

Hydrocarbon Potential of the Eastern Bengal Fan System in Offshore Northwest Myanmar

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Exploration activities were concentrated in the structural highs in offshore northwest Myanmar in 1970's by international oil companies, resulting in only minor gas shows in poor reservoirs. Since then, the region had been barren during the past 20 years until Daewoo International Corporation started exploration in Block A-1 in 2000.

Seismic sequence stratigraphic analysis indicates that two different reservoir types were developed in deep-marine environment in this region: G-series sediments and overlaying D-series sediments. Both of them show seismic characteristics of high amplitude. However, isochore and seismic attributes define two different sedimentary patterns. The G-series sediments are deep-sea turbidites deposited in basin floor fans trending north-west to southeast as a part of the Bengal fan system while the D-series sediments are slope sediments transported from Indo-Burman ranges in the east.

The results of exploratory wells drilled at stratigraphic traps in Blocks A-1 and A-3 offshore northwest Myanmar proved the new play concept proposed by Daewoo International. Thick massive gas sands were discovered in the G-series sediments and the D-series sediments contain gas-bearing thinly-laminated sands. Biostratigraphic data support that the G-series and D-series sediments were deposited in the deep marine environment in Pliocene time. Amplitude maps of 3-D seismic data confirm the existence of submarine channel systems which filled the G-series deep-sea turbidites from northwest to southeast to the basin floor fans. After deposition of the deep-marine sands, strike-slip faults and shale-fill channels were developed as flow barriers.