Geospatial Analysis for Deepwater Drilling
Target drilling operations with analysis of petrofacies data

THE AYASDI IMPACT

One of the world's largest independent oil and gas exploration and productions companies ("the Company") used The Ayasdi Platform to identify key factors that indicate deepwater oil reserves, which translated into significant financial savings for the Company.

Specifically, petro physicists found new correlations in an analysis of petrofacial rock sample data, overlaid with seismic and sensor data that resulted in the identification of high-value target regions for deepwater drilling.

THE PROBLEM

Until recently, deep water oil drilling has been technologically and economically infeasible. With rising energy demands, companies are now investing in global deepwater oil and gas exploration exceeding $145 billion in 2012 only.

Considering the expense associated with deepwater drilling operations, positively identifying underwater oil reservoirs is critical to the Company's operational profitability. The Company is leveraging seismic and sensor equipment to interrogate the geophysical properties of the sea floor, as well as rock samples to determine the composition of the substrata.

The high volumes of complex data surpassed the ability of the Company's specialized software applications, and petro physicists struggled to determine the factors that would make a drill site profitable.

THE SOLUTION

Ayasdi's solution automates the end-to-end workflow from insight discovery to operationalizing how data is used to solve deepwater drilling challenges. The Ayasdi Platform presented the petrophysicists with multiple new insights contained within their complex data sets, resulting in the identification of new optimal targets for deepwater drilling.
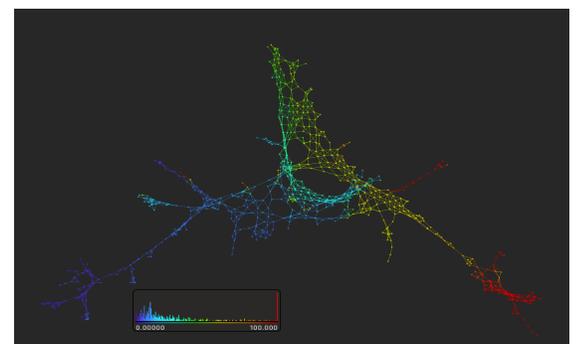
An Ayasdi Analysis of a geospatial rock sample, colored by water saturation in the rock

"The seismic research, sensor data, and geophysical measurements represent large volumes of raw data that we store and attempt to leverage throughout our decision making processes. In rock samples alone, we measure over fifty characteristics, such as density, calcium content, water content, and porosity, which have a direct correlation with positive oil reserve identification. Ayasdi's strength is in combining multiple data sets from many sources which has shed new light on where to target our drilling operations to help optimize our return."
Sr. Deepwater Oil & Gas Executive of the Company