

CHAPTER VI

CONCLUSIONS

This research is aimed to fix the stratigraphy of Paleo-Mun river sediments system and taxonomy of Proboscidean fossils from sandpits in Changwat Nakhon Ratchasima and to reconstruct paleoenvironments. The result of research can be concluded as follows:

The stratigraphy of Siam Sandpit consists of into 4 units from 4 series of geological timescales. The lithology, sedimentary structure and paleontological features of ancient elephant teeth were used to analyze the depositional environment. The summary of the stratigraphy are described in ascending order as follows.

Unit A; Stratigraphic unit A lies in the bottom of the sand pit which is represented by repetition of coarsening upward cycle which lies unconformably under the conglomerate, clay support. This unit has been found the ancient elephant tooth of *Stegolophodon* sp., and *Stegodon* sp. It can be assumed that ancient alluvial fan deposited has once located in this area and paleoenvironment of this place might be the forest or swamp which close to water source.

Unit B; Stratigraphic unit B appears overlying unit A. The characteristic of the unit B was represented by sedimentary succession of fining upward and followed by coarsening upward cycle and fining upward of coarse to fine grain. This unit has been found the elephant fossil tooth of *Sinomastodon* sp. Pleistocene to Pliocene was the proposed age of this unit in ancient alluvial fan deposits. The paleoenvironment of this unit was expected that might be forested areas or swamp which close to water sources.

Unit C; Stratigraphic unit C consists of 2 subunits i.e. subunit C1 and subunit C2. Subunit C1: The characteristic of the subunit C1 was represented by repetition of coarsening upward cycle of fine to coarse grain of alluvial fan deposits. subunit C2: showed fining upward succession of very fine sand to medium sand and clay with trough and planar cross-bedding overlying on the conglomeratic sand, black and white color with granule to pebble (grain support). This set is similar to the sequence of point bar of meandering river. This unit was overlaid unconformably by reddish yellow. It can be assumed as decreasing rapidly continuous of sediment and slope of alluvial fan, both of erosion and incision reflect to expanding and filling the sediment on the plain and the river. The Unit C was presumed as Pleistocene Period. This unit contained no the fossil, but Tektite was found in this horizon.

Unit D; Stratigraphic unit D is the uppermost unit in the sandpit which represented by fining upward succession in the lower part and fine grain unit of clay in the upper part and numerous of archaeological remains, shell and elephant

tooth of *Elephant maximus*. This unit shows clearly geological process of by overbank floodplain deposits which occurred during Holocene to Recent. It can be assumed that the paleoenvironment of this place might be the grassland.

The proboscidean fossils found in this site can be classified into 8 genera such as *Protanancus* sp., *Gomphotherium* sp., *Prodeinotherium* sp., *Sinomastodons* sp., *Tetralophodon* sp., *Stegolophodon* sp., *Stegodon* sp. and *Elephas maximus*. The occurrence of fossils is allochthonous. Molars and bones are scattered in the sediments, namely as transported fossils not far from their origin.



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