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**RESERVOIR CHARACTERIZATION FROM OUTCROP SEDIMENTOLOGICAL STUDY AND
SEISMIC SHOTHOLE DATA IN MUTIARA-PAMAGUAN FIELD AREAS, KUTEI BASIN**

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ABSTRACT

The surface geology of Mutiara field area offers a unique opportunity for reservoir characterization studies, because of the cropping out of most of the subsurface production intervals on the field surface area. This advantage has been added up by the availability of shothole geological data, which were acquired during the 3D seismic survey in the area. The data are in the forms of mudlogs of the shotholes described by geologists and wireline logs run into the shotholes. For this specific purpose they are of the shotholes with oil and gas indications and the shotholes which locations are close to the outcrops being studied.

A total of 15 outcrops have been described. A total of 30 very shallow reservoirs have also been mapped. For outcrop-to-deep-subsurface correlation the

outcrop gamma-ray was used along with shallow seismic shothole mudlog/wireline log data. That way, all outcrops and very shallow reservoirs can be tied confidently to the deep subsurface well data from the producing Mutiara-Pamaguan fields.

A variety of paleo depositional environments have been interpreted from outcrops, including: fluvial meandering channels and flood plains, fluvial-delta-plain distributary channels, tidal-delta-plain distributary channels inter-distributary bays, delta-front mouth bars and tidal flats, and prodelta environments. Integrating the analyses to the deep Mutiara-Pamaguan well data, including paleontology and log facies/map data, a series of paleogeography maps of the area can be depicted.

Facies heterogeneity and reservoir architecture statistics are among the results of this reservoir characterization study. Both aspects are viewed and described accordingly to help in the deep subsurface Mutiara-Pamaguan field reservoir management.

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