# CHAPTER 4

## CONCLUSION

The northern part of the Western basin which is my study area is one of the Cenozoic basins and located in the upper Gulf of Thailand between latitude 11°N3'N - 11°N36' and longitude 100°5'E - 100°27'E. The basin is elongated in the N-S direction covering the area about 2,280 square kilometres. The maximum depth of this basin is more than 6 kilometres.

The Pre-Tertiary basinal basement rocks are believed to be the Mesozoic. The pre-Tertiary rocks are unconformably overlain by the younger sedimentary sequence of Cenozoic age. The Cenozoic stratigraphy of the northern part of the Western basin can be divided into 4 units, namely, unit A, B, C, and D. The lowermost unit is unit A which have been penetrated approximately 600 ft.. Thw lithology of this unit of this unit is mainly limestone,interbedded with claystone. The environment of deposition is lake or shallow-water lagoon, with the fluviatile environment (after Keston, 1976.).The age is postulated to be about Early Miocene. The unit B which is characterized by the sandstone.The

lower part of this unit is highly calcareous claystone grade into marls and massive, dense limestone. The age of this unit is Early Miocene to Middle Miocene and the environment of deposition is a fluviatile complex, rapid changing including shallow, fresh water lakes and lagoon in which the limestone accumulated (after Keston,1976.). The unit C overlies unconformably the unit B and is characterized by fine to medium grained clastic sediment of fluviatile origin. The northern part of the Western basin is conclude to be initial development during Oligocene by the result of interaction of major fault zones and plate motions in the region from Late Cretaceous to Early Tertiary. The basin formed as half-graben pull apart basin bounded to the east by the N-S eastern boundary fault. The basin developed as the combination result of the N-S extensional faults and the NW-SE Three Pagoda transcurrent fault zone.

Based on seismic data, clastic sedimentary down to about 8,000 feet, underlain by basement. The well did encounter good sand development between 3,700 and 6,170 feet and limestones with dolomites to 7,082 ft.(Total Depth). Good oil shows were present in the sandstone samples between 3,850 and 6,100 feet, but on testing produced only fresh-water. No gas was associated with the oil. No potential source rocks were encountered in this well.

The result fom the Lopatin's method shows that the oil generation in the northern part of the Western basin stated approximately 11 Ma. ago.

Possible explanations for only insignificant oil recovery:

(1) Well was not located on the highest point on structure; most of the oil move out or passed through the location.

(2) Only residual oil remained in the sandstone.

(3) It is an oil-wet-sand.

(4) All the oil tested, is all the oil there is or even was in the reservoir, due to poor or lack of source rocks.