TAR HEEL ROCKHOUND

JUNE 2026

Catawba Valley Gem & Mineral Club, Inc.

2026 Officers and Committees

President:	Ben Houston 704-284-2565	Education:	George Max 828-328-9107
Vice President:	Joan Glover 828-446-7633	Show Chairman:	Amanda Redfern 704-450-2273
Treasurer:	Terry Russell 828-303-1563	Scholarship:	George Max 828-328-9107
Secretary:	Dean Russell 828-303-1448	Field Trip:	Cindy Wechter 828-514-2142
Editor:	Tracie Jeffries 828-430-1341		

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.

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

CONTENT

CVGMC MINUTES FOR MAY 12, 2026

There are no minutes for the May 12th meeting. The club held its annual picnic at Glenn Hilton Park.

JUNE PROGRAM

Joan will be sharing and discussing a collection that was donated to the club by T. Britain.

MAJOR ANNOUNCEMENT

Please note that the club meeting place will change **starting in July**. We will meet at the **same time**, the 2nd Tuesday of each month at 7:00 PM but at a **different location**. The new meeting place will be at:
St. Luke's United Methodist Church
52 16th Avenue NW, Hickory NC 28601
Family Life Center
Parking lot entrance across from Viewmont Elementary School

GEOLOGY MADE EASY: MINERAL FRACTURE

According to the 'Dictionary of Geological Terms', prepared by the American Geological Institute, mineral fracture is defined as "the way in which a mineral breaks, other than along planes of weakness." Therefore, a fracture is not the same as cleavage (See Image 1). The latter creates a repeatable, predictable pattern of breakage along planes of weakness in the crystalline structure (See Image 1). But like cleavage, fracture is a valuable feature used to help identify unknown specimens.

Fracture types describe the appearance/texture of a mineral's broken surface. Within the literature, the number of fracture types, terminology, and definitions varies. This article will explore the more commonly used terms.

IMAGE 1: The Calcite on the left shows 3 planes of cleavage. Note the flat, smooth surfaces where the mineral ‘cleaved’ along planes of weakness. The Flint on the right demonstrates sub-conchoidal fracture. Note the surfaces are not flat and are randomly formed on the surface.
Photos by T. Jeffries

Conchoidal fractures produce smooth concave or convex surfaces that may also exhibit a wave-like texture similar to seashells (See Images 2 - 5). The term ‘conchoidal’ is actually derived from the Greek word konchoeidēs, meaning ‘like a mussel'. This type of fracture is common in minerals with no cleavage and a high silica content, such as quartz, obsidian, and flint. Many people are familiar with this type of fracture because broken man-made glass will also exhibit a conchoidal fracture pattern.

Some geologists use the term sub-conchoidal to describe fractures similar to conchoidal but with less pronounced curves. Sub-conchoidal fractures may be seen in microcrystalline varieties of Quartz such as Agate, Chert, Flint, Jasper, and Chalcedony (See Images 4- 5 and 11).

Conchoidal fractures can produce razor-sharp edges. Many ancient cultures created a variety of tools and weapons from minerals with conchoidal fracture (See images 3 and 5). Even today, obsidian blades are used in surgery. Compared to traditional metal blades, obsidian blades produce a cleaner, more precise cut, reducing damage to other tissues and scarring. Obsidian is also non-porous and non-reactive; together with the traits mentioned above, this helps decrease infection and healing time.

IMAGE 2: Black obsidian exhibiting classic conchoidal fracture. Note the concave and convex surfaces with scalloped patterns. Photo by T. Jeffries

IMAGE 3: An Obsidian blade approximately 12 inches in length. Note the numerous conchoidal fractures. Smaller fractures are created using less force, while larger fractures require more force. Therefore, a person can knap or shape a stone tool with precision. This blade was found at an undisclosed National Park site.

https://commons.wikimedia.org/wiki/Category:Obsidian_blades#/media/File:Obsidian_blade_around_one_foot_long

IMAGE 4: Flint from Flint Ridge, Ohio showing sub-conchoidal fracture. Note the shallow and less pronounced concave and convex surfaces. Photo by T. Jeffries

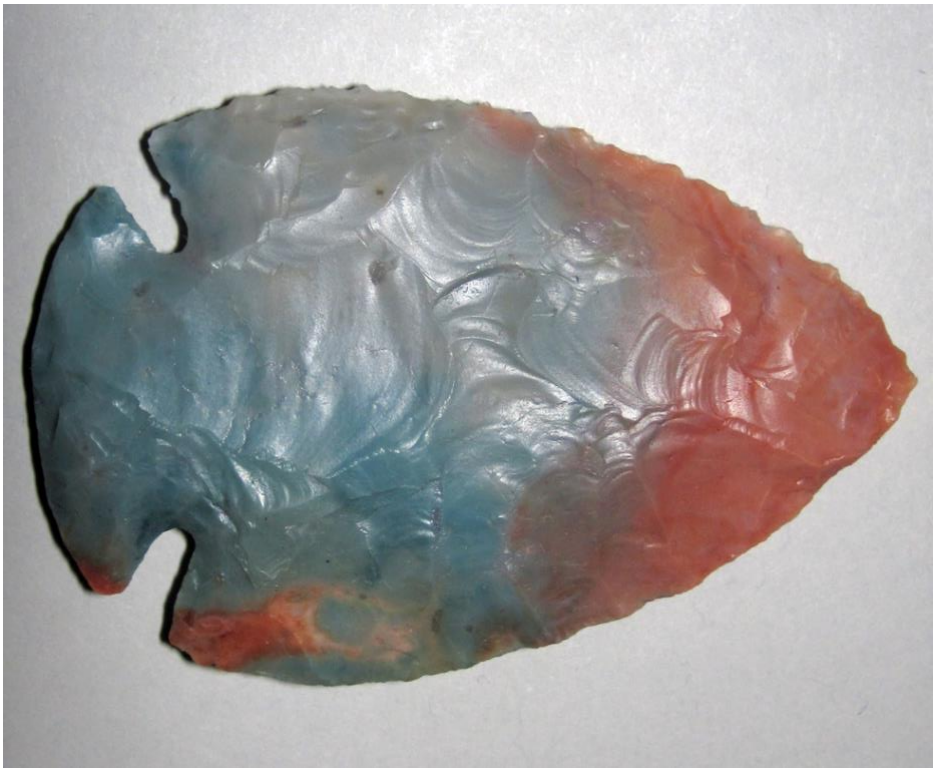

IMAGE 5: A modern Flint-knapped arrowhead approximately 6.2 cm. long. The Flint was quarried from Flint Ridge, Ohio. Photo by John St. John

Fibrous fractures produce thin, thread-like strands. This type of fracture is clearly demonstrated in minerals such as Chrysotile (White Asbestos), Byssolite, and Sillimanite (See Image 6). Though other examples cited as fibrous, such as Kyanite, Actinolite, or Tremolite, fracture into thick, long, pointed shards, similar to wood splinters (See Image 7). Accordingly, some geologists describe the latter as exhibiting 'splintery' fracture rather than fibrous. Some sources consider splintery and fibrous to be two distinct types of fracture, while others consider splintery to be a subtype of fibrous.

IMAGE 6: Asbestos fibers on Serpentine represent an excellent example of fibrous fracture. Note the fine thread-like strands shedding off the specimen. This sample was collected in Mitchell Co., North Carolina. Photo by T. Jeffries

Hackly fractures create irregular, jagged, and sharp surfaces. This fracture is common in native metals such as Copper, Gold, and Silver (See Image 8). A cotton ball dragged across these surfaces would be shredded.

IMAGE 7: Some consider Kyanite to be fibrous while others describe it’s fracture as splintery.

https://ey2ryzknnqj.exactdn.com/wp-content/uploads/2021/04/IMG_3632_a1b21c43-681d-4dda-bd98-2f05e60c2833_2048x.webp

IMAGE 8: A specimen of native Copper showing the rough, jagged, and sharp surfaces associated with a hackly fracture. Autorius Rob Lavinsky, iRocks.com – CC-BY-SA-3.0, CC BY-SA 3.0,

https://commons.wikimedia.org/w/index.php?curid=10138745

Uneven or irregular fractures are the most common fracture type among minerals. Uneven fractures produce a rough surface with no obvious pattern (See Images 9 and 10). They occur in minerals with no cleavage planes and relatively uniform molecular bonding in all directions; the breakage is completely random. Examples include magnetite, limonite, pyrite, and garnet.

IMAGE 9: A nice sample of Chalcopyrite, Peacock Ore, from Mexico. The surface of this rock demonstrates an uneven or irregular fracture pattern. Photo by T. Jeffries

An earthy fracture produces a dull, rough, and irregular surface. This fracture pattern is commonly observed in softer, more loosely bound minerals such as Aluminite, Bauxite, Kaolinite, and Limonite (See Image 10). Earthy is not the same as friable. An earthy fracture describes a mineral's surface texture after breaking. Friable describes the tendency of a rock or mineral to break or crumble easily, even with the slightest pressure. Nevertheless, many minerals with an earthy fracture are also friable.

There are other fracture types mentioned in the literature but, the types above are the most commonly used. When trying to determine the fracture pattern of a mineral, remember several things:

1. Always use a clean, freshly broken surface.
2. You may need to use a hand lens.

3. Some minerals display both cleavage and fracture. Cleavage will produce flat, smooth surfaces while fracture produces irregular, uneven or curved surfaces.
4. Some minerals may display several types of fracture. For example, Hematite has many varieties (botryoidal, metallic, ocher, oolitic, specularite…) that can fracture in different patterns (See image 11 and 12).
5. Even within a single variety of a mineral there may be several possible fracture patterns (See images 11and 12).

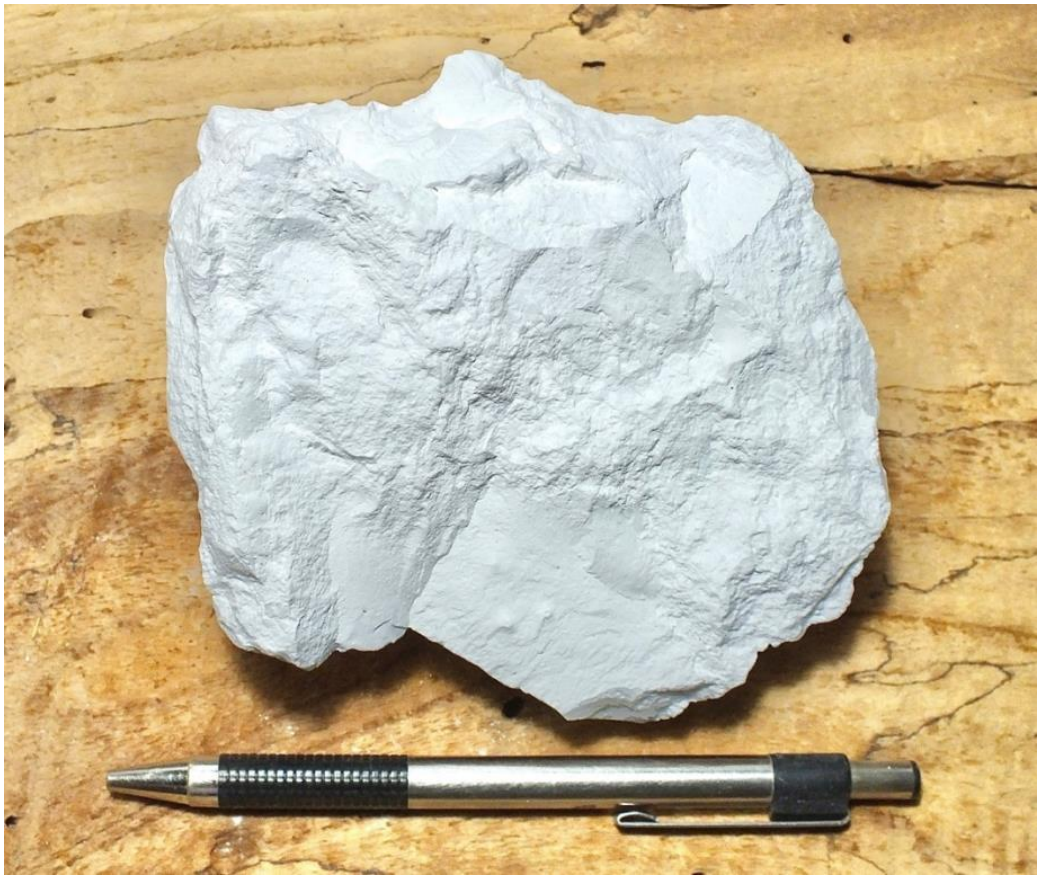

IMAGE 10: A typical sample of Kaolinite showing earthy fracture. Note it's dull, rough, and irregular surface.

https://geologicalspecimensupply.com/products/copy-of-kaolinite-soft-kaolin-teaching-hand-display- specimen-of-the-primary-constituent-of-kaolin-clay

IMAGE 11: Specularite variety of Hematite (high-grade iron ore) from Minnesota. Note the irregular/uneven fracture pattern. Photo by John St. John

IMAGE 12: Another sample of Specularite showing sub-conchoidal fractures.
https://www.etsy.com/shop/FossilCavern?ref=shop-header-name&listing_id=807425260&from_page=listing

Look at some samples in your collection and practice identifying the fracture type. Happy identifying!

FIELD TRIP OPPORTUNITIES

Our new field trip coordinator, Cindy W. is doing a great job. There are several trips the club may do depending on interest. **If you are interested in any of the trips below or need more information, please contact Cindy at 828-514-2142.**

Always check your e-mail for the monthly DMC Field Trip.

July 18 - NC State Museum, Raleigh (joining Forsythe Club)

Aug 1 - Emerald Village (Spruce Pine) Guided Black Light Tour 9:15 PM
Come early and visit the NC Mining Museum and/or take the Mine Tour (all daytime mine activities & tours close at 6 PM).

- Guided Black Light Tour - $22
- NC Mining Museum - self guided underground mine tour $15 (ages 13+)
- Discovery Mill Building - 12 levels of exhibits $8

TBA – Trip to the Enigma Mine in the fall

TBA – Information on the annual Kentucky trip

WHAT'S HAPPENING IN OUR AREA

WHAT	WHEN	WHERE
13th Annual Piedmont Open Air Gem, Mineral & Jewelry Show & Sale	JUNE 6 Sat. 9:00 - 5:00	Piedmont Triad Farmers Market Address: 2914 Sandy Ridge Rd Colfax, NC 27325
Treasures of the Earth	JUNE 12 - 14 Fri 12:00 - 6:00 Sat/Sun 10:00 - 5:00	North Carolina State Fairgrounds Address: 4285 Trinity Rd Raleigh, NC 27607
Land of the Sky Rock Show	JUNE 12 - 14 Fri/Sat 9:00 - 6:00 Sun 10:00 - 4:00	39 Spring Cove Rd Land of the Sky Event Venue Swannanoa, NC 28778
Greater Charlotte Gem & Mineral Show	JUNE 28 - 30	Cabarrus Arena & Events Center 4751 State Highway 49 Concord, NC 28025

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Club Meetings

2nd Tuesday of Month, 7:00PM

St Aloysius Catholic Church

921 2nd Street NE Hickory, NC

Tar Heel Rockhound
Tracie Jeffries Editor
PO BOX 2521
Hickory NC 28603-2521
http://www.cvgmc.com/

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