

## **Source Rock from a Siliciclastic or a Carbonate System: What's the Difference? A Comparison between the Jurassic Posidonia Shale Formation from Europe and the Jurassic Tuwaiq Mountain Formation from the Middle East**

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### **Abstract**

The Jurassic Period holds some of the best source rocks in the world. In Northwest Europe for example, the Early Toarcian black shale known as the Jet Rock or the Posidonia Shale Formation, is widely distributed. In the Middle East, the Callovian-Oxfordian source rock known as the Najmah or the Tuwaiq Mountain Limestone Formation, occurs across the entire Arabian peninsula (Sharland *et al.*, 2001). The fine-grained siliciclastic Posidonia Shale Formation is developed in a shallow epeiric sea, the organic-rich mudstones of the Najmah/Tuwaiq Mountain Formation are developed in intra-shelf basins of a carbonate platform (Ziegler, 2001). In this paper, the two source rocks are compared in terms of overall lithological character, in particular Total Organic Carbon (TOC) trends, cyclicity, brittleness, and in the processes that led to the excess burial of organic matter.