

TAR HEEL



ROCKHOUND

JUNE 2024

Catawba Valley Gem & Mineral Club, Inc.

2024 Officers and Committees

President:	Tracie Jeffries 828-430-1341	Education:	George Max 828-328-9107
Vice President:	Rick Glover 828-446-7634	Show Chairman:	Dean Russell 828-303-1448
Treasurer:	Terry Russell 828-303-1563	Scholarship:	George Max 828-328-9107
Secretary:	Dean Russell 828-303-1448	Eastern Fed. Liaison:	
Editor:	Tracie Jeffries 828-430-1341	Southeastern Fed. Liaison:	
Field Trip:	Tina Lakhotia 727-688-1068		

Club Address: PO Box 2521, Hickory NC 28603-2521
 Regular Meetings: Second Tuesday, 7:00 PM
 St. Aloysius Catholic Church, 921 2nd St. NE Hickory, NC
 Annual Dues: Family, \$25, Individual, \$18

The purpose of the Club is to increase the individual's knowledge of the earth sciences and to aid in the development of lapidary and related arts and skills; to promote fellowship and exchange of ideas; to hold exhibitions, contests, lectures and demonstrations for educational purposes; to help interest more people in the gem and mineral hobby; and to capture and preserve the beauty of nature, the arts, and the works of man.

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CATAWBA VALLEY GEM AND MINERAL CLUB, INC.
Web Master: Mike Streeter
<http://www.cvgmc.com>

Editor: Tracie Jeffries,
 3118 Barus Street, Valdese, NC
 botanynerd89@gmail.com

PRESIDENT'S REPORT

Hello Fellow Members,

I would like to thank several club members for stepping up and helping with various club duties and activities. With so much going on last month I forgot to thank Wayne B. and Richard and Shelda A. for helping with 'Heritage Days at Maple Grove'. 'Heritage Days at Maple Grove' allows fourth graders to experience and understand the cultural history of our area. Richard and Shelda shared their love and enthusiasm for fossils, while Wayne and I taught the children about the many modern and traditional uses of rocks and minerals. Well over a hundred children from Catawba and Burke County Schools attended.

I would also like to thank Mike S. for his extra work on our webpage to help us be insurance compliant, Shelda A. for keeping the minutes while Terry was on vacation, Harry P. and Jeff S. for stepping up to replace board positions, and Meredith for volunteering to help with the geode program at the Maiden Library.

Helen Keller once said " Alone we can do so little; together we can do so much."

On a final note, one thing I like about our club is the generosity of its' members. Many people collect extra specimens to give to friends, help with grab bags, and for our monthly meeting give aways. So please keep collecting for the grab bags. Also, if you are donating specimens for our monthly meetings, please add labels with collecting data to make them more meaningful for fellow collectors. Thank-you!

Tracie Jeffries

CVGMC MINUTES FOR MAY 14, 2024

Call to Order: President Tracie J called the meeting to order at 7 pm.

Visitors: There were three new visitors; Trisha W., Nancy and Jamie

Program: John Greene presented the first half of a program on LIBS, the use of laser-induced spectroscopy identification of rocks and minerals. Next month will be a demonstration of the technology so club members will be able to actually view the identification technique.

Minutes: A motion was made by Jeff S and seconded by Harry P to accept the April 2024 minutes. Motion was passed by the Club.

Treasurer Report: No Report

Education Committee: No Report

Show Committee:

The club members were reminded that our 2024 show will be held October 18-20. This will be a full show with exhibits, door prizes, Mini Mine, Children's Table and more.

Field Trip Report: No Report

Old Business: Club members were reminded that we will need grab bag material in September.

New Business: Tracie J. announced that the Club needs two new at-large Board of Directors members. After some discussion, Shelda A. made a motion to accept Jeff S. and a new member of the Board of Directors. The motion was seconded by Richard A. The motion was passed by the Club. Shelda A. nominated Harry P. to fill the other remaining Board of Directors slot. The motion was seconded by Jeff S. The motion was passed by the Club.

Announcements: Tracie J. asked for volunteers to help her with a program on geodes for children at The Maiden Public Library on July 24 at 11 am. The club discussed the acquisition of geodes so each child would be able to crack open a geode. Meredith agreed to help.

Closing of Business: The meeting was adjourned at 8:06 PM

Respectfully Submitted,
Shelda Aultman.

JUNE PROGRAM

Our next meeting is June 11th at 7:00 PM. John G. will continue his program on laser-induced spectroscopy identification of rocks and minerals. He will demonstrate how LIBS works.

GEOLOGY MADE SIMPLE: SHALE VERSES SLATE

By Tracie J.

Slate and shale are two basic rocks that all school children learn about in earth science classes. Shale is sedimentary and slate is metamorphic. But they share many features and can be difficult for some people to identify, so let's take a closer look at their traits.

Shale is a sedimentary rock composed of fine grained (< 0.004 mm) sediments such as mud, silt, and clay, it is sometimes referred to by a more generic term, "mudstone". Because these sediments are deposited overtime in layers along stream beds, or the bottoms of various bodies of water such as lakes and oceans, shale is foliated or visibly layered. Therefore, shale can be easily split into sheets, a property referred to as fissility.

The color can vary depending on several factors such as amount of organic matter, depth of water where the sediments are deposited, and the presence of other compounds. The most common colors are shades of gray and black, but shale can also be red, red-purple, brown, and green. Organic matter content causes the rocks to be various shade of gray or black. The more organic matter that was in the original sediments the darker the resulting rock. If sediments were deposited in deeper bodies of water (or buried deep in the strata) there would be less oxygen available for oxidation while in shallow waters (or exposure to air) the higher oxygen resulted in oxidation of iron containing compounds that contributes to red/purple colors. Other compounds also contribute to the color such as, hematite (reds), limonite (brown and yellows), and chlorites (green).

Mudrock Color, Organics, and Oxygen

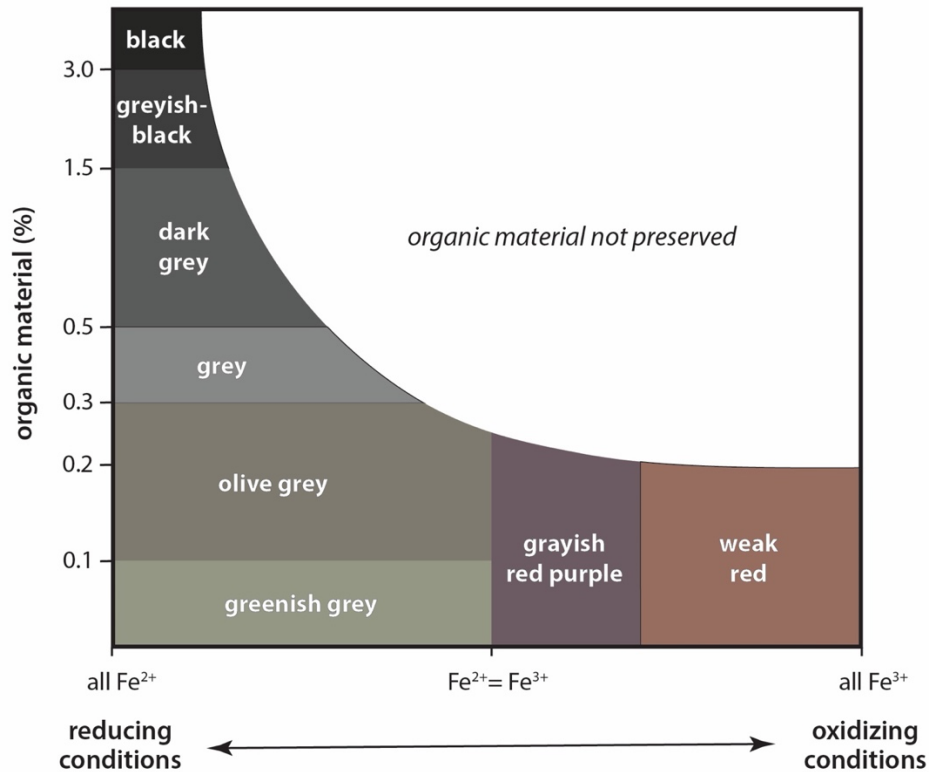


Diagram 1: Illustration showing the relationship between mud rock color, organic content, and oxidation state of iron. Colors and names are consistent with the Munsell Rock Color Chart. Diagram is after Potter et al. (1980). From [Michael C. Rygel](#) via [Wikimedia Commons](#); CC BY-SA 4.0.

Shale is relatively soft and can often be scratched with a fingernail. It is also brittle and broken and eroded. When wet it has a distinctive “muddy” smell. Very few rocks and minerals have a distinctive smell therefore, the “muddy” smell is a very helpful clue for shale identification. Shale has a dull luster and when tapped with a hammer has a dull thudding sound.

Many rockhounds are familiar with shale because it is a common rock for fossil formation. Shale can be used for making bricks, Portland cement, tiles, pottery (especially terra-cotta), and can be a source of petroleum products (oil shale).

Slate is metamorphic. In geology there is a well-known progression of rock formation. Fine sediments such as mud, silt, and clay lithify and form the sedimentary rock shale. If shale is submitted to heat and pressure (metamorphosis) it will change into slate. With increasing heat and pressure, slate will change along a metamorphic continuum, into phyllite, then schist, and eventually gneiss.

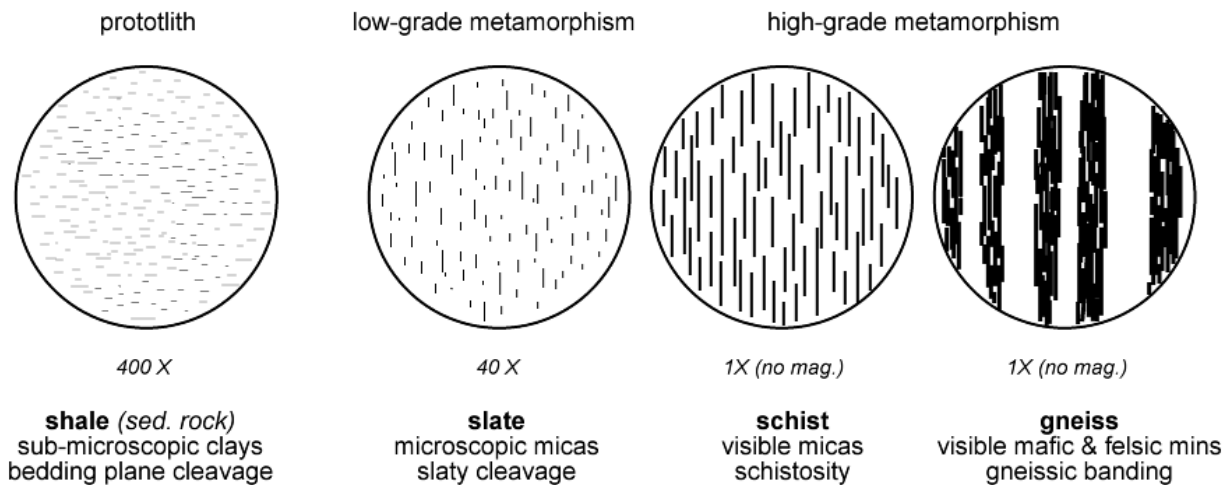


Diagram 2: Illustration showing progression of metamorphic recrystallization caused by increased temperature and or increased pressure. http://www.columbia.edu/~vjd1/meta_rx.htm

Slate is also fine-grained, layered, and easily splits into sheets. Not surprisingly, the colors vary the same as shale, with grays and black being the most common. However, due to metamorphism slate is slightly harder and more durable than shale. It takes much more effort to scratch and break slate versus the softer shale. The heat and pressure rearrange and orient the mineral grains, especially mica grains, in a way that makes slate “shiny”. It is often describes as having a silky luster. Slate does not have a “muddy” odor when wet and when tapped with a hammer it has a high pitched ringing tone.

Slate is a very useful rock. Historically, slate was used for blackboards in schools and “slates” for school children to write on. Because of its greater durability, slate can be used for roofing tiles, gravestones, flooring, landscaping, and snooker tables. Other traits such as heat and fire resistance also make it useful for electrical insulation.

To summarize, both shale and slate are fine-grained, layered rocks that split into sheets. They both are found in a variety of colors with grays and black being the most common. However, shale has a dull luster, dull sound, and muddy smell when wet, while slate has no odor, a silky luster, and a high pitch ring when tapped.

Hopefully, you feel more comfortable now distinguishing between shale and slate!

WHAT'S HAPPENING IN OUR AREA

WHAT	WHEN	WHERE
Piedmont Open Air and Gem, Mineral, and Jewelry Show and Sale	06/01/24	Piedmont Triad Farmer's Market, 2914 Sandy Ridge Rd., Colfax, North Carolina 27235
Raleigh Rock, Mineral, Fossil, and Jewelry Show	06/07/24 – 06/09/24	NC State Fairground, Kerr Scott Building, 4285 Trinity Rd., Raleigh, North Carolina 27606
Gaston Gem, Mineral, and Jewelry Show	06/08/24 – 06/09/24	Johan Newcombe Event Center / Habitat For Humanity Bldg., 1840 E. Franklin Blvd., Gastonia, North Carolina 28054
Southeastern Mineral Specimens	06/28/24 – 06/30/24	Cabarras Arena and Events Center Address: 4751 State Hwy 49, Gold Hall 1

The Southeast Federation of Mineralogical Societies sponsors workshops at Wildacres in Little Switzerland N.C. This year there are two sessions. The first session is the week of August 12-18 and will have classes on chain maille, weave tap drop, stained glass, silver 1+ casting, special projects, and cabs. The second session will be September 9-15 and have classes on cabs, soapstone carving, silver all-in-one, chain maille, 'moovin metals', 'loop n loop' chain, and acid etching and enameling. If you are interested in these opportunities go to <https://www.sfmsworkshops.org/wildacres-classes/wildacres-812-182024>

for more information and registration.



**Tar Heel Rockhound
Official Publication of
Catawba Valley Gem and
Mineral Club, Inc.
Volume 54 Number 6**

**Club Meeting Tuesday
June 11th 7:00PM
St Aloysius Catholic Church
921 2nd Street NE Hickory, NC**

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Tracie Jeffries Editor
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Hickory NC 28603-2521
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