

ROCK TRAILS



Newsletter of the StateLine Gem and Mineral Society

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Meetings are held the first Sunday of each month
at 2:00 PM
at 201 W. Main St., Morenci, MI 49256

President's Tidings



Another month closer to the summer season! Can't wait, and it looks like a crazy one for Linda and me: house hunting, shows to get ready for, and who knows what else

This month we will be talking about our show, since that's coming up in a couple months. So think about who can help! We have enough jobs for everyone! We had a couple of vendors that are not coming back this year but there were others to take

their place.

How about the Jackson show? All I can say is 'WOW! What a show!' If you didn't go, you missed a great one.

Since the next meeting falls on Easter, our meeting will be the following Sunday, so see every one then.

Sherm



Secretary's report will be given at the meeting.

FIVE RULES TO REMEMBER IN LIFE

1. Money cannot buy happiness - but it's far more comfortable to cry in a Porsche than on a bicycle.
2. Forgive your enemy - but remember the jerk's name.
3. If you help someone when they're in trouble - they will remember you when they're in trouble again.
4. Alcohol does not solve any problems - but then, neither does milk.
5. Many people are alive only because it's illegal to shoot them.

Taken from The Agate Picker, April 2018

Mirny: A Giant Diamond Mine that Sucks Helicopters In

Mir Mine, mostly known as Mirny Mine, is one of the larger man-made excavated holes in the world. It is based in what is now Eastern Siberia, and discovered on June 13th, 1955 by Soviet geologists, who were holding an expedition in Yakut ASSR called Amakinsky. The mine is 525 meters deep, which makes it the 4th deepest in the world and has a diameter of 1,200 meters.



Soviet leader Joseph Stalin ordered construction on the mine and rebuilt the country after it was devastated by World War II from the money that came from Mir Mine. However, constructing the Mirny wasn't easy at all. First of all the weather condition of the area is really tough, the winter lasts around seven months and it is often as low as -40 degrees Celsius. The weather became trouble for the scientists, they even used dynamite after they failed to melt the permafrost as much as was wanted.

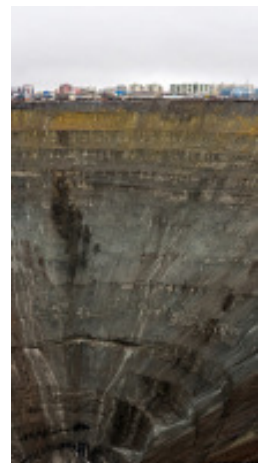
The Mir Mine was the largest diamond mine in the Soviet Union. In the 1960s, it was producing 10,000,000 carats (2,000 kg) of diamond per year, of which was a high portion (20%) of gem market in the world. The upper layers of the mine (down to 340 meters) had very high diamond content of 4 carats per ton of rock, which includes a large amount of gems and industrial stones. One of the largest diamonds was the size of a golf ball, the 130.85 carat Olonkho diamond, worth around £250,000.

The mine was operated by the Sakha / Yakut Autonomous Soviet Socialist Republic Diamond Company, in the 1990s. Eventually, the Mirny mine was acquired by Alrosa, which is the biggest diamond company in Russia and employed 3,600 workers. Alrosa constructed network tunnels for underground diamond excavations in the 1970's and operated as an underground mine till 1999. The Mir Mine was based on a drilling exploration project that reached to 1,220 meters in depth for decades until permanently closed in 2004. As of the 2010 Census, the population of Mirny was 37,188.

Russia banned giant helicopters from flying over the Mirny mine to stop the 'sucking' possibility, created by the fact that the mine creates a large swirling vortex. It is claimed as enough to suck helicopters into its depths.

Fletcher DeLancey explains the reason of this effect on his blog:

"If a hole is deep enough — and a half-kilometer deep hole qualifies — the earth will warm the air inside it. The deeper the hole, the warmer the air. Warm air rises, and cool air sinks, so with a big temperature difference between in-hole air and aboveground air, you get quite a bit of air movement.



Mirny Mine

Continued from page 3

Thus, two things are happening. First, the warm air rising from the hole is less dense and gives less lift to helicopter rotors than the cooler air it had been flying through. Since the temperature change is extremely abrupt as the helicopter flies over the hole, the pilot may lose a bunch of altitude before managing to adjust the speed enough (read: increase the spin rate of the rotors) to compensate for the loss of lift.

At the same time, the cool air pouring into that hole from all sides is going to create quite a wind shear. If a helicopter loses enough lift to hit the stream of cold air, it could easily be slammed into the side of the borehole before it ever developed enough lift or power to recover.”

Mirny’s diameter of 1.2km (.75 miles) means that, technically, it is only the world’s second largest open mine in the world (after Bingham Canyon). But the mine’s depth of 525 meters, combined with its location at the edge of a 40,000 person town, makes it the world’s most ominous looking. As you can see in the photos, it appears almost like the very planet is swallowing the town of Mirny. In fact, this is not far from the reality of it. Originally the mine was small and far from the town. Then the mine started producing many more diamonds than expected, which not only increased the size of the mine but also the size of the town (as workers moved in).

Today the mine employs over 3,000 people. And if you think it’s big today, check it out a few years from now. The mine’s owner have plans to drill down as far as 1.3 kilometers over the next three decades. As that happens whole sections of the town of Mirny will have to be torn down and rebuilt further afield.

<https://interestingengineering.com/mirny-giant-diamond-mine-sucks-helicopters-in>



Bench Tips

by Brad Smith

NO - MAR PLIERS



Pliers can often leave nicks and scratches on your work. If this is giving you a problem, first take a close look at the plier jaws. New tools can be a little rough. I typically relieve any sharp edges, sand away any tool marks, and give working areas a quick polish.

If that doesn't solve the problem, you probably need to cover the jaws. Plastic electrical tape provides a quick fix but can leave messy adhesive on the jaws, and dips don't seem to last very long.

A quick and easy solution is to slip a length of 1/8 dia vinyl tubing over each jaw. It works well and leaves no sticky residue. The tubing can be found in a store that sells aquarium supplies. Note that this will increase the size of the plier jaws a bit, but I haven't found that to be a problem.

PATINA RECIPES

Sometimes it's fun to explore some new patinas. If this appeals to you, here are a couple web sites that have ideas particularly for copper and bronze.

The first is The Science Company at <http://www.sciencecompany.com/Do-It-Yourself-Patina-Formulas-W12C672.aspx> with plenty of formulas for a variety of colors. And there are more formulas at Tim McCreight's Brynmorgen Press web site at <http://www.brynmorgen.com/resources.html>

Small quantities of chemicals for making your own patinas are available from The Science Company at <http://www.sciencecompany.com/Patina-Chemicals-Patina-Book-C672.aspx>

If you prefer to buy the patinas ready for use, one of the best sources I've come across is Sculpt Nouveau at <http://www.sculptnouveau.com/> Don't miss all the instructional pdf's on the site and be sure to take a look at the videos showing how to use the products at <http://www.youtube.com/sculptnouveau>



For more tips or to learn new jewelry skills see
Amazon.com/author/bradfordsmith

Upcoming Events

Sunday, April 8, 2018

State Line Gem & Mineral Society

monthly meeting

2:00 p.m.

201 W. Main St.

Morenci, MI 49256

April 5, 6, & 7, 2018

Wyoming, MI

Indian Mounds Rock & Mineral Club's

43rd Annual

GEM & MINERAL SHOW

Thursday 9:30 a.m.—9:00 p.m.

Friday 9:30 a.m.—9:00 p.m.

Saturday 9:30 a.m.—7:00 p.m.

Rogers Plaza Town Center

972 28th Street SW in Wyoming, Michigan

FREE ADMISSION & PARKING

1/4 mile west of US 131

May 4-6, 2018

Kalamazoo, MI

Kalamazoo Geological and Mineral Society's

Annual Show

Kalamazoo County Expo Center

2900 Lake St.

Kalamazoo.

May 12-13, 2018

Toledo, OH

Toledo Gem & Rockhound Club

Rock/Jewelry Open House.

Sat 9:30 am - 4:30 pm; Sun noon - 4 pm.

St. James Lutheran Church Gym,

4727 West Sylvania Ave,

Toledo

April 7-8, 2018

Canton, OH

Stark County Gem &
Mineral Club Annual Show.

Sat 9 am - 5 pm;

Sun 10 am - 5 pm.

Stark County Fairgrounds

305 Wertz Ave

Canton OH

May 19-20, 2018

St. Joseph, MI

Blossomland Gem and Mineral Society's
Annual Show

Lake Michigan Catholic Elementary School

3165 Washington Ave

St. Joseph.

April 28-29, 2018

Cuyahoga Falls, OH

Summit

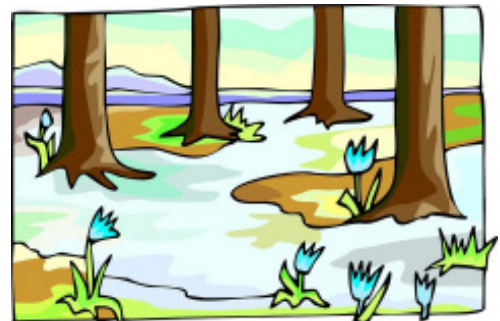
Lapidary Club Semi-Annual Show.

Sat 10 am - 6 pm; Sun 10 am - 5 pm.

Emidio and Sons Expo Center

48 East Bath Rd.

Cuyahoga Falls, OH



Interesting Facts about Rocks and Minerals

A rock is a solid substance that occurs naturally due to geological process of solidification, sedimentation and metamorphism.

Every rock is made up of various minerals. However, a mineral is an inorganic solid that has one chemical composition.

The structure of a rock is not uniform. Various minerals and weathering give the rock its texture. However, a mineral has definite crystalline structure, which gives it a unique color.

Broadly, rocks can be classified into three types, namely, igneous, sedimentary and metamorphic rocks.

A rock is formed when magma erupts from the Earth's core and solidifies due to the difference in the temperature outside.

Chemical sedimentary rocks are a result of dissolved minerals which are left behind when water evaporates.

The oldest rocks on the surface of the Earth are igneous rocks.

The constant exposure to sun, water and wind bring about a change in size and shape of the rocks.

A rock is a continuous process of formation, being worn down and then forming again. This process is known as the Rock Cycle.

Pumice is an igneous rock, formed when frothy lava solidifies. This is the only rock that floats.

Fossils are found in sedimentary rocks.

Metamorphic rocks are the ones that have changed from either being sedimentary or igneous.

Gemstones are minerals and not rocks, as they are popularly addressed.

A mountain is essentially a rock.

Sand is a result of constant weathering of rocks.

There are more than 4000 minerals identified by geologists and scientists. But this is not the maximum number as there are new reports that suggest the discovery of new minerals annually. Minerals are further divided into metals and non-metals. For instance copper, silver and gold are metals and elements such as carbon and sulfur make diamond and graphite, which are not metals.

<https://sciencestruck.com/rocks-minerals-facts>





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