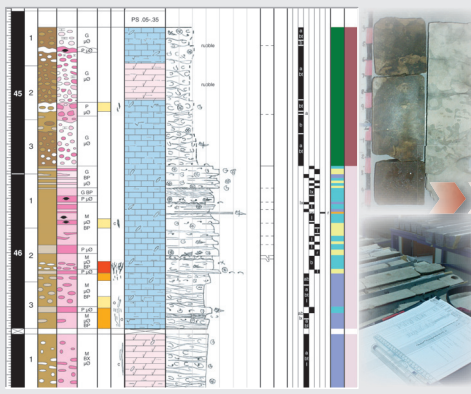


# Integrated Reservoir Solutions

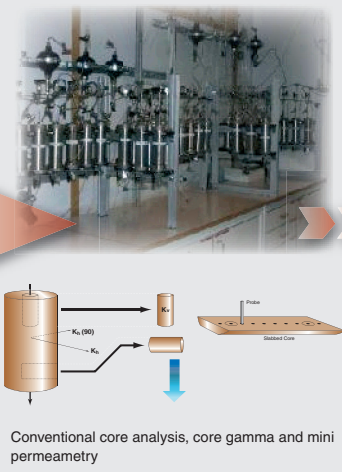
pore-scale to reservoir model

## Acquiring primary datasets

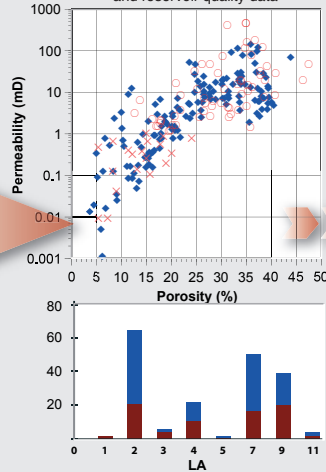
### Sedimentological Detailed core description



### Analytical

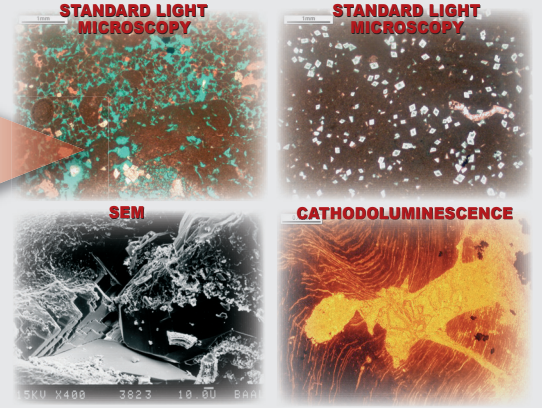


### Representative analytical sample selection - based on geology and reservoir quality data



### Petrographical

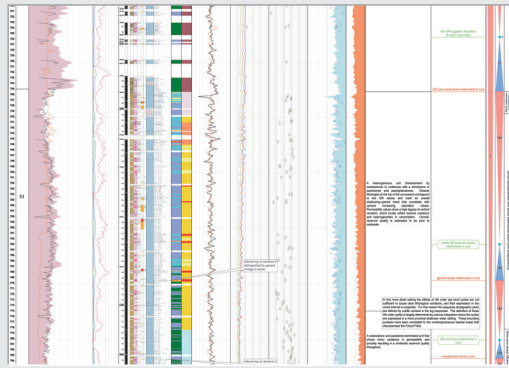
- Controls on reservoir quality
- Diagenetic studies
- Deduces the range and variety of reservoir quality



## Integration and interpretation of secondary datasets

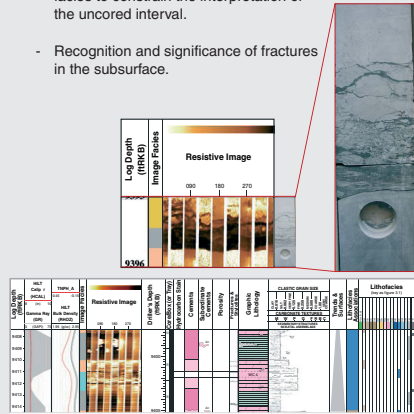
### Openhole logs

- Calibration of lithofacies and lithofacies associations with openhole log data.
- Extrapolation of sedimentological framework and an assessment of the reservoir potential of the uncored intervals.



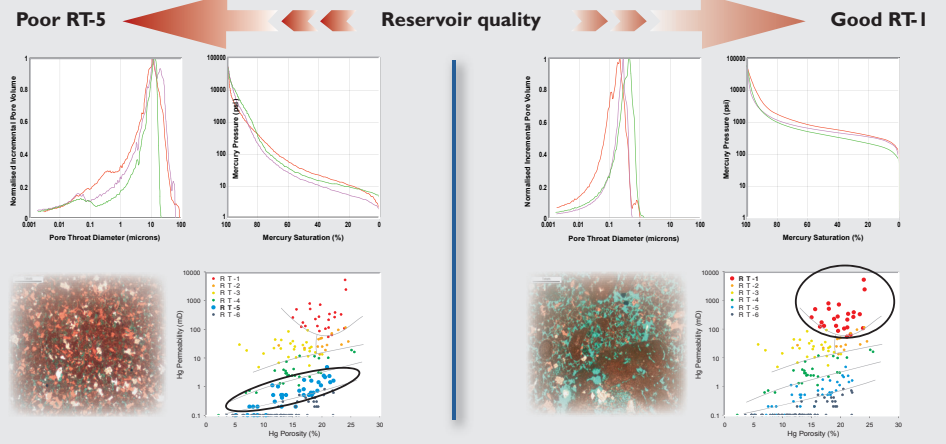
### Bore hole imaging

- Calibration of BHI data with the cored interval and generation of BHI image facies to constrain the interpretation of the uncored interval.
- Recognition and significance of fractures in the subsurface.

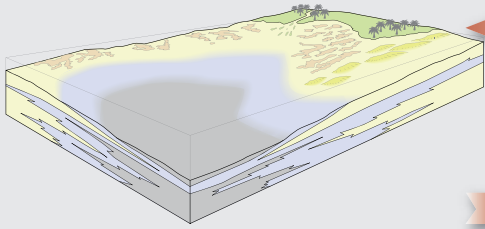


## Pore throat analysis and generation of petrophysical rock-types

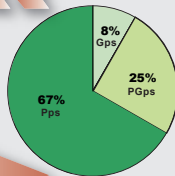
- Data from MICP, conventional core analysis and petrographical observations are combined to produce a series of analytically constrained rock-types with petrophysical characteristics for upscaling into reservoir models.



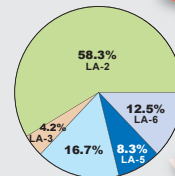
## Robust semi-predictive depositional models



## Testing the relationship of rock-types to lithofacies and lithofacies associations

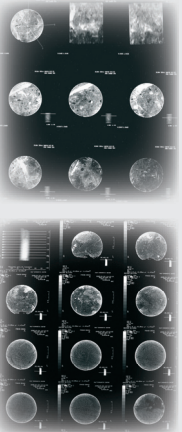


- Compilation of statistics for the relationship of the independently derived rock-types to the semi-predictive lithofacies and lithofacies association schemes.



## Selection of representative SCAL plugs

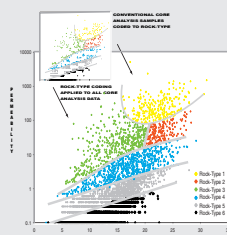
- Examination of plug and whole core CT scans to eliminate anomalies and plug failure associated with non-representative lithological heterogeneities.
- Selection of a cost effective SCAL sample subset based on all data to ensure that the SCAL samples are statistically representative of the reservoir.



## SCAL analysis data

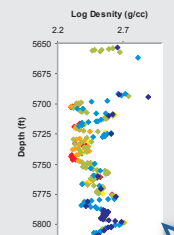
## Upscaling rock-types to reservoir scale

### 'Back coding' to the conventional core analysis dataset



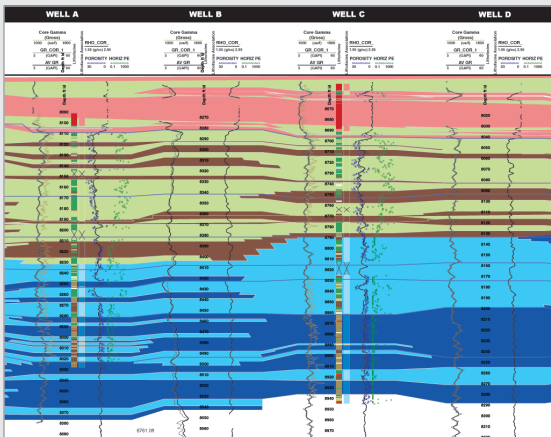
- Calibration of the rock-types to the conventional core analysis dataset and/or to the open hole log suite allows extrapolation of reservoir quality into scale in interwell areas.

### Log calibration



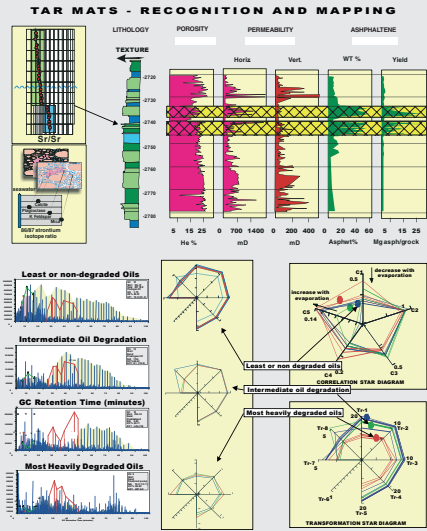
## Sedimentological correlation

- Extrapolation of the depositional model to the uncored intervals using core-to-log calibration.



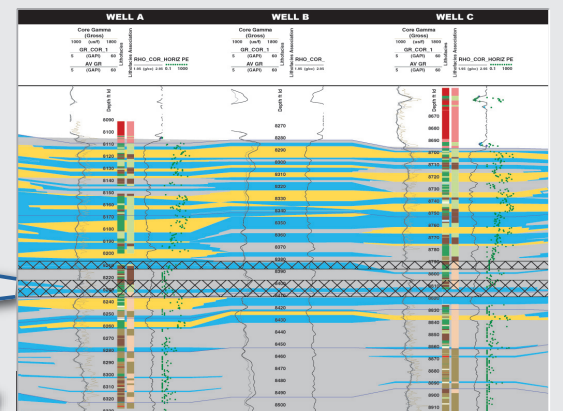
## Geochemistry

- Additional analytical techniques can aid in the interpretation of reservoir quality distribution.



## Reservoir Model

- Predictive and representative model based on combination of the sedimentological, petrographical and analytical data.



Iterative process of testing the predictability and applicability of the sedimentological model to reservoir model

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