CBM PROSPECTIVITY REVIEW
CASE STUDY

Cooper Energy

South Sumatra, Indonesia

AWT DISCIPLINES

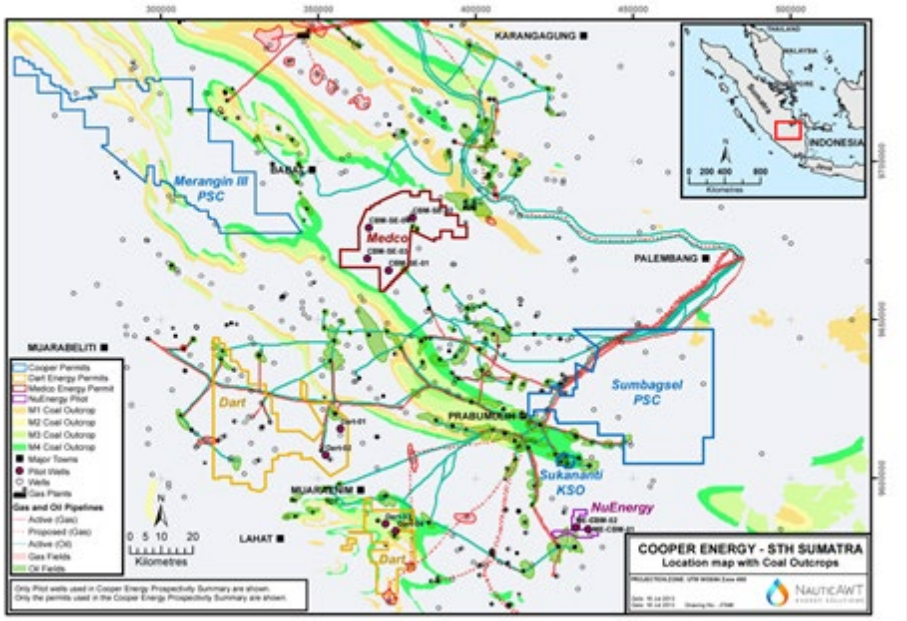
Geology
Geophysics
Reservoir Engineering
Petrophysics
Resource Assessment
Prospect Risking

PROJECT BACKGROUND

Cooper Energy Pty Ltd (Cooper Energy) contracted AWT to conduct a review of the prospectivity of Cooper Energy's South Sumatra permits based on data provided by Cooper Energy together with open-file data and publications accessed by AWT.

The objective was to review all of the Coal Seam Gas (CSG) wells in the permits and the associated surrounding data to determine the viability of the Muara Enim CSG play.

Location:
South Sumatra,
Indonesia



AWT WORKSCOPE

To determine the CSG prospectivity of Cooper Energy's permits in South Sumatra, the following tasks were undertaken:

1. **Data Review**
   - Cooper Energy and openfile data were available (Identify gaps in data and provide acaccess to AWT database (non-confidential component)

2. **CSG Prospectivity Review**
   - Summary Geology overview and Basin Model
   - Data quantity / quality and model
   - CSG potential review (where data is available)
   - Probability of Success
   - Recommendations
   - Indicative work program

3. **Kingdom Project**
   - Included interpreted and Cooper Energy data

For more information contact:
Tel: (+603) 2162 3127 or visit our website at: www.awtinternational.com

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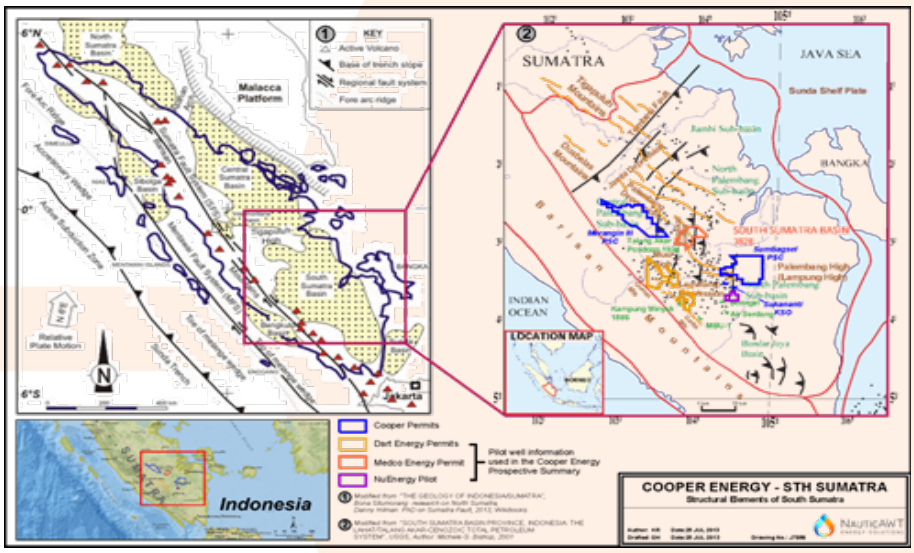
AWT VALUE ADDED

- Cooper Energy's South Sumatra Basin PSCs were potentially prospective for commercial CSG development as was evident by pilot projects underway in their vicinity. The primary CSG targets were the Muara Enim seams. The Air Benkat seams are a secondary target due to poorer quality and thickness.



- The Muara Enim coal seams are not well suited to lateral wells, however with positive permeability, barefoot completions are possible with the entire gross interval behind slotted liner. Well spacing of 750-800m is typical on similar CSG targets, with under-reaming used for well bore and formation damage amelioration. The M4 and M3 seams are found within tight rocks, however within the deeper seams there are some interbedded sandstones which do require consideration when completing these wells.

- Drilling a number of core holes was needed to acquire additional relevant CSG data including net coal thickness, gas content, composition and saturation, and critically, the running of DST's was essential to confirm permeability. Acquisition of this data was required to upgrade from GIIP to a Prospective Resource to a Contingent Resource.

- In general, given the current data set, AWT inferred that the CSG potential is favourable in two of the three Cooper Energy permits, notably, in the PSCs. Quantifying this potential, however, will require further exploration and development in and around the permits. Should nearby pilot projects be progressed by other operators, then additional production data will become available which could assist in quantifying the CSG potential of the Cooper Energy permits.

The primary challenge in the PSCs was to address the shortage of data which would be required to assess the potential of achieving commercial gas rates.