroplex	Surfactant	Heavy Aromatic Naptha	64742-94-5	10%	2E-05%
			Isopropanol	67-63-0	60%	0.0001%
			Polyethylene Glycol	25322-68-3	5%	1E-05%
			Napthalene	91-20-3	1%	0%
			Phosphoric Acid Ester	Proprietary	10%	2E-05%
			Oxyalkylated Alcohol	Proprietary	10%	2E-05%
			Oxyalkylated Alkyl Alcohol	Proprietary	10%	2E-05%
ClO2	Bosque	Biocide	Chlorine Dioxide	10049-04-4	100%	0.00019%
Ingredients Listed Below This Line Are Part of the			2,7-Naphthalenedisulfonic acid, 3-hydroxy-4-[(4-sulfor-1-naphthalenyl) azo] -, trisodium salt	915-67-3	0%	0%
			Bentonite, benzyl (hydrogenated tallow alkyl) dimethylammonium stearate complex	121888-68-4	0%	0%
			C.I. Pigment Red 5	6410-41-9	0%	0%
			Crystalline Silica, Quartz	14808-60-7	0%	0%
			Cured acrylic resin	Proprietary	0%	0%
			Enzyme	Proprietary	0%	0%
			Silica gel	112926-00-8	0%	0%
			Sodium sulfate	7757-82-6	0%	0%
			Surfactant mixture	Proprietary	0%	0%
			Water	7732-18-5	0%	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: 11/19/2013

E-mail Address: sherring@cimarex.com

NMOCD does not require the reporting of information beyond MSDS data as described in 29 CFR 1910.1200. NMOCD does not require the reporting or disclosure of proprietary, trade secret or confidential business information.