UNIVERSITY OF TOLEDO ORNAMENTAL STONE

exhibit installed in a hallway display case
between rooms 1006 and 1010 in Bowman-Oddy Laboratories

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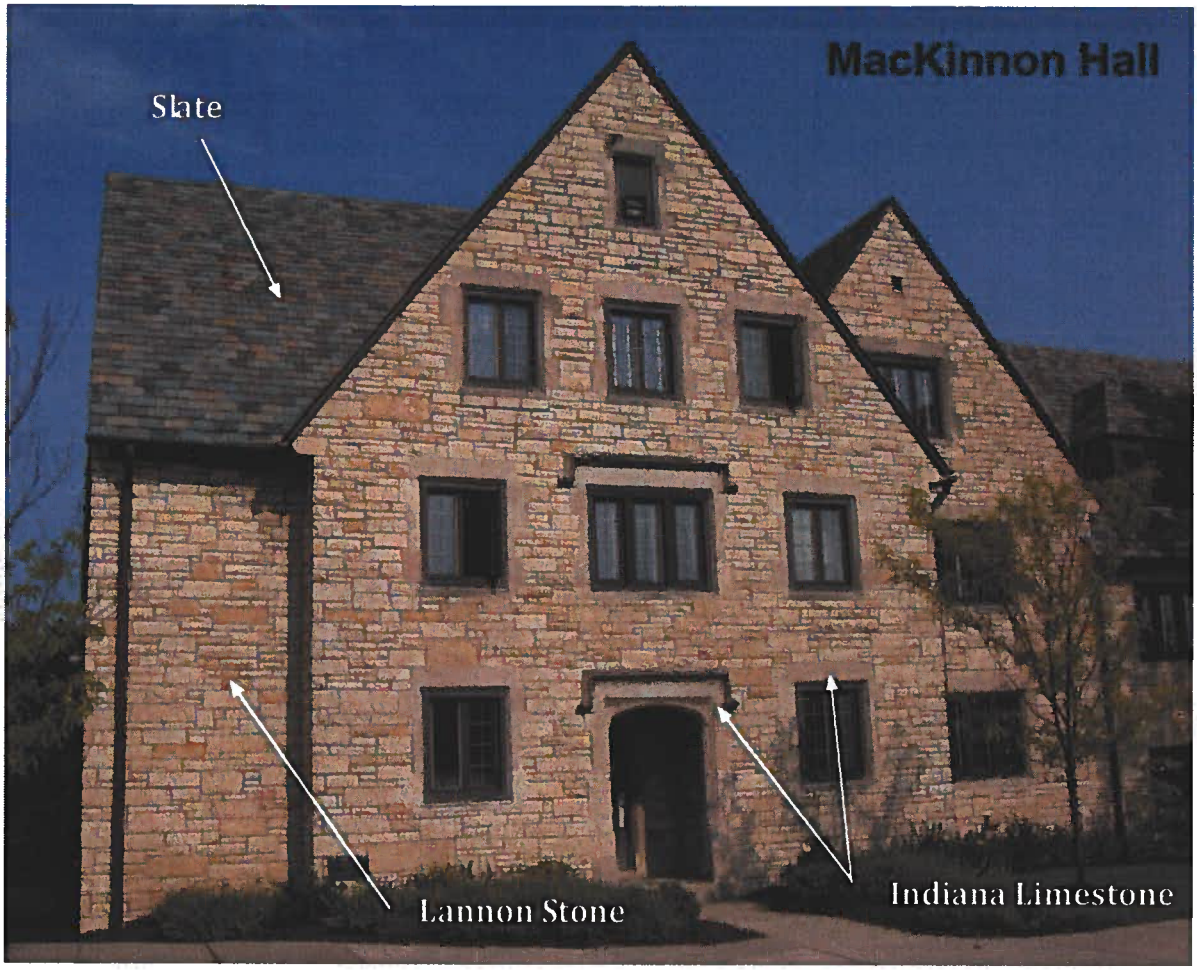
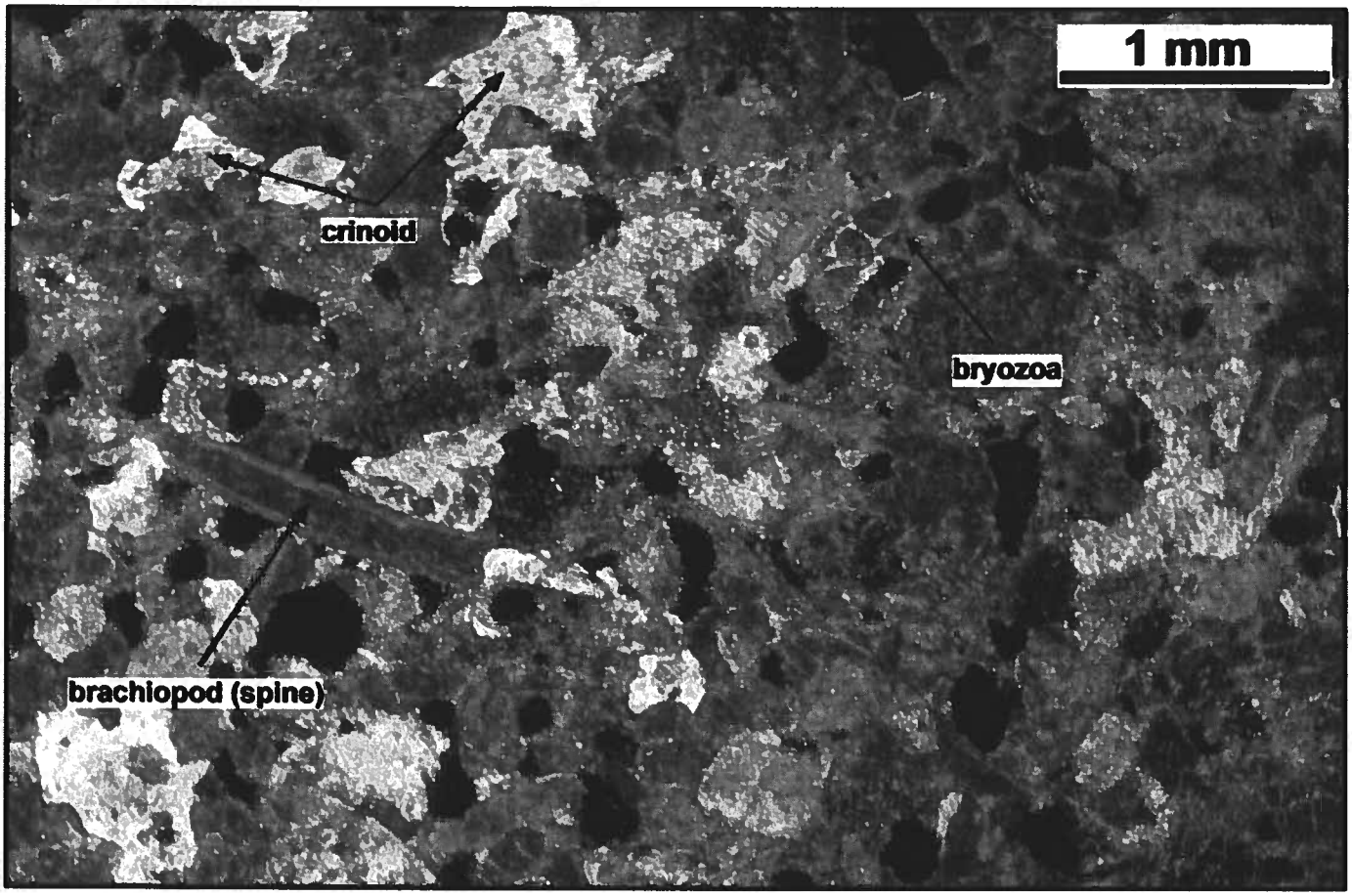
Many of the buildings on the University of Toledo's main campus are architecturally linked by the use of the same three ornamental stones on their exteriors: **Indiana Limestone** for trim around doorways and windows, **Lannon Stone** for veneer on walls, and **slate** for roofing shingles. These stones are especially prevalent in the university's older buildings and they are still used today, although less lavishly than before. In later buildings these stones have been either partially or entirely replaced by less-expensive alternatives: for walls – brick, Arriscraft masonry (a manufactured material designed to look like Lannon Stone), and precast concrete (which resembles Indiana Limestone); and for roofs – asphalt-based shingles and coatings, and standing-seam (sheet) metal.

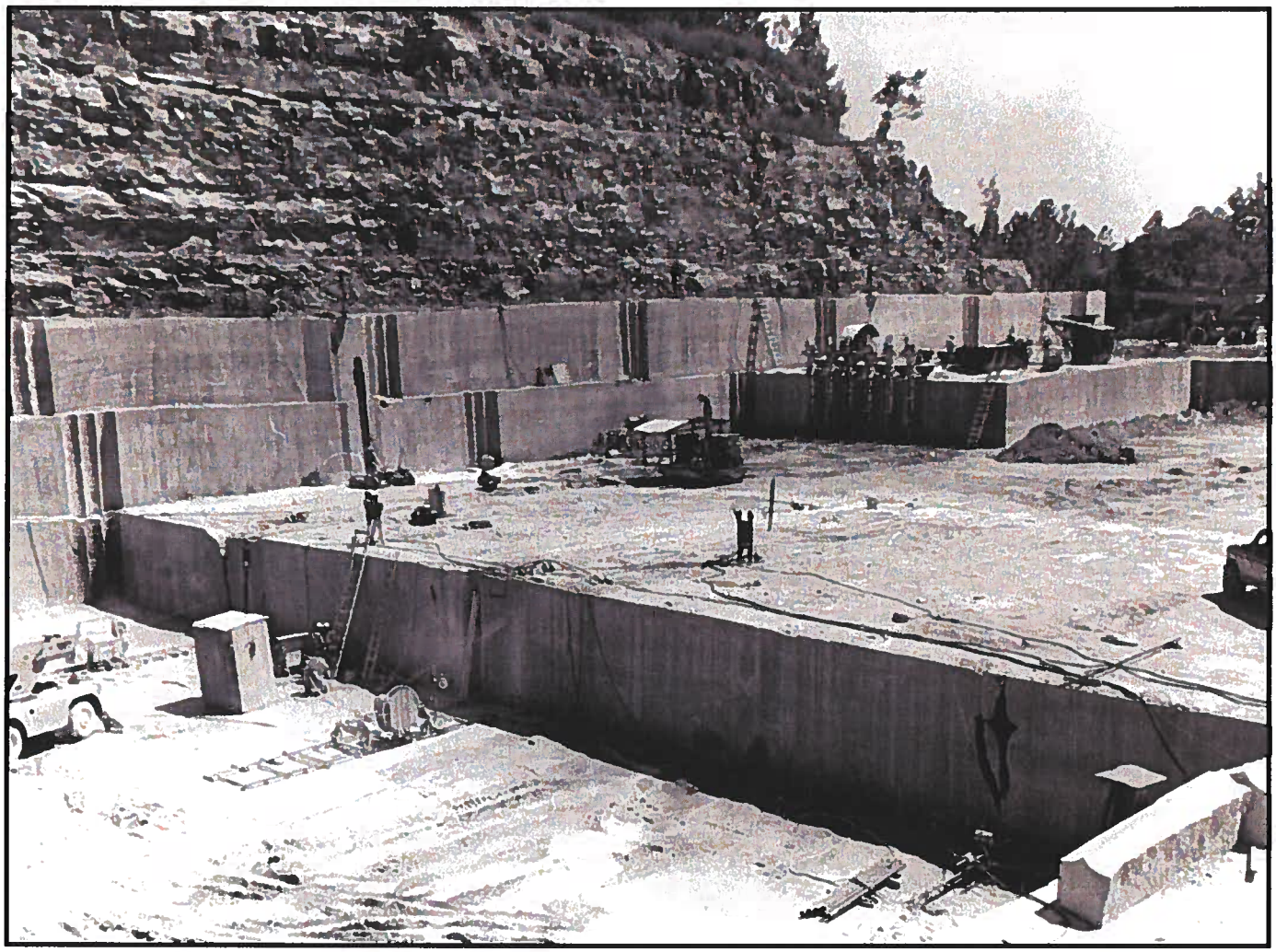


INDIANA LIMESTONE

As indicated by its name, this sedimentary rock is a limestone. It comes from quarries around Bedford and Bloomington in south-central Indiana, and derives from the Salem Formation, which dates to the Middle Mississippian period (326 to 345 million years ago). The supplier in recent decades has been the Bybee Stone Company of Bloomington, IN. This rock was originally deposited as a sandy, calcareous sediment in a shallow, epi-continental sea and upon burial was lithified into a porous, fossiliferous limestone. It has a modal grain size of 0.5 mm. The fossils include crinoids (an echinoiderm), bryozoa, brachipods, and rare calcareous foraminifera. The rock is classified as a bioclastic grainstone to mainly packstone in the Dunham system, and a biosparite to mainly biomicrite in the Folk system. Mineralogically, it consists of nearly pure calcite ($CaCO_3$). Indiana Limestone occurs in thick, massive layers making it especially well-suited for large, sculpted architectural elements.



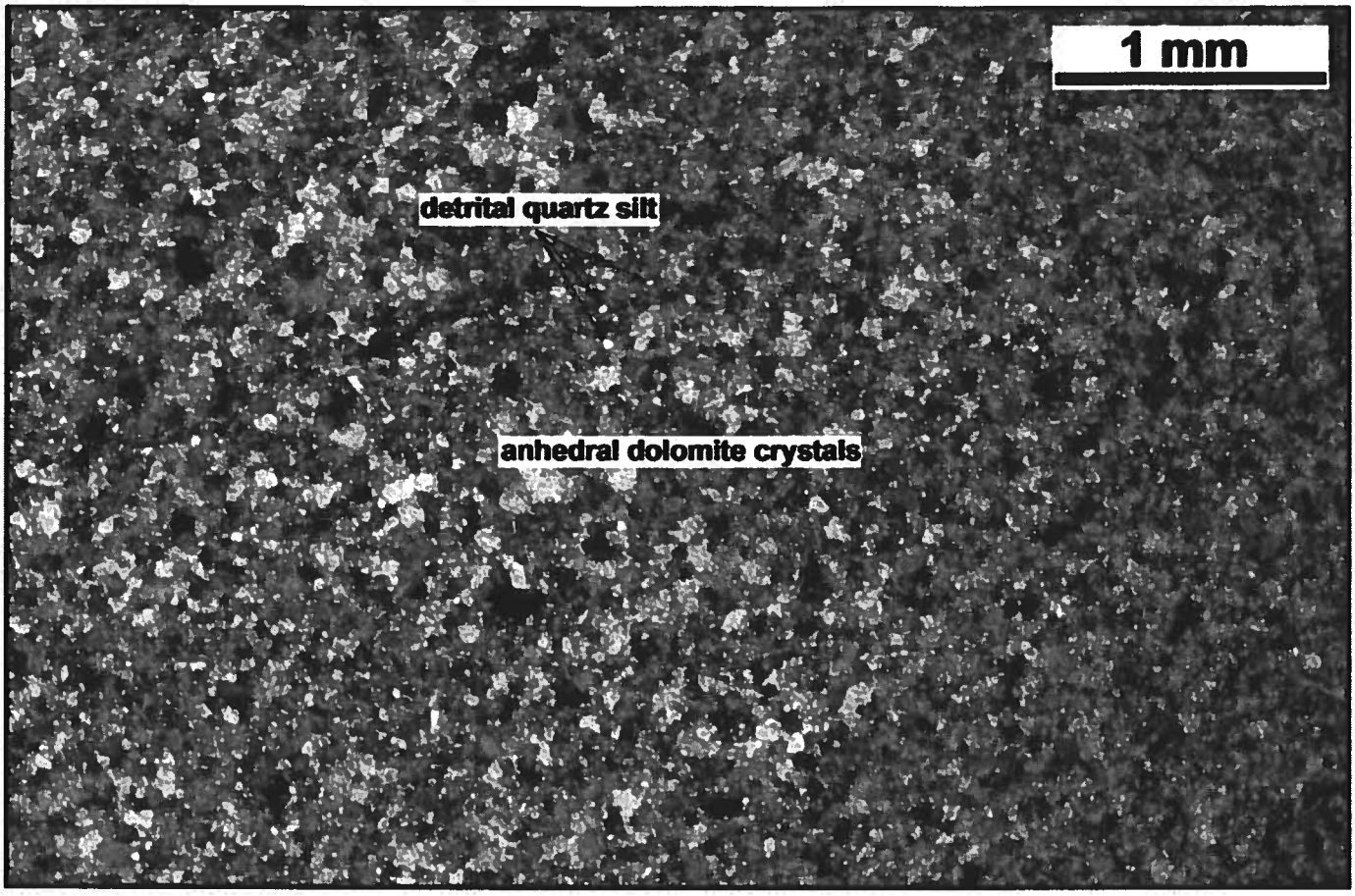
Thin-section photomicrograph of Indiana Limestone.



Bybee Stone Co. quarry for 'Indiana Limestone' near Bloomington, Indiana.

LANNON STONE

This sedimentary rock is a dolostone that comes from quarries near Lannon, just west of Milwaukee, in southeastern Wisconsin. It belongs to the Lannon Beds of the Racine Formation, which dates to the Middle Silurian period (423 to 428 million years ago). The supplier in recent decades has been the Halquist Stone Company of Sussex, WI. This rock was originally deposited as a muddy, calcareous sediment in a shallow, epi-continental sea and upon burial was both lithified and dolomitized with the original calcite replaced by dolomite ($CaMg[CO_3]_2$) to produce a dense, finely crystalline (0.1 mm modal crystal size) dolostone with common detrital quartz silt grains in a matrix of mostly anhedral dolomite. Lannon Stone occurs in thin layers with rough, varicolored bedding surfaces and so yields natural slabs well-suited for wall veneer.



Thin-section photomicrograph of Lannon Stone.

Halquist Stone Co. quarry for 'Lannon Stone' near Lannon, Wisconsin.

Halquist Stone Co. quarry for 'Lannon Stone' near Lannon, Wisconsin.

SLATE

The slate used at UT comes primarily from the Appalachian Mountains of the eastern United States, and especially from quarries in eastern Pennsylvania and Virginia (from the Martinsburg Formation of Middle to Upper Ordovician age, 446 to 472 million years ago), and the Taconic Range along the border of New York and Vermont (from the Mettawee Formation of Lower Cambrian age, 521 to 542 million years ago, and Normanskill Formation of Lower to Middle Ordovician age, 461 to 488 million years ago). Over the years there have apparently been numerous suppliers. This rock was originally deposited as a clay-rich, muddy sediment on a moderately deep ocean floor. Subsequent burial initially lithified it into shale, a sedimentary rock, but still deeper burial exposed it to high temperatures and pressures that metamorphosed the shale into slate. Slate consists primarily of various mica minerals (from the original detrital clay) and quartz (from the original detrital quartz silt) with the rock's highly variable color caused by a variety of constituents: dark gray to black from carbon derived from the original sediment's organic

(bituminous) matter; green from chlorite mica; yellow to brown from limonite; and red from hematite. Slate is a foliated metamorphic rock with a well-developed cleavage that causes it to break naturally into thin, flat slabs that are ideal for roofing shingles.

LOCAL LIMESTONE AND SANDSTONE

UT's Glass Bowl Stadium was originally built in 1938 by the federal Works Projects Administration. Only locally available stones were used and so this structure does not conform to the ornamental stone scheme implemented for the rest of the main campus. The two local stones are both sedimentary rocks that were quarried just west of Sylvania and date to the Middle Devonian period (385 to 398 million years ago). The first of these, the **Silica Formation**, supplied the irregular slabs of fossiliferous limestone that were used to construct the wall surrounding the stadium. This rock is famous for its conspicuously large fossils of many varieties, including brachiopods, corals (both solitary horn and colonial), crinoids, bryozoa, gastropods (snails), pelecypods (clams), and trilobites. Also present are many tracks, trails and burrows (so-called 'trace fossils') left by these animals in the original calcareous marine sediment. This limestone was again employed for the two original buildings flanking the stadium's north side (and the Larimer Athletic Complex) but with the addition of a second stone, the **Sylvania Sandstone**. The small blocks of this rock vary in color from pink, when hematite is present, to light gray. It consists of nearly pure quartz and so at one time the Sylvania Sandstone was a source of 'glass sand,' the main raw material for Toledo's glass manufacturing industry.