CHAPTER II

REGIONAL GEOLOGY

The regional geological map covering the Chae Sorn prospect is shown in Figure 2.1. Regionally, the area is a part of the western flank of the main syncline which its axis is approximately N-S to NE-SW along the Wang river.

The area is underlain by the sequences of rocks ranging from Palaeozoic to Cenozoic ages. However, in the immediate vicinity of Chae Sorn, the major rock sequences are Palaeozoic sediments of Silurian to Permian in ages, which have been intruded by a major granitoid batholith on the western part of the area.

The oldest rocks belong to the Don Chai Group (Piyasin, 1972). This Group consists of phyllite, quartzite, quartz-schist, schist, quartz-feldspathic schist. These rocks commonly surround granite batholith. The inferred age of the Don Chai Group is ranging from Silurian to Devonian (Piyasin, 1972). The next younger rock unit underlying this area belongs to the Mae Tha Group of Carboniferous age (Piyasin, 1972). It comprises rhyolite, andesite, tuff, agglomerate; shale, quartzitic and feldspartic sandstone, quartzite, reddish-brown shale and chert beds.

The next younger unit is the Pha Huat Formation of the Ratburi Group on the east of the area. It consists of massive limestone, shale, calcareous shale, laminated shale, tuffaceous sandstone, tuff, chert nodules and chert beds.

SYMBOL	DESCRIPTION	FORMATION	GROUP	AGE
	River gravel, sand, clay and mud	——	——	RECENT
	Fresh water sandstone, shale, carbonaceous shale, limestone	——	MAE MOH	PLIOCENE
	Shale, sandstone, tuffaceous sandstone, laminated shale, conglomerate	HONG HOI	LAMPANG	TRIASSIC
	Basal conglomerate; reddish-brown sandstone, shale, agglomerate, tuff	PHRA THAT	LAMPANG	TRIASSIC
	Shale, calcareous shale, carbonaceous shale, tuffaceous shale and sandstone	HUAI THAK	RATBURI	PERMIAN
	Massive limestone, shale, calcareous shale, laminated shale, tuffaceous sandstone, tuff, chert nodules	PHA HUAT	RATBURI	PERMIAN
	Tuffaceous shale and sandstone lens, andesitic tuff, agglomerate, rhyolitic tuff, agglomerate, andesite, rhyolite	KIU LOM	RATBURI	PERMIAN
	Rhyolite, andesite, tuff, agglomerate, shale, quartzitic and felspathic sandstone	——	MAE THA	CARBONIFEROUS
	Rhyolite, quartzite, quartz-schist, schist, quartzo-felspathic schist	——	DON CHAI	DEVONIAN SILURIAN
	Granite; biotite-hornblende granite, leucogranite	——	KHUN TAN	MESOZOIC
	Rhyolite, shallow intrusive graded to fine-grained granite	——	——	POST-TRIASSIC

The Mesozoicrocks presented in the area belong to the Phra That Formation of the Lampang Group. This unit consists of basal conglomerate, reddish-brown sandstone, shale, agglomerate and tuff.

The youngest rocks in the the area are the sedimentary rocks of Tertiary age. The rocks consist of fresh water sandstone, shale, calcareous shale, limestone, viviparas beds and lignite. These Tertiary rocks belong to the Mae Moh Group (Piyasin, 1972).

Besides the sedimentary rocks, some areas are covered by Quaternary unconsolidated sediments, especially, the areas on the west bank of the Wang river. The Quaternary sediments are made up of river gravel, sand, clay and mud.

An elongated granitoid batholith with age of 202-213 Ma (Charusiri, 1989), extends in N-S direction on the western part of the area. It belongs to Wiang Pa Pao-Khuntan batholith and has been assigned to the Central Granitic Belt (Pongsapich. et al. 1983).These granitoid rocks consist of major bodies of coarse-grained, porphyritic, biotite (+muscovite) granite and subordinate fine- to medium-grained biotite granite and tourmaline-muscovite granite (Charusiri, 1989).

The general fault or fracture systems are striking N-S, NE-SW directions. Two major sets of fault, both trending approximately N-S (Figure 2.1),are well developed in the western part of the area (Charusiri, 1989). These include the Wiang Pa Pao-Khuntan fault to the east (Paleogene) and the Mae Tha fault (Charusiri, 1989) to the west. Furthermore, the strike of fold axis varies from N-S to NE-SW.