

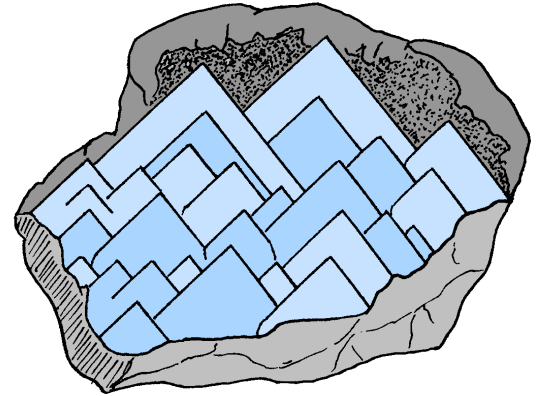
MINI MINERS MONTHLY

A Monthly Publication for Young Mineral Collectors

Vol. 4 No. 4

April 2010

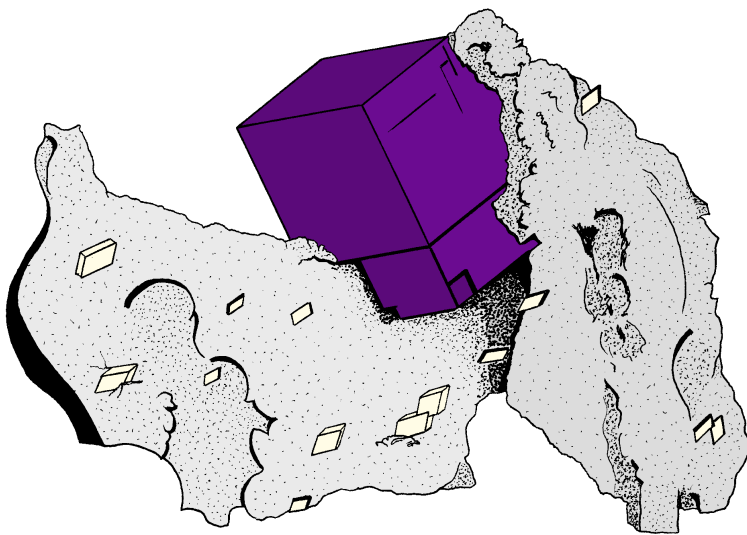
The weather is getting nicer here in New York State. This means that Mini Miners in this part of the United States will be gathering up their equipment and maps and heading out to dig for minerals. Some will be digging for fossils, too. With this in mind, this issue has some ideas to help you have a successful and safe digging season. A couple of years ago we heard a story about a collector who was digging for crystals at a rock quarry near the quarry wall. A large piece of limestone broke loose and fell on the collector, seriously injuring him. He will never be able to collect again. It is important to do everything you can to **STAY SAFE** when you dig. Next month we will publish the American Federation of Mineralogical Societies' "Code of Ethics." Every member of every AFMS club must sign this code of ethics before he or she



can participate in a club dig.

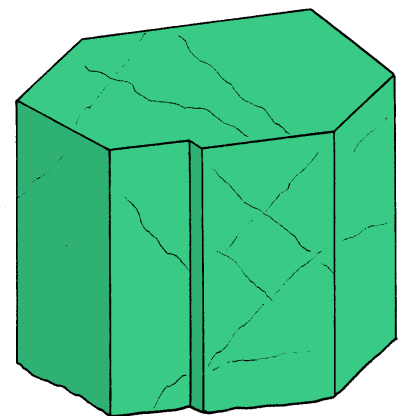
As I am writing this issue of *Mini Miners Monthly* it is April 1st! There is a special April 1st article here for you. How much of it will you read before you realize it is the month for "April Fools!?" It is meant to make you laugh, so I hope you enjoy it.

I live in New York State. There are a lot of wonderful minerals found here. So, I've decided to begin creating a coloring book about our



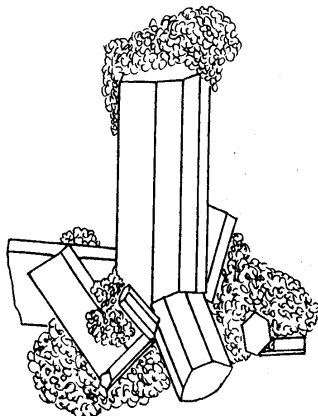
minerals. To the left is a specimen of purple fluorite cubes on gray limestone with small dolomite crystals. Below is a beryl crystal. Many mineral collectors like to specialize in minerals from their home state. In addition to New York State minerals, I also like to collect books about New York State minerals, too.

Here's your assignment for this month: draw two mineral specimens that were found in your home state. Send your pictures to us and we will publish them in future issues of *Mini Miners Monthly*. Send them by email to diamonddan@rochester.rr.com (jpg or tiff files) or mail them to us at P.O. Box 143, Manchester, New York 14504.



Mineral of the Month

Topaz



Topaz is one of the 10 minerals in Mohs' Hardness Scale (number 8). When pure, topaz is colorless. Impurities can make topaz orange, yellow, blue, and brown. It is the birthstone for the month of November. Clear, gemmy topaz is a very popular gemstone. Blue topaz is the official Texas state gemstone. It is also the official Utah state gemstone. Topaz forms in the igneous rocks called *granite* and *rhyolite*. "Rhyolite" is very fine-grained granite.

Crystal System: Monoclinic

Chemical Formula: KAlSi_3O_8

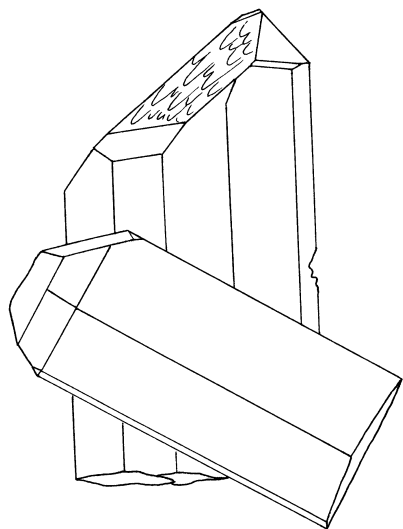
Hardness: 8 **Color:** Colorless, yellow, orange, blue, red, brown.

Name: From the Greek word *topazios*, an ancient name used for this

mineral.

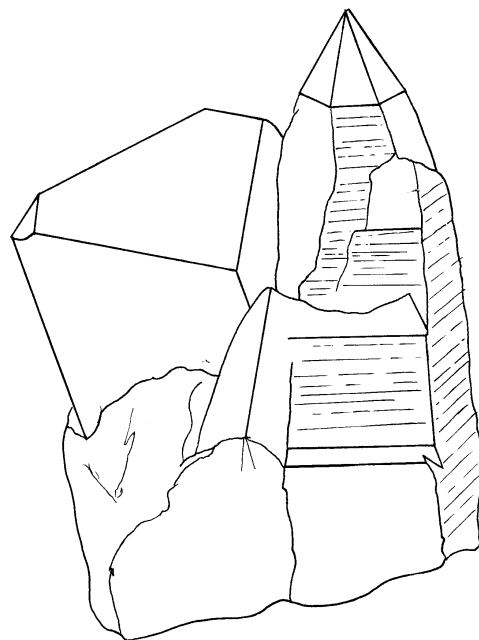
Streak: None **Cleavage:** Perfect across the crystal (called *basal cleavage*)

Uses: High-quality, clear specimens are cut to make gems.



Have you joined the *Mineral of the Month Club* yet? Receive a high quality mineral specimen, every month, as well as a complete write-up about each mineral you receive.

Top Left: Orange-red topaz from Mexico. Left: Golden orange topaz from Brazil (also called "Imperial Topaz"). Right: Golden brown topaz with black smoky quartz from Pakistan.



www.mineralofthemonthclub.org



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Incredible Crystals



You are probably used to seeing crystals that are about as tiny as a fingernail up to specimens that are about as big as your head. However, some minerals, when allowed to grow in very special conditions, can be bigger than a car!

Above are gypsum crystals that were discovered in 2000, deep underground at Naica, Chihuahua, Mexico. Some of the crystals are up to 40 feet long and are estimated to weigh up to 55 tons . . . each! These crystals are easily the largest gypsum crystals found anywhere in the world. They may very well be the largest crystals of any mineral ever found!

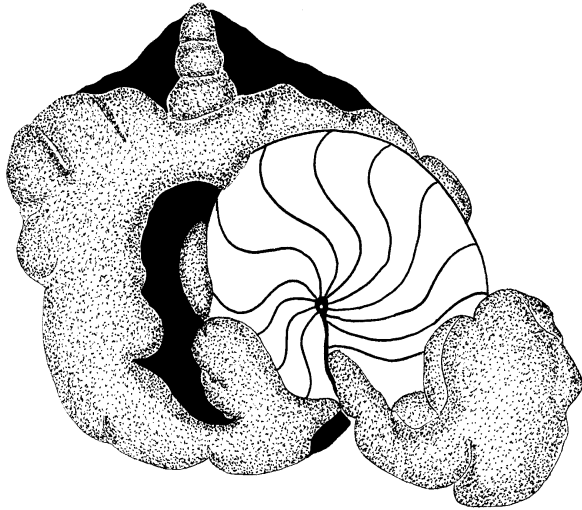
By now you know that we really like to tell you about great web sites. Go to this link at the Mineralogical Record magazine web site, and you will be able to download a Power Point presentation with real pictures and stories from this underground wonderland!

<http://www.minrec.org/multimedia.asp>

When Minerals & Fossils Meet

by Darryl Powell

There is a very special fossil occurrence here in New York State not too far from the City of Buffalo. In the little village of Alden, right up next to the local stream, you can find fossil shells that have been turned into the mineral pyrite! Usually shells are fossilized as limestone. Very rarely the original shell material is preserved. But, when ocean creatures are buried in sediments that have very little oxygen in them and a lot of sulfur, the shells can become pyrite!

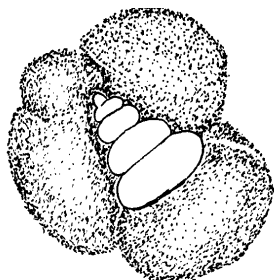
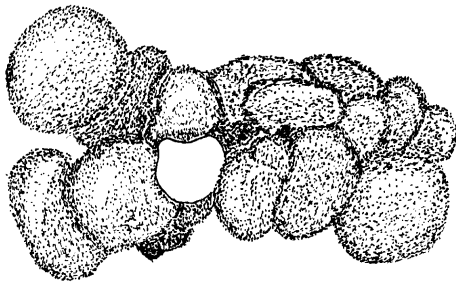


These pyritized fossils occur in a layer of sedimentary rock that is called the *Ledyard Shale*. The Ledyard Shale is part of a larger rock formation that is called the *Ludlowville Formation*. The Ledyard Shale was deposited in deep ocean water (that is when western New York State was under ocean water!). The shale that contains the pyritized fossils is exposed along Spring Creek in the town of Alden, New York.

The organisms that are fossilized in the Ledyard Shale include brachiopods, ammonites, and trilobites.

There are also many individual and connected "balls" of pyrite that are not attached to any fossils at all. Pictured above is an ammonite fossil. Not only is the ammonite shell now pyrite, but the fossil is also surrounded by "blobs" of pyrite.

To the left (top) is a small brachiopod pyritized shell that is surrounded by a number of balls of pyrite. The middle picture is of a different type of brachiopod that has pyrite growing on either side of the shell. On the bottom is a picture of a gastropod (that is, a snail) that is surrounded by three balls of pyrite.



The fossils take a little work to get out of the shale bed. Of course we *always* wear safety goggles to protect our eyes and heavy gloves to protect our hands. Using wide, flat pieces of steel and a heavy hammer, we dig into the shale. It takes practice to look for the slightest spark (that means you hit the pyrite) or to see the rounded pyrite blobs. When they first come out of the shale, they are covered with the gray, shale rock. You never really know what you have until you take them home to clean them. So, collectors take buckets of specimens home and carefully, one by one, clean them off and inspect them. The best way to clean them is to soak the pyrite in a mixture of water and toilet bowl cleaner! After they have soaked for a couple hours, they can be brushed with a stiff toothbrush. We also brush them with a water-baking soda mixture to neutralize the toilet cleaner acid. When these steps are done, we have sparkling pyrite balls and pyritized fossils! Maybe you will be able to visit New York State and dig at the Village of Alden, too.