



THE GOLDRUSH LEDGER



CHARLOTTE GEM & MINERAL CLUB

MARCH 2016

THE PREZ SAYZ

I was recently watching a show on the Discovery channel about open pit gold mining in Alaska and it brought back strong positive memories of a trip I took about fifteen years ago. I had gone to Telluride, Colorado in September for the annual film festival. I had left Charlotte a few days early to ride some of the mountain jeep trails with a friend. We rented a rugged 4WD Jeep with oversized tires and took off for some of the more challenging mountain trails.

On the second day we were at 12,000 feet crossing over from Telluride to an interesting, old western town called Silverton (average annual snowfall = 200 inches). Silverton is famous for two things – Bat Masterson was its sheriff and it was a historically important gold and silver mining area in the late 1800s. As you

head out of town you're riding on a narrow two-lane road with steep mountains on either side. The first thing you notice along this road is old, rusted steel cables high up overhead crisscrossing from one mountain range to the other. You also see rusty buckets hanging from some of the cables and if you stop the vehicle and look carefully, you can see small openings in the mountain faces approximately 200 feet up from the roadbed. These were entrances to a "beehive" of small silver mines. Miners would hand dig in these low ceilinged mines/caves and send their diggings in buckets across the narrow valley to be loaded on donkeys and carted to the nearby smelting plant.

A mining historian told us the climb up to the mine opening was rather arduous so workers on the mine side would often sleep in the mine for several nights with food

and supplies being sent across in those line buckets. It is estimated that the mountainous trek on foot with mules from a supply center in Telluride

to the mines took an average of two or three months. They would leave Telluride in the fall and spend the winter in rustic cabins near the mines so they could begin mining as soon as the snow was gone. Which raised the question, what if they got there after a three month hike and realized they had forgotten the toilet paper or the beef jerky?

About two miles beyond Silverton is a most amazing sight – the rusted

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hulk of the smelting plant where the silver was extracted from the ore. There still exists 8 or 9 dilapidated small wooden shacks that housed the miners during the winter and the months of mining. There is also a small “house of ill repute” that apparently housed some of the shady ladies from Silverton and their “guests”. Because of the high altitude and dry air, several of these shacks are still intact. The walls are papered with newspapers dating back as far as the 1880s. Our historian guide claimed the newspapers served two purposes – to inefficiently keep out the cold air and to give the miners something to read during the boring winter months.

In close proximity to the shacks lie very rusted boilers, machinery and big iron wheels with large cogs used to crush the ore into smaller, more manageable pieces. All of this heavy equipment was brought in on a narrow gauge railroad that connected Silverton with the outside world. That same narrow gauge system now serves to bring tourists in and out of Silverton.

As we were leaving to return over the mountain to Telluride we were advised to stop at a specific high point on the trail and look up. There we saw a small wooden structure with a single window facing down the slope. This was the “Shooter’s Shack” . . . as soon as the snow had cleared the mining company would send two sharpshooters to stay at the shack to persuade strangers to go no further. Rumor has it that shootouts at the shack were not uncommon. Hopefully times have changed in the business of silver mining.

*Murray Simon: President
Charlotte Gem and Mineral Club*

Charlotte Gem and Mineral Club Monthly Meeting

Thursday March 17, 2016

Social Hour from 6:00 - 7:00

Meeting to Start at 7:00

Location:

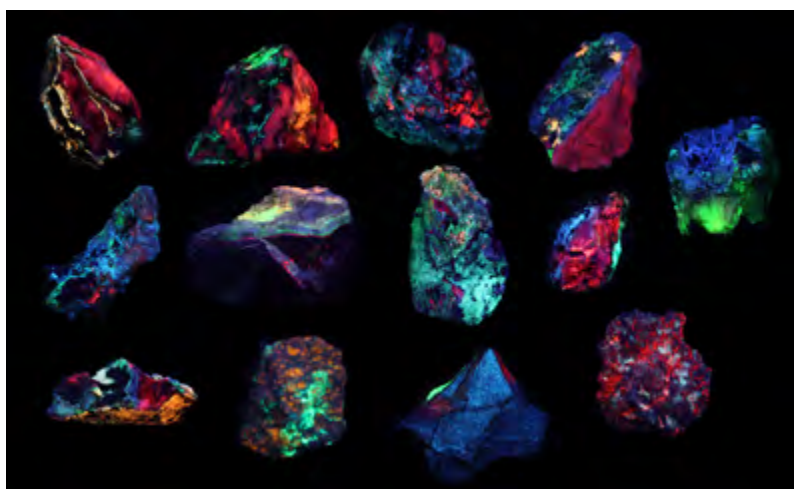
Tyvola Senior Center

2225 Tyvola Rd. Charlotte, NC 28210 (704) 522-6222

Our Monthly Presentation:

In honor of our special guest, John Orchard,
our presentation will be:

Jimmy Strickland speaking on
Fluorescent Minerals



*There will not be a jewelry making class before the meeting.
Sign up for a jewelry class at the Dairy workshop.*

WORKSHOPS AT THE DAIRY

Location:

Art in The Dairy
7701 Tuckaseegee Rd.
Charlotte, NC 28214

Currently scheduled classes:

Mar 19 – Cabochon Making with Sarah Lee Boyce (2 openings)
– \$40 class fee



Mar 19 – Polymer Clay or Wire Wrap with Linda Simon (2 openings)
– \$40 class fee & \$20 materials fee



**Contact Linda
Simon to register
for a class.
Email: [lindadairy@
yahoo.com](mailto:lindadairy@yahoo.com)
Call: 704-543-6651.**

ROCK OF THE MONTH

MAGNETITE

From Wikipedia, the free encyclopedia

Magnetite is a mineral and one of the three common naturally-occurring oxides of iron. Its chemical formula is Fe_3O_4 , and it is a member of the spinel group. Magnetite is ferrimagnetic; it is attracted to a magnet and can be magnetized to become a permanent magnet itself. It is the most magnetic of all the naturally-occurring minerals on Earth. Naturally-magnetized pieces of magnetite, called lodestone, will attract small pieces of iron, which is how ancient peoples first discovered the property of magnetism.

Small grains of magnetite occur in almost all igneous and metamorphic rocks. Magnetite is black or brownish-black with a metallic luster, has a Mohs hardness of 5–6 and leaves a black streak.

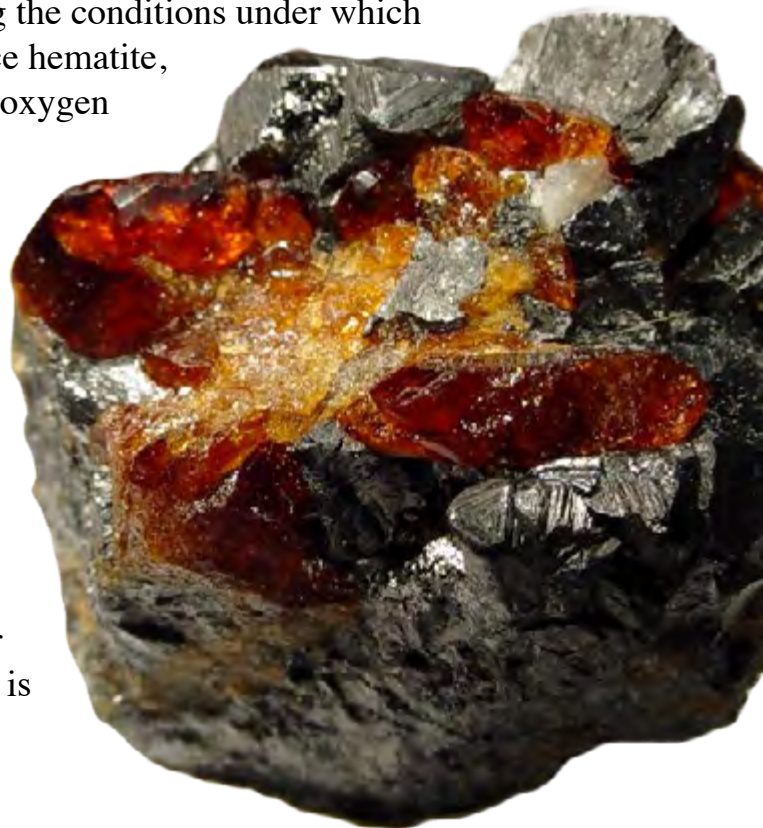
The chemical IUPAC name is iron(II,III) oxide and the common chemical name is ferrous-ferric oxide.

Properties

Lodestones were used as an early form of magnetic compass. Magnetite typically carries the dominant magnetic signature in rocks, and so it has been a critical tool in paleomagnetism, a science important in understanding plate tectonics and as historic data for magnetohydrodynamics and other scientific fields. The relationships between magnetite and other iron-rich oxide minerals such as ilmenite, hematite, and ulvospinel have been much studied; the reactions between these minerals and oxygen influence how and when magnetite preserves a record of the Earth's magnetic field.

Magnetite has been very important in understanding the conditions under which rocks form. Magnetite reacts with oxygen to produce hematite, and the mineral pair forms a buffer that can control oxygen fugacity. Commonly, igneous rocks contain grains of two solid solutions, one of magnetite and ulvospinel and the other of ilmenite and hematite. Compositions of the mineral pairs are used to calculate how oxidizing was the magma (i.e., the oxygen fugacity of the magma): a range of oxidizing conditions are found in magmas and the oxidation state helps to determine how the magmas might evolve by fractional crystallization.

Magnetite also occurs in many sedimentary rocks, including banded iron formations. In many igneous rocks, magnetite-rich and ilmenite-rich grains occur that precipitated together in magma. Magnetite also is



produced from peridotites and dunites by serpentinization.
The Curie temperature of magnetite is 858 K (585 °C; 1,085 °F).

Distribution of deposits

Magnetite is sometimes found in large quantities in beach sand. Such black sands (mineral sands or iron sands) are found in various places, such as California and the west coast of the North Island of New Zealand. The magnetite is carried to the beach via rivers from erosion and is concentrated via wave action and currents.

Huge deposits have been found in banded iron formations. These sedimentary rocks have been used to infer changes in the oxygen content of the atmosphere of the Earth.

Large deposits of magnetite are also found in the Atacama region of Chile, Valentines region of Uruguay, Kiruna, Sweden, the Pilbara, Midwest and Northern Goldfields regions in Western Australia, New South Wales in the Tallawang Region, and in the Adirondack region of New York in the United States. Kedi et Jill, the highest mountain of Mauritania, is made entirely of the mineral. Deposits are also found in Norway, Germany, Italy, Switzerland, South Africa, India, Indonesia, Mexico, and in Oregon, New Jersey, Pennsylvania, North Carolina, West Virginia, Virginia, New Mexico, Utah, and Colorado in the United States. In 2005, an exploration company, Cardero Resources, discovered a vast deposit of magnetite-bearing sand dunes in Peru. The dune field covers 250 square kilometers (100 sq mi), with the highest dune at over 2,000 meters (6,560 ft) above the desert floor. The sand contains 10% magnetite.

Biological occurrences

Biomagnetism is usually related to the presence of biogenic crystals of magnetite, which occur widely in organisms. These organisms range from bacteria (e.g., *Magnetospirillum magnetotacticum*) to animals and humans, where magnetite crystals (and other magnetically-sensitive compounds) are found in different organs, depending on the species. Biomagnetites account for the effects of weak magnetic fields on biological systems. There is also a chemical basis for cellular sensitivity to electric and magnetic fields (galvanotaxis).

Pure magnetite particles are biomineralized in magnetosomes, which are produced by several species of magnetotactic bacteria. Magnetosomes consist of long chains of oriented magnetite particle that are used by bacteria for navigation. After death of these bacteria, the magnetite particles in magnetosomes may be preserved in sediments as magnetofossils.

Several species of birds are known to incorporate magnetite crystals in the upper beak for



magnetoreception, which (in conjunction with cryptochromes in the retina) gives them the ability to sense the direction, polarity, and magnitude of the ambient magnetic field.

Chitons, a type of mollusk, have tongue-like structure known as a radula, covered with magnetite-coated teeth, or denticles. The hardness of the magnetite helps in breaking down food, and its magnetic properties may additionally aid in navigation. It has also been proposed that biological magnetite may store information.

There is also evidence that magnetite exists in the human brain. It is proposed that this could allow certain individuals to use magnetoreception for navigation. More generally, magnetite in the brain is theorized to affect long-term memory.

Applications

Magnetic recording

Audio recording using magnetic acetate tape was developed in the 1930s. The German magnetophon utilized magnetite powder as the recording medium. Following World War II the 3M company continued work on the German design. In 1946 the 3M researchers found they could improve the magnetite based tape, which utilized powders of cubic crystals, by replacing the magnetite with needle shaped particles of gamma ferric oxide ($\gamma\text{-Fe}_2\text{O}_3$).

Catalysis

Magnetite is the catalyst for the industrial synthesis of ammonia.

Arsenic sorbent

Magnetite powder efficiently removes arsenic(III) and arsenic(V) from water, the efficiency of which increases ~200 times when the magnetite particle size decreases from 300 to 12 nm. Arsenic-contaminated drinking water is a major problem around the world, which can be solved using magnetite as a sorbent.

Other

Because of its stability at high temperatures, it is used for coating industrial watertube steam boilers. The magnetite layer is formed after a chemical treatment (e.g. by using hydrazine).

Iron-metabolizing bacteria can trigger redox reactions in microscopic magnetite particles. Using light, magnetite can reduce chromium (VI) (its toxic form), converting it to less toxic chromium (III), which can then be incorporated into a harmless magnetite crystal. Phototrophic *Rhodospseudomonas palustris* oxidized the magnetite, while *Geobacter sulfurreducens* reduced it, readying it for another cycle.





Dixie Mineral Council Field Trips

The Southeast Federation of Mineralogical Societies, Inc



The Friendly Federation - Founded in 1976 to serve
DMC Program of the SFMS Field Trip Committee
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An Official Field Trip of the Jacksonville Gem & Mineral Society (Jacksonville, FL) (HOST)

Saturday, April 23, 2016
Jacksons Crossroads Amethyst Mine
Wilkes County, GA
8:00 AM

TRIP: The Jacksons Crossroads Amethyst Mine of Wilkes Co. Georgia is the premier Amethyst locality in the United States. It consistently produces world class specimens and crystals that are justifiably celebrated for its pure rich purple color reflecting red and blue flashes. In 2008 the Jacksons Crossroads Amethyst Mine was included in the American Mineral Treasures as one of the most important collecting sites in American mineral history. Many museum quality specimens have been produced by this mine which now reside in museums and prestigious private collections across the world.

COLLECTING: The North American Jacksons Crossroads JXR Georgia mine is known for producing high grade, dark purple with red flash collectible amethyst clusters, amethyst rough and amethyst mineral crystals. Other gemstone specimens such as clear quartz clusters form in our deposit as well.

FEES: \$20.00 per adult and children under 16 are \$10.00

TOOLS: Boots. Rock hammers, picks, bamboo sticks (chop sticks) and wedges are needed for digging in piles and breaking open granite to find specimens. First aid kit. Water to keep hydrated and snacks. Sunscreen. Bucket for collecting.

FACILITIES: There are Porta potties available and those who wish to camp can camp at Calaway plantation or there are hotels accommodations in Washington or Elberton GA.

DIRECTIONS AND WHERE TO MEET:

Where we will meet: we will meet at the mine at 8am where we will sign waivers upon arrival and the host director will review the rules then we will proceed to the dig site.

Directions: From Tignall, turn off of HWY 17 onto Independence Rd. Head west on Independence rd. (Co. Rd. 184) about 7.8 miles and turn right at the church onto Hollis Norman Rd. The mine is the 2nd entrance on the right.

CONTACT: James Webb 904-314-0303 jameswebb.jgms@gmail.com

Note: The Graves Mountain Rock Swap & Dig is the same weekend, so since you will be in the area, you may want to take time to do both -- DMC

Catawba Valley Gem & Mineral Club, Inc.

46th Annual

Unifour Gem, Mineral, Bead, Fossil & Jewelry Show

April 1-3, 2016



Friday- 9:00 a.m. to 6:00 p.m.
Saturday - 9:00 a.m. to 6:00 p.m.
Sunday - 10:00 a.m. to 5:00 p.m.

Hickory Metro Convention Center
1950-A 13th Avenue Drive SE
(Just off I-40 with entrances from Lenoir Rhyne Boulevard and Highway 70)
I-40 exit 125, Hickory, NC

Admission for the Show
GOOD FOR THE ENTIRE SHOW

Adults (13 and over)
Children (12 and under)
**Chaperoned School, Scout, 4H, Church Youth
and Retirement Home Group**

\$5.00
FREE
FREE

Complimentary tickets available from club members



UPCOMING SHOWS

March 18-20—ROME, GEORGIA: Annual show; Rome Georgia Mineral Society, The Forum; 301 Tribune St, 311 E 4th St; Fri. 10-6, Sat. 10-6, Sun. 11-5; Free Admission; Minerals, gems, fossils, meteorites, jewelry, and Crystals for sale. Lapidary rough. Free mineral and fossil ID, door prizes, and exhibits! Free registration for grand prize – Celestine geode from Madagascar! ; contact Jose Santamaria, 311 E 4th St, Rome, GA 30161, (678)-488-9560; e-mail: rogams.show@gmail.com; Web site: <http://rogams.wordpress.com/gem-and-mineral-show/>

March 18-20—RICHMOND, VIRGINIA: Retail show; Treasures of the Earth, Inc., Richmond Raceway Complex; 600 E Laburnum Avenue; Fri. 12-6, Sat. 10-5, Sun. 10-5; Adults \$5, Students 16 and under free; Vendors from across the United States bring a variety of merchandise. Their items include 14K and sterling silver, classic, estate, fashion and handmade jewelry. Loose stones, beads and findings, pearls, mineral specimens, rocks, crystals. Jewelers and wire wrappers who can design, remount and set stones and make repairs on site. Display of Virginia rocks and minerals and of dinosaur bones by the Richmond Gem and Mineral Society. ; contact Jane Westbrook, PO Box 59, Gloucester Point, VA 23062, (804)-642-2011; e-mail: ellen@treasuresoftheearth.com; Web site: www.treasuresoftheearth.com

April 1-3—HICKORY, NORTH CAROLINA: 46th annual show; Catawba Valley Gem & Mineral Club, Hickory Metro Convention Center; 1960 13th Ave Dr, Interstate 40-exit 125; Fri. 9 -6 , Sat. 9 -6 , Sun. 10 -5 ; Adults/Seniors \$5, Students/Children free admission; Club exhibits, feature exhibit NC emeralds, hourly door prizes, kiddie corner, mini mine. Grand door prize. ; contact Baxter Leonard, 2510 Rolling Ridge Dr, Hickory, NC 28602, (828)-320-4028; e-mail: gailandbaxter@aol.com

April 1-3—RALEIGH, NORTH CAROLINA: Annual show; Tar Heel Gem & Mineral Club, Kerr Scott bldg, NC Fairgrounds; Blue Ridge Road; Fri. 3-8, Sat. 10-6, Sun. 10-5; Free Admission; Club sponsored - Silent Auction. Rocks, fossils, gems, jewelry), Geode, Demonstration, Hospitality. Grab bags, rock candy, door prize tickets, club info, t-shirt sales. Interested in becoming a dealer at this show? Please email the chairperson for more information.; contact Cyndy Hummel, (919)-779-6220; e-mail: mchummel@mindspring.com; Web site: tarheelclub.org

April 9-10—RICHMOND, VIRGINIA: Annual show; Intergalactic Bead Show, Richmond Raceway Complex; 600 E. Laburnum Ave; Sat. 10-5, Sun. 10-5; Adults \$4-\$5, Children free; Do you love great quality and prices? Then shop The Intergalactic Bead Show! Our shows provide attendees with the world's finest and rarest beads, precious stones, gems, freshwater pearls and an exquisite collection of finished jewelry. Shop quality. ; contact Shawanna Whitson, (888)-729-6904; Web site: <http://beadshows.com>

DIG IT MUSIC CITY ROCK SWAP

The Middle Tennessee Rockhounds (MTR) started a rock swap in Nashville two years ago. Each year the swap has grown. This year's swap will be at a new location: the Amqui Station in Nashville, TN (located near the Nashville Public Library, Madison branch). The station provides more room and better facilities for the swap and related programs. This year, we are inviting members of neighboring clubs + the public. We request clubs to share swap details with their members by upcoming newsletters (or by email as space and policy permits):

Nashville, TN - 3rd Annual "Dig It Music City" Swap: Amqui Station; Saturday, April 23, 2016 – 10am to 4pm; Free Admission & Parking; Free Swap Space; Vendors plus speakers, and children's activities. Swap features rock, mineral, fossil, slab, rough, & gem vendors. To reserve space for demonstration, education, exhibits, or sales, contact Wayne Ramsey at 615-491-2293 or Swap@RockHound.org by April 16th. There is no charge for space. No fees. No commissions. Registration is required. For map & information: www.RockHound.org/swap.

MTR list nearby shows in our monthly newsletters. To have your show's flyer or information included, please send to info@rockhound.org (or to John Stanley, acting editor of MTR: jstanley@picagroup.com).

