

Cedar Valley Gems

Cedar Valley Rocks & Minerals Society
Cedar Rapids, Iowa

CEDAR VALLEY GEMS

FEBRUARY 2015

VOL. 41, ISSUE 2

Remembering Leslie Blin Club Historian



Leslie Ann Blin, 82, of Marion, Iowa died Saturday, January 31, 2015 at Manor Care Health Services.

Leslie worked at Collins Radio for a short time before becoming a full time stay-at-home mom. Leslie loved nature. She enjoyed walks in the woods where she taught her children and grandchildren many things about finding beauty in nature. Leslie was a volunteer naturalist at the Indian Creek Nature Center and was a member of the Audubon Society.

She enjoyed square dancing and clog dancing. Leslie enjoyed gardening and camping.

Leslie also served as the long-time Historian for the Cedar Valley Rock & Mineral Society. Our thoughts are with her family. We will miss Leslie and her dedication to the club.

Club Speaker and Presentation

At the next club meeting on February 17th at 7 p.m., Ray Anderson will deliver an informative presentation on "The Rich History of Gypsum Mining in Iowa."

The presence and value of gypsum in the rocks of Iowa has been known since it was first reported in the Fort Dodge area by geologist David Dale Owen in 1852. A rich history exists of gypsum production in the Fort Dodge area, but gypsum has also been produced from different geologic units in southeast and south-central Iowa. Don't miss this opportunity to understand more about one of Iowa's commercially mined minerals.

Hosts for the February meeting are Julie Whitlatch and Joy Cummings.

Club Dues are Now Due

Annual club dues are due to Dale Stout. Club membership is \$15 per family. Payments can be sent to Dale or given to him at the next club meeting. His home address is: 2237 Meadowbrook Dr. SE, Cedar Rapids, IA 52403. Your support of the club is appreciated.

MSHA Safety Training Class

**MARCH 26: LADD LIBRARY, 3750 WILLIAMS BLVD.
SW, CEDAR RAPIDS (OLD TARGET STORE)**



The club is paying expenses for John McArdle, from Minneapolis, to come a day early for our March show and teach two MSHA-certified safety classes on March 26, the Thursday before our show. Reservations are required for the two classes—2:00 p.m. and 6:00 p.m. Each class lasts two hours and concludes with a test required for certification. If renewing certification, remember to **bring your certificate and book to class.**

**Next Meeting: February 17
7 p.m. Rockwell Cafeteria**

CVR&MS Board Meeting January Club Meeting

Board Minutes - February 9, 2015

Present: Marvin Houg, Ray Anderson, Jeff Kahl, Dave Roush, Sharon Sonnleitner, Dale Stout, Jay Vavra, guest Mary Campbell

SHOW, March 28-29: Mary Campbell presented her ideas and took others for the 3-D chalk drawing she will be doing at the show. A chalk cleanup crew is still needed for Sunday after the show. Jeff will bring a shop vac.

Marv presented ideas for caricature drawings related to our theme of *Treasures Beneath our Feet*. Ray's friend will create drawings and perhaps others to be placed on the show floor.

There was discussion about ways to advertise the show programs. Ray has created posters which will be on the website, at the show, and other places. Ray will give his program on Iowa's Precambrian rocks, "Treasures in Iowa's Basement," Saturday at 7:00 p.m. after the potluck.

River Products may send some literature for the Front Desk. Marv will ask for brochures from the Limestone Producers.

Dale will get an insurance certificate sent to Hawkeye Downs. Sharon will prepare the news release, confirm the 2016 show dates and get show cards printed. Egg carton collections will be assembled Sunday, February 22, at 2:00 p.m. at Sharon's.

A raffle will be run at the show. Items will include a wooden dinosaur. The group consensus is to sell tickets for \$1, 6/\$5, 13/\$10 and have people put them in containers for the item they want to win.

MSHA SAFETY TRAINING: is schedule for Thursday, March 26. Classes will be held at the Cedar Rapids Ladd Library at 2:00 p.m. and 6:00 p.m. Cost is \$10. Reserve with Marv.

AUCTION: Marv & Dale looked at Zobacs' items and picked out about 150 lots for this year and also asked Bill Mitchell to consolidate his material to 150 lots.

MISC: Marv will get more information from Cathy at Echo Hills about what they are wanting for their Science Night on May 1. Dale had a letter from someone from Pennsylvania who will be in Iowa with 3 others on May 12th. They have five days for collecting and are looking for places to collect.

Adjourned at 9:50 p.m.

Respectfully submitted,
Sharon Sonnleitner, Acting Secretary

Call to order: 7:12 p.m. by Marv Houg, President. January 20, 2015.

Introduction of new members or guests-none. Minutes reviewed Motion to approve as published by Julie, second by Sharon. Minutes approved. Treasurer's report by Dale-Report filed. All show vendors fees have been paid.

MONTHLY PROGRAM: Tom Whitlatch presented an excellent educational and informative program on lapidary ABCs. Door Prize Winner won by Connie Moellers (Tom donated 3 cabs)

SHOW, March 28-29: Recap ideas for show, "Treasures Beneath our Feet"

- Evening program for Saturday still in planning stages.
- Daytime speakers with programs (Ray Anderson, Ryan, Clark, Michael Lace, and Mark Anderson.
- Flyers and cards available for distribution.
- New vendors: rock painters and Ray Garten
- Motion made by Tom, second by Bill to have Hy-Vee cater with similar menu as previous years. Motion carried. Marv to check with Hy-Vee for price, etc.
- Dale will get raffle permit. Raffle items are needed. Perhaps one like the wooden dinosaur we had before.
- Displays will consist of Amana meteorite (need to make sure insurance covers it). Crystals from Trowbridge Hall. Dean Young will help with transporting.
- Chalk art with Ray providing a sketch to the artist.
- Volunteer sign up sheets being passed around.
- Items still needed-silent auction, door prizes, pebble pit and displays.

OTHER BUSINESS: Motion made by Jeff, second by Julie to hold MSHA training class. Motion carried. MSHA training will be held on Thursday March 26 at 2:00 p.m. and 6:00 p.m. at Ladd Library. \$10.00. Bring your books if recertifying. Marv has sign-up sheet.

Newsletter: Dave asked for questions to ask Ray in the "Ask a Geologist" column. Articles and write ups are welcomed.

Adjourned: Motion made by Tom, second by Dale. Meeting adjourned at 9:05 p.m.

Respectfully submitted,
Dell James, Secretary

Sioux Quartzite: Iowa's Oldest Exposed Rocks



The oldest bedrock that can be seen at the surface in Iowa is a quartz-cemented sandstone called the Sioux Quartzite. The Sioux Quartzite is exposed in the northwest-most corner of the northwest-most county in Iowa, Lyon County, at Gitchie Manitou State Preserve.

The Sioux Quartzite was originally deposited on what was then the edge of the deeply-eroded North American continent, in rivers, on beaches, and near-shore in the sea. Similar rocks were being deposited on margins of the continent in many areas of what is now Canada, New Mexico, Arizona, and Wisconsin (where it is known as the Baraboo, Rib Mountain, Waterloo, Barron, Flambeau, and McCaslin quartzites). Collectively these rocks are called Baraboo Interval Quartzites.

There is no way to directly date quartzites, but zircons ranging in age from 1.712-1.778 billion years have been recovered from these rocks (maximum age) and minerals deposited during their folding and deformation yielded ~1.64 billion years (minimum age). At some time shortly after their deposition, the quartz sand grains that make up about 90% of the rock were coated with thin film of iron oxide carried by groundwater then cemented together by quartz, possibly derived from overlying volcanic ash. The result was the pink quartzite that we see today.

Although subsequent deep burial did modify some minerals in the Sioux Quartzite, geologists who have studied the rock in detail do NOT refer to it as a metamorphic rock. The Sioux Quartzite usually displays very little deformation, however at

its only other exposure in Iowa (3 miles east of Gitchie Manitou) several deformation features are clearly present, and at the quarry at New Ulm, Minnesota, some beds dip at as much as 70°. No drilling has penetrated the thickest of the quartzite, but it has been estimated to reach thicknesses of up to 10,000 feet in South Dakota.

The Sioux Quartzite is an extremely durable rock and resists weathering better than the surrounding granitic rocks. So as the surrounding rocks eroded the quartzite-filled basins became a ridge, the Sioux Ridge, which was a highest elevation in the area and formed the last islands to be submerged when Paleozoic and Mesozoic seas inundated the Midcontinent.

Its durability also makes it one of the most common rocks in the glacial tills that were deposited by the ice sheets that passed over it. It

is especially common in the tills just south of its outcrop belt (New Ulm and west). But similar pink quartzite erratics are also found in eastern Iowa tills. These were probably transported from Baraboo Interval Quartzites in Wisconsin. Pipestone (or catlinite) beds can be found in a few Sioux Quartzite exposures, most famously at Pipestone National Monument in Minnesota. This rock consists primarily of sericite mica with associated diaspore, specularite, and pyrite with the red hematite responsible for the coloration.

Article by Ray Anderson, CVR&MS Vice President

**"On the Mountains of the Prairie,
On the great Red Pipe-stone Quarry,
Gitchie Manito, the mighty,
He the Master of Life, descending,
On the red crags of the quarry
Stood erect, and called the nations,
Called the tribes of men together."**

**-Henry Wadsworth Longfellow,
"The Song of Hiawatha"**

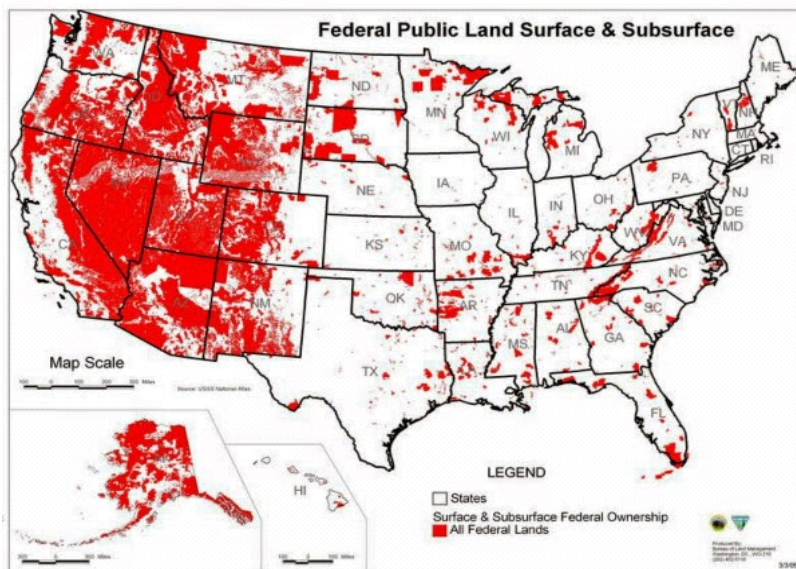
Recreational Land Use Versus Government/ Academic Extremism

In the complete article, Jim Urbaniak voices his concerns about the dramatic increase in public-lands management in recent years and gives suggestions for private and public sectors working together. One suggestion is to invite professors and land managers to club meetings.

Because of my work in the federal services and my networking with professional and academic earth science people (in an effort to secure monthly lecturers for the Oregon Agate and Mineral Society), I have gotten to know many academics, fish and wildlife professionals, BLM and Forestry Service representatives.

The old school folks “get” the whole thing about balancing environmental stewardship with recreational land use. What is a disturbing trend, though, is the number of new college graduates entering these services who are being taught that ALL recreational use is bad and ALL public lands should be closed off for any use whatsoever.

I am a conservationist, (but) this new mentality on the part of over-exuberant environmentalists and public servants does not reflect balance at all.



One of the ways our local earth sciences club has approached this has been to bring the geology professors (and their students) and public servants into our meetings to give presentations. The benefit has been that they have discovered we are not a bunch of dumb hillbillies but knowledgeable and conscientious earth science enthusiasts with a real concern for lands stewardship. Here in Oregon we are really beginning to develop some high-level academic and government support through dialog and a growing mutual respect.



I believe that this extremism mentality can be overcome through the amateur and academic communities engaging in building shared interest in each other's activities.

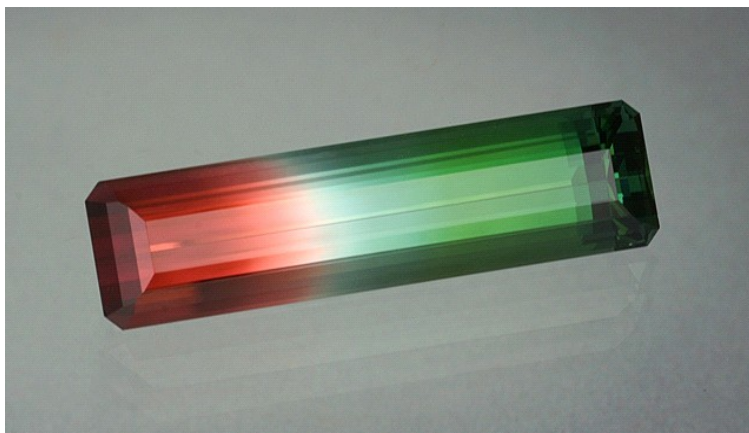
We, the amateurs, learn from the academics, and they in turn realize that we are also stewards of the land and students who can be taught in the field instead of a lecture room.

By Jim Urbaniak, President, Oregon Agate and Mineral Society

Article from the ALAA Newsletter (Oct.-Dec., 2014)

ALAA is the lobbying arm of the American Federation, working on behalf of rockhounds to keep public lands open and accessible to all including the elderly and handicapped.

Spotlight Gemstone: Tourmaline



Tourmaline is a crystalline boron silicate mineral compounded with elements such as aluminum, iron, magnesium, sodium, lithium, or potassium. Tourmaline is classified as a semi-precious stone and the gemstone comes in a wide variety of colors. The name comes from the Sinhalese word "Turмали" or "Thoramalli" which applied to different gemstones found in Sri Lanka.

Tourmaline is found in granite and granite pegmatites and in metamorphic rocks such as schist and marble. Schorl and lithium-rich tourmalines are usually found in granite and granite pegmatite. Magnesium-rich tourmalines, dravites, are generally restricted to schists and marble. Tourmaline is a durable mineral and can be found in minor amounts as grains in sandstone and conglomerate.

Watermelon, bicolor, and multicolored zoning occurs when the trace elements change in concentration or composition during a crystal's growth. Liddicoatite can show striking and complex zoning, and gems are often fashioned to showcase exotic colors. Gemologists describe these tourmalines as parti-colored.

Sometimes tourmalines are color-zoned across the length of the crystal: A crystal that starts off as pink might end up with a green tip. Or they can be zoned parallel to their length, so that a red crystal might end up with a green overgrowth. Dealers call these watermelon tourmalines because their colors resemble the rind and flesh of that fruit. Designers sometimes exploit the look of watermelon tourmaline by slices of the crystal.

Inclusions are much more visible in gems with light tone and low saturation. Since these stones don't have strong and attractive color to compensate for the inclusions, most buyers reject the ones with eye-visible inclusions. Many included tourmalines with good color are cut as cabochons to emphasize the color and minimize the appearance of the inclusions.

Edited from Wikipedia and Gem Institute of America websites.

EVENTS

Feb. 21-23: Indianapolis, IN. GeoFest, 12th Annual Indiana State Museum Fossil, Gem and Mineral Show. www.indianamuseum.org.

March 7-9: Richmond, IN. Eastern Indiana Gem & Geological Society Annual Rock & Gem Show.

March 28-29: Cedar Rapids, IA—Annual show; Cedar Valley Rocks & Minerals Society, Hawkeye Downs; 400 6th St. SW; Sat. 8:30-6, Sun. 9:30-5; adults \$3, students \$1, children and groups with adult leader free; educational programs, silent auctions, demonstrations, displays, door prizes, kids' activities, gem sluice, dealers, minerals, fossils, gems, jewelry, tools, equipment, lapidary supplies; contact Marv Houg, (319) 364-2868; e-mail: m_houg@yahoo.com

April 5-6: Columbus, OH. Stark County Gem & Mineral Club Annual Show.

April 10-12: Iowa City, IA—MAPS EXPO XXXVII, Sharpless Auction House

April 25-26: Black Hawk Gem and Mineral Club Spring Rock, Gem and Jewelry Show, Clarion Hotel 5202 Brady St, Davenport, IA 52806 Sat. 9 a.m.-5 p.m. Sun. 10 a.m.-4 p.m. The show features rocks, minerals, fossils, agates, geodes, tumbled stones, beads, silver and beaded jewelry, carved stones, spheres, and arrowheads. Demonstrations on Glass bead making, faceting, and flint knapping. Learn to make arrowheads and/or crack your own geodes. Free admission. Call (563) 445-3034.

April 25-26: Fort Dodge annual show; River Valley Rockhounds Inc, Iowa Central Community College East Campus; 2031 Quail Ave., east edge of Fort Dodge; Sat. 9 am-5 pm, Sun. 11 am-4 pm; Adults \$1, \$2 family; contact Robert Wolf, (515) 955-2818; e-mail: midnightwriter@frontiernet.net

May 3-4: Cincinnati, OH. GEOFAIR 2015

May 23-24: Wheaton, IL—MWF (Federation Show)

June 12-15: Lodi, CA—CFMS (Federation Show)

July 16-18: Cody, WY—RMFM (Federation Show)

Oct. 23-25: Austin, TX—AFMS (Federation Show)

Reclaiming Iowa's Old Coal Mining Sites

Iowa contractors are hoping to turn Marion County, Iowa eye sores into something useful.

"This is the remnants of surface coal mining that took place in Marion County anywhere from about the 1940's to 1977 or so.. we're standing on the top of the spoil pile about 65-70 feet tall off of the ground elevation," Todd Coffelt with the Iowa Mines and Minerals Bureau explains.

Over 50-years ago, workers mined coal at more than 300 locations across the state.

Now, the mines are all closed. So contractors are working to restore the land where surface mines once were.

Funds for the projects are generated from taxes on the current coal industry. The costs is around \$10,000 an acre, and so far around 40% of the mines have be reclaimed. Once the work is done, the land is good for pasture, but can't grow crops. There are also underground mines, some even right under the Des Moines area.

"The southeast part of the city towards the airport there's been coal mining there, and we have the mine maps for that. We know where the entrances should have been. The fairgrounds have underground mining in that area. If you work up toward Ankeny, we have underground mining maps for that area too," Coffelt says.

There are also mines under Urbandale, Clive and Waukee. The Bureau of Mines and Minerals is charged of keeping track of all those old mines, should there ever be an unexplained sink hole.

Article edited from WHOTV.com

Straight Mineral Collection

The Halver R. Straight Mineral Collection was willed to the Central Iowa Mineral Society in 1956, and display space has been provided at Drake University, *until being packed and stored during building renovation*. Approximately 300 different varieties of rocks, minerals, semi-precious stones, and fossils are included in this outstanding collection, with each specimen identified.

The collection is listed in *Discovering Historic Iowa - American Bicentennial Edition* (Leroy Pratt, Iowa State Dept. of Public Instruction. 1975. 322 pgs.), a comprehensive listing of significant historic sites in Iowa. John Hill, Ed Peterson and Mark Wiseman met with Drake Administration in late January 2015 and will continue to pursue the task of making this transfer happen.

Cold Water Cave Now Taking Reservations

Coldwater Cave in NE Iowa was found by UI geology students in 1967. Over the years it's 17 miles of underground structure has been mapped as a network of tunnels, domes and rock formations.

The cave is not commercialized, lighted or led into by guides who tell boilerplate stories. It is essentially an active underground river that ranges from 37 degrees to 57 degrees in temperature.

Years ago an access shaft was added by the state to afford a visit to this underground world but decided not to renew their lease. The land owner now grants cave access but only with experienced Cold Water guides.

If you are interested in exploring Coldwater Cave, contact the Iowa Grotto at iowa@caves.org or call 319-643-3501 or 319-354-2940. Its members lead an exploration the third Saturday of every month.

WEBSITE OF THE MONTH

This website is a resource for anyone interested in paleontology, from the professional in the lab to the interested amateur scouting for fossils to the student in the classroom.

The site gathered many different resources into this single entry "portal" to paleontological information on the Internet.

<http://www.paleoportal.org/>

ASK A GEOLOGIST

by Ray Anderson, CVR&MS Vice President

Understanding the Hard

Ask a Geologist is a monthly column that gives CVRMS members an opportunity to learn more about a geologic topic. If you have a question that you would like addressed, please send it to rockdoc.anderson@gmail.com, and every month I will answer one in this column. Please let me know if you would like me to identify you with the question. I will also try to respond to all email requests with answers to your questions, regardless of if it is chosen for the column.

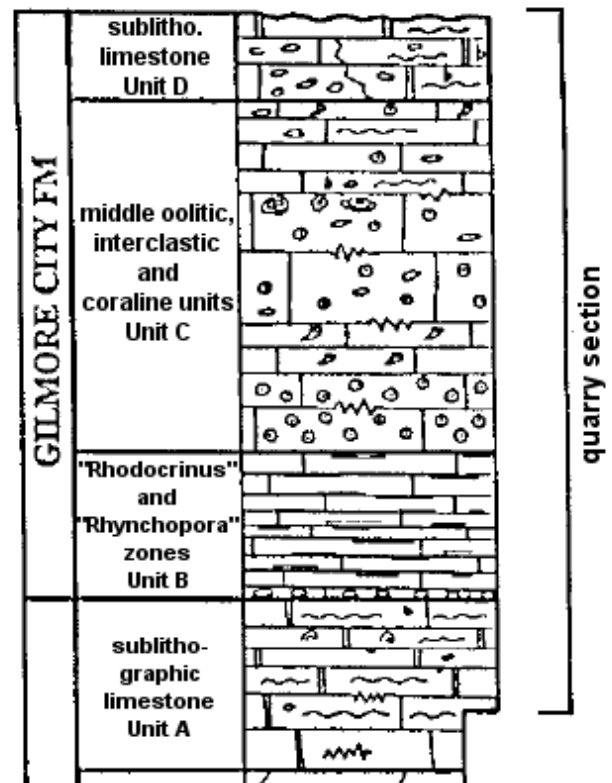
Merle Ayres asked: Gilmore City, Iowa is located near the Manson Crater event. Through the years collecting in the Moore Quarry, I've noticed that the top layer of rock, about 6 ft. thick, seems very hard. The fossils in it are few, with some corals and brachiopods. Why is it so hard on top, and softer rock with better fossils is found in lower layers? The Moore recreation area closer Gilmore city has the same hard rock in the top layers.

Thanks for the question, Merle. The mapped northern edge of the Manson crater runs in a west-northwesterly through the center of Gilmore City (crossing Highway 3 about a mile west of town). We have investigated the quarry for fractures that might be related to the Manson structure, but we could not be sure if the fractures we found were related to the structure or to normal regional geology.

We do know that the rocks of the Gilmore City Formation that are quarried at the Martin Marietta Materials, Inc. Moore Quarry lie about 200 feet higher than they should. They are part of an uplifted rim of rocks that surround the crater. A string of sink holes that runs through the quarry parallels the edge of the crater and almost certainly formed along a fracture relating to the uplift of the crater rim.

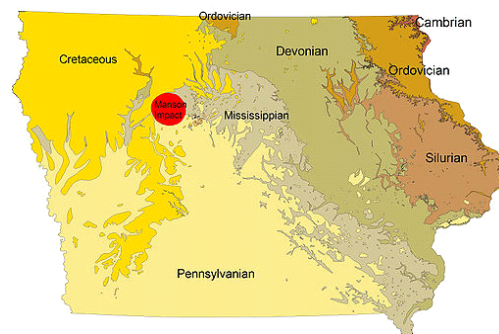
Regarding the hardness of the upper rocks, you are probably observing the upper Gilmore City unit that has been called Unit D by Jay Woodson (see reference graphic). Unit D was dominantly deposited in a muddy marine environment forming a dense gray limestone. Below it, Unit C was deposited in more active water conditions, with currents sweeping the mud out, producing a softer whiter limestone with abundant small, spherical oolites.

These units don't have the same types of fossils because of the different depositional environments. The crinoids found in the lower layer required a very clear sea with little mud, and normal salinity and temperature. Brachiopods and some corals can live in much muddier, saltier, and warmer water. Geologists use the fossils present in a rock unit to help them



Geologic Section at Moore Quarry (Woodson, 1989)

understand the sea's environment at the time they were deposited. For more information on this quarry and the rocks present see Geological Society of Iowa Guidebook 50 (reference below).



Reference: Woodson, F.J., 1989, An Excursion to the Historic Gilmore City Quarries. Geological Society of Iowa, Guidebook 50, 41 p.
<http://s-iihr34.iihr.uiowa.edu/publications/uploads/GSI-050.pdf>

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Club meetings are held the 3rd Tuesday of each month from September through November and from January through May at 7:00 p.m. at the Rockwell Collins 35th Street Plant Cafeteria, 855 35th St NE, Cedar Rapids, Iowa. The December meeting is a Christmas dinner held on the usual meeting night. June, July, and August meetings are potlucks held at 6:30 p.m. at area parks on the 3rd Tuesday of each month.

CVRMS was organized for the purpose of studying the sciences of mineralogy, geology, and paleontology and the arts of lapidary and gemology. We are members of the Midwest (MWF) and American (AFMS) Federations. Membership is open to anyone who professes an interest in rocks and minerals.

Annual dues are \$15.00 per family per calendar year. Dues can be sent to:

**Dale Stout
2237 Meadowbrook Dr. SE
Cedar Rapids, IA 52403**

CVRMS website:
cedarvalleyrockclub.org

January Meeting Place:
Rockwell Collins 35th St. Cafeteria
FEBRUARY 17@ 7 P.M.
Program by Ray Anderson
"Gypsum Mining in Iowa"



David Chase, Editor
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