

Hydraulic Fracturing Fluid Product Component Information Disclosure

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|----------------------------|-----------------------------|
| Fracture Date: | 10/31/2012 |
| State: | Michigan |
| County: | Kalkaska |
| API Number: | 21-079-60545 |
| Operator Name: | Encana Oil & Gas (USA) Inc. |
| Well Name and Number: | State Excelsior 2-25 HD1 |
| Longitude: | -84.9785412 |
| Latitude: | 44.6829248 |
| Long/Lat Projection: | NAD27 |
| Production Type: | Gas |
| True Vertical Depth (TVD): | 8,972 |
| Total Water Volume (gal)*: | 12,562,096 |

Hydraulic Fracturing Fluid Composition:

| Trade Name | Supplier | Purpose | Ingredients | Chemical Abstract Service Number (CAS #) | Maximum Ingredient Concentration in Additive (% by mass)** | Maximum Ingredient Concentration in HF Fluid (% by mass)** | Comments |
|----------------------------------|----------------------------------|----------------------|--|--|--|--|-----------------|
| Fresh Water | Onsite Groundwater Well - Encana | Base Fluid | Water | | 100.00% | 90.64013% | Density = 8.330 |
| FE ACID - >10% HCL | Halliburton | Acid | Hydrochloric acid | 7647-01-0 | 30.00% | 0.56220% | Density = 8.940 |
| SAND - PREMIUM WHITE | Halliburton | Proppant | Crystalline silica, quartz | 14808-60-7 | 100.00% | 8.55330% | |
| FR-66 | Halliburton | Friction Reducer | Hydrotreated light petroleum distillate | 64742-47-8 | 30.00% | 0.03598% | |
| Scalechek® LP-65 Scale Inhibitor | Halliburton | Scale Inhibitor | Ammonium chloride | 12125-02-9 | 10.00% | 0.00249% | |
| BE-9 | Halliburton | Biocide | Tributyl tetradecyl phosphonium chloride | 81741-28-8 | 10.00% | 0.00212% | |
| LoSurf-300D | Halliburton | Non-ionic Surfactant | 1,2,4 Trimethylbenzene | 95-63-6 | 1.00% | 0.00078% | |
| | | | Ethanol | 64-17-5 | 60.00% | 0.04670% | |
| | | | Heavy aromatic petroleum naphtha | 64742-94-5 | 30.00% | 0.02335% | |
| | | | Naphthalene | 91-20-3 | 5.00% | 0.00389% | |
| | | | Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched | 127087-87-0 | 5.00% | 0.00389% | |
| HAI-OS ACID INHIBITOR | Halliburton | Corrosion Inhibitor | Methanol | 67-56-1 | 60.00% | 0.00028% | |
| | | | Propargyl alcohol | 107-19-7 | 10.00% | 0.00005% | |

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

