

## CARBONATITE BODY NEAR KHUNGAI, RUSTAM AREA, DISTRICT MARDAN, NORTH PAKISTAN

A small carbonatite body (approximately a square km in area and oval in shape) is located on the eastern edge of the Ambela granitic complex at Khungai village in Rustam area of Mardan District. The Ambela granite stretches out from the northeast to the south of Ambela Rest House and separates the Lower Swat-Buner schistose group from the Swabi-Chamla sedimentary group (Martin *et al.*, 1962). The Ambela granites comprise varied assemblages of granite, alkali granite, aegirine-syenite with or without quartz, arfvedsonite nordmakite, and aplite with aegirine-augite (Siddiqui, 1967).

The carbonatite is medium- to coarse-grained and has a sharp contact with the Ambela granite. The granite is commonly medium-grained and is generally gneissose at the contact with the carbonatite. The granite is sheared along the contact with the carbonatite, however, in one occasion the contact between the granite and carbonatite contains enrichments of pyroxenes, pyrite, tourmaline, and garnet. At the eastern contact of the carbonatite the granite is very fine-grained and seems more felsic due to metasomatism. Fentization seems to accompany the emplacement of carbonatite body.

The carbonatite is characterized by extreme compositional variation with rocks ranging from 20–30% essential carbonates to those mainly composed of carbonates having silicate minerals as accessories. Carbonates mainly comprise calcite and dolomite. Other minerals (in the order of decreasing abundance) are pyroxenes, apatite, aragonite, sphene, albite, epidote, pyrite, monazite, zircon, pyrochlore, and quartz. Pyroxenes are diopsidic and aegirine-augitic in nature. The pyroxenes are medium- to coarse-grained and may contain inclusions of calcite and apatite. Monazite has yellowish colour and occurs in cubic forms. Pyrochlore is brownish to opaque and locally it has dark core with brown margin. Some samples were studied by sutroradiograph to confirm pyrochlore. Quartz is rare and occurs as small grains, however, in two samples quartz is coarse-grained and contains inclusions of calcite and pyroxenes.

The Khungai carbonatite is the second occurrence of the rocks after the Naranji Kandao carbonatite in the Ambela granite (Siddiqui, 1967), and in both the occurrences the carbonatite is intrusive in the alkaline members of the Ambela granite complex.

#### REFERENCES

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