

# CRUSTAL EVOLUTION OF PART OF ANTARCTICAN SHIELD : STUDIES ON SCHIRMACHER OASIS AND PETERPAN RANGE DURING AUSTRAL SUMMER OF 1986-1987

T.S. MADDOOM HUSSAIN  
National Geophysical Research Institute  
Hyderabad 500 007

Reconnaissance studies of the geology, structural features and the inter-relationship of different rock formations were carried out along ten traverses in the Schirmacher oasis. Representative samples were collected from different lithological units for geo-chemical studies. The units sampled consist of; augengneiss, garnet-biotite-gneiss, calc.silicates, garnet-sillimanite gneiss, amphibolites, basic sills and dikes. It was observed that many amphibolite sills of about 1 m width occur in the garnetbiotite gneiss. Amphibolites also occur in the form of boudins near the leuco-gneiss boundary in ENE-WSW direction. They are more abundant in the eastern and east-central part. The order of superposition appears to be Augen gneiss/biolite gneiss, garnet-biotite gneiss, amphibolite,leuco-gneiss and basic intrusions.

Ten grano-syenite and garnet-biotite gneiss samples were collected in the vicinity of Peterman I surrounding the camp area. Charnockites, anorthosites and other high grade rocks reported in the Gruber massif and adjacent nunataks could not be collected due to lack of transport and time. A total number of 95 samples were collected from both Schirmacher and Wohlthat regions for petrochemical studies. Samples for palaeo-magnetic studies could not be collected as most of the dikes are either too small or disturbed and at places inaccessible/different for a single member to collect the desired samples.