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.
30-025-22486

2. Well Name:
COLE STATE #012

3. Well Number:
012

HYDRAULIC FRACTURING FLUID DISCLOSURE

☒ Original

☐ Amendment

4. Surface Hole Location:
Unit:D Lot:D Section:16 Township:22S Range:37E
Feet from:990 N/S Line:N
Feet from:330 E/W Line:W

5. Bottom Hole Location:
Unit:D Lot:D Section:16 Township:22S Range:37E
Feet from:990 N/S Line:N
Feet from:330 E/W Line:W

6. latitude: 32.3963752885893 longitude: -103.175410298195

7. County:
Lea

8. Operator Name and Address:
VANGUARD PERMIAN, LLC
5847 San Felipe, Suite 3000
Houston 77057

9. OGRID: 258350

10. Phone Number: 832-327-2252

11. Last Fracture Date: 3/28/2014 Frac Performed by: CUDD

12. Production Type:
O

13. Pool Code(s):
50350

14. Gross Fractured Interval:
Confidential

15. True Vertical Depth (TVD):
7,350 ft

16. Total Volume of Fluid Pumped:
55,561 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)
Water		Carrier / Base Fluid		7732-18-5	100%	84.73542%
Sand		Proppant	Silicon Dioxide	14808-60-7	100%	9.15787%
B-15	Water Science Tech	Biocide	Tetrakis (hydroxymethyl) phosphonium sulfate	55566-30-8	20%	0.00166%
			Water	7732-18-5	80%	0.00665%
SG-15G	PfP Technology	Polymer	Guar Gum	9000-30-0	50%	0.23316%
			Petroleum Distillate (Mineral Oil)	64742-47-8	55%	0.25647%
			Bentonite Clay	14808-60-7	2%	0.00933%
			Surfactant	68439-51-0	2%	0.00933%
XL-335	ASK	Crosslinker	Ethylene Glycol	107-21-1	25%	0.01724%
			Potassium Hydroxide	1310-58-3	25%	0.01724%
			Proprietary	Proprietary	25%	0.01724%
			Proprietary	Proprietary	15%	0.01034%
			Proprietary	Proprietary	10%	0.0069%
BC-1	Benchmark	Breaker Catalyst	Triethanolamine	102-71-6	100%	0.04152%
			Diethanolamine	111-42-2	30%	0.01246%
GB-2	Fritz Industries, Inc.	Breaker	Ammonium Persulfate	7727-54-0	99.9%	0.00915%
NE-227	CESI	Non-emulsifier	Isopropanol	67-63-0	15%	0.01068%
			Methanol	67-56-1	15%	0.01068%
			Ethoxylated Nonylphenol	9016-45-9	20%	0.01424%
Garnett,Pearl RCS	Preferred Sands	RCS Proppants	Quartz(SiO2)	14808-60-7	98%	5.33244%
			Polyurethane Resin	Proprietary	5%	0.27206%
			Colorant	Proprietary	1%	0.05441%

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: Randall Hicks Title: Sr Operations Engineer

Date: 9/23/2014

E-mail Address: rhicks@vnrllc.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.