

## **Drilling Risk Assessment through Joint EM and Seismic Data Integrated Interpretation**

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### **Abstract**

Electromagnetic method is one of the important approaches to hydrocarbon prospecting. This paper describes an approach to invert resistivity and induced polarization (IP) using the combined constrain of seismic and electric logging data. As a result, the accuracy of hydrocarbon reservoir distribution prediction based on formation's electrical properties is significantly improved. The paper presents an example illustrating that joint constrained inversion and integrated interpretation workflow of electromagnetic properties (resistivity and polarization), seismic traps as well as seismic attributes, can significantly reduce drilling risks for oil and gas exploration. The statistic number on practical projects also supports the conclusion. The paper also discussed how the joint inversion and interpretation workflow works at different stages of oil and gas exploration and production with very positive results.