The serendibite is optically positive, and has an axial angle of nearly 90°. The indices of refraction and pleochroism are as follows.

Riverside	New York
$\alpha=1.719$, pale yellow green.	$\alpha=1.701$, very pale yellow green.
$\beta=1.722$, pale blue green.	$\beta=1.703$, nearly colorless.
$\gamma=1.724$, brilliant sky blue.	$\gamma=1.706$, prussian blue.

It is interesting to note that the indices are markedly higher than those of the material reported by Larsen and Schaller from New York. This is probably due to a higher percentage of iron. However, there was not enough of the material available for an analysis. The mineral has an extremely strong dispersion, $r>v$, which causes unusual interference colors and indistinct extinction. It likewise has a low birefringence. Broad polysynthetic twins are common.

Nontronite

A common rock from the quarry is a coarse aggregate of labradorite feldspar and hedenbergite. The pyroxene is in large part altered to nontronite, a greenish yellow earthy mineral having a fibrous or micaceous structure. It is biaxial negative, and has a small axial angle. The indices vary considerably but are about: $\alpha=1.566$, $\beta=1.583$, $\gamma=1.586$. Extinction is generally indistinct because of the fibrous nature of the mineral.

References

(1) Coomáráswámy, A. K., The crystalline limestones of Ceylon: *Quart. Jour. Geol. Soc., London*, **58**, 420–422 (1902).

(2) Larsen, E. S., and Schaller, W. T., Serendibite from Warren County, New York, and its paragenesis: *Am. Mineral.*, **17**, 457–465 (1932).

NEW ACCESSIBILITY OF THOMSONITE BEACH, MINNESOTA

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With the completion of the relocating and hard surfacing of the Minnesota portion of the Lake Superior International Highway (U. S. #61), the Thomsonite Beach zeolite locality on the north shore of Lake Superior in Cook County, Minnesota, is now quickly and easily accessible. It is from this area that the finest and most highly prized specimens of semiprecious thomsonite and allied zeolites have been obtained. In addition to thomsonite, N. H. Winchell[1] identified mesolite, lintonite, and scolecite.

[1] Winchell, N. H., *Minn. Geol. & Nat. Hist. Surv*, Final Report, **5**, 248–251; 405–409 (1900).

The collecting ground is approximately 105 miles northeast of Duluth and 5½ miles southwest of Grand Marais, in Sec. 34, T. 61 N., R. 1 W. This is the "Grand Marais" locality cited in mineralogical literature. Thomsonite Beach lies almost exactly 4 miles "beyond" (northeast) the Cascade River, lakeward from where the new highway makes a sweeping curve just before entering a 40 foot cut. A convenient parking turnout is located at the west end of the long guard fence at the beginning of the curve. Several indistinct trails lead to the lake which is only about 300 feet from the road.

The easily accessible portion of the shore at this point is about ¼ mile long. It is low, rock-bound, and relatively straight and consists of the upper portion of a thick amygdaloidal basalt flow of Keweenawan age. The flow dips at a low angle (10°–15°) to the south passing beneath the surface of the lake. At this line of contact a low wave-cut cliff is generally present.

Thomsonite Beach, in a restricted use of the term, is a small pocket beach about 65 feet across, located some 100 yards from Terrace Point, the eastern termination of this segment of the shore. Good Harbor Bay lies beyond to the north and east. Unfortunately, for the past several years the surface of this small beach has been covered with basalt cobbles and other coarse debris.

The primary occurrence of the zeolites is as amygdules, commonly from ¼ to ½ inch in diameter, and as fillings along joint planes in the flow. As a secondary occurrence, when released from the enclosing basalt, they tend to accumulate through wave action as water-worn pebbles in the pocket beaches and small rock basins along the shore. The new highway cut mentioned above penetrates what appears to be the same flow that is exposed at the edge of the water. Fresh material may be obtained from the walls and from blocks of this basalt dumped along the sides of the adjacent fills.

Erratum

The American Mineralogist, **24**, 478 (1939), in the article on "brochantite," line 5 from bottom should read "$X \wedge a$ nearly 13°. $X = 1.728$."