

## CHAPTER VII

## CONCLUSION

This study has reveals a number of important characteristics and nature of antimony-gold mineralization taken place at Chae Sorn prospect. These important aspects of mineralization not only help in understanding the ore genesis outlined in the previous section but also provide as an essential tool for exploration of similar type of deposit prevailed in the region. As of the exploration guide, the major conclusions made in this study are summerized below:

1. The sediments of Don Chai Group were regionally metamorphosed into phyllite of low grade greenschist facies by at least two episodes of tectonism.
2. The intrusions of Khuntan granite in Upper Triassic age ( 210-215 Ma, Charusiri 1989) and of diorite in the shear zone of unknown age also predated the shearing.
3. Limestone found in the shear zone might have been effected by thermal metamorphism probably from the intrusions of diorite and/or Khuntan granites.
4. At least one episode of fracturing occurs in the study area prior to the shearing. Those open fractures were infilled by unmineralized calcite-quartz or quartz veins and veinlets.
5. The major shearing in the Chae Sorn area might have taken place during Paleogene (40-50 Ma) coincided with the major active-movement

of Wiang Pa Pao-Khuntan fault.

6. Subsequent to the shearing, the old Chae Sorn shear zone was open up and provided an excellent channel way for various stages of later mineralization.

7. Low temperature hydrothermal solutions of probably meteoric water origin, which were heated by unknown source underneath, were responsible for the Chae Sorn mineralization.

8. Multiple fracturing and brecciation and self sealing repeatedly occurred in the mineralized zone.

9. The earliest mineralization is assigned by minor open space-filling of galena - sphalerite - ferroan dolomite mineralization (stage I) following by minor fracturing and brecciation and arsenopyrite-pyrite-quartz mineralization (stage II).

10. Shortly after that, major hydrothermal fracturing and brecciation somewhat similar to phreatic explosion type occurred and following immediately by extensive silicification.

11. Later low temperature antimony-bearing hydrothermal solutions ascended and precipitated early-stibnite-quartz (stage III) in newly-open fractures and minor breccias.

12. Dissolution of phyllic - altered rock fragments took place subsequently after the precipitation of stage III.

13. It was then following by a precipitation of late stibnite-quartz (stage IV) in newly - open fracture and dissolved vugs by a

continuous influx of ascending low temperature solution antimony - free solution (i.e. comb quartz) and subsequently antimony-bearing solution.

14. Gold most probably occurs as very fine particle, associated with sulfide minerals possibly arsenopyrite.



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย