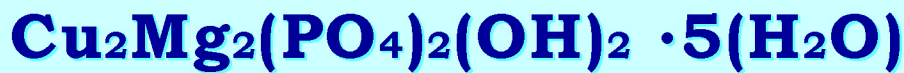


Mineral Showcase

Nissonite



Nissonite is such an exceptionally rare mineral—thus scarcely encountered in collections or publications—that there is, naturally, very little information concerning it. First described in 1996 from the Llanada Copper Mine in Panoche Valley, San Benito Co., California (the same county where another very rare mineral, benitoite, is found), nissonite ranks among the rarest of mineral species.

Named for William H. Nisson (1912-1965), an amateur mineralogist who first noted the mineral, nissonite is a monoclinic hydrous basic copper magnesium phosphate that usually occurs as crusts and botryoidal aggregates. Occasionally, however, it occurs as clusters and isolated turquoise-blue, diamond shaped crystals!

Aside from highly technical measurements of pleochroism, x-ray diffraction, cell data, and so forth, one would be hard pressed indeed to find more palatable information than just divulged! No doubt the best way to gain any greater appreciation for this special mineral is to actually hunt for and find specimens in the field. Easier said than done!

To date, there are only four documented locations on the planet where nissonite is known to occur: the Llanada location mentioned above, two sites in Australia (the Iron Monarch Mine in South Australia and the Mt. Oxide copper mine in Queensland), and the Boss Mine in the Goodsprings District near Las Vegas, Nevada.

Where the mineral *is* found, the most common form is as a rather unimpressive thin, bluish crust mixed with and easily mistaken for associated copper minerals, particularly chrysocolla and corroded films of malachite. Such examples, however, are hardly worthy of more place in a mineral collection than as simply a representative of a rare species. It is the crystals that are the treasure! The problem is, those crystals are microscopic—rarely larger than 2mm. This is what makes finding nissonite so difficult—until the eye is “trained” to recognize candidates.

Unless those crystals occur in large aggregates of thousands of individuals, specimens will simply be overlooked on site. Therefore, many samples from a deposit must be collected and observed under a microscope to determine if any examples of nissonite are present. It is prudent, therefore, to know what samples qualify for closer inspection, otherwise, hauling a heavy load of useless material can ruin the experience—not to mention a recalcitrant back. Look for mineralized material with obvious copper indications (vibrant blues and greens), with vugs that provide enticing space for crystals to grow in.

Classic Relationship Specimen



XI 78 C

*Aggregates of rosette clusters and individual diamond-shaped crystals
on matrix of gossan material with Chrysocolla and Malachite.*

Specimen 5 x 2 inches

Boss Mine

Goodsprings, NV

from the **G. Miles Lehman Collection**

As impressive as the crystals look under the microscope, it is the shiny, vibrant light blue, translucent crystalline aggregates that are the true prize. These are found on buff-colored material that has been described as altered dolomite. However, the microscope reveals a different character, one that appears to be composed of coarse grains of quartz and feldspar. It is actually a volcanic tuff. Such aggregates are often coated by a layer of debris that conceals the true magnitude of the find. If lucky enough to find such a trophy, be prepared to be truly astounded by the discovery once the dirt is washed away!

There are many minerals that occur at only a few locations on the planet. While collectors worldwide covet rare specimens—and are more than willing to pay a king's ransom to obtain examples that seldom become available—only a very few will have an opportunity to actually search for and find such extraordinary treasures. When they do, the prize attains a value that transcends any purchase price. A specimen purchased, is essentially *decoration*; one found in nature is a cherished *experience*!



XI 78 D

*Spectacular coverage of
crystal aggregates on
tuffaceous matrix.*

Specimen 3 x 2 inches

Boss Mine

Goodsprings, NV

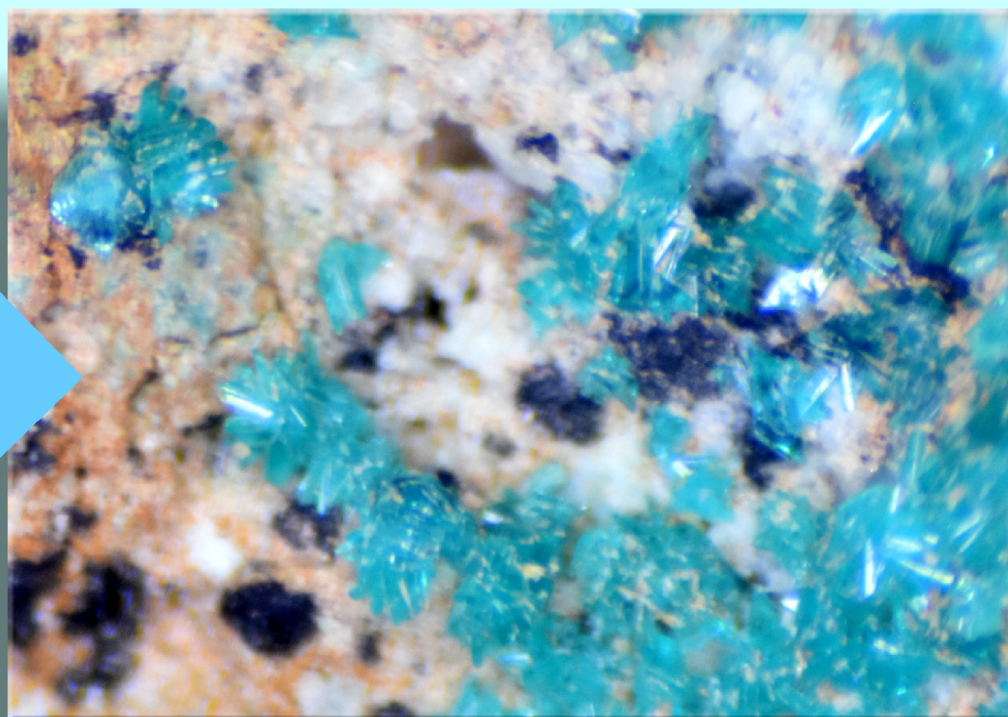
XI 78 Dm

*Microscopic view
of same specimen.*

FOV ~ 2 cm

Boss Mine

Goodsprings, NV



All specimens from the G. Miles Lehman Collection

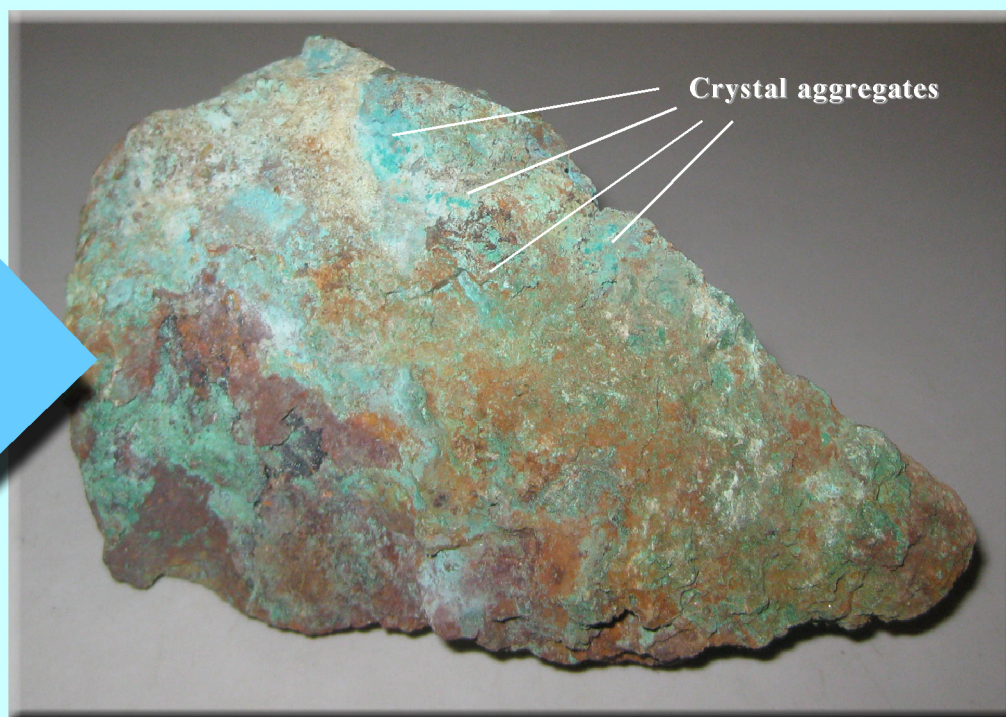
While this uncatalogued specimen does not have the extensive coverage as that on the previous page, it is a better representative of what is much more likely to be encountered...with a lot of luck!

A sharp eye is required, as most samples are covered in dirt that hides the treasure beneath!

Specimen 5.25 x 3.25 inches

Boss Mine

Goodsprings, NV



Pocket of crystal clusters on above specimen. Clusters average about 1mm, with individual crystals about half that, which is typical. It is quite rare to find crystals larger than half a millimeter.

Individual crystals do occur, occasionally even displaying twinning.

FOV ~ 1.5 x 1 inches

All specimens from the G. Miles Lehman Collection