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|--|--|---|--|-------------------------------------|--|--|--|--|--|
| 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 February 15, 2012 | | | | | | | |
| | | 1. WELL API NO. 30-025-40302 | | | | | | | |
| HYDRAULIC FRACTURING FLUID DISCLOSURE <input checked="" type="checkbox"/> Original <input type="checkbox"/> Amendment | | 2. Well Name: LIGHTNING P-38 STATE #002H | | | | | | | |
| | | 3. Well Number: 002H | | | | | | | |
| | | 4. Surface Hole Location: Unit:H Lot:8 Section:1 Township:21S Range:33E Feet from:1980 N/S Line:N Feet from:330 E/W Line:E | | | | | | | |
| | | 5. Bottom Hole Location: Unit:D Lot:5 Section:1 Township:21S Range:33E Feet from:2070 N/S Line:N Feet from:384 E/W Line:W | | | | | | | |
| | | 6. latitude: longitude: 32.5168596996001 - 103.518482057813 | | | | | | | |
| | | 7. County: Lea | | | | | | | |
| 8. Operator Name and Address: COG OPERATING LLC 550 W TEXAS SUITE 1300 MIDLAND 79701 | | 9. OGRID: 229137 | 10. Phone Number: | | | | | | |
| 11. Last Fracture Date: 4/21/2012 Frac Performed by: Halliburton | | 12. Production Type: O | | | | | | | |
| 13. Pool Code(s): 5535 | | 14. Gross Fractured Interval: 11,680 ft to 15,970 ft | | | | | | | |
| 15. True Vertical Depth (TVD): 11,497 ft | | 16. Total Volume of Fluid Pumped: 68,352 bbls | | | | | | | |
| 17. 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 | | | | 0% | 0% | | | |
| HYDROCHLORIC ACID 5-10% | Halliburton | Solvent | Hydrochloric acid | 7647-01-0 | 10% | 2.04221% | | | |
| 30/50 SDC | Halliburton | | | | 0% | 0% | | | |
| CL-31 CROSSLINKER | Halliburton | Crosslinker | Potassium hydroxide | 1310-58-3 | 5% | 0.00093% | | | |
| | | | Potassium metaborate | 13709-94-9 | 60% | 0.01114% | | | |
| CL-22 UC | Halliburton | Crosslinker | Potassium formate | 590-29-4 | 60% | 0.04985% | | | |
| FR-48 | Halliburton | Friction Reducer | Contains no hazardous substances | Mixture | 100% | 0.01312% | | | |
| CLA-STA XP ADDITIVE | Halliburton | Clay Stabilizer | Polyepichlorohydrin, trimethyl amine quaternized | 51838-31-4 | 60% | 0.01806% | | | |
| D-AIR 3000L | Halliburton | Defoamer | Alkenes | Confidential Business Information | 100% | 0.01186% | | | |
| | | | Silica, amorphous precipitated | 67762-90-7 | 30% | 0.00356% | | | |
| LoSurf-300D | Halliburton | Non-ionic Surfactant | 1,2,4 Trimethylbenzene | 95-63-6 | 1% | 0.00074% | | | |
| | | | Ethanol | 64-17-5 | 60% | 0.0446% | | | |
| | | | Heavy aromatic petroleum naphtha | 64742-94-5 | 30% | 0.0223% | | | |
| | | | Naphthalene | 91-20-3 | 5% | 0.00372% | | | |
| | | | Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched | 127087-87-0 | 5% | 0.00372% | | | |
| CLA-WEB™ | Halliburton | Additive | Ammonium salt | Confidential Business Information | 50% | 0.02263% | | | |
| MO-67 | Halliburton | pH Control Additive | Sodium hydroxide | 1310-73-2 | 30% | 0.00531% | | | |
| BE-9 | Halliburton | Biocide | Tributyl tetradecyl phosphonium chloride | 81741-28-8 | 10% | 0.00406% | | | |
| 3rd Party Scale Inhibitor | Operator | *3rd Party Additive | *Supplied by Operator | | 100% | 0.02143% | | | |
| WG-36 GELLING AGENT | Halliburton | Gelling Agent | Guar gum | 9000-30-0 | 100% | 0.1803% | | | |
| OptiKleen-WF™ | Halliburton | Concentrate | Sodium perborate tetrahydrate | 10486-00-7 | 100% | 0.00108% | | | |
| SP BREAKER | Halliburton | Breaker | Sodium persulfate | 7775-27-1 | 100% | 0.00108% | | | |
| OPTIFLO-III DELAYED RELEASE BREAKER | Halliburton | Breaker | Ammonium persulfate | 7727-54-0 | 100% | 0.00885% | | | |
| | | | Crystalline silica, quartz | 14808-60-7 | 30% | 0.00265% | | | |
| 3rd Party Scale Inhibitor | Operator | *3rd Party Additive | *Supplied by Operator | | 100% | 0.01966% | | | |
| Ingredients Listed Below This Line Are Part of the | | | 2,2'-Azobis-(2-(imidazlin-2-yl) propane)-dihydrochloride | 27776-21-2 | 0% | 0% | | | |
| | | | Acrylamide | Confidential Business Information | 0% | 0% | | | |
| | | | Acrylate Polymer | Confidential Business Information | 0% | 0% | | | |
| | | | Aluminum chloride, basic | 1327-41-9 | 0% | 0% | | | |
| | | | Amine Salts | Confidential Business Information | 0% | 0% | | | |
| | | | Amine Salts | Confidential Business Information | 0% | 0% | | | |
| | | | Ammonium salt | Confidential Business Information | 0% | 0% | | | |
| | | | Ammonium Sulfate | 7783-20-2 | 0% | 0% | | | |
| | | | Bentonite, benzyl (hydrogenated tallow alkyl) dimethylammonium stearate complex | 121888-68-4 | 0% | 0% | | | |
| | | | Borate salts | Confidential Business Information | 0% | 0% | | | |
| | | | Crystalline silica, quartz | 14808-60-7 | 0% | 0% | | | |
| | | | Cured Acrylic Resin | Confidential Business Information | 0% | 0% | | | |
| | | | Glycerine | 56-81-5 | 0% | 0% | | | |
| | | | Oxyalkylated Phenolic Resin | Confidential Business Information | 0% | 0% | | | |
| | | | Oxyalkylated Phenolic Resin | Confidential Business Information | 0% | 0% | | | |
| | | | Polyacrylate | Confidential Business Information | 0% | 0% | | | |
| | | | Polydimethyl dially ammonium chloride | 26062-79-3 | 0% | 0% | | | |
| | | | Polymer | Confidential Business Information | 0% | 0% | | | |
| | | | Polypropylene glycol | 25322-69-4 | 0% | 0% | | | |
| | | | Quaternary Amine | Confidential Business Information | 0% | 0% | | | |
| | | | Quaternary Amine | Confidential Business Information | 0% | 0% | | | |
| | | | Quaternary Amine | Confidential Business Information | 0% | 0% | | | |
| | | | Silica gel | 112926-00-8 | 0% | 0% | | | |
| | | | Sodium carboxymethyl cellulose | 9004-32-4 | 0% | 0% | | | |
| | | | Sodium chloride | 7647-14-5 | 0% | 0% | | | |
| | | | Sodium glycollate | 2836-32-0 | 0% | 0% | | | |
| | | | Sodium sulfate | 7757-82-6 | 0% | 0% | | | |
| | | | Surfactant blend | Proprietary | 0% | 0% | | | |
| | | | Surfactant Mixture | Confidential Business Information | 0% | 0% | | | |
| | | | Surfactant Mixture | Confidential Business Information | 0% | 0% | | | |
| | | | Trimethylamine, N-oxide | 1184-78-7 | 0% | 0% | | | |
| | | | Water | 7732-18-5 | 0% | 0% | | | |
| | | | 18. 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: 5/22/2012 | | | | | | |
| E-mail Address: sdavis@conchoresources.com | | | | | | | | | |

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