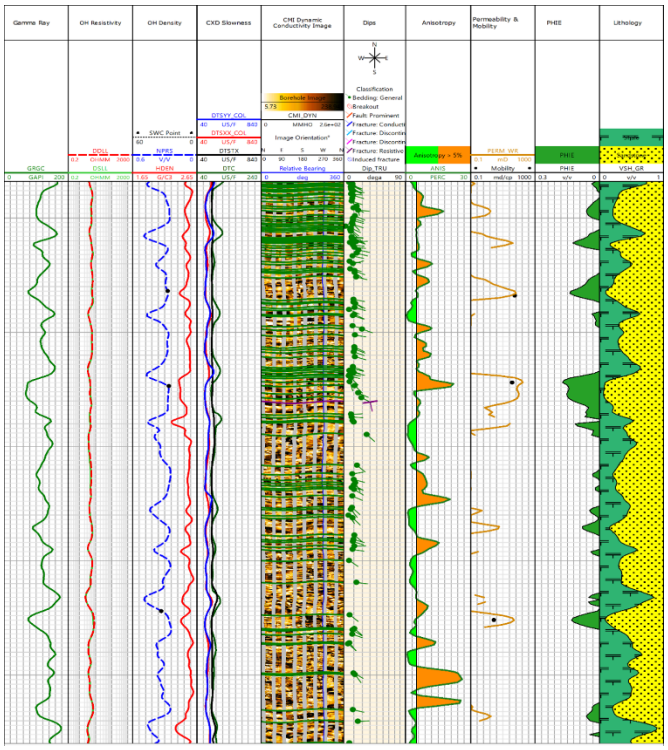
Successful Data Integration Enhanced Petrophysical Evaluation, Enabled Updated Reservoir Static Modeling, Revised Well Production Intervals



The Weatherford Interpretation and Evaluation Services delivered comprehensive logging and helped the customer transform reservoir data into valuable insight and informed action.

Objectives

- Run multiple services in the wellbore to complete a formation evaluation.
- Complete the image and acoustic interpretation and integrate into the final result.

Our Approach

- Weatherford experts completed the openhole run with the following tools: gamma ray (MCG), Compact dual neutron (MDN), Compact photo density (MPD), Compact laterolog electrode (MLE), Compact microresistivity (MMR), and focused electric (MFE).
- Run 2 consisted of the Compact microimager (CMI) and cross-dipole sonic (CXD) tool with the Compact imager memory (MIM), Compact imager electrode (MIE), Compact dipole memory (MDM), multi-thickness detector (MTD), the Compact receiver dipole (MRD) tools.
- The Compact formation pressure tester (MFT) was run in the hole for the third run and required eight pressure points with mobility.

LOCATION
Indonesia

WELL TYPE
Onshore, directional, J-type

FORMATION
Bangko, Bekasap

HOLE SIZE
8-1/2 in.

TEMPERATURE
212°F (100°C)

DEPTH
705 to 4,622 ft (218 to 1,408 m)

PRODUCTS/SERVICES

- Compact microimager (CMI)
- Compact cross-dipole sonic (CXD)
- Compact gamma ray (MCG) tool
- Compact dual neutron (MDN) tool
- Compact photo density (MPD) tool
- Sidewall core (SWC) guns
- Compact microresistivity (MMR) tool
- Focused electric (MFE) tool
- Compact formation pressure tester (MFT)
- Compact laterolog electrode (MLE)
- Compact imager memory (MIM)
- Compact imager electrode (MIE)
- Compact dipole memory (MDM)
- Multi-thickness detector (MTD)
- Compact receiver dipole (MRD)
- Sidewall core gun electronics (SWE)
- Sidewall core gun sonde (SWS)

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Our Approach

- On the final run, the Weatherford team completed a side wall core using the sidewall core gun electronics (SWE) and sidewall core gun sonde (SWS) tools.
- The complete CMI interpretation detected the features needed to characterize the stratigraphic and geological structure while the triple combo and CXD processed for petrophysical analysis.
- The good data quality was delivered to the customer using hi-resolution images. Weatherford Interpretation and Evaluation experts calculated the anisotropy ratio using the available log and calibrated the permeability index using the Wylie equation and pretest mobility.
- The sidewall core results were elaborated in the petrophysical study.

Value to Customer

- Weatherford's logging tools and technology delivered an enhanced petrophysical evaluation that allowed the customer to enhance the reservoir static modeling.
- As a result, the customer revised the well production intervals.