

THE CAPITAL ROCKHOUNDER



Publication of the Capital District Mineral Club, Inc.
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April 2011

Next Meeting

Our next meeting is on Thursday April 7th in the New York State Museum. The meeting starts at 7:30pm. Please sign in at the security desk when you enter. The doors to the museum will be held open from 7:00-7:15pm.

April Program

The program for the Capital District Mineral Club will be a VHS Tape on (Tectonic) Plate Dynamics - Earthquakes Explained. The program examines the movements and interactions of tectonic plates, which account for a vast array of geological formations and phenomena - from California's San Andreas Fault to the Rift Valley of eastern Africa. Convergent boundaries, plate subduction, volcanic hotspots and the debate over what drives plate motion are also included.

Earthquakes in New York State occur in the Adirondack Mountains, centered in the Blue Mountain Lake area. The mountains consist primarily of metamorphic rocks, mainly gneiss, surrounding a central core of intrusive igneous rocks, most notably anorthosite, in the high peaks region. Crystals of labradorite are found in the Adirondack anorthosite. Another source of anorthosite for the serious rockhound is the surface of the moon. Although the rocks are ancient, the uplift that formed the Adirondack dome has occurred within the last 5 million years — relatively recent in geologic time. Earthquakes in the region have exceeded 5 on the Richter scale. The San Francisco earthquake of 1906, with an estimated magnitude of 7.9, slipped the San Andreas Fault both northward and southward for a total of 296 miles. It was caused by a rupture on the fault, a continental transform fault that forms part of the boundary between the Pacific Plate and the North American Plate. Shaking was felt from Oregon to Los Angeles, and inland as far as central Nevada. The earthquake and resulting fire are remembered as one of the worst natural disasters in the history of the United States. The earthquake permanently shifted the course of the Salinas River near its mouth. Where previously the river emptied into Monterey Bay between Moss Landing and Watsonville, it was diverted 6 miles south to a new outlet just north of Marina. The fires that burned out of control afterward were even more destructive than the quake. It has been estimated that up to 90% of the total destruction was the result of the subsequent fires. Over 30 fires were caused by ruptured gas mains. As water mains were also broken, the city fire department had few resources with which to fight the fires. Several fires in the downtown area merged to become one giant inferno. Ignoring earthquake safety plagues the city now, as a majority of buildings standing in the city today were built in the first half of the 20th century to the lax codes of 1906. Building standards did not reach even those levels until the 1950s. A detailed analysis of the city today estimates that an earthquake less powerful than the 1906 quake would completely destroy many sections of the city and result in thousands of deaths. The earthquake also affected the campus of Stanford University in Palo Alto. The image of the fallen statue of geologist Louis Agassiz outside the Zoology building has since become one of the

iconic images of the earthquake. Other North American Quakes. In addition to San Francisco and Blue Mountain Lake quakes there were the New Madrid earthquakes in Missouri. The zone had four of the largest North American earthquakes in recorded history, with moment magnitudes estimated to be as large as 8.0, all occurring within a three-month period between December 1811 and February 1812. February 7, 1812, 0945 UTC (4:45 a.m.); (M ~7.4 - 8.6) The epicenter was near New Madrid, Missouri, trees were knocked down and riverbanks collapsed. This event shook windows and furniture in Washington, D.C., rang bells in Richmond, Virginia, sloshed well water and shook houses in Charleston, South Carolina, and knocked plaster off of houses in Columbia, South Carolina. In Jefferson, Indiana, furniture moved and in Lebanon, Ohio, residents fled their homes. Observers in Herculaneum, Missouri, called it "severe" and claimed it had a duration of 10–12 minutes. New Madrid was eventually destroyed. This shock was definitively attributed to the Reelfoot Fault by Johnston and Schweig. It was uplift along this reverse fault segment; in this event, that created waterfalls on the Mississippi River, disrupted the Mississippi River at Kentucky Bend, created a wave that propagated upstream and caused the formation of Reelfoot Lake. The earthquakes were felt as far away as New York City and Boston, Massachusetts, where ground motion caused church bells to ring. The New Madrid Seismic Zone is made up of reactivated faults that formed when what is now North America began to split or rift apart during the breakup of the supercontinent Rodinia in the Neoproterozoic Era (about 750 million years ago). Faults were created along the rift and igneous rocks formed from magma that was being pushed towards the surface. The resulting rift system failed but has remained as an aulacogen (a scar or zone of weakness) deep underground. Another unsuccessful attempt at rifting 200 million years ago created additional faults, which made the area weaker. The resulting geological structures make up the Reelfoot Rift, and have since been deeply buried by younger sediments. But the ancient faults appear to have made the rocks deep in the Earth's crust in the New Madrid area mechanically weaker than much of the rest of North America. The New Madrid Seismic Zone, sometimes called the New Madrid Fault Line, is a major seismic zone and a prolific source of intraplate earthquakes (earthquakes within a tectonic plate) in the southern and Midwestern United States, stretching to the southwest from New Madrid, Missouri. Earthquakes that occur in the New Madrid Seismic Zone potentially threaten parts of seven American states: Illinois, Indiana, Missouri, Arkansas, Kentucky, Tennessee and Mississippi. Earthquake history. Many of the published accounts describe the cumulative effects of all the earthquakes (known as the New Madrid Sequence); thus finding the individual effects of each quake can be difficult. Magnitude estimates and epicenters are based on interpretations of historical accounts and may vary. Modern activity. The biggest quake since 1811-1812 was a 6.6-magnitude quake on October 31, 1895, with an epicenter at Charleston, Missouri. The quake damaged virtually all buildings in Charleston, creating sand volcanoes by the city, cracked a pier on the Cairo Rail Bridge and toppled chimneys

in St. Louis, Missouri, Memphis, Tennessee, Gadsden, Alabama and Evansville, Indiana. The next biggest quake was a 5.4-magnitude quake (although it was reported as a 5.5 at the time) on November 9, 1968, near Dale, Illinois. The quake damaged the civic building at Henderson, Kentucky and was felt in 23 states. People in Boston said their building swayed. It is the biggest recorded quake with an epicenter in Illinois in that state's recorded history. Instruments were installed in and around the area in 1974 to closely monitor seismic activity. Since then, more than 4,000 earthquakes have been recorded, most of which were too small to be felt. On average, one earthquake per year is large enough to be felt in the area. Geology Federal Government. In a report filed in November 2008, The U.S. Federal Emergency Management Agency warned that a serious earthquake in the New Madrid Seismic Zone could result in "the highest economic losses due to a natural disaster in the United States," further predicting "widespread and catastrophic" damage across Alabama, Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri and particularly Tennessee, where a 7.7 magnitude quake or greater would cause damage to tens of thousands of structures affecting water distribution, transportation systems, and other vital infrastructure. The earthquake is expected to also result in many thousands of fatalities, with more than 4,000 of the fatalities expected in Memphis alone. Read more of this on the web - Wikipedia - United States Earthquakes - Bruce Murray

Collecting at the Sterling Hill Dump

Let me put The Sterling Hill Mining Museum into perspective. There are places in this world that tell a story about our country, nature, science or human endeavors that are off the beaten path and maintained by a dedicated group without a lot of outside support. Invariably, their story is important on many levels, but known only to a relative few. We call them "hidden treasures." You have to work to discover these places, but once known, you'll be back again and again. The Sterling Hill Mine was once a leading producer of zinc ore. Now the museum tells its story in the context of an America no longer in existence.

One of the activities at Sterling Hill is rock and mineral collecting, and more specifically fluorescent mineral collecting. After all, the Sterling / Franklin deposit is "The Fluorescent Mineral Capital of the World" and as such has become the center point of our family's collecting efforts. The mine dump at Sterling is organized into two areas - Sterling only and everywhere else. What better place to start collecting rocks and minerals, especially with a child? If you've got nothing in the collection, hop on the everywhere else pile and have at it. Kids, like crows and pack rats, are attracted to colorful sparkly things and it doesn't take long for them to warm up to the task at hand discovering all sorts of rocks for the take home bag. If you're lucky and have one of those kids that only have to stand in the rocks to find good stuff, you'll be a happy dad.

The Sterling Only section is a tougher collection task for kids. There isn't so much that sparkles and the rocks all pretty much run to dark reds and browns with an occasional gray or white thrown in. If you want to keep them from flopping down in the dust and making snow angels, you need to give them something to do. I do a lot of pounding and squinting, but the true test of a rock is its exposure to UV light. The Museum makes that part easy as they have a viewing house on the dump. Whenever I break open a rock to find something nice, I hand that chunk to Rebecca and send her to the glow house. I can tell by her reaction if I've done well. If she trudges back with "all green", or "just orange", you know that you've probably seen it before, but if she leans out of the shed door and screams "Dad, you've got to see this," take notice, you're in luck.

When we were just starting our collection, Rebecca introduced herself to a rock hound on the pile. Chris is a member of the FMS and was roped into acting as a source of information for us novices. He helped identify our finds and sent her over to me with rocks that we should keep. He said that he didn't mind his temporary role and Rebecca loved it. After all, she was "helping" a collector who wasn't her dad. He had a specific mineral in mind and was scouring the pile with UV light and tarp in hand. I remember looking up from pounding on something to discover that I'd lost Rebecca. It isn't a big place and wasn't very busy, but somehow, I'd lost her. Just as I started to worry, her little blonde head popped up from under the tarp and she started waving me over to see what she and Chris had found. Somewhere else an episode like that would give me cause to worry, but not at Sterling. By and large, rock hounds are good and reliable folks dedicated to inorganic pursuits and Rebecca's glee took the worries away. She had started to learn about fluorescence and associate colors and minerals. The other day, she ran across the concept of density when holding a piece of zinc ore in one hand and marble in the other. Of course she wouldn't know it if you asked her, but for your average eight year old, she's doing pretty well.

Our return home from that initial trip started a family tradition. After every one of our collecting trips my young son asks us to "glow" the rocks that have been brought back. We head to the downstairs bathroom, close the door, douse the light and spread the rocks out on the floor. The UV light comes on and we sit in awe at the display in front of us. It's at about that moment that we decide to go back to the rock pile to bring home something else. Fortunately, between Sterling and Franklin there is an almost endless supply of "something else."

It takes more work to find the rarer minerals or the nicer specimens and things often don't go the way you expect. On our last collecting trip, Rebecca came back from the glow house holding a rock and sucking her finger. The discarded UV specimen hadn't passed muster, but she'd picked up something else. I asked what was wrong and she said that she'd poked herself on a rock. I don't know much, but I was reasonably sure that it wasn't that easy to poke yourself on a rock, until she showed me the rock. She held a beautiful specimen of what turned out to be Strontianite with perfect clumps of spiked white crystals. I looked down at my chunk of marble with Diopside and Norbergite inclusions and realized that she'd done it again. She'd made me a happy dad.

April Field Trip Schedule

April 2 - Mohawk River River Rocks - contact Jim Palmer
Collecting river bottom rocks. Time: 10AM. Meeting Place: Thruway exit 27 Amsterdam - truck parking lot just outside the thruway toll booth. What to bring: A pail for small stuff and some kind of sled for the heavier stuff. (A rope tied onto plywood works well) The site can be very windy. Dress in layers. What to collect: River bottom rocks of various colors and sizes. The river bedrock is mostly dull, but with some closer investigation, one can find garnet, quartz, labradorite, fossils, etc. that the river has washed down. Contact: Call Jim Palmer at 577-6119 to sign up for the trip.

Tentative Field Trip Schedule 2011

April 2- Amsterdam, NY - Mohawk River Rocks - Jim Palmer
April 30 - Franklin, NJ - Sterling Hill Mine - on your own
May 14 - Ravena, NY - LaFarge Quarry - Rich Stein
May 14 - Penfield, NY - Penfield Quarry Open House - on your own
May 21 - Fonda, NY - Margaret Hastings Claim - Jim Palmer
June 11 - Schoharie, NY - Rickard Hill Quarry - Anne Woods

June 18 - Batchellerville, NY - Batchellerville Quarry - Richard Hartnett
July 9 - Clayville, NY - Barrett-Litchfield Quarry - Anne Woods
July 16 - Batchellerville, NY - Batchellerville Quarry - Richard Hartnett
July 23 - Stowe, VT - Gold Panning - Bob Ballard
August 6 - Greenport, NY - Colarusso Quarry - Anne Woods
September 3 - TBA - Anne Woods
Sept. 10 - Batchellerville, NY - Batchellerville Quarry - Richard Hartnett
October 1 - Barrus, MA - Barrus Ledge - Richard Hartnett
October 8-9 Walworth, NY - Walworth Quarry - on your own
October 28-30 - various places in VT TBA - Bill Cotrofeld

NYSM Lecture Series

Geology of the Catskills: Mountains of New York
April 06, 2011 : 12:10 P.M. - 1:00 P.M. Huxley Theater
Speaker: Dr. Chuck Ver Straeten, sedimentary geologist

Building the Grenville Mountains: the Adirondacks and Hudson Highlands
April 13, 2011 : 12:10 P.M. - 1:00 P.M. Huxley Theater
Speaker: Dr. Marian Lupulescu, curator of geology

The Taconic Mountains
April 20, 2011 : 12:10 P.M. - 1:00 P.M. Huxley Theater
Speaker: Dr. Taury Smith, acting State Geologist

Glacial Modification of New York Mountain Ranges—the Icing on the Cake
April 27, 2011 : 12:10 P.M. - 1:00 P.M. Huxley Theater
Speaker: Dr. Andrew Kozlowski, glacial geologist

Reducing our Carbon Footprint: Carbon Sequestration in New York
May 04, 2011 : 12:10 P.M. - 1:00 P.M. Huxley Theater
Speaker: Museum Geologists Alexa Stolorow and Brian Slater
-submitted by member Greg Taylor via NYSM website

Minutes of February 2011

Opened at 7:30 by Pres. A smaller than usual turnout, only 16 in attendance. Rick Stein brought drawings and various colored & polished rocks to cover the pattern with, to make a unique picture. It was reported that long time member Helen Eckler passed away on Jan. 28th. She was 92. Richard Hartnett asked if the Club would consider a donation to the NY State Museum for a new mineral exhibit of some sort, since we have a good deal of money in the treasury. Mike Hawkins said that it would be very difficult to get the Museum to consider putting any effort into a new exhibit of any kind, at this time. Discussion regarding notices of monthly meetings in all of the local newspapers. It was done for many years, but somewhere along the line it was not submitted. President will take care of that starting with the April meeting, if no one else wants to do it. There was some discussion regarding having good speakers, so members would want to come to the meetings. Mike Hawkins agreed and said that many members are really not interested in coming to a meeting of any kind, just to hear reports and do whatever business needs to be transacted. A quality speaker and/or presentation would definitely be of interest to our members. Usual reports were given. Meeting was adjourned at 9:30. -- Bill Cotrofeld

Minutes of March 3rd, 2011:

Meeting opened at 7:30 by President. Several new members that joined at the mineral show introduced themselves. Mike Hawkins thanked the Club for all of their work in helping make the show a success again this year. Bruce Murray introduced the speaker of the evening, Jeff Fast.

who presented a very interesting video program about a buyer purchasing gold and diamonds in Venezuela. Part 2 of the program was on gold nuggets and crystals. He brought specimens to show and some for sale. Short break and raffle (\$40.). Secretary and Treasurer reports were given. Deb Hewson, VP, set the annual field trip committee meeting for Saturday, March 19th at 2 pm at Rick Steins. Bruce Murray reported that a total of 503 large posters and about 1500 small ones were put up by club members for the Mineral Show. Rich Stein has lapidary equipment in his garage that he will donate to the club or anyone interested. Some discussion regarding if the club could find a place for a lapidary shop. Meeting adjourned at 9:30. -- Bill Cotrofeld

Sterling Hill Super Dig - NJ - April 30th, 2011

The Delaware Valley Earth Science Society (DVESS) and the North East Field Trip Alliance (NEFTA), in cooperation with the Sterling Hill Mining Museum, invite you to share an internationally famous collecting experience. Registration fee is \$20 per person. Pre-registration is strongly suggested --it will reduce check-in time significantly. The collecting fee is \$1.50 per pound for day and for night per-pound. It will be the same this year. The hours are 9 AM to 11 PM. Restroom facilities, electricity (in darkroom), an off-road parking area, and a darkroom for admiring your fluorescent minerals will all be provided. Kids 5 to 12 year olds can dig in "Mine Run Dump" with an adult only. Children 12 years and older can dig in the pits (preferably with an adult). For more information, please go to www.uvworld.org.

Showdates Calendar

April 9-10—Dover, NH: 5th annual show; Southeastern New Hampshire Mineral Club; Veterans Community Center, 156 Back River Rd.; Sat. 9-4, Sun. 10-3; adults \$3, seniors \$2, children 12 and under free; contact Earl Packard, 20 Anita St., Rochester, NH 03867, (603) 332-3988; e-mail: esp-mineral@myfairpoint.com; Web site: <http://senhmineralclub.org/>

April 9-10—Johnson City, NY: 42nd annual show; New York Southern Tier Geology Club; Johnson City Senior Center, 30 Brocton Ave.; Sat. 9-5, Sun. 10-4; adults \$3, children under 12 free; contact Al Conklin, 187 Forest Hill Rd., Apalachin, NY 13732, (607) 625-4140; e-mail: allanconklin@aol.com

April 30-May 1—Franklin, NJ: 39th annual show and swap; New Jersey Earth Science Assn., Franklin-Ogdensburg Mineralogical Society, Sterling Hill Mining Museum; Franklin School, 50 Washington Ave.; Sat. 9-5:30, Sun. 10-5; adults \$5, children under 14 free with adult; contact Sterling Hill Mining Museum, (973) 209-7212

July 9-10—Syracuse, NY: 45th annual show, "Gems Along the Erie Canal: A Diamond Celebration"; Gem & Mineral Society of Syracuse; New York State Fairgrounds, Center of Progress Bldg., 1-690; Sat. 10-6, Sun. 10-4; AMFS and EFMLS Convention meetings July 6-8; contact Cathy Patterson, (315) 638-8817; e-mail: cathypatterson@verizon.net; Web site: www.gmss.us

August 12-14—West Springfield, MA: Show, "East Coast Gem, Mineral & Fossil Show"; Martin Zinn Expositions; Better Living Center, Eastern States Exposition, 1305 Memorial Dr.; Fri. 10-6, Sat. 10-6, Sun. 10-5; adults \$6, children 12 and under free with adult; more than 200 dealers, contact Martin Zinn Expositions, P.O. Box 665, Bernalillo, NM 87004-0665; e-mail: mzexpos@aol.com; Web site: www.mzexpos.com

August 27-28—Madrid, NY: 45th annual show; St. Lawrence County Rock & Mineral Club; Madrid Community Park, 1835 St. Hwy. 345; Sat. 9-4:30, Sun. 9-3; free admission; contact William deLorraine, (315) 287-4652; e-mail: wdellie@verizon.net; Web site: www.stlawrencecountyminealclub.org



Dinosaur hall at Smithsonian Institute Natural History Museum.

Officers:

President	Bill Cotrofeld	802-375-6782
Vice Pres	Debra Hewson	802-379-1636
Secretary	unknown	
Treasurer	Robert Hartig	518-842-5948

Newletter Staff:

Anne Woods schmanie@albanyrockclub.com
Don Kauffman - articles
Richard Hartnett - articles
Ken St. John - articles
Teresa Breuer - distribution

Website:

<http://www.albanyrockclub.com>

All submissions to the newsletter must be in my hand before the 18th of any given month, or they will be used in the next subsequent newsletter.

The purpose of our club is:

- To promote and encourage the study of mineralogy and other applied sciences.
- To cooperate with educational and scientific institutions in order to bring about a better and more general understanding of earth sciences.
- To provide a program with suitable speakers for scheduled meetings.
- To sponsor, direct, and assist in the planning of excursions to mineral localities and other places of geological interest.
- To cooperate with organizations whose purposes are similar to those stated in the foregoing items.

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