

Beyond Standard Petrophysical Interpretation

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What's Next?

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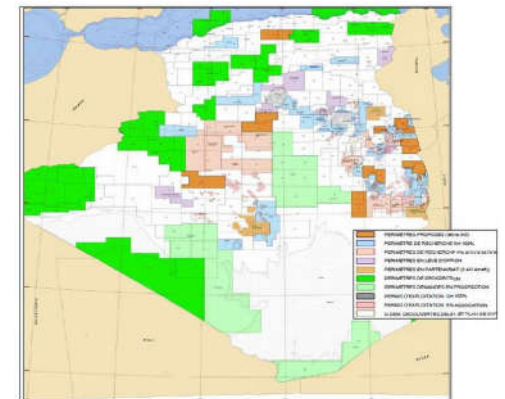
Schlumberger

Agenda

- Introduction
- Challenges
- Implementation
 - Collaboration
 - New age Technology
 - Beyond standard Petrophysics
- Result
- Conclusion

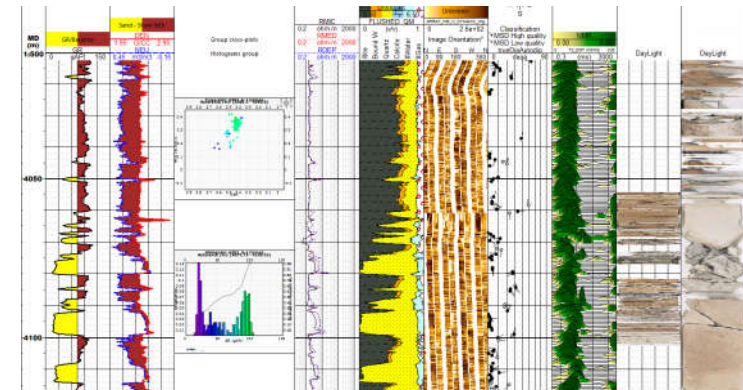
introduction

- Sonatrach exploration in charge of all Algeria fields in exploration
- Petrophysical department responsible of all wellbore study in exploration
- More challenging reservoir as the biggest one discovered



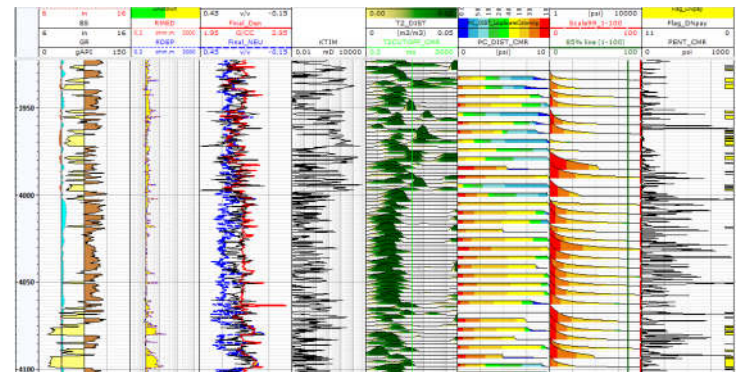
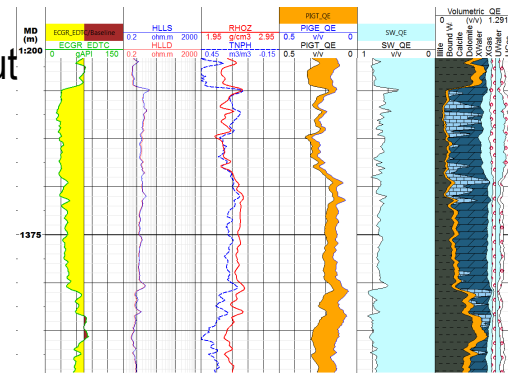
3rd bidding round blocks highlighted in dark brown

- More productivity in less learning time
- Go beyond standard petrophysics



Challenges

- I - workflow as working on different location and different domain, without physical bridges between components.
- II - does Techlog will be more productive on multi mineral interpretation
- III - full extraction of information from the new acquisition tool
 - Extracting Capillary pressure from NMR measurement
 - Processing the Sonic scanner for anisotropy
 - Realizing a sedimentology study from imaging log
 - Creating 1D mechanical earth model for drilling



Strategy

**new Age
Technology**

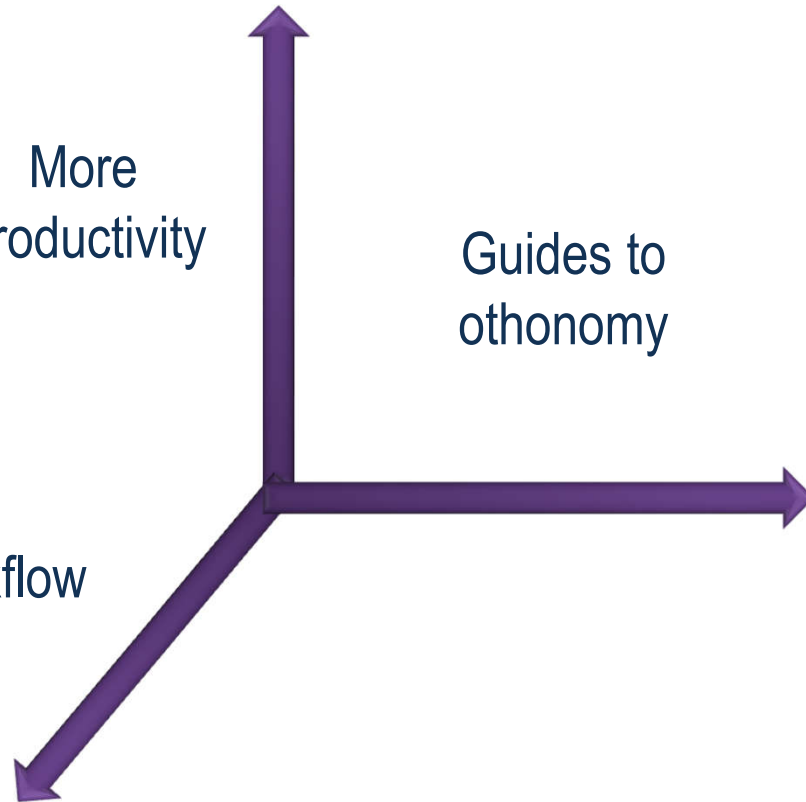
More
Productivity

Guides to
omonomy

Collaboration

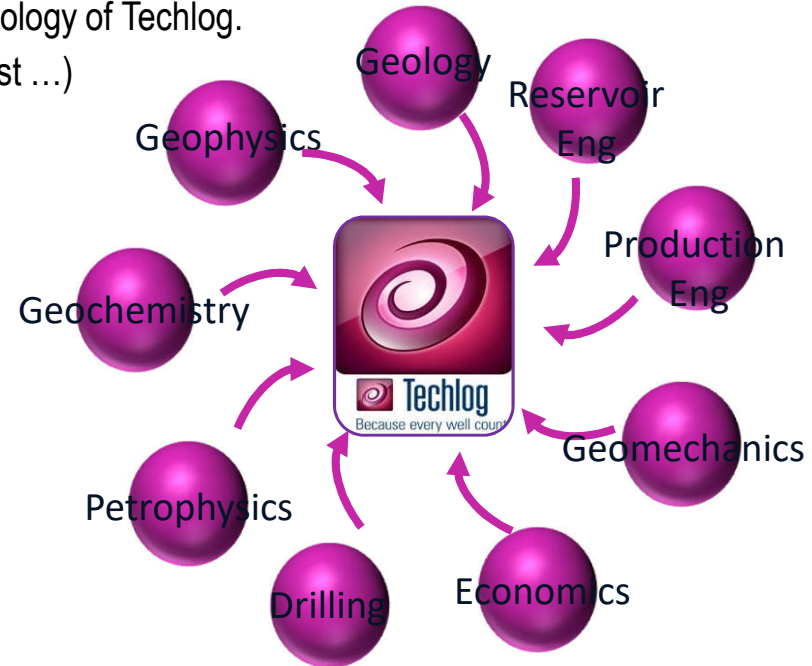
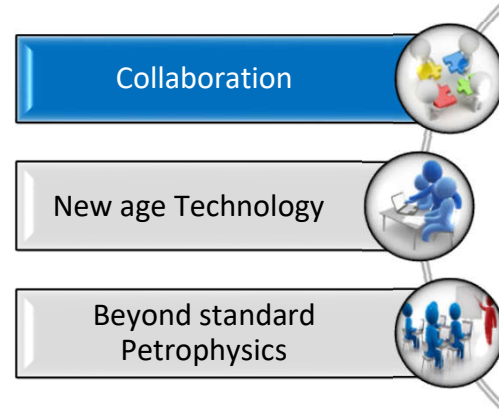
Advanced workflow

**Beyond standard
Petrophysics**



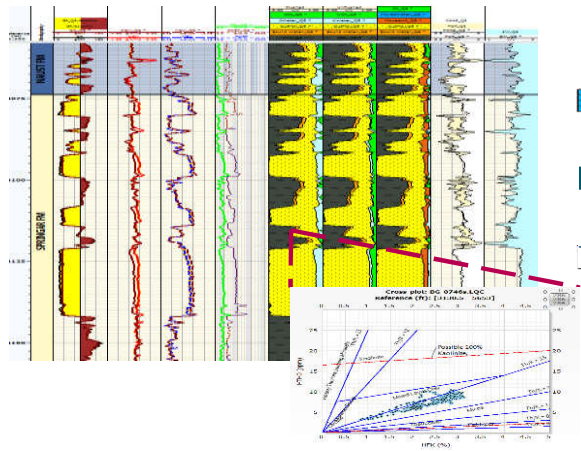
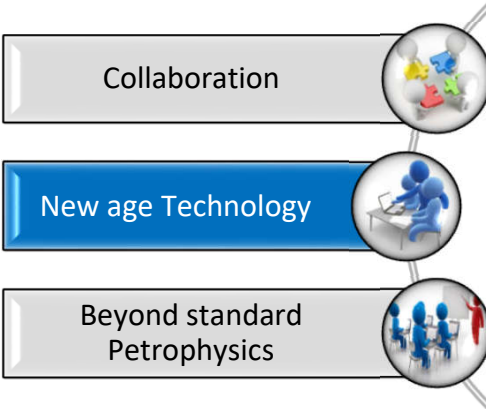
Implementation

- Use Techlog for a better collaboration
 - SIS put in place the necessary access to the technology of Techlog.
 - Including different domain (Geologist, Petrophysicist ...)
 - Building the foundation by creating Templates.



Implementation

- Quanti.Elan the new age solution
 - workshops in order to prepare transition phase
 - Schlumberger Mentored Sonatrach engineers in the multi mineral workflow using Quanti.Elan, so as to transfert the competency on Techlog platform, and to familiar with the fundamental Petrophysical modules

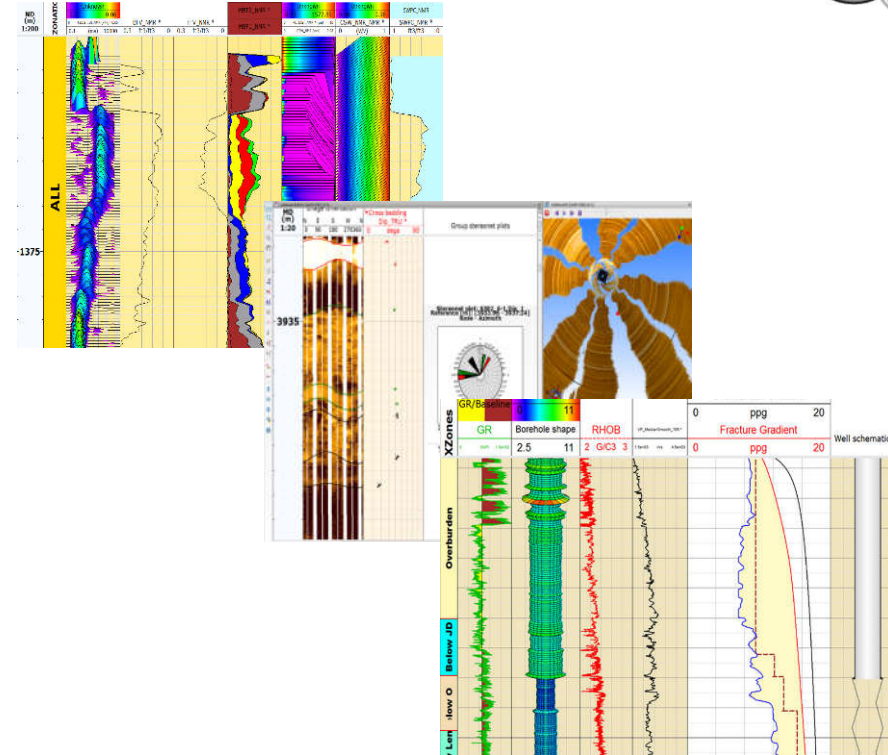
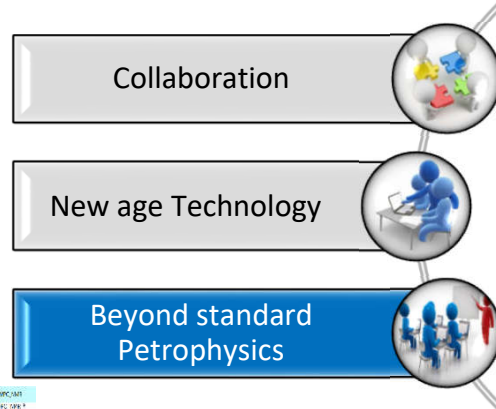


- Multicomponent model
- Model combination
- Choice of model uncertainties

Implementation

- Advanced interpretation by doing different domain workshops to extract the full knowledge from the measurement

- Formation Pressure
- Acoustics
- Wellbore imaging
- Geomechanics
- Nuclear magnetic resonance for capillary pressure



Result

- All data formats are easily loaded by a powerful drag-and-drop interface into the Techlog platform, (you can then quickly create a logview to visualize, validate, and correct data).
- The Techlog platform enables you to realize basic and advanced interpretation on all wellbore data types, including log, core, images.
- Getting the best result from Multi mineral interpretation (Quanti.Elan), and be more productive by the interactivity.

Conclusion

- Exploration business becomes more complex each day and technologies used by Petro Technical experts continue to evolve, more especially on the wellbore domain.
- SONATRACH, as many companies, used to acquire the standard Petro physics and complementing the work by investing in new technologies which more reservoir information could be extracted.
- In order SONATRACH to capitalize on this investment, TECHLOG was one of the solution that was chosen by SONATRACH as it answer to the new measurement technology.