

**Zeolite assemblages in the North Mountain Basalt
along the north shore of the Minas Basin, Nova Scotia**

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New X-ray diffraction and electron microprobe analysis shows the following assemblages to be present in mafic flows and necks of the upper Triassic-lower Jurassic North Mountain Basalt. Wasson Bluff: chabazite, analcime, stilbite, natrolite, heulandite/clinoptilolite, laumontite, thomsonite, gmelinite. The dominant zeolites are chabazite, stilbite and heulandite and the associated minerals are silica minerals,

mica and malachite. Cape Sharp: stilbite, chabazite. The associated minerals are: silica minerals, calcite, malachite. Five Islands: chabazite, heulandite, stilbite, barrerite/stellerite, analcime. The dominant zeolites are chabazite and stilbite and the associated minerals are silica minerals, calcite, and barite. Western Cape D'Or: stilbite, chabazite, analcime, stellerite, natrolite, thomsonite, scolecite, laumontite, heu-

landite/clinoptilolite, mesolite. The dominant zeolites are stilbite, analcime and natrolite and the associated minerals are silica minerals, malachite and magnetite. Horseshoe Cove: heulandite/clinoptilolite, stilbite. The associated minerals are silica minerals and calcite. Partridge Island: stilbite, analcime, chabazite, epistilbite, natrolite, heulandite. The dominant zeolites are stilbite and chabazite and the associated minerals are silica minerals, mica, calcite, malachite, magnetite and ?galena. Two Islands: analcime, gmelinite, chabazite, stilbite and natrolite. The dominant zeolite is analcime.

At Wasson Bluff, the geological events related to the zeolite formation, based on our field observations, are as follows (from early to late): (1) extrusion and cooling of

basalts; (2) deposition of sediment in columnar joints and formation of zeolites in vesicles; (3) early faulting, with some brecciation and rotation of columnar joints (sediment in joints has zeolites in vugs and rosettes); (4) deposition of sediment in rotated columnar joints; (5) deposition of monomictic conglomerates and breccias off fault scarps, rotated or widened columnar joints have cavities filled with zeolites; (6) repetition of sequence 1-5; (7) deposition of polymictic conglomerate, no zeolites; and (8) later jointing and faulting. Formation of zeolites thus appears to be closely associated with basalt extrusion, rather than being a result of burial diagenesis.