

PROJECT:

Well-to-well correlation in a deepwater setting.

CHALLENGE:

Reservoir correlation between two wells for production planning optimisation.

SOLUTION:

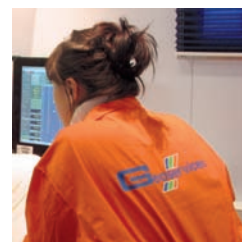
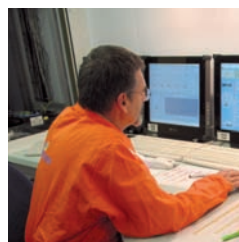
Continuously assess isotope characteristics of formation fluid while drilling.

BENEFITS FOR CLIENTS:

- “Right” production planning,
- Evaluation of reservoir architecture without downhole samples.

FACTS:

- Continuous $\delta^{13}\text{C}-\text{CH}_4$ data throughout the drilled sections.



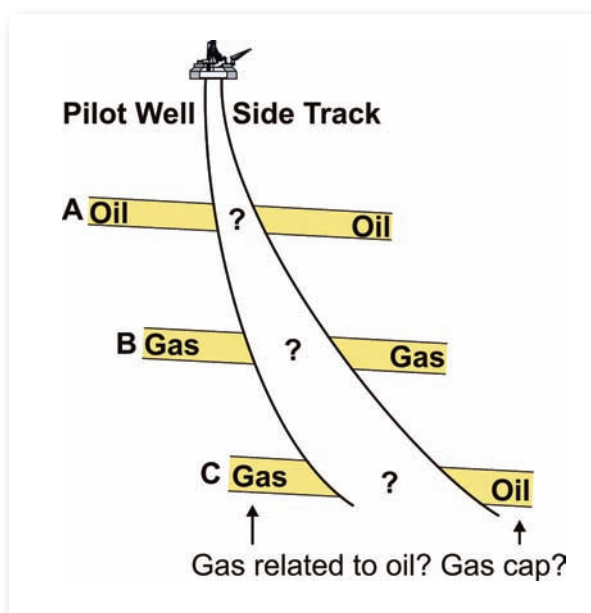
A real-time solution for reservoir correlation

During a recent deepwater campaign, the Isotope Logging service helped our client delineate reservoir structures and perform well-to-well correlations.

■ Isotope Logging brought key information throughout the logged sections of the well:

Three reservoirs were intersected in two wells (Pilot Well and Side Track).

Isotope Logging provided a continuous data set in real-time. This allowed the correlation of the intersected reservoirs and their evaluation in terms of reservoir compartmentalization/connectivity.

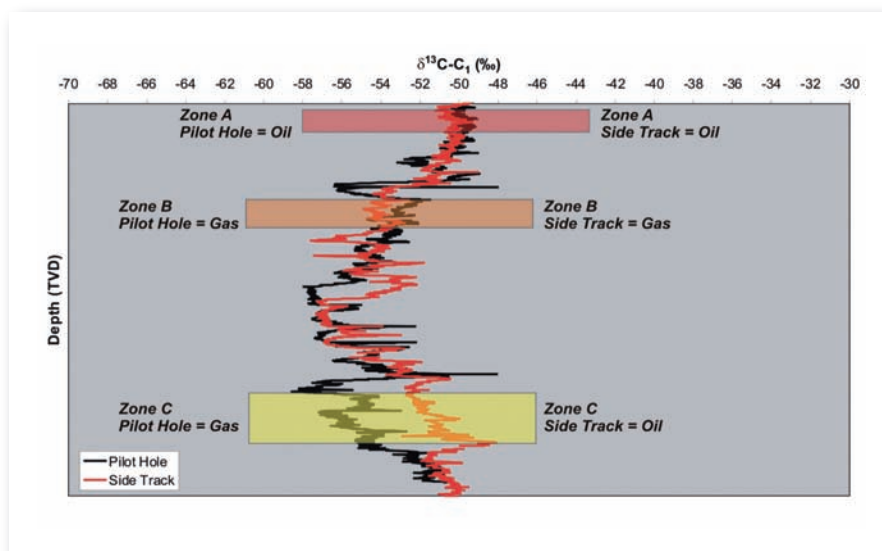


Data sourcing :

- Fluid typing performed by geochemist utilizing offset downhole samples.
- Correlation of reservoirs A and B possible with FLAIR composition.
- Correlation of reservoirs C requires additional information due to fluid differences.
 - ▶ Additional information obtained by real-time $\delta^{13}\text{C}-\text{CH}_4$ measurements while drilling.

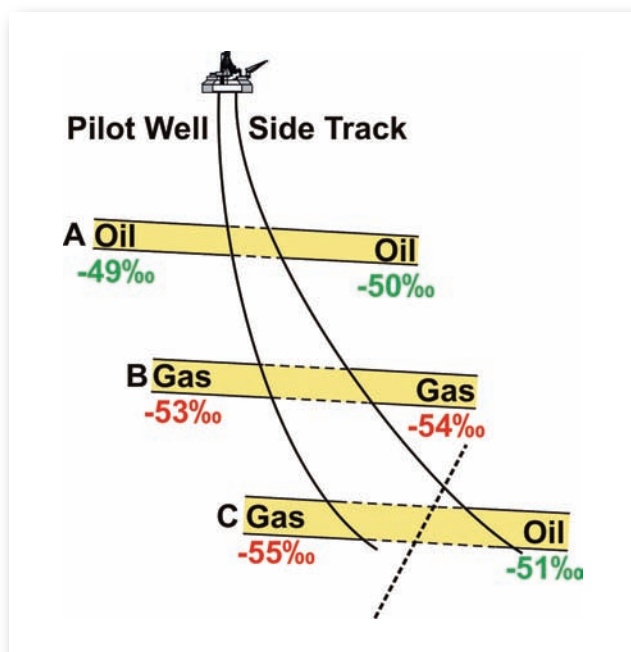


Continuous real time $\delta^{13}\text{C}-\text{CH}_4$ measurement, a new dimension in geochemical interpretation.



Due to differences/similarities in $\delta^{13}\text{C}-\text{CH}_4$ values recorded in the Pilot Well and the Side Track, the following information can be derived from Isotope Logging:

- Reservoir structures A are connected.
- Reservoir structures B are connected.
- Reservoir structures C are not connected.
- Reservoir structures C compartmentalized by assume of sealing fault.
- Gas in reservoir C (Pilot Well) is not related to oil in reservoir C (Side Track)
 - ▶ Impact on production planning and consequent production.



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