

G8 (DualFidStar) Differentiates Between Hydrocarbon and Water Intervals, Saving 12 Hours of Rig Time



Client

Major E&P Company
Tight Siliciclastic formation, Offshore Asia

Challenge

How to reduce the cost to identify hydrocarbon zones from water zones in a complex tight reservoir system with stacked contacts?

Solution

By utilizing an advanced quantitative gas extraction and analysis system measuring an extended range of light hydrocarbons a more thorough interpretation of the hydrocarbon content was provided, which when integrated with other data sources helped reduce the number of wireline tests required to confirm hydrocarbon contents.

Results

Through the use of a heated temperature stabilized constant volume extraction system, coupled with an advanced light hydrocarbon FID instrument, accurate hydrocarbon analysis was performed. Several hydrocarbon zones intermixed with water zones were identified and confirmed through an optimized wireline testing program.

Value

By identifying the most promising hydrocarbon intervals in the well the operator was able to optimize the number and location of testing points by identifying those with best permeability to test the fluid contents. Thereby minimizing the amount of rig time required for downhole testing and sampling. It was estimated by the client to have saved 12 hours of rig time by avoiding testing in three tight reservoir zones.

Services used



Identifying hydrocarbon intervals at an early stage for downhole testing and sampling.

In the course of formation evaluation a typical downhole testing and sampling program was utilized to further define hydrocarbons in the reservoir. However, were there other reliable formation evaluation services that could be used to minimize costly wireline testing and sampling?

G8 service used as part of an integrated formation evaluation program.

The G8 service provides an extended light hydrocarbon range up to nC8 to further define the “heavier” end of the light hydrocarbon range. With this information accurate interpretation about the potential hydrocarbons within various horizons in the well can be identified.

By differentiating light hydrocarbon zones from water wet intervals, this operator was able to confirm its petrophysical analysis and reduce the number of sampling points for hydrocarbon testing. As a result G8 saved approximately 12 hours of rig time by not sampling in three tight zones.

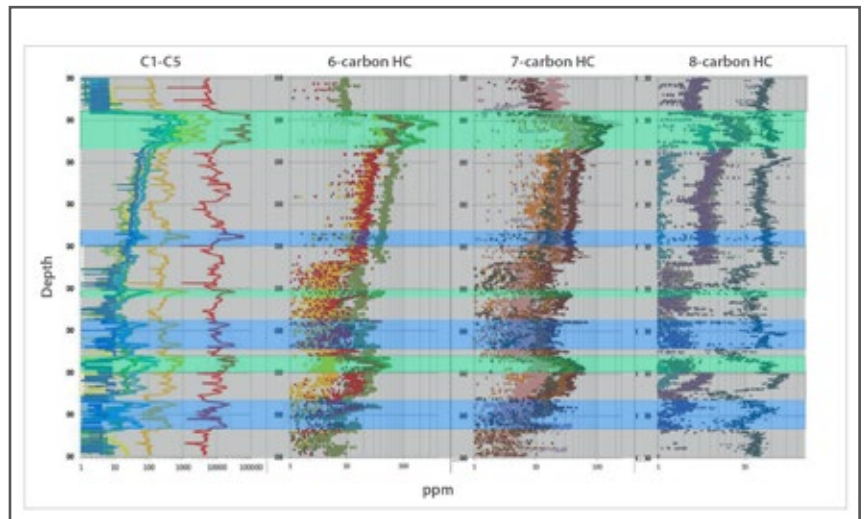


Figure 1. G8 Service used to identify gas peaks beyond nC5 to confirm hydrocarbon bearing zones