

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

1. WELL API NO:  
30-025-42783

2. Well Name:  
VIKING HELMET STATE COM #002H

3. Well Number:  
002H

4. Surface Hole Location:  
Unit: B Lot: B Section: 29 Township: 24S Range: 35E  
Feet from: 190 N/S Line: N  
Feet from: 1980 E/W Line: E

5. Bottom Hole Location:  
Unit: G Lot: G Section: 32 Township: 24S Range: 35E  
Feet from: 2290 N/S Line: N  
Feet from: 1959 E/W Line: E

6. latitude: 32.19523267 longitude: -103.3873685

7. County: Lea

**HYDRAULIC FRACTURING FLUID DISCLOSURE**

Original  
 Amendment

8. Operator Name and Address:  
COG OPERATING LLC  
One Concho Center  
600 W. Illinois Ave  
Midland 79701

9. OGRID: 229137 10. Phone Number: 432-685-4332

11. Last Fracture Date: 6/14/2016 Frac Performed by: Halliburton

12. Production Type: O

13. Pool Code(s): 98098

14. Gross Fractured Interval: 12,407 ft to 19,314 ft

15. True Vertical Depth (TVD): 12,800 ft

16. Total Volume of Fluid Pumped: 10,000,000 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          | Water   | 7732-18-5                           | 100%   | 84.85664%  |
| 15% FE ACID - DOUBLE STRENGTH                       | Halliburton  | Solvent             | Listed Below  | Listed Below                        | 0%   | 0%   |
| BE-9  | Halliburton  | Biocide             | Listed Below  | Listed Below                        | 0%   | 0%   |
| Cia-Web(TM)   | Halliburton  | Additive            | Listed Below  | Listed Below                        | 0%   | 0%   |
| DCA-23003   | Halliburton  | Friction Reducer    | Listed Below  | Listed Below                        | 0%   | 0%   |
| FDP-S1011-11  | Halliburton  | Friction Reducer    | Listed Below  | Listed Below                        | 0%   | 0%   |
| FDP-S1046-12  | Halliburton  | Surfactant          | Listed Below  | Listed Below                        | 0%   | 0%   |
| HAI-OS ACID INHIBITOR                               | Halliburton  | Corrosion Inhibitor | Listed Below  | Listed Below                        | 0%   | 0%   |
| N-ZYME 3  | Halliburton  | Enzyme              | Listed Below  | Listed Below                        | 0%   | 0%   |
| OptiKleen-WF(TM)                                    | Halliburton  | Concentrate         | Listed Below  | Listed Below                        | 0%   | 0%   |
| SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676) | Halliburton  | Proppant            | Listed Below  | Listed Below                        | 0%   | 0%   |
| SAND-PREMIUM WHITE-40/70, BULK                      | Halliburton  | Proppant            | Listed Below  | Listed Below                        | 0%   | 0%   |
| Scalechek(R) SCP-2 Scale Inhibitor                  | Halliburton  | Scale Preventer     | Listed Below  | Listed Below                        | 0%   | 0%   |
| WG-38 GELLING AGENT                                 | Halliburton  | Gelling Agent       | Listed Below  | Listed Below                        | 0%   | 0%   |
| Parasorb 5000                                       | Baker Hughes | Paraffin Inhibitor  | Listed Below  | Listed Below                        | 0%   | 0%   |
| Scaletrol   | Baker Hughes | Scale Inhibitor     | Listed Below  | Listed Below                        | 0%   | 0%   |
| Optiflo-HTE   | Halliburton  | Breaker             | Listed Below  | Listed Below                        | 0%   | 0%   |
| MSDS and Non-MSDS Ingredients are listed below the  |              |                     |   |                                     | 0%   | 0%   |
| Ingredients   | Listed Above | Listed Above        | 1,2-Benzisothiazolin-3-one  | 2634-33-5                           | 0.1%   | 0%   |
|   |              |                     | Acetic acid   | 64-19-7                             | 1%   | 0.00738%   |
|   |              |                     | Acetic anhydride  | 108-24-7                            | 5%   | 0.0369%  |
|   |              |                     | Acrylamide  | 79-06-1                             | 0.01%  | 1E-05%   |
|   |              |                     | Acrylamide, sodium acrylate polymer   | 25987-30-8                          | 30%  | 0.03298%   |
|   |              |                     | Alcohol alkoxy sulfate salt   | Proprietary                         | 5%   | 0.00399%   |
|   |              |                     | Alcohols ethoxylated  | Proprietary                         | 5%   | 2E-05%   |
|   |              |                     | Alcohols, C12-16, ethoxylated   | 68551-12-2                          | 30%  | 0.02394%   |
|   |              |                     | Amide   | Proprietary                         | 5%   | 2E-05%   |
|   |              |                     | Amine salts   | Proprietary                         | 0.1%   | 0.00017%   |
|   |              |                     | C.I. Pigment Red 5  | 6410-41-9                           | 1%   | 0%   |
|   |              |                     | Calcium chloride (CaCl2)  | 10043-52-4                          | 5%   | 0.00233%   |
|   |              |                     | Citric acid   | 77-92-8                             | 1%   | 0.00738%   |
|   |              |                     | Crystalline silica, quartz  | 14808-60-7                          | 100%   | 14.02268%  |
|   |              |                     | Crystalline Silica: Quartz (SiO2)   | 14808-60-7                          | 1%   | 9E-05%   |
|   |              |                     | Cured acrylic resin   | Proprietary                         | 30%  | 9E-05%   |
|   |              |                     | Enzyme  | Proprietary                         | 5%   | 1E-05%   |
|   |              |                     | Ethoxylated alcohols  | Proprietary                         | 30%  | 0.00037%   |
|   |              |                     | Ethoxylated branched C13 alcohol  | 78330-21-9                          | 5%   | 0.0055%  |
|   |              |                     | Ethylene glycol   | 107-21-1                            | 30%  | 0.01399%   |
|   |              |                     | Fatty acid ester  | Proprietary                         | 5%   | 2E-05%   |
|   |              |                     | Fatty acids, tall oil   | Proprietary                         | 30%  | 0.00037%   |
|   |              |                     | FD&C Blue 1   | 3844-45-9                           | 5%   | 0%   |
|   |              |                     | Glassy calcium magnesium phosphate  | 65997-17-3                          | 100%   | 0.02337%   |
|   |              |                     | Glycerine   | 56-81-5                             | 60%  | 1E-05%   |
|   |              |                     | Glycosidase   | 9032-92-2                           | 5%   | 0%   |
|   |              |                     | Guar gum  | 9000-30-0                           | 100%   | 0.01731%   |
|   |              |                     | Hydrochloric acid   | 7647-01-0                           | 30%  | 0.22139%   |
|   |              |                     | Hydrotreated light petroleum distillate   | 64742-47-8                          | 30%  | 0.03308%   |
|   |              |                     | Hydroxyalkylammonium chloride   | Proprietary                         | 60%  | 0.05244%   |
|   |              |                     | Inorganic salt  | Proprietary                         | 5%   | 2E-05%   |
|   |              |                     | Methanol  | 67-56-1                             | 60%  | 0.02467%   |
|   |              |                     | Mineral Oil   | 8042-47-5                           | 30%  | 0.00277%   |
|   |              |                     | Olefins   | Proprietary                         | 5%   | 0.00015%   |
|   |              |                     | Polyacrylate  | Proprietary                         | 30%  | 0.0001%  |
|   |              |                     | Propargyl alcohol   | 107-19-7                            | 10%  | 0.00012%   |
|   |              |                     | Propoxylated alcohol  | Proprietary                         | 30%  | 0.02394%   |
|   |              |                     | Quaternary amine  | Proprietary                         | 5%   | 0.00533%   |
|   |              |                     | Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide | 68527-49-1                          | 30%  | 0.00037%   |
|   |              |                     | Sorbitan, mono-9-octadecenoate, (Z)   | 1338-43-8                           | 5%   | 0.0055%  |
|   |              |                     | Sodium chloride   | 7647-14-5                           | 5%   | 0.00437%   |
|   |              |                     | Sodium diacetate  | 126-96-5                            | 5%   | 0.0055%  |
|   |              |                     | Sodium perborate tetrahydrate   | 10496-00-7                          | 100%   | 0.00424%   |
|   |              |                     | Sorbitan monooleate polyoxyethylene derivative  | 9005-65-6                           | 5%   | 0.0055%  |
|   |              |                     | Tributyl tetradecyl phosphonium chloride  | 81741-28-8                          | 10%  | 0.0003%  |
|   |              |                     | Walnut hulls  | Proprietary                         | 100%   | 0.00029%   |
|   |              |                     | Water   | 7732-18-5                           | 100%   | 0.9464%  |

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: Stormi Davis Title: Regulatory Analyst

Date: 12/14/2016

E-mail Address: sdavis@conchoresources.com

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