

GEOFluid

Advanced Gas Detection using Gas Chromatography Mass Spectrometry (GC-MS)

Combining an advanced gas extraction system with high resolution light hydrocarbon analysis from GC-MS, allows for real-time reservoir fluid characterization at surface.



Benefits

- Real-Time reservoir characterization
- Determine reservoir heterogeneity
- Fluid contact identification (GOC, OWC, GWC)
- Identification of source rock type
- Quantitative light hydrocarbon analysis
- Optimize downhole sampling programs
- Optimize wireline and LWD logging programs
- Aid completion strategy

Challenges and Solutions

Characterizing reservoir fluids requires specialized equipment for downhole formation testing. Selecting the optimal zones to perform downhole testing reduces both rig time, service costs and potential NPT through sampling less productive zones.

GeoFluid provides light hydrocarbon analysis from C1-nC8 and Helium analysis, to characterize potential pay zones in near real time, therefore, helping to optimize subsequent downhole sampling and testing programs.

Applications

GeoFluid is suitable for both onshore and offshore exploration, appraisal, and development projects where having early reservoir fluid characterization is critical to cost effective evaluation.

GEOLOG has successfully executed projects using the GeoFluid service in many countries, onshore and offshore, including Angola, Brazil, Kurdistan, Spain, Tanzania and the USA delivering positive results for our clients.

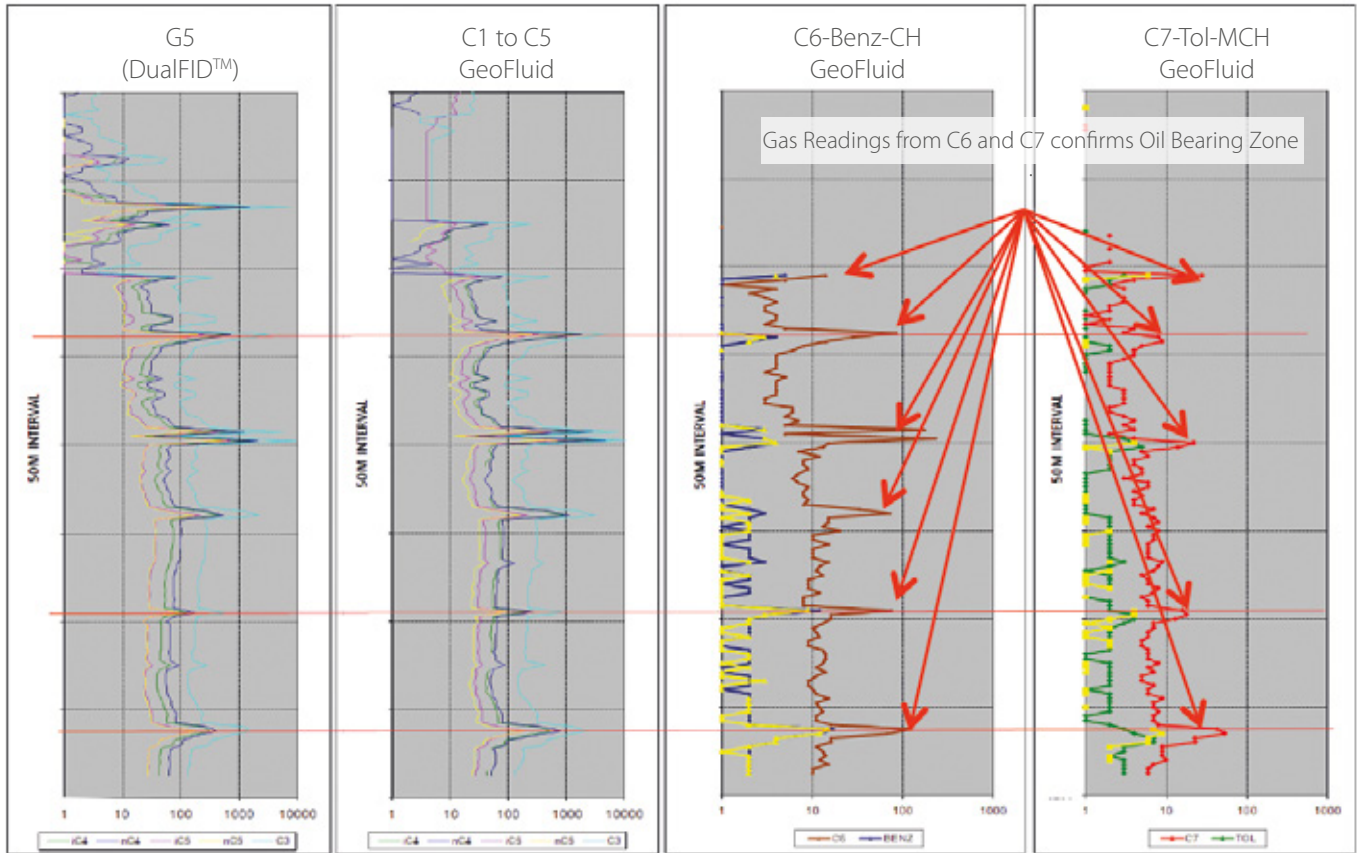


Figure 1. Light hydrocarbon results highlighting the presence of C6 & C7 for enhanced fluid characterization

When entering the predicted pay zone, GeoFluid GC-MS identified nC6 to Toluene. This alone, was an indication of a change of formation fluid. The presence of light hydrocarbons in the C6-to C7 range provided information to the formation evaluation team to interpret the interval as an oil bearing zone.

LWD services were not available to help with the petrophysical analysis for hydrocarbon identification. GeoFluid was the default evaluation method for fluid characterization on this well. The interval identified in this example is currently producing oil, as confirmed by the initial interpretation from GEOLOG.

Specifications

| | |
|-----------------------|-----------------|
| Analyzed Hydrocarbons | C1 – nC8 |
| Non Hydrocarbons | He |
| Analytical Cycle Time | 90 seconds |
| Resolution | 1 ppm |
| Measurement Range | 1 - 100,000 ppm |

GEOLOG around the World

