## METAMORPHIC EVOLUTION OF HIGH-PRESSURE, LOW-TEMPERATURE MAFIC ROCKS NEAR KINI ON THE ISLAND OF SYROS, GREECE

DIFILIPPO, Erica L., edifilip@email.smith.edu, and BRADY, John B.,

jbrady@science.smith.edu, Department of Geology, Smith College, Northampton, MA 01063.

The island of Syros in the Greek Cyclades exposes a variety of high-pressure, Eocene metamorphic rocks, including marbles, blueschists, and semi-pelitic schists (Ridley, 1981). A particularly well-exposed sequence of metamorphosed mafic and ultramafic rocks outcrop along a 2.5 km long coastal cliff at Kini, on the western side of Syros, which is the type locality of the mineral glaucophane. This suite consists of sections of glaucophane schist, eclogite, omphacite-zoisite rock, mica schist, serpentinite and surrounding blackwall reaction zones. The glaucophane schists are distinctly foliated with glaucophane, phengite and chlorite defining the foliation. The eclogites at Kini, composed of omphacite, glaucophane, zoisite, rutile, garnet, and titanite, do not have a measurable foliation or lineation. Omphacite-zoisite rock is coarse-grained (1-2.5 cm crystals) with little fabric. Locally, the eclogite and the omphacite-zoisite rocks are crosscut by what appear to be metamorphosed mafic dikes composed of glaucophane/crossite, zoisite, omphacite, rutile and epidote. Serpentinite serves as the matrix for a jumble of rounded blocks of eclogite and omphacite-zoisite rocks. Reaction zones of near-monomineralic bands of talc, then actinolite separate the serpentinite from the blocks of eclogite.

Samples of the Kini section were collected as part of a Keck Geology Consortium research project during the summer of 1999 Petrographic work and SEM/EDS analyses are underway to determine the metamorphic history of these rocks. In particular, we hope to determine whether the coexistence of eclogite and blueschist is due to differing bulk compositions or to lack of chemical equilibrium. Does the presence of blueschist in eclogitic rocks record the limited access of water during the decompression of these rocks?

Keywords: blueschist, eclogite, metamorphism, Cyclades