

AWT DISCIPLINES

Geology
Geophysics
Reservoir Engineering
Petrophysics
Resource Assessment
Prospect Risking

PROJECT BACKGROUND

Ephindo Energy was an Indonesian focused energy company, with substantial coal bed methane (CBM) interests.

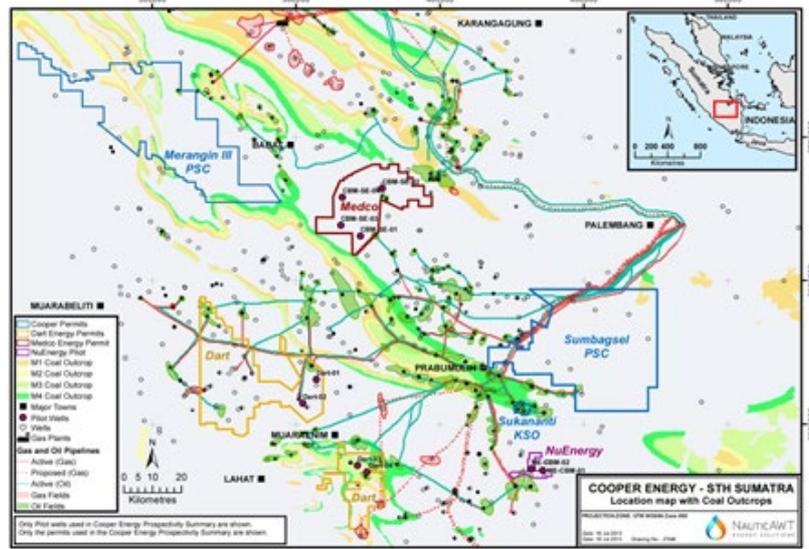
Ephindo was the first company to be awarded an Indonesian CBM PSC (Sekayu, in 2008). It was one of the largest owners of CBM permits in Indonesia.

Kuwait Foreign Petroleum Exploration Company (KUFPEC) is an international upstream company, engaged in exploration, development and production of crude oil and natural gas outside the State of Kuwait

KUFPEC were interested in examining the Indonesian coal bed methane (CBM) permits in which Ephindo Energy held interests, in both South Sumatra and East Kalimantan.

Location:

Indonesia



AWT WORKSCOPE

KUFPEC required a Technical Due Diligence of a number CBM licences in Indonesia.

The review included resource quality, profiles, and costs, with limited information to review and data of questionable quality. Hence, the review was limited in scope and it was not anticipated that dynamic modelling would be undertaken.

It may not have been possible to do more than comment on well performance so the scope was later modified to include a Reservoir Engineer and simulation.

The CBM licences to be reviewed were:

- Kalimantan:
 - Sangatta West
 - Kutai I and II
 - Sangatta I (remainder)
 - Kutai Timur (Kutai East)
 - Melak Mendung 1
- South Sumatra:
 - Sekayu

AWT VALUE ADDED

The data quality and knowledge of the permits was often very limited. Raw data used for due diligence included pdf logs for some wells, core data and some DST reports. No digital seismic was available, however PowerPoint images of selected lines were provided, which then allowed for depth and structure maps to be viewed/accessed by AWT. Dataroom access was limited to reports and presentations:

- NSAI statements provided reserve and resources (these were summaries only - not full report)
- RISCO Energy presentation (presented at CBM Indonesia 2012 conference)

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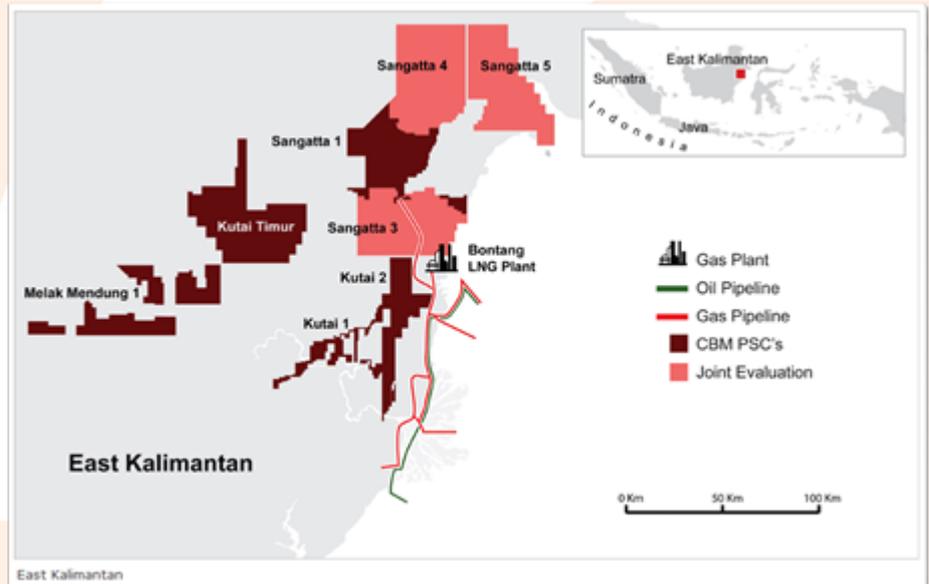
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After review of the available dataset, AWT concluded that the exploration strategy undertaken by the companies (Ephindo and Dart) was generally very good:

- On target in most permits to meet commitment
- Gathering appropriate and sufficient data, although more was needed
 - Gas content, gas compositions, isotherms
 - Logs, permeability
- Developing comprehensive pilot programs and flowing water and gas from wells (extended flows required – revise well completion strategy)
- Certifying resources

Sangatta West Block appeared to be progressing in a similar way to Australian experience (though the area is small).

Sekayu was challenged by low gas contents and very high permeability.

Kutai I and II could be limited by coal volume and thick coals can be in direct contact with permeable sandstones.

Sangatta I (remainder), Kutai Timur and Melak Mendung have very limited data to assess - shallow coals.

Ephindo is in the trial and error phase of pilot production – still exploration.

