# Cedar Valley Gems

## Cedar Valley Rocks & Minerals Society
## Cedar Rapids, Iowa

**CEDAR VALLEY GEMS** **SEPTEMBER 2015** **VOL. 41, ISSUE 7**

**Ray Anderson, Editor:** rockdoc.anderson@gmail.com

## Next CVRMS Meeting

**7 pm**
**Rockwell Collins 35th St. Cafeteria**

Featured Speaker **Dr. Ray Anderson**
***"Global Warming and $CO_2$ Sequestration Studies by the Iowa Geological Survey"***

Raising levels of $CO_2$ (a potent greenhouse gas) is a major contributor to global warming and associated climate changes that are threatening most of the Earth's ecosystems. The Iowa Geological Survey worked with the Department of Energy to identify possible $CO_2$ repositories in Iowa. Ray will show a $CO_2$ video and discuss the Iowa Survey Project and its conclusions.

### New Newsletter Editor – Ray Anderson

The CVRMS Board of Directors nominated and club members elected Ray Anderson to assume the roll of Newsletter Editor, beginning with the current issue (September 2015). Ray is very anxious to receive comments and suggestions about the newsletter and its contents. If you have news or information to share with club members please contact Ray and he will try to include it in the next edition.

Ray Anderson can be contacted by email at
rockdoc.anderson@gmail.com
or by telephone at
**319-337-2798**

## September 13 - Field trip to Conklin Quarry, Coralville, Iowa

CVRMS is sponsoring a collecting trip to River Products Conklin Quarry on Saturday, September 13, for CVRMS members.

Travel to I-80 in Iowa City/Coralville. The quarry entrance is just north of I-80 at exit #242 (1st Ave), across the street from the Hampton Inn parking lot.

An attendance limit of 60 people is being imposed by the quarry management. So please contact Marv Houg if you plan to attend. First come - first served but you must call or email ahead of time.
email: m_houg@yahoo.com telephone: **319-364-2868**

Meet at the main entrance to Conklin at 8:45 to sign in and get safety instructions. Enter the quarry at 9:00. This is a lock-in quarry; that is, the gate is locked behind us and no one can enter or leave (except in an emergency) until noon, when a group will be let out. Others can come in at that time if they are waiting at the gate. The rest of the group will leave at about 4:00. **Requirements are that you must be a member of the Cedar Valley Rock and Mineral Society and sign a waiver.** Also we are going to be enforcing strict safety requirements such as everyone **must have** a hard hat on, a bright safety vest, and hard shoes (steel toed is preferred). No open toed sandals or tennis shoes will be allowed. Also long pants will be required, no shorts will be allowed. Some type of safety glasses and gloves are recommended.

**NO EXCEPTIONS TO THESE RULES.**

Please stay away from the walls at all times as loose rocks and boulders do fall and walls spontaneously collapse.

This is a "hard-rock" working quarry. All field trippers must have the appropriate safety equipment. All children should be closely supervised. Possible finds include: millerite, coral heads, horn corals, brachiopods, bryozoans, trilobites, crinoids and maybe cephalopods, fish parts, blastoids, and cystoids. Useful tools include: rock hammers, cold chisels, sledges and pry bars. Bring your own water and lunch.

Download & fill out the club liability waiver at www.cedarvalleyrockclub.org

Contact Marv with any questions: m_houg@yahoo.com

**NOTE:** If you do not have the safety equipment - **YOU DO NOT GO IN.**

# CVRMS Board Meeting

**Minutes August 25, 2015**

**Members Present:** Marv Houg, Dell James, Sharon Sonnleitner, Ray Anderson, Jay Vavra, Joy Cummings, Dale Stout, Bill Desmarais

**Call to order:** 7:15 p.m. by Marv, President at Marv Houg's house

**Auction**

It is fast approaching. September 19-20. A review of the confirmed contributors. General discussion followed regarding whether we rent a truck or not. We may need one with a lift for heavier items. Dale, Sharon and Marv will figure it out.

Friday dinner will be the usual pizza. Lunch will be sandwiches etc. Sharon will provide food for weekend.

Advertising-Dale and Dell will get it done. Dell will call Collector's Journal. Sharon will look into Gazette ad? Dale will do free websites etc. Dell will do Tidbits. Joy will get flyers to library.

Set up begins Friday 8:00 am at the Amanas. Volunteers welcome and needed to assist. Preview scheduled for Friday evening.

**Show**

Petrified Wood and Fossil plants still the theme. April 16-17 show dates for 2016.

Dale will check on the U of I mobile unit.

**Misc.**

Dell will be gone for the months of September and October.

There are no hosts lined up for September and volunteers needed. Call Marv is interested.

**Motion to adjourn** by Dale, second by Dell.

**Meeting adjourned** 9:00pm P.M.

Respectfully Submitted

## Rock Calendar

### CVRMS Events for September,2015

**Sept 13 - CVRMS Field Trip—Conklin Quarry**
SEE ARTICLE ON PAGE 1

**Sept 18 - CVRMS Auction Setup**
Amana RV Center

**Sept. 19-20 - CVRMS Rock Auction**
Sat 9 am - 7 pm; Sun 10 am - 4 pm.
Amana RV Park & Event Center
39 - 38th Ave, Amana

**Sept. 25-27 - Geode Fest and Rock Show**
SEE POSTER ON PAGE 4

**Oct. 3 - TAKO "Rockin' Rocks and Fossils"**
10 am River Products Co. Conklin Quarry
Coralville

**Oct. 4 - Basic Materials Sunday at the Quarry**
Raymond Quarry 6900 Dubuque Rd Waterloo
10 am—4 pm (set-up at 9 am)

### Other Rock Hound Events

**Sept. 12: ROCKFORD, IL** Rock River Valley Gem & Mineral Society Rock Swap. 10 am - 4 pm, Odd Fellows Hall, 6219 Forest Hills Rd., Rockford. Contact: John Wood, gotwood63@gmail.com

**Sept. 12: STODDARD, WI** Coulee Rock Club Rock Swap. 9 am - 4 pm; Stoddard Park, Hwy 162/Hwy 35, Stoddard. Contact: Jerry Haavind, (608) 457-2170(608) 457-2170; jerryh37@mwt.net

**Sept. 25-27: JOPLIN, MO** Tri-State Gem & Mineral Society Annual Show. Fri & Sat 9 am - 6 pm; Sun 9 am - 3 pm Joplin Museum Complex, 504 Schifferdecker Ave, Joplin. Contact: Chris Wiseman, (417) 623-1180(417) 623-1180; jmcwiseman@sbcglobal.net

**Oct. 10-11: FAIRFIELD, IA** Sac & Fox Lapidary Club Annual Show. Sat 9 am - 6 pm; Sun 9 am - 5 pm. Fairfield Arts & Convention Center, 200 N. Main St., Fairfield. Contact: Betty Morris, (641) 233-0366(641) 233-0366; elizabethmorris51974@outlook.com; www.sacandfoxlapidary.com

# New Regulations for Fossil Collecting in National Forests

The rules and regulations for collecting fossils on US National Forest-managed lands have been significantly changed, effective May 18, 2015. John Martin (of ALAA's Conservation and Legislation Committee) has done a great job of summarizing the new regulations in readable form. The summary is printed in the ***ALAA Newsletter* for April-June, 2015** (see link below). The complete article is several pages of very important information for those who want to do casual collecting of fossils in our national forests. The article starts on page 5 , and you can find the issue at:

http://www.amlands.org/media//DIR_24612/ DIR_402734/58269c7954016a5ffff81c3ffffe904.pdf.

**or** it maybe easier to go to www.Amlands.org, click on **"Newsletters"** on the left, then click on **"April-June, 2015."**

# Rockhound Baseball

Midland Texas is home to the "Rockhounds" baseball team, a Double-A affiliate of the Oakland Athletics .

Another baseball organization in Milwaukee, Wisconsin, fields a series of teams also known as the "Rockhounds". These teams are for children ranging in age from 8 to 14 and play in various tournaments in the Milwaukee area.

FUN

Worthen Earth Searchers of Hancock County
Presents

FUN

# Geode Fest
## and Rock Show
## Family Fun
## 2015

## Sept. 25, 26, & 27

**Chaney Creek Boat Access**
**Highway 96 North**
**Hamilton, Illinois**

Guided Hunts 2015
Friday - Saturday - Sunday

Dealers with Rocks, Minerals, Fossils & Jewelry

Displays
Geode Cracking
Identification
Flint Knapping Demo

For More Information Contact:
Mike Shumate (217) 491-1075
www. geodefest.org

# Spotlight Gemstone: Amethyst

Once considered the gem of royalty and insignia of power, the Amethyst is an example of a gemstone that kept its' popularity over the passing of the years. Fine amethysts have been set in many royal collections from the Egyptian pharaoh Cleopatra's to the European houses. Although its' rarity decreased significantly in the last century, the stone has never gone out of fashion. Amethyst was once more valuable than Sapphires or Rubies and valued equally with Diamonds. The gem was coveted by many royals, like the Russian empress, Catherine the Great and worn on Bishops' rings.

Amethyst is the violet-purple variety of the Quartz family ($SiO_2$) and it is the most precious and valuable form of quartz. The most important feature in determining the value of Amethyst is its color. The desired color in an amethyst gemstone is a great reddish purple; a strong and saturated hue, not too dark, not too light. Brownish and zoned shades are often avoided. The most common amethyst occurs in light violet and deep purple. Additionally, it can occur with a red or blue hue. Green quartz is also called green amethyst. However, the correct name for the green variation of the mineral quartz is Prasiolite.

The color in amethyst is the result of iron and aluminum impurities, affected by natural radiation. Without those elements, amethyst would be transparent, a colorless quartz.

The Amethyst name comes from the Greek améthystos - *not intoxicated*; a belief that the gem would protect its owner from drunkenness. It is known that Amethysts were utilized as a gemstone by the Egyptians, the Greeks, medieval European soldiers (as amulets to protection in battle), Anglo-Saxon graves in England, and by the Christian bishops - who wore an episcopal ring often set with the purple gemstone. Pliny the Elder used a gem of Amethyst as a protection against snakebites.

# Fossil Finds

## *Abydosaurus: A New Species of Sauropod Dinosaur:*

*The closest known relative is Brachiosaurus*

### Rare Discovery of Sauropod Skulls

A team of paleontologists has discovered a new dinosaur species they're calling Abydosaurus, which belongs to the group of gigantic, long-necked, long-tailed, four-legged, plant-eating dinosaurs such as Brachiosaurus.

In a rare twist, they recovered four heads - two still fully intact - from a quarry in Dinosaur National Monument in eastern Utah. Complete skulls have been recovered for only eight of more than 120 known varieties of sauropod.

### Why Sauropod Skulls are Rare Finds

"Their heads are built lighter than mammal skulls because they sit way out at the end of very long necks," said Brooks Britt, a paleontologist at Brigham Young University. "Instead of thick bones fused together, sauropod skulls are made of thin bones bound together by soft tissue. Usually it falls apart quickly after death and disintegrates."

The fossils were excavated from the Cedar Mountain Formation in Dinosaur National Monument near Vernal, Utah

Artist Michael Skrepnick's depiction of Abydosaurus mcintoshi.

modified from:
http://geology.com/press-release/abydosaurus/

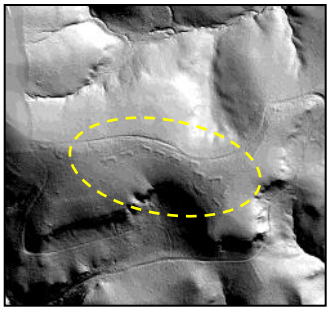
# What in the World?

**What is going on in this 1950's photo and where was it taken???**

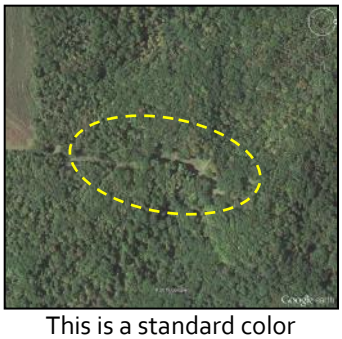
**- see next month's newsletter for the answer.**

**LiDAR** is a remote sensing technology that measures landscape elevation by illuminating it with a laser and analyzing the reflected light. It can "see through" vegetation and accurately map the land surface. The entire State of Iowa has been imaged with LiDAR.

## August Photo



This is the **LiDAR** image of the Marching Bear Mound Group at Effigy Mounds



This is a standard color aerial photograph of the same area

# 30,000 Microdiamonds in one rock sample


Rare diamondiferous peridotite from the Udachnaya diamond mine.
Image credit: Lawrence Taylor.

**A golf-ball sized chunk of rock with at least 30,000 diamonds has been found in the Udachnaya diamond mine in Yakutia, according to a team of scientists led by Prof**

"It is a wonder why this rock has more than 30,000 colorless, octahedral micro-diamonds – all 10 to 700 micron in size, many occurring in clusters," Prof Taylor said. Scientists believe that diamonds form at some 160 km deep in the Earth's mantle and are carried to the surface by special volcanic eruptions. However, most mantle rocks crumble during this journey. The rock from the Udachnaya mine is one of only a few hundred recovered in which the diamonds are still in their original setting from within the Earth. "Diamonds never nucleate so homogeneously as this," Prof Taylor said. "Normally, they do so in only a few selective places and grow larger. It's like they didn't have time to coalesce into larger crystals." In addition to diamonds, the 10.5 g rock contains specks of red and green garnet and other minerals. Prof Taylor and his colleagues examined it using a giant X-ray machine to study the diamonds and their relationships with associated materials. They also beamed electrons at the materials inside the diamonds to study the chemicals trapped inside. This created 2D and 3D images which revealed a relationship between minerals. Analyses of nitrogen indicated the diamonds were formed at higher-than-normal temperatures over longer-than-normal times. The images also showed abnormal carbon isotopes for this type of rock, indicating it was originally formed as part of the crust of the Earth, withdrawn by tectonic shifts and transformed into the shimmery rock scientists see today. "These are all new and exciting results, demonstrating evidences for the birth mechanism of diamonds in this rock and diamonds in general," said Prof Taylor. The findings were presented December 15 at the *American Geophysical Union's Annual Conference* in San Francisco. From Science News.com

# Ask a Geologist

*by Ray Anderson aka "Rock Doc", CVR&MS Vice President*

## ! ! COTOPAXI IS ERUPTING ! !

**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 rock-doc.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.

***No One** asked about this, but I was excited because my favorite volcano is getting ready to erupt ! ! Cotopaxi in Ecuador, South America.*

Cotopaxi is one of South America's most famous and most active. With its peak at 19,400 feet it also ranks among the world's highest active volcanoes (26th highest). The majestic, snow covered symmetrical stratovolcano is located on the Eastern Cordillera of the Ecuadorian Andes, 200 miles south of Quito. Cotopaxi's steep cone has nested summit craters. The modern volcano was built above the scar left by a major debris avalanche which destroyed an older edifice about 5000 years ago. Geologists have documented more than 50 eruptions of this volcano since 1738, the most recent in 1942. Cotopaxi and the entire Andes Mountain chain were created by the subduction of the Pacific Ocean's Nazca plate beneath the South America plate, where partial melting of the subducted slab produces the magma that builds these mountains.

Cotopaxi is considered one of the world's most dangerous volcanoes due to its very explosive nature, coupled with a tremendous potential for devastating volcanic mudflows (called lahars) which are formed by rapid melting of the icecap, and its proximity to population centers. A large lahar generated by the 1877 eruption travelled west over a thousand miles to the Pacific coast and east to the Amazon Basin. Today the Valle de Los Chillos and more than 300,000 people lie in the path of that lahar.

In 1534 the conquistadors were at war with the locals for control over Ecuador. It is reported that during a battle on the flanks of Cotopaxi, the volcano started an eruption and filled the air with "hot ash" (pyroclastic surges?). The locals viewed the event as a divine sign from their and god fled in fear. The Spanish who had no experience with volcanic activity were terrorized and did the same.

A 3-d video of Cotopaxi can be viewed at https://youtu.be/keVNXUhrIb4

In mid-August of this year Cotopaxi roared back to life, blanketing the area with volcanic ash. It is feared that continued eruptions could melt the ice cap on the volcano, threatening the nearby region with floods and mud flows. Small earthquakes and minor gas and

'***Cotopaxi***" by Frederic Church 1862

Cotopaxi has been my favorite volcano for years, since I first viewed "***Cotopaxi***", the masterpiece painted in by Frederic Church in 1862. Church actually painted several views of the volcano and several other paintings during and after two visits to Ecuador in 1852 and 1857. His trips were inspired by descriptions of the natural history of the area by famed naturalist Alexander von Humboldt. After attempting to reach the summit of Cotopaxi von Humboldt declared the peak "unclimbable." Later climbers succeeded.

-Ray

# Officers, Directors, and Committee Chairs

| | | |
|---|---|---|
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| 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

**September Meeting:**
Rockwell Collins 35th St. Cafeteria
**SEPTEMBER 15 @ 7 P.M.**
Program Dr. Ray Anderson
**Global Warming and CO2 Sequestration**
**Studies by the Iowa Geological Survey**

Ray Anderson, Editor
812 Dewey Street
Iowa City, Iowa 52245