Core Analysis and Late Quaternary Subsurface Geology of the Northern Kaohsiung Area

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ABSTRACT

The main purpose of this program is to integrate the information gathered through borehole drillings in the Kaohsiung area which include the interpretations on the distribution of the various lithological units among the wells, as well as interpretations regarding the sedimentary environments.

Information from 10 boreholes with cores in Kaohsiung area was integrated in this study, which was combined with lithology, sedimentary structures, bioturbation, and identification of body fossils as mollusca, foraminifera, trace fossils, vivianite, root, concretion and clayey, etc. The study results were used to re-establishing sedimentary environments. There were 22 lithofacies recognized in this study. Through grouping of commonly co-existing lithofacies, three sedimentary environments were reconstructed in the stratigraphic layouts, which included inner offshore-shoreface, estuary (tidal channel, lagoon, swamp/marsh, bay-head delta) and braided stream, meandering stream environments.

The sequence boundary (SB) above indicated terrestrial facies as meandering stream or braided stream systems (lowstand systems tract), then, graded into transgression as estuary (barrier island-lagoon) environment. As the sedimentation in progress, this gradually changed to the storm-dominated upper offshore environment (transgressive systems tract). After regression, it was indicated estuary environment (barrier island-lagoon facies) that sediments were deposited as a progradation. This study area was deposited meandering stream and braided stream settings.

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