

July 2021



OCMS SHALE MAIL



**Welcome to our 1st hybrid Meeting Friday
July 09, 2021 at 6:30 pm!**

If your joining us in-person see you at: 81 Laroe Rd Chester, NY (Town of Chester Recreation Senior Center), (From KINGS HWY, Turn left on Laroe Rd by UPS office building)

If your joining us Online see you on Zoom.

SEE YOU ALL AT THE MEETING!



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Photo Provided by: Sun RV Resort

Mailing Address:

254 Rt. 17K, Suite 204, Newburgh, NY 12550-8300

CONGRATULATIONS!

I don't know if Covid played a role but attendance was down a little for the Annual EFMLS Website Contest this year. I did have 4 entries and want you all to know what a great job you did. Again this year the contest was extremely close. I hope you will all enter again next year! If you are interested in visiting these websites the photos are clickable, enjoy!

Alison Pacut
EFMLS Website Contest Chair

1ST PLACE WINNER!



1st place goes to Heather Shields who represented the Orange County Mineral Society! Please feel free to drop by Heather's website to congratulate her.

2ND PLACE WINNER!



2nd place goes to Michael J Royer who represented the Chesapeake Gem & Mineral Society! Please feel free visit Michael's website to congratulate him.

3RD PLACE WINNER!

3rd place goes to Sue Goldman who represented the Nassau Mineral Club! Click on her site and congratulate her on a job well done!



HONORABLE MENTION!

Jim Campbell takes honorable mention representing the Richmond Gem & Mineral Society. Click to congratulate him on an awesome job!



Join Us For Our First Ever Hybrid Meeting!

We are back to live meetings in the Chester Senior Center. We've noticed the background hum of the ventilation system being an issue before. New territory for us to have a hybrid meeting, so cross your fingers.

Here is the Zoom link for those that can't make it in person.

The Orange County Mineral Society is inviting you to a scheduled Zoom meeting.

Topic: Orange County Mineral Society Zoom Meeting

Time: Jul 9, 2021 06:30 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/83652421993?pwd=Zld6em81REZ5SHBqLoZSNkRkR3pnQT09>

Meeting ID: 836 5242 1993

Passcode: 023790

One tap mobile

+19292056099,,83652421993#,,,,*023790# US (New York)

+13126266799,,83652421993#,,,,*023790# US (Chicago)

Dial by your location

+1 929 205 6099 US (New York)

+1 312 626 6799 US (Chicago)

+1 301 715 8592 US (Washington DC)

+1 669 900 6833 US (San Jose)

+1 253 215 8782 US (Tacoma)

+1 346 248 7799 US (Houston)

Meeting ID: 836 5242 1993

Passcode: 023790

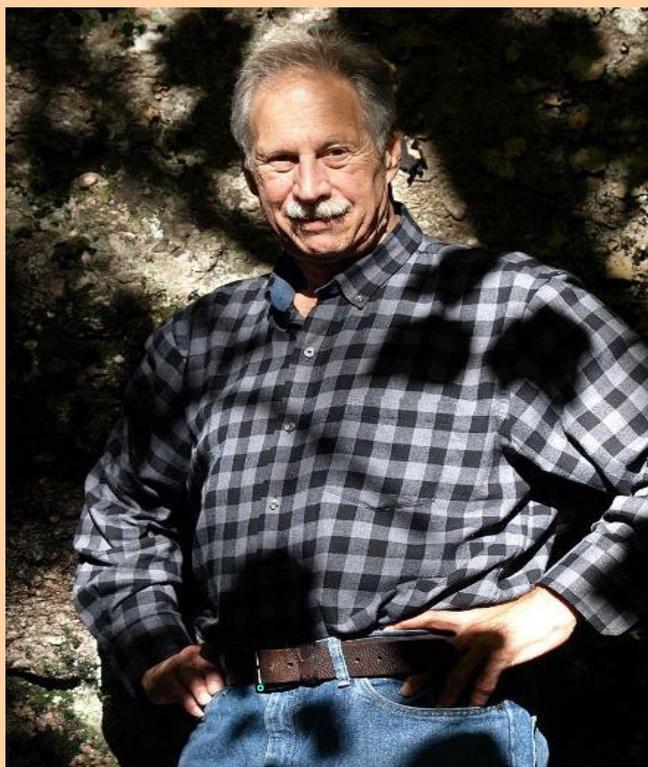
Find your local number: <https://us02web.zoom.us/j/83652421993?pwd=Zld6em81REZ5SHBqLoZSNkRkR3pnQT09>

Show 2021



History of Mining and Their Minerals - Western Connecticut

For the 1st time since March 2019 we will have a personal face to face meeting. I look forward to seeing everyone in person. Many of you do not do Zoom so we have not seen each other for 16 months. For us that do Zoom we have had to look at Ron's donuts on the screen without so much as a sample. Let's hope he doesn't forget them on July 9th. Whether you attend online or in person join Charles Merguerian PhD, PG for this exciting lecture on the History of Mining and Their Minerals in Western Connecticut.



Tonight's lecture will expose club members to the four types of mineralization mechanisms that have been detected in the rocks of western Connecticut. Each with a distinctive suite of minerals, these include 1) volcanic- and shallow-level intrusive systems, 2) intermediate depth hydrothermal systems, 3) deep magmatic systems and 4) intermediate - to deep metamorphic

agencies. Through the use of maps, cross-sections, and diagrams a discussion of the bedrock geology of western Connecticut in the context of the plate tectonic assembly, will prep the stage but the lecture will be dominated by highly illustrated "visits" to many of the classic collecting localities explored during his career including specimen images from the Dukelabs.com collection. Localities described with maps and images will include:

- Bristol Copper Mine
- Cobalt Mine
- Hodges Nickel Mine
- Lane's Tungsten Mine
- Long Hill Tungsten Mine
- Newgate Prison Locality
- Pegmatites (Branchville, Merryall, Harwinton, Thomaston, Southbury, Middletown District)
- Roxbury Garnet Mine
- Roxbury Iron Mine
- Salisbury Iron District
- West Redding Garnet-Epidote Locality



Almandine Garnet, Green's Farm Roxbury, Connecticut.

A Brief History of Gold

Keith Allen

Human fascination with gold is as old as recorded history. We don't know for sure when the first human picked up a gold nugget and thought, "Hey, this is pretty cool." However, flakes of gold have been found in Paleolithic caves dating back as far as 40,000 B.C.



Most archaeological evidence shows that humans who came into contact with gold were impressed by the metal. Since gold is found all over the world, it has been mentioned numerous times throughout ancient historical texts.

The first firm evidence we have of human interaction with gold occurred in ancient Egypt around 3,000 B.C. Gold played an important role in ancient Egyptian mythology and was prized by pharaohs and temple priests. It was so important, in fact, that the capstones on the Pyramids of Giza were made from solid gold.

The Egyptians also produced the first known currency exchange ratio which mandated the correct ratio of gold to silver: one piece of gold is equal to two and a half parts of silver. This is also the first recorded measurement of the lower value of silver in comparison to gold.

As much as the Egyptians loved gold, they never used it as a bartering tool. Instead, most Egyptians used agricultural products like barley as a de-facto form of money. The first known civilization to use gold as a form of currency was the Kingdom of Lydia, an ancient civilization centered in western Turkey.

Gold is also mentioned in the Bible, where Genesis 2:10-12 describes the lands of Havilah, near Eden, as a place where good gold can be found. Incans, Aztecs, and numerous other civilizations also used gold prolifically throughout the early history, including it in religious ceremonies and in famous architectural designs.

In 1792, the United States Congress made a decision that would change the modern history of gold. Congress passed the Mint and Coinage Act. This Act established a fixed price of gold in terms of U.S. dollars. Gold and silver coins became legal tender in the United States, as did the Spanish Real (a silver coin of the Spanish Empire).

At the time, gold was worth approximately 15 times more than silver. Silver was used for small denomination purchases while gold was used for large denominations. The U.S. mint was legally required to buy and sell gold and silver at a rate of 15 parts silver to 1 part gold. As a result, the market rate for gold rarely varied beyond 15.5 to 1 or 16 to 1.



A Brief History of Gold - Cont.

That ratio would change after the Civil War. During the Civil War, the U.S. was unable to pay off all its debts using gold or silver. In 1862, paper money was declared to be legal tender, marking the first time a fiat currency (not convertible on demand at a fixed rate) was used as an official currency in the United States.



A number of gold rushes occurred throughout the 1800s. Since a single gold nugget could make someone a millionaire, prospectors rushed to far-flung corners of the planet in search of riches.

Notable gold rushes included:

North Carolina (1799): The first major gold rush in America occurred in 1799 in North Carolina, when a young boy discovered a massive 17 pound gold nugget in Cabarrus County.

California (1848): The San Francisco 49ers football team is famously named after the gold rush of 1848/49 in California. Prospectors came from across the world to San Francisco. Before 1848, only about 1,000 people lived in San Francisco. Within two years of gold being discovered in the region, the population had swelled to 25,000. There were so many recent migrants to San Francisco, in fact, that the massive San Francisco harbor was filled with empty ships. Nobody

wanted to sail away from the bustling boomtown!

Klondike (1896): Gold was discovered in the Klondike River in the Yukon Territory and in other parts of British Columbia. Prospectors travelled far north and fought harsh winters to claim their fortune in the land of the midnight sun.

Australia (1850s onward): Australia hosted a number of major gold rushes throughout the latter half of the 19th century. Gold was discovered in New South Wales and Victoria in the 1850s and in Western Australia in the 1890s. Gold rushes helped to populate empty areas of the Australian Outback. Towns throughout Australia owe their existence to the gold rushes of the 1800s.

As of 2014, no countries in the world use a gold standard. In other words, no currency in the world is backed by gold.

America's gold reserves are famously held at Fort Knox, Kentucky. The heavily-defended location holds an unknown amount of gold, as the amount is officially classified by the United States government. However, it's widely accepted that the United States holds more gold bullion than any other country in the world (approximately 1.3 times as much gold as the next leading country, Germany).



A Brief History of Gold - Cont.

There's no single reason why gold has been seen as an exceptionally luxurious metal throughout all of human history. However, the high value of gold is generally accepted to be the result of a combination of factors:

Scarcity: Gold is difficult to find and extract in the real world. In the late 1800s, any town with a single gold nugget was instantly transformed into a gold rush town. Today, only about 2,000 tons of gold are created per year. To put that number into perspective, about 10,500 tons of steel are produced in the United States every hour.



Physical characteristics: Gold has some phenomenal physical characteristics – especially when used in electrical applications. It's an excellent conductor, for example. Furthermore, no metal is more malleable and ductile than gold. That means that just a small bit of gold can be hammered into many smaller sheets. In fact, one



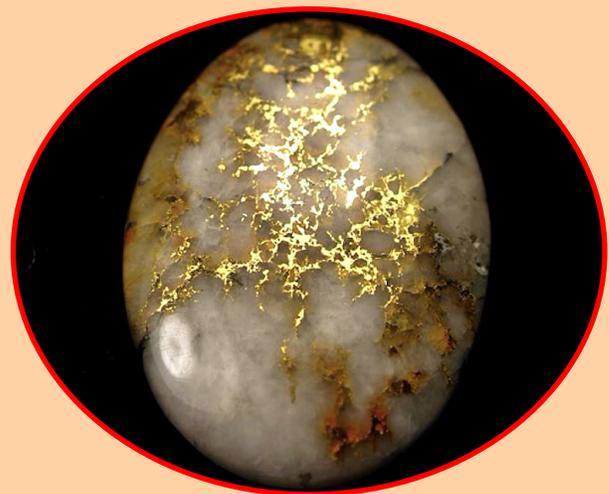
ounce of gold can be stretched to form a wire that is 50 miles long. Gold plated copper wire sounds



expensive but it only requires one ounce of gold to plate a 1,000 mile long thread of copper.

Wealth storage: The times when gold has increased in value are almost always coupled with extreme economic circumstances. These extreme circumstances cause people to lose faith in their country's currency and buy a more concrete form of wealth: gold. Gold is seen to be a good wealth storage tool around the world.

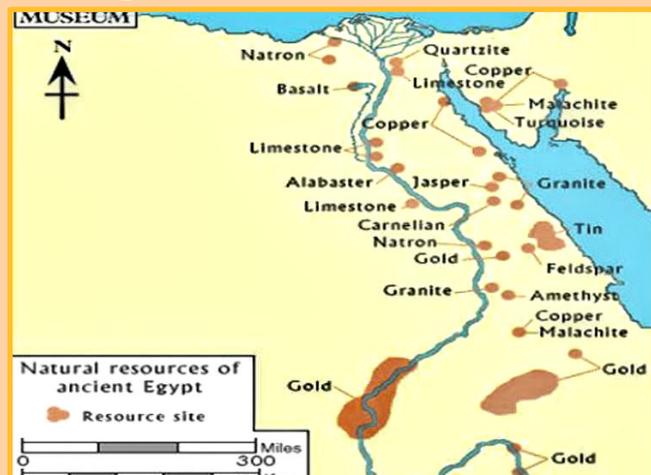
Will gold hit over \$2000 per ounce? Will gold ever fall below \$1000 again? The history of gold is far from over and there is still a lot to be written about the human race's most valuable commodity.



GOLD TECHNOLOGY IN ANCIENT EGYPT

Keith Allen

Most of the gold used in Egypt in antiquity was obtained from the mountainous region which lay between the Nile and the Red Sea. The area exploited by the Egyptians stretched for about five hundred miles from approximately the latitude of the modern town of Quft southwards, deep into what is now the Northern Sudan. Metal from the northern, central and southern parts of this area was called 'Gold of Coptos', 'Gold of Wawat', and 'Gold of Kush'. Ancient inscriptions record the annual production of these districts in a few instances, and it would seem that the mines of the Wawat region were by far the most profitable.



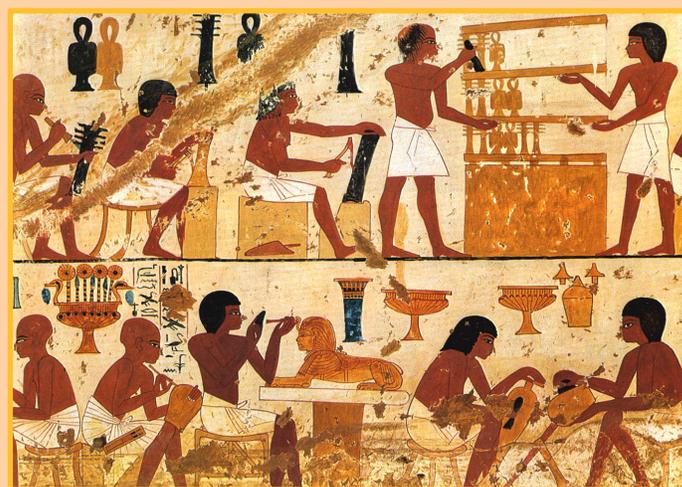
The mastery of techniques indicated by the scanty remains found in the much plundered tombs of this and later periods reveals the extent to which Egyptians understood the possible uses of gold. This mastery received its greatest demonstration for modern observers, however, in the tomb equipment found in the burial of King Tutankhamun who died in about 1352 B.C.

For most purposes gold was used as it came, its color would vary from batch to batch, and only a little trouble was taken to match color over a large piece of work. Scenes of gold delivery from Kush show that it was made into hollow rings for transport. In this form it was handed

over to the gold workers in royal and temple workshops to be used for the many purposes for which it was required.

The rock was first broken up by the use of fire and hammers; it was then crushed in mortars into small pieces, and finally ground to powder. This powder was washed on a sloping surface, and the gold dust thus recovered was fused in crucibles into small nuggets. Archaeological evidence suggests that only some of these processes were carried out at the mining site. Possibly the rock was reduced to the powder state there, while the washing and fusing took place at special stations on the banks of the Nile.

It has been stated that Egyptian gold workers developed most of the techniques employed by modern craftsmen, and indeed surviving artifacts tend to confirm this claim. At a very early period craftsmen discovered that gold could be hammered and that by so doing they could use it not only more economically, but also with greater aesthetic effect. The gilded equipment found in the tomb of Queen Hetepheres, the mother of Cheops, the builder of the Great Pyramid, demonstrates strikingly how successfully goldsmiths had mastered the technique of sheathing with gold as early as 2600 B.C.



GOLD TECHNOLOGY IN ANCIENT EGYPT - cont.

The use of heavy gold sheeting remained a favorite method of gilding throughout Egyptian history, and it must be suspected that the extravagance of the method was partly responsible for its continued employment. Conspicuous display was a characteristic of Egyptian royal behavior. The Egyptian craftsmen, however, had early on discovered that equally satisfactory results could be obtained by using much thinner foil and even gold leaf. The foil or leaf was rarely applied directly to the object to be gilded. First of all the object was covered with a thin layer of specially fine plaster, and the gold then placed in position with the help of some kind of adhesive.

The skill of Egyptian goldsmiths is best revealed in Egyptian jewelry, a field in which technical prodigies were accomplished. Among the most effective techniques practiced from about 2000 B.C. (if not earlier) was cloisonné work. Most elaborate designs built up of small pieces of glass, semi-precious stones and faience, fitted into gold cloisons, were carried out with absolute



technical confidence.

Open furnaces fired with charcoal and intensified by foot-operated bellows or by blow-pipe, were commonly employed in working gold;

many tomb scenes depict craftsmen engaged in the processes of jewelry making. The inlays in cloisonné jewelry were fastened in place by a cement-like paste. So far it has not been convincingly established that true enamel was produced in Egyptian cloisonné work.

The considerable quantities of gold used by the ancient Egyptians provide the impression that at most periods large supplies were available. It should be remembered, however, that gold was mined as a royal monopoly and only small quantities would have come into the hands of private persons in the normal way. Most gold therefore was concentrated in royal possession and in the treasuries of the temple Kings had no scruple about stripping the work of their predecessors, and much gold was used for architectural decoration. Furthermore, the craft of tomb-robbing was highly developed, and it may be supposed that the gold in most tombs was returned to circulation through unorthodox channels within a relatively short time after burials were made. Even in periods when Egyptian royalty was weak, Egyptian goldsmiths had material to work on, but their greatest achievements were always made when gold was most plentiful. The treasures from the Tomb of Tutankhamun demonstrate this fact overwhelmingly; it is a remarkable piece of good fortune that this tomb was never completely stripped by the ancient tomb robbers.



GOLD TECHNOLOGY IN ANCIENT EGYPT - cont.

King Tut's Burial Mask & Dagger

Tutankhamun's sarcophagus (a box-like stone container) held not one but three coffins in which to hold the body of the king. The outer two coffins were crafted in wood and covered in gold along with many semiprecious stones, such as lapis lazuli and turquoise. The inner coffin, however, was made of solid gold. When Howard



Carter first came upon this coffin, it was not the shiny golden image we see in the Egyptian museum today (below). In his excavation notes, Carter states, it was "covered with a thick black pitch-like layer which extended from the hands down to the ankles. This was obviously an anointing liquid which had been poured over the coffin during the burial ceremony and in great quantity (some two buckets full)."

The death mask is considered one of the masterpieces of Egyptian art. It originally rested directly on the shoulders of the mummy inside the innermost gold coffin. It is constructed of two sheets of gold that were hammered together and weighs 22.5 pounds (10.23 kg). Tutankhamen is depicted wearing the striped nemes headdress (the striped head-cloth typically worn by pharaohs in ancient Egypt) with the goddesses Nekhbet and Wadjet depicted again protecting his brow. He also wears a false beard that further connects him to the image of a god as with the

inner coffin. He wears a broad collar, which ends in terminals shaped as falcon heads. The back of the mask is covered with Spell 151b from the Book of the Dead, which the Egyptians used as a road map for the afterlife. This particular spell protects the various limbs of Tutankhamun as he moves into the underworld.

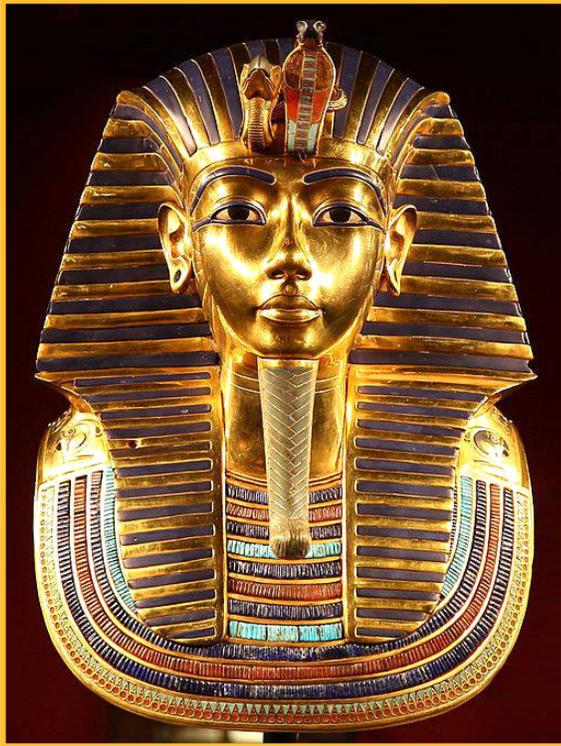
The mask is composed of two layers of high-carat gold, varying in thickness. X-rays revealed that the mask has two alloys of gold: a lighter 18.4-karat shade for the face and neck, and 22.5-karat gold for the rest of the mask.

The gold mask is featured with inlays of colored glass and gemstones, including lapis lazuli for the eye surrounds and eyebrows. Quartz was used for the eyes, and obsidian was used for the pupils. The inlays of the broad collar include carnelian, feldspar, turquoise, amazonite, faience, and other stones. The thin gold beard is inlaid with blue lapis lazuli to give it a plaited effect.

King Tut's mask weighs about 25 pounds and stands about 2 feet tall. This priceless treasure is composed of a solid gold base inlaid with semiprecious stones such as lapis lazuli, obsidian, and quartz.



GOLD TECHNOLOGY IN ANCIENT EGYPT - CONT.



The **face of the mask**, meant to be a likeness of King Tut, is made of a smooth, radiant gold. Ancient Egyptians associated gold with the sun god, Ra, and considered it to be a powerful material for aiding pharaohs in their journey to the afterlife.

Sitting atop the pharaoh's head is a **traditional headpiece** made of gold with bright blue stripes of lapis lazuli. In addition to the striking blue stripes, the headpiece features both a rearing cobra and a vulture. Known together as the "two ladies of the pharaoh", these figures would have served a dual purpose of protecting the pharaoh from those who might oppose him and symbolize the king's power over both Upper and Lower Egypt.

Notable rings of lapis lazuli encircle the **eyes of**

King Tut's mask. Elaborate eye makeup was a standard for Egyptian royalty, as it created the almond eye shape which was considered desirable. One of the most notable features of King

Tut's mask is the long, narrow golden beard. False beards similar to the one on the mask would have been worn by the pharaoh as a symbol of his position as a living god and divine being.

King Tut's dagger was made from a meteorite. The origin of its unrusted iron blade had baffled scientists because such metalwork was rare in ancient Egypt.

Meteoritic iron is clearly indicated by the presence of a high percentage of nickel. They compared the composition of the dagger to known meteorites within 2,000km around the Red Sea coast of Egypt, and found that one in particular - which landed 150 miles (240km) west of Alexandria - contained similar levels of nickel and cobalt.

Ancient Egyptians attached great significance to meteoritic iron for the production of fine ornamental or ceremonial objects, the researchers say. "They were aware that these rare chunks of iron fell from the sky already in the 13th [Century] BCE, anticipating Western culture by more than two millennia," they write in their findings.



Gem Shows Are Back!

Gem Miners Jubilee Gem & Jewelry Show - 08/20 - 08/22/2021

Start Date: 08/20/2021

End Date: 08/22/2021

Hours: Sat 9:00-6:00 Sun 10:00-5:00

Contact: Teresa Schwab (301) 807-9745

Venue: Lebanon Valley Fairgrounds & Expo

Address: 80 Rocherty Road Lebanon

Valley Fairgrounds & Expo Lebanon, PA 17042

Website: <https://www.gem-show.com/>

Herkimer Diamond Gem Show & Festival 07/24 - 07/25/2021

Start Date: 07/24/2021

End Date: 07/25/2021

Hours: Sat 9:00-6:00 Sun 10:00-5:00

Contact: Billie Jo Muller

Venue: Herkimer County Fairgrounds

Address: 135 Cemetery St

Herkimer County Fairgrounds

Frankfort, NY 13340

Website: <http://www.herkgemshow.com/>

Annual East Coast Gem & Mineral Show - 08/13 - 08/15/2021

Start Date: 08/13/2021

End Date: 08/15/2021

Hours: Daily 10-6, final day 10-5 (4 for wholesale)

Contact: Laura Delano

Phone: (505) 867-0425

Venue: Better Living Center & Young Building

Address: 1305 Memorial Ave., West Springfield,

Massachusetts 01089 U.S.

Website: <https://xpopress.com/show/profile/1/east-coast-gem-mineral-fossil-show>

Danbury Mineralogical Rock, Gem, and Mineral Show - 09/11/2021 - 09/12/2021

Start Date: 09/11/2021

End Date: 09/12/2021

Hours: Sat 10-5, Sun 10-4

Contact: Darlene Wimbrow

Phone: N/A

Venue: New Milford High School

Address: 388 Danbury Road (Rt 7)

New Milford High School New Milford, CT 06776

Website: [https://](https://danburymineralogicalsociety.weebly.com/information.html)

danburymineralogicalsociety.weebly.com/information.html

NJ Fall Rock & Mineral Weekend 09/25 - 09/26/2021

Start Date: 09/25/2021

End Date: 09/26/2021

Hours: Sat 9:00-6:00 Sun 10:00-5:00

Contact: Gary Moldovany (862) 268-1596

Venue: Firemen's Memorial Park

Address: 80 Rocherty Road Lebanon

Valley Fairgrounds & Expo 137 Buckwheat Rd

Franklin , NJ 07416, PA 17042

**Make sure the show is running
before leaving home!**

Protect Yourself! Even though covid restrictions are easing up in many states don't forget the pandemic is still among us. Be vigilant about social distancing, personal hygiene and wearing face masks at these events. Some clubs are even checking temperatures at the door. If you feel ill, stay home!

OCMS members are covered by Society-sponsored insurance.

OCMS Disclaimer

The editor and the OCMS are not responsible for the accuracy or authenticity of information in the articles accepted for publication, nor are the opinions expressed therein necessarily those of the officers of the OCMS or the editor.



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