

began supervising the mining of pollicite for the General Electric Company. Being a mineral dealer as well, Nevel carefully saved specimen material which he later supplied to museums and researchers. On the basis of specimens received by Harvard, Palache and Shannon (1928) described the phosphates beryllonite (second world occurrence), esphorite and hydroxyl-berderite, and Fraser (1930) described the paragenesis of the pegmatite.

The typical good Dunton tourmaline specimens from this period are translucent to opaque watermelon crystal sections, either free or in matrix. Terminated crystals (BMNH 84004, H90160) and especially those in matrix (H90154) are decidedly scarce. A letter to Palache from Nevel describes the quality of gems and pocket crystals available at that time.

December 14, 1927

Dear Professor Palache,

I have now gotten ready the largest and best of the gems from Newry—four tourmalines of various shades and one pale bluish caesium beryl. The latter is the first gem cut from this material from Newry. We found a number of these crystals or broken pieces of same but all were opaque. I had hoped to get a ten carat gem but when the flaws were ground out it reduced it to about 4 carats.

The four tourmalines were found in little cavities in the same area that produced the esphorites, the only pockets formed in the entire ledge. The largest is of 15½ carats weight and much the largest ever found at Newry that I know anything about. Mr. Merrill told me the largest gem he ever saw from there was a pink stone that weighed 1¼ carats. This was a fragment broken out from the pink center of one of those big "watermelon" crystals that they found 25 years ago but no pocket material was taken out. The several tiny cavities I found this Summer were at the opposite end of the vein from where they worked years ago. The largest cavity was 4 inches across.

The gems consist of one sapphire blue, one dark blue-green, one fine pink and the large green stone of 15½ carats beside the cut beryl. I consider the large one worth \$8.50 per carat in view of its brilliancy and exceptional size from that locality. The pink one at \$10.00. It weighs about 1 carat and is fine color. I have a large piece of pink I intend to cut but there will be flaws in it.

Very truly yours,
[Signed] W. D. Nevel

At least 1600 kg of pollicite were mined in the late 1920's by Nevel. He also reworked the dumps for montebasite, plagioclase and apodumene in 1935. The geology of the small (3 x 60 m), lens-shaped Dunton pegmatite was studied as part of the wartime effort by the U.S. Geological Survey to investigate domestic sources of strategic minerals (Cameron *et al.*, 1954; Shainin and Delwig, 1955) and now, it is the best-studied of Maine's gem pegmatites (King, 1975). The Whitehall Company and Harvard University jointly explored for commercial feldspar and gem tourmaline in 1949 without success. Richard "Robbie" Robinson of New Hampshire discovered a gem pocket here in 1967 (Stevens, 1972). With the permission of International Paper Company and the assistance of Frank Perham, the pocket produced blue-green elbaite "pencils" and "popcorn" lepidolite (H117487). This was much richer than the pockets found by Nevel but merely a precursor to the fabulous find a meter below it in 1972.

The now-famous discovery was made by George Hartman, Dale Sweatt and James Young in August, 1972. After the material from this "pre-lease" pocket was divided, Hartman, Sweatt and Dean McCrillis organized the Plumbago Mining Corporation. A lease was obtained from International Paper Company, Frank Perham was hired, and exploration for gem tourmaline was resumed. In late

October a second series of pockets was discovered that proved richer than any previously discovered in Maine and, perhaps, anywhere in the world! These exciting events were recounted by McCrillis (1975) with rare detail.

The characteristics of the new crystals were described by Dunn (1975a) and are sufficiently distinctive that they shouldn't be confused with crystals from earlier finds at the Dunton or elsewhere in Maine. Typical specimens are the green terminations and watermelon "logs" from large naturally broken crystals. Acute trigonal pyramids are the dominant terminal forms. Ditrigonal pyramids and the pedion are less common. The only large crystal on matrix is both repaired and reattached to the cleavelandite.

The full gem potential of these crystals was not appreciated until John White observed that the obvious flaws in the logs were confined to the green rinds and that the cores were almost flawless. Maine had never produced such amounts or quality of rubellite. The largest rubellite cut for Plumbago Mining is 60 carats (H119102). Gems in the 20-40 carat range were routine and small stones were abundant. Lesser material was carved or cabbed (Stevens, 1973, 1979). The total amount of tourmaline is not accurately known. In November of 1972 when John Marshall bought Hartman's interest in Plumbago, there was more than 1 metric ton of ungraded tourmaline (no matrix) stored in the vault of the Casco National Bank! This was only the production from the October, 1972 find; pockets found in May of 1973 and July of 1974 were also important producers.

Plumbago did not ignore the rare species found in the pockets with albite and elbaite. The writer, in August 1973, purchased two pale green montebasite crystals at the Rumford office. Harvard Professors Froidel and Huribut collected beryllonite which hadn't been available since the 1920's (H110048). A large, colorful specimen of beryllonite associated with cleavelandite and elbaite was later acquired by Harvard (H119587). Examining the beryllonite assemblage closer, John Stewart and Palmer Sevrens discovered the second world occurrence of uriolite (Dunn, 1978). Some thumbnail-size single beryllonite crystals and esphorite on elbaite were also marketed. The dumps, too, produced rare phosphates. Steven Garza, a central Massachusetts collector who bicycled to Newry in July 1982 to collect at the Dunton mine, discovered 5-mm rhombohedral whitlockite crystals (H119585) associated with xanthoite.

At the cessation of mining in 1974, the Dunton was fairly honeycombed with tunnels. To eliminate this attractive hazard and potential liabilities the International Paper Company arranged for Jim Mann, a blasting contractor as well as a mineral dealer, to collapse the Plumbago workings. In the course of this work he discovered a small (1 m) pocket of blue tourmaline. The pencil-like crystals were all broken into 2 cm sections. The one crystal Mann successfully reconstructed is doubly terminated and 11.3 cm in length (H119903). Although the color of this 1500 carats of elbaite, is unsuitable for faceting, it is evident that the last word on Dunton mine tourmaline isn't yet in!

SCHORL $\text{NaFe}_3\text{Al}_2(\text{BO}_3)_3\text{Si}_4\text{O}_{14}(\text{OH})_4$

Schorl is an abundant accessory mineral in Maine's granites and granite pegmatites. Its simple pegmatites it frequently occurs as lustrous, well-formed prismatic crystals frozen in a matrix of white to buff-colored feldspar and gray, granular quartz. Interesting morphological variations result from different combinations of the common crystal forms. Almandine trapezohedrons, chrysoberyl twins and pseudohexagonal muscovite books may be associated. In complex pegmatites schorl is an important petrologic component. At Mount Mica for example, schorl accompanies almandine in that pervasive horizon known as "the garnet line" below which pockets are almost never found. At both Mount Mica and Mount