

# Cedar Valley Gems

## Cedar Valley Rocks & Minerals Society

### Cedar Rapids, Iowa

CEDAR VALLEY GEMS

DECEMBER 2014

VOL. 40, ISSUE 10

## 'Ask a Geologist' Begins New Monthly Column

**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](mailto: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.

*David Chase asked why I became a geologist, what I enjoyed doing, and what were some of my career highlights.*

As a child I collected interesting rocks, as many kids do, but I never considered geology as a profession. In high school, again like many boys, my interest shifted to cars, and very nearly pursued a career in Automotive Engineering. However, I eventually chose to attend the University of Iowa to study Mechanical Engineering and quickly realized that that wasn't the profession for me. So I cast around and discovered the Geology Department where the classes were interesting and the professors exceptional. I loved geology and worked as a student for the USGS during my undergraduate junior year (1969), then landed a full time job at the Iowa Geological Survey as a geologic illustrator during my senior year. I worked my way into geologist then supervisory positions at the Survey where I was able to study many aspects of Iowa geology, especially the Precambrian.

One aspect of this Precambrian study was one of the highlights of my geologic career, a detailed investigation of the Midcontinent Rift System (the billion year old crustal fracture that crosses Iowa) which I parlayed into a PhD dissertation. Another career highlight was the study of the Manson Impact Structure (MIS), which I also initiated because of the Precambrian crystalline rocks exposed at the bedrock surface on the crater's central peak. I was joined in this study by Brian Witzke who was investigating the Cretaceous System, the period during which the MIS was formed. This opportunity to work at the "cutting edge" of the science with

geologists from all over the world was a great experience.

The excellent geologists in my group succeed in restudying all of the rock systems in Iowa, and we published hundreds of papers and abstracts on our work. With this new geologic information and 12 years of hard work we were able to produce a completely new "**Bedrock Geologic Map of Iowa**" (Iowa Geological and Water Survey Map M-22) the most accurate bedrock map of Iowa ever produced and the first that is fully digital. The majority of the work on the map was completed by Brian Witzke and me, and we both consider the map to be the chief accomplishment of our careers at the Geological Survey, Brian's 33 years and my 43 years.

I thoroughly enjoyed my profession as a geologist for the Iowa Geological Survey, in no small part because of the variety of projects and services that I was able to work on. Among my favorite duties was public outreach, especially talks and other presentation to governmental, educational, and public groups such as the CVRMS. Another enjoyable duty was identifying rocks and "meteorwongs" brought into our office. I examined and identified hundreds of "mystery rocks", including several hundred possible meteorites (only one really was really a meteorite and it came from Arizona).

*By Ray Anderson*

### WEBSITE OF THE MONTH

Your interest of all things rocky and geologic have provided a lifetime of outstanding specimens and taken you to some unique places. Many of us have photographed our collections and/or geologic surroundings. See how another collector has blended her interests. Check out the website of Oregon based Mari Miller who shares the same love of geology and photography.

<http://marlimillerphoto.com/geopix.html>

# CVRMS Board Meeting Minutes

**Present:** Marv Houg, Dale Stout, Bill Desmarais, Sharon Sonnleitner, Dell James, Tom Whitlatch, Jay Vavra, Ray Anderson

Meeting called to order at 7:20 at Marv Houg's home, December 2, 2014

## Auction Report

- Review of potential, promised and otherwise, donors for next 2015 Auction. Marv distributed to everyone a breakdown of intended sellers. More specific information available from him.
- Advertisement possibilities for auction were discussed. Board decided that a paid advertisement in Rock and Gem magazine is a good investment. Also, the Midwest Federation publication should be out the first part of September in time for our show. Marv will follow up.

## Show 2015 March 28 and 29.

- Ray Anderson has many contacts and will check on getting the fossil set up that we have had at previous shows. Bill Desmarais will speak with "Sherm" and get some ideas from him about what kinds of displays etc. would be appropriate for the show.
- Various display possibilities were discussed. Ames Underground Mines expressed an interest in being a part of the show. Follow up needed.
- A map of Iowa displaying various "treasures" that are here in Iowa. Ray will speak with Ryan about some other map display he may have. Geological survey material is available through Ray.
- A sidewalk art project depicting Iowa would be fun and educational and could be displayed on the floor in the area where the dinosaur display used to be. All depends

on getting the artist and permission from Hawkeye Downs. Dale will follow up on the artist and Sharon will check with Hawkeye Downs.

- Ray will find out about the meteorite and crystal from Trowbridge.
- Iowa office of State Archeologists (Mark Anderson) may be a possibility for demos, artifacts? arrowheads?
- Iowa grotto Ray knows someone? from there and there may be a possibility of obtaining a program. He will follow up.
- Museum at University of Iowa has a new traveling museum bus. Dale will check to see if they are interested.
- Nature Center used to have a soil profile display. Maybe still available. Bill will check. At \$12,000 an acre, we have "treasure beneath our feet."
- Contracts are coming in. Tom will get information from the Rock Painting vendors and send to Darren.
- Security-Linn County Sheriff's daytime security. AJ and Bill will provide at night.
- Marv encouraged everyone who has any ideas or suggestions, to contact him. The show is just 3 months away.

## Christmas Party

December 16-Guaranty Bank. Pot Luck and club will provide meat and drinks. Dell asks for help in providing door prizes. Motion to adjourn by Tom, 2nd by Bill. Meeting adjourned 9:15 p.m.

Respectfully submitted,  
Dell James, Secretary

# Tis the Season – A MWF Poetry Winner

*by Vern Ricker, MWF 1st Place, Adult Class*

On squeaking hinges winter slowly opens springtime's door.  
Snowdrifts melt and hardened lands secrete treasures galore.

Open fields and gravel pits begin to call our name.  
Sometimes the mud is two feet deep, we answer just the same.

So many months trapped there inside has honed our lust for this.  
Old Sol returns a warm embrace we agate hunters miss.

On first escape we raise our heads and praise the bright blue sky.  
Soon our gaze returns to earth as shine may catch an eye.

In magic swirls of banded wonder pleasure never ends.  
Yet culminates in extra glory once you've shown your friends.

Those winter dreams of vast ravines may never come to fruit.  
And half the fun of rockhounding could simply be pursuit.

Glad feelings when your lick reveals a masterpiece of art.  
It gets you through those darkened days 'til rockhound seasons start.

# CVRMS Annual Meeting Minutes

**Call to order:** 7:15 p.m. by Marv Houg, President. November 18, 2014

Introduction of guests and new members: no guests or new members present.

Minutes of last meeting were reviewed as published. Motion to approve by Julie, second by Dale. Approved as published. Treasurer's report by Dale. Checking account balance \$7123.72. Sharon asked how our assets are compared to last year at same time. Dale to compile a report for next meeting. Treasurer's report filed.

## Monthly Program: "A Year of Encounters with Small Worlds"

Brent Studer, an astronomer from Kirkwood Community College gave a timely and informative talk about the current solar system exploration.

Door Prize won by Connie Moellers.

## Old Business:

Review of 2015 show theme: "Treasures Beneath Our Feet". Nothing new to report. Dale is ordering calendars. If interested, let Dale know. Anticipated price \$8.50 each. Dell has T-Shirts for sale. \$10.00 each. Various colors and sizes.

## New Business

### Election of officers:

Nominating committee (Sharon, Dale, Julie) reported.

One director position until 2017: Jay Vavra has agreed to nomination: No nominees from the floor.

1<sup>st</sup> Vice President: Open. Ray Anderson volunteered to fill the post with help from Bill Desmarais as needed. Nomination quickly accepted. Motion made by Julie to accept the slate of officers, seconded by Joy. Motion approved.

## Christmas Party

December 16, Tuesday, Guaranty Bank Fairfax. Pot Luck. Meat and drinks courtesy of the club. Dell asked everyone to bring cameras as there is a plan in the making to provide a photo op set up. Games will be played and door prizes awarded. Dell is asking for donations to the door prize fund. The "hat" will be passed per tradition and money donations to HACAP and the Linn Community Food Bank will be made. Reminder to bring own place settings.

## Other Business

Marv is working on some indoor field trips during the inclement weather. No other business to bring forward, motion was made by Dale, second by Joy for adjournment. Meeting adjourned at 9:25 p.m.

Respectfully submitted,  
Dell James, Recording Secretary

## Looking for Moon Rocks? Visit Des Moines First

Go no further than the State Historical Museum of Iowa in Des Moines, across from the Capitol building to see real moon rocks. In the 1960s and '70s fragments of moon rocks collected during Apollo 11 and 17, the first and last Apollo lunar landings, were given to the States and various countries as part of the American Goodwill program by NASA.

The Apollo 11 sample contains a fragment from a portion of a rock from the Sea of Tranquility of the moon. A clear plastic resin sphere, 2 cm in diameter, imbedded 1/3 of its diameter in the supporting Plexiglas contains 3 small, 1 mm size, and one large, 2 mm size, specimens. A small Iowa flag in the display also flew to the moon on the first manned landing mission.

The Apollo 17 sample contains a fragment from a portion of a rock from the Taurus Littrow Valley of the moon. It was part of a larger rock composed of many particles of different shape and sizes, a symbol of the units of human endeavors and mankind's hope for future peace and harmony. Imbedded in the sphere is a small section of moon rock, approximately 1.2 cm (.5 inches) by .6 cm (.25 inches). It is reported that this sample weights .04 ounce. A small Iowa flag in the display also flew to the moon.

Locate the lunar rocks by traveling to the State Historical Museum, 600 E. Locust St. Des Moines, IA 50319. Museum Hours: 9 a.m. - 4:30 p.m. Tuesday - Saturday. Open Noon - 4:30 p.m. Sunday. Closed Monday and official state holidays. Best of all - admission is free.

## President's Message for the Close of the Year

Here we are, near the end of another year. I hope everyone has had a great year and were blessed with good health, prosperity, and great friends. I think we sometimes don't know how well off we are until we see stories of those with much less or in many cases, nothing at all to their name. While things could maybe have been better for some of us, it should be a time to reflect on all the positive things that have come our way in the last year.

I would like to encourage everyone to attend our Christmas party on December 16 at Guaranty Bank in Fairfax. This is a great time for everyone to meet some new people, socialize, play some games, and eat some great food.

For our new members, or those that haven't attended one of our functions, this is the highlight of the year. I would like to reiterate that we also take up a collection at the Christmas party to support a couple local organizations that provide food to the needy.

Being that time of the year when we should be thankful for the things we have been blessed with, I would also like to extend my sincere thanks and appreciation to Bill Demarais and Tom Whitlatch for their service to the club and particularly in their positions on the Board.

Both of them have stepped forward for many years with Bill serving as Vice President where he has lined up great programs for the club and has served as a guard for our show. Tom has served as Director for many years and has volunteered to help in many ways including taking charge of the trailer as far as getting it the show and auction every year. He also keeps it organized for us.

Neither is going away so we will be drawing upon their help for hopefully a long time. I would also like to thank the rest of the Board for their work and also a big thank you to all our club members for all the hard work everyone puts in to make our club one of the most successful clubs in the Midwest.

Ray Anderson has volunteered to serve as Vice President and Jay Vavra will be our new Director. When you see Bill and Tom please thank them for their service and also extend a welcome to Ray and Jay in their new positions.

Finally, I hope we can see everyone at the Christmas party but if you can't make it have a Merry Christmas and a Happy New Year. I hope that 2015 will be a great year for everyone.

*By Marv Houg, CVR&MS President*

## We May Lose More Idaho Collecting Sites – The Proposed Boulder-White Clouds National Monument

*By Dee Holland, ALAA Director, Salmon, ID*

For a number of years, some legislators from Idaho have been trying to create more wildernesses in Idaho, as if we don't have enough already. They haven't succeeded, so the latest try is to make the Boulder-White Clouds area of Idaho into a National Monument, which does almost the same thing as making it into a wilderness area. If they write the law the same way they in Washington, D.C., usually do, it will not allow "picking up rocks" and especially not "excavating" within the monument.

Boulder-White Clouds is currently within the Salmon-Challis National Forest, which allows activities like rockhounding. Why fix what's not broken? Here is a list of areas within Boulder-White Clouds that I personally know have collectable rocks: East Fork of Salmon River through Herd Creek: agate, jasper, amethyst crystals and petrified wood; Trail Creek through Copper Basin: agate, jasper and petrified wood; Livingston Mine, which included specimen collecting on old mine dumps; Horse Basin: agate, jasper and petrified wood.

Thanks to Shirley Metts of the Magic Valley Gem and Mineral Society for forwarding this important information. Shirley is an ALAA Representative for southern Idaho.

*—From the ALAA Newsletter (July-Sept, 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. Excerpt from the American Lands Access Newsletter. During the year the author includes a variety of news items so that local club members will know how important the work of ALAA is for all.*

## Spotlight Gemstone: Aquamarine

Aquamarine is one of the most popular and best-known gemstones, and distinguishes itself by many good qualities. It is almost as popular as the classics: ruby, sapphire and emerald. In fact it is related to the emerald, both belonging to the beryl family. The color of aquamarine, however, is usually more even than that of the emerald. Much more often than its famous green cousin, aquamarine is almost entirely free of inclusions. Aquamarine has good hardness (7.5 to 8 on the Mohs scale). That hardness makes it very tough and protects it to a large extent from scratches. Iron is the substance which gives aquamarine its color, a color which ranges from an almost indiscernible pale blue to a strong sea-blue.

The more intense the color of an aquamarine, the more value is put on it. Some aquamarines have a light, greenish shimmer; that too is a typical feature. However, it is a pure, clear blue that continues to epitomize the aquamarine, because it brings out so well the immaculate transparency and magnificent shine of this gemstone.

The bright blue of this noble beryl is making more and more friends. The various color nuances of aquamarine have melodious names: the rare, intense blue aquamarines from the Santa Maria de Itabira mine in Brazil, which make every gemstone lover's heart beat faster, are called 'Santa Maria'. Similar nuances come from a few gemstone mines in Africa, particularly Mozambique. To help distinguish them from the Brazilian ones, these aquamarines have been given the name 'Santa Maria Africana'. The 'Espirito Santo' color of aquamarines from the Brazilian state of that name is of a blue that is not quite so intense. Yet other qualities are embodied in the stones from Fortaleza and Marambaia. One beautiful aquamarine color was named after the Brazilian beauty queen of 1954, and has the name 'Martha Rocha'.

It can be seen from the names of aquamarine colors just how important Brazil is among the countries where aquamarine is found. Most of the raw crystals for the world market come from the gemstone mines of that large South American country. Every now and then, large aquamarine crystals of immaculate transparency are also found with a magnificent color, a combination which is very unusual in gemstones.

And very occasionally, sensationally large aquamarine crystals come to light in Brazil, such as the crystal of 110.5 Kg found in 1910 in Marambaia/Minas Gerais, or for example the 'Dom Pedro', weighing 26 Kg and cut in Idar-Oberstein in 1992 by the gemstone designer Bernd Munsteiner, the largest aquamarine ever to have been cut. However, aquamarines are also found in other countries, for example Nigeria, Zambia, Madagascar, Mozambique, Afghanistan and Pakistan.

*Edited from [www.gemstone.org](http://www.gemstone.org)*

## EVENTS

**Dec. 16:** Fairfax, IA - December CVRMS Christmas program - Guaranty Bank. Visit the CVRMS website for more details: [www.cedarvalleyrockclub.org/](http://www.cedarvalleyrockclub.org/)

**Feb. 21-23:** Indianapolis, IN. GeoFest, 12th Annual Indiana State Museum Fossil, Gem and Mineral Show. [www.indianamuseum.org](http://www.indianamuseum.org).

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

**March 27-29:** Hickory, NC— EFMLS (Federation Show)

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

**April 10-12:** Ogden, UT—NWFS (Federation Show)

**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)

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# Inside Iowa Geology—The Myth of Lake Calvin

The broad, flat landscape along the Cedar and Iowa rivers and their tributaries north of Columbus Junction in Muscatine, Johnson, and adjacent counties (Fig. 1) was first reported by Iowa's first State Geologist, Sam Calvin in 1874. Citing the flat nature of the area and the fringing bluffs he suggested that this feature might represent a former glacial lake. In 1899 Survey geologist J.A. Udden reached the same conclusion while mapping the geology of Muscatine County, and he named the feature "Lake Calvin" in honor of the first man who identified it.

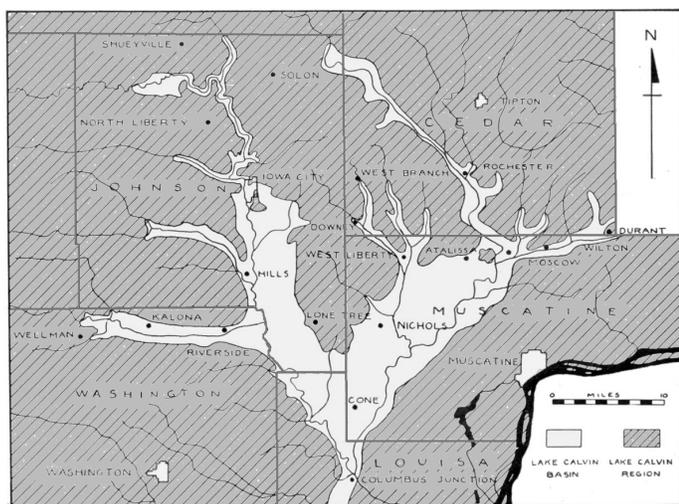


Figure 1 Map showing the location and extent of Lake Calvin. W.H. Schoewe, 1920

Following new interpretations of the Pleistocene (glacial) history of the area by Frank Leverett and others, Walter Schoewe published a detailed discussion of the history of "Lake Calvin" in Iowa Geological Survey Annual Report 29. Schoewe concluded that the advance of the first Illinoian glacier west out of Illinois into southeast Iowa (about 300,000 years ago) dammed the Mississippi River, forcing it to flow around the western nose of the ice (Fig. 2) where it formed a lake, contained by bluffs of "Kansan" (Pre-Illinoian) glacial till near Columbus Junction.

Leverett proposed that water from Lake Calvin followed a circuitous route through southeast Iowa, finally returning to the Mississippi River Valley which at that time was located in the Gordon Channel in Lee County.

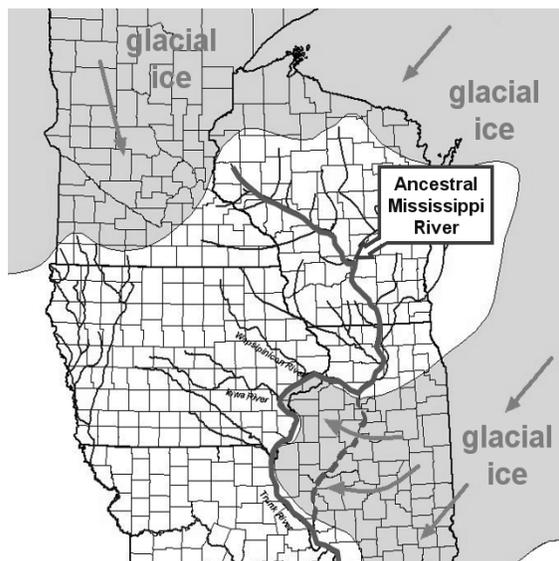


Figure 2. Map showing the displacement of the Ancestral Mississippi River from its previous channel (dashed line) by Illinoian glacial ice about 300,000 years ago.

This interpretation was consistent with the glacial history of Iowa and the landforms in the area and was the prevailing theory until 1984 when Steve Esling completed an ambitious drilling program in and around "Lake Calvin" as a part of his PhD program at the University of Iowa. Nowhere did his drilling encounter any lake sediments. Instead he was able to reconstruct a complex history of flooding in area when the Cedar and Iowa rivers were carrying water from the advances and retreats of three glacial ice sheets into north-central Iowa during the Wisconsin Glacial Stage (between about 140,000 and 10,000 years ago). The modern flood plains of the Cedar and Iowa rivers are superimposed on this glacial terrain.

Finally, in 2006, I studied the logs from numerous water wells that were drilled in Leverett's proposed route for the Mississippi River between "Lake Calvin" and the Gordon Channel, and I found no evidence of river sediments, only the glacial materials typical of that area.

It was never a Mississippi river channel. So, although the landscape of "Lake Calvin" looks very much like an abandoned glacial lake, it is in reality the product of numerous glacial floods.

By Ray Anderson



# CVRMS ANNUAL CHRISTMAS PARTY

December 16  
6:00 p.m. to 9:00 p.m. or so.

Eat at 6:30  
Pot Luck

CVRMS will provide drinks and main dish (turkey)  
Games and Door prizes promised.

Guaranty Bank, Fairfax, 300 80<sup>th</sup> St.

Bring your own place settings!



## Officers, Directors, and Committee Chairs

President .....	Marv Houg (m_houg@yahoo.com) .....	364-2868
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Hospitality .....	Jeff Kahl .....	455-2201
Webmaster .....	Sharon Sonnleitner (sonnb@aol.com) .....	396-4016

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.

### CEDAR VALLEY ROCKS & MINERAL SOCIETY

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](http://cedarvalleyrockclub.org)

Dec. Meeting Place:  
 Guaranty Bank,  
 Fairfax, Iowa,  
 DEC. 16 @ 6 P.M.



David Chase, Editor  
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