

GeoSource saved \$500,000 USD by Avoiding Additional Coring Runs in Unconventional drilling program



Client

Eni
Shale Gas Project, Europe

Challenge

Identifying coring points in the reservoir section and calibrating petrophysical models in time for rig operations to be determined without incurring extra costs.

Solution

Perform geochemical analysis on cuttings at the wellsite while drilling to integrate with other data sets and help identify the prospective zones for coring of potential reservoir sections.

Results

Pyrolysis and Total Organic Carbon (TOC) were used to identify source rock characteristics in real-time. These analyses were used to identify a suitably high TOC to commence coring, but were also then used to identify a reduction in TOC at the base of the core and allow normal drilling to resume.

Value

Data was acquired in real-time reducing the long wait from sending samples to offsite labs, allowing for rapid decision making during the exploration drilling phase. Real-Time on site services prevented 4 days of unnecessary rig time by avoiding additional planned coring resulting in the client estimating a saving of approximately \$500,000.

Services used



Advanced Real-Time Cutting Analysis applied to Shale Gas Project

In a poorly explored area the Advanced Real-Time Cuttings Analysis methodology was used to support operational decisions during the drilling activity, and the data integrated with other formation evaluation data sets; wireline, mud gas and desorption to interpret the well results.

Real-Time Decisions for coring

By relying on the organic geochemistry solutions from GeoSource, the TOC, sampled every 5m, along with continuous monitoring of gas shows allowed the identification of when to start coring. After retrieving the core, a complete geochemical analysis was performed. As a result of this analysis the bottom section of the core was identified to be of a lower than anticipated TOC which helped correlate the well with offset data. Based on this correlation the decision was made to continue drilling without further coring. Cuttings continued to be collected and analyzed while drilling to validate the decision.

The decision resulted in significant rig time savings (trip out and trip in of the coring BHA) and cancelled coring operation in non-reservoir section. The Operator estimated a total of four (4) days of rig time were saved plus the additional unnecessary coring operation prevented.

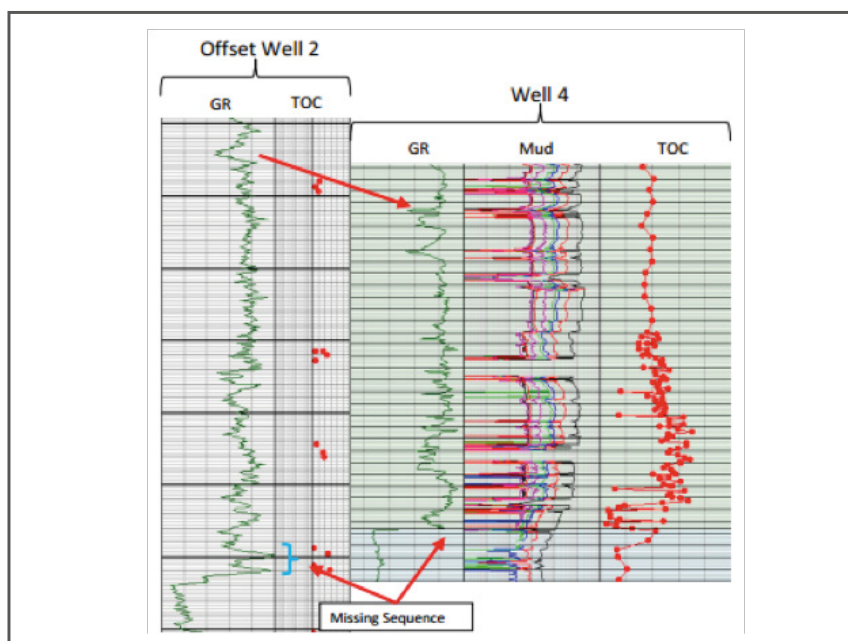


Figure 1. Missing sequence during the 4th well identified in Real-Time through geochemistry analysis, saving 4 days of rig time.

Contact Sales & Marketing for more information at marketing@geolog.com

Technical Paper References



Advanced Cuttings Analysis Improves Reservoir Characterization and Reduces Operating Times in Shale Gas Drilling Project.
IPTC-17186-MS (International Petroleum Technology Conference, Beijing, March 2013, Eni)