

## **Cardium Formation Hydraulic “Frac” Microseismic: Observations and Conclusions**

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### **Abstract**

In 2010, PetroBakken Energy acquired several companies with resource play potential in the Cardium of Central Alberta. After the first year of encouraging results the company set out to further evaluate these properties in 2011 and drilled an additional 120 wells into the Cardium formation. Multistage hydraulic fracture stimulations ("fracs") from horizontal wellbores were employed to evaluate these properties with varying results. After reviewing several months of production profiles, several questions were being asked. Why were the results so variable? Was it because of the geology, the reservoir pressure, or the frac style, and what technologies should we utilize to maximize our frac efficiencies and well productivity. Microseismic was acquired in eight separate projects to answer some of these questions. As this work is still ongoing at PetroBakken, this paper will present some of the current observations and pose further questions to be answered from additional technical work.