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## **Integrated field depletion study of a complexly faulted field: Irong Barat**

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Irong Barat field is located approximately 170 kilometers offshore Peninsula Malaysia and was discovered in 1997. It is a complexly faulted WNW-ESE trending asymmetrical anticline with a total productive area of about 18 sq kilometers and a hydrocarbon column of about 400 meters for the major H-50 reservoir. Development commenced in 1983.

A comprehensive integrated depletion management study was initiated in early 1999 to maximise ultimate recovery of the remaining developed and undeveloped reserves. Key focus areas include updating the reservoir management strategies, identifying and maturing opportunities to enhance production capacity, optimizing additional development programs, and high grading resource assessments and long-term production forecasts.

A new 3D seismic dataset was acquired in 1998. Significant efforts are being made updating, verifying and integrating geoscience and engineering data. These include geophysical interpretation of the new 3D seismic data, building 3D geological models incorporating latest sequence stratigraphy concepts and improved understanding of facies belts and development of reservoir simulation models.

As a result of the study, two additional drilling programs are planned to further develop the field which involve drilling 18 to 20 new wells from existing Irong Barat-A and new Irong Barat-B platform.

The paper addresses the structural interpretation changes with time, improved stratigraphic definition, production performance implications and new opportunities identification which enable the team to further develop the field.