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APPLICATION OF DEVELOPMENT WHILE EXPLORING (DWE) APPROACH IN MARGINAL FIELDS DEVELOPMENT IN PCPPOC'S BLOCK SK 305, OFFSHORE SARAWAK, MALAYSIA

FOO WAH YANG[1], AZLAN GHAZALI[1], MEDY KURNIAWAN[2] AND BUI NGOC QUANG[3]

[1]PETRONAS Carigali Sdn. Bhd.
[2]PERTAMINA
[3]PVEP

PCPP Operating Company Sdn. Bhd. (PCPPOC), the Joint Operating Company of Sarawak Block SK305 PSC, is owned by a Consortium of Tripartite National Oil Companies, namely PETRONAS Carigali Sdn. Bhd. of Malaysia, PERTAMINA of Indonesia and PVEP of Vietnam.

Block SK 305 (16,434 sq.km) is located in the Balingian Geological Province where the main reservoir targets are Late Oligocene to Early Miocene Cycle I &II Sandstones deposited in Lower Coastal Plain to Fluvial- Deltaic environments. In PCSB's D35 Field, which is located in but ring-fenced from the block, oil and gas are currently producing from these Sandstones mainly of fluvial channel origin.

In the Northeast Corner of the Block or "D1" Area which is covered by 3D seismic, there are several marginal oil and gas discoveries with numerous small to medium sized prospects largely grouped in several clusters. Among these clusters, there exist D35 Production facilities with export pipelines to Bintulu oil and gas terminal adjacent to MLNG Complex.

The main economic risks associated with Marginal Field Development are reserves uncertainty and short field life. In order to expedite development and to mitigate such risks at the same time, PCPPOC carries out Development While Exploring (DWE) when the Area Development Plan (ADP) and FDP Studies are still in progress. The drilling program is strategically designed with exploration, appraisal and development in mind to narrow down volumetric uncertainty, firm up reserves, establish fluid contacts and completable oil column for future development. High CAPEX development options such as permanent installations like conventional production platforms and jackets are avoided. Instead, fit-for-purpose technology, low cost, temporary and mobile installations would be applied to expedite development, for example, the choice of Mobile Offshore Production Unit (MOPU) for maximizing the production within short field life. The development strategy would also leverage on existing nearby production, processing and export facilities at D35 to reduce the facility cost to minimum.

In addition, successful exploration/appraisal wells would be suspended for future development as opposed to conventional approach whereby such costly wells would be plugged and abandoned after drilling. Similarly, all development wells could be drilled and suspended ahead of any production installations. It gives the flexibility of completing the development drilling even if any delay in facility fabrication and installation should occur.

Through the smart and innovative application of the DWE approach and cluster development concept leveraging on sharing of nearby production and export facilities, the development project cost and schedule are substantially reduced, hence adding significantly value to the development of Marginal Fields.