



Rhode Island Mineral Hunters
A 501 (c) (3) HP Organization

BOWEN-LITE

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CUMBERLANDITE –OFFICIAL STATE ROCK

BOWENITE – OFFICIAL STATE MINERAL

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RIMH

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*If anyone would like to submit an article or anything for future publication let me know



Diamond Hill Dig

Cumberlandite Boulder



Upcoming Meeting Details

Executive Meeting date in May is:
Tuesday May 2nd. All meetings start at 7pm.

This year meetings will be held at Lou Fazzinas' rock shop (Apple Valley Minerals)
7 Homestead Avenue
Smith field, RI 02917
*Homestead is off Farnum Pike.

The general meeting for this month will be held on May 9th at 7pm. The meeting location will be at the Community College of Rhode Island, Warwick Campus room 1134.

This month's guest speaker will be Jeremy Hecker. He will speak on his project "Sedimentation Characteristics in the Gulf of California"

UPCOMING FIELD TRIPS

MAY RIMH FIELD TRIP – 05/13/2017

This is a child-friendly site so bring the kids

Destination: Chiestolite Prospect, Bloodwoods Park, Lancaster, MA

Date of Trip: Saturday, May13TH@ 9:30 AM

Trip Leader: Rachel Cesana 401-766-9076

Alternate leader: None

Carpool/caravan location: make your own arrangements

Type of collecting: Sedimentary rock, dumps

What can be found? andalusite (*var. 'chiastolite'*), also there is an odd colored, cloudy-gray quartz near Brockelman road)..

Tools/equipment: Small & large sledges, shovel, garden scratcher, trowel, **insect repellent**, protective eye wear, close-toed shoes, spray bottle, wrapping, and always, *commonsense*. There are no sanitary facilities at this site.

Clothing :dress for spring variable weather

Special Information: Chiestolite is found in the ledges embedded in the sedimentary rock and also loose rock on the ground. **Please call at least 48 hours in advance to register with trip leader.**

Day of trip phone for leader: 401-787-3129

Driving directions/map:

GPS +42.473082 N -71.711395 W

Go **146 N** to Worcester, take **290 E** for 3 mi, take **190 N** for 16.4 mi to **Exit 7, right onto 177** for 1 mile, turn right onto Brockelman Road.

On the left side of Brockelman Rd, look for the Bloodwoods kiosk. Park here. I didn't have an exact address so the GPS coords and the 1.2 miles on the Brockelman road are approximate.

RIMH FIELD TRIP May 27, 2017

Destination: Sneech Pond Copper Mine, Staples Road, Cumberland, RI

Date(s)/time of trip: Saturday, May 27, 2017 9:00 am

Trip leader: Rachel Cesana, 401-766-9076, a_cesana@verizon.net

Please leave you cell number so we can contact in case of cancellation

Carpool/caravan location: Because of limited parking, we will meet at Diamond Hill State Park parking lot and caravan over from there in as few vehicles as possible.

Type of collecting: Mine dumps.

What can be found? Copper minerals, actinolite, magnetite

Tools/equipment: hammers & small sledges, garden tools, wedges, pry bars, spray bottle w/water, protective eyewear, close-toed shoes, **bug spray**, and always, *commonsense*. There are no sanitary facilities at this site.

Clothing: Dress for spring conditions

Special information: Please call 48 hrs in advance. Make sure you bring bug spray!!!

Driving directions: **To Diamond Hill State Park**

GPS COORDS: 42.002396 N -71.418946 W

From **I-295 either direction**, take exit 11 and head north on **RT114** (Diamond Hill Road) for 4.0 miles. Pull into the parking lot on the right at Diamond Hill State Park. The parking lot is almost directly across the street from the Ice Cream Machine Creamery

PLEASE MAKE SURE TO LEAVE YOUR CELL NUMBER WHEN YOU CALL IN TO SIGN UP. I NEED A WAY TO CONTACT YOU IF I NEED TO CANCEL TRIP.

UPCOMING FIELD TRIPS

June 10th--Barrus Farm...Pegmatite minerals

June 24th-25th-- Gilsum Rock Show, Gilsum NH See "Gilsum Rock Swap online for more info...will try to set up dig for the 25th if site available

A note from the field trip coordinator Rachel Cesana

If anyone knows of any places we can go for a field trip please let her know. She wants to line up some places for the upcoming year. Please relay all pertinent information to her such as place names, contacts(property owners and/ or persons in charge), phone numbers or other means of contact. Rachel's phone number is (401) 766-9076. Email a_cesana@verizon.net

[5th Annual New England Mineral Conference](#)The *5th Annual New England Mineral Conference (NEMC)* will be held Friday, May 12 through Sun., May 14, 2017 at the Grand Summit Resort Hotel and Conference Center at Sunday River, Newry, Maine. Presentations on both New England and non-New England topics are scheduled on Friday evening and during the day on Saturday. In addition, there will be a Friday evening banquet, mineral displays and exhibits, and both a voice and a silent auction in support of the conference. Dealers can be visited from Friday afternoon through Saturday evening (except during the presentations). The weekend culminates with a field trip on Sunday. An important feature of the conference for students in grades 3-12 is *Education Day*, which occurs on Friday, May 12. On *Education Day*, students can visit over 20 different stations to learn about minerals and geology. There is also a *Poster Contest* which gives the opportunity for students to submit a research project about anything relating to the rocks and minerals of New England. All submitted posters will be displayed throughout the conference. The *New England Mineral Conference* is a division of the non-profit *New England Mineral Association*. For further information about the conference please visit: www.nemineralconferen
For information about *Education Day/Poster Contest* please visit: www.nemineraleducation.org

Some finds on recent field trips



Hematite



Rhodonite



Almandine

Mineral of the Month

In this continuing series, I am providing information for those members who are new to the field of mineral collecting and need to know what you are looking for when you go out on field trips or just on your own. Some common minerals you may see but, might not know what they are. This month, I will be looking into the mineral ; Chiastolite (Andalusite) as mentioned in the above field trip list of minerals.

Andalusite is a rock-forming [mineral](#) that is mined for use in high-temperature refractories. Gem-quality specimens are cut into faceted [gems](#) and [cabochons](#).

Andalusite forms during the regional [metamorphism](#) of [shale](#). It is found in [schist](#) and [gneiss](#) at some present and ancient convergent plate boundaries where the rocks have been exposed to the temperatures and pressures needed for its formation. In these [rocks](#), andalusite is often associated with [kyanite](#) and [sillimanite](#).

Andalusite also forms during the contact metamorphism of argillaceous rocks. In this situation, it can form within the metamorphosed rock or in veins and cavities within the igneous rock. It can be associated with [cordierite](#) in [hornfels](#), [granite](#), and [granitic pegmatite](#).

Chiastolite is a variety of andalusite that contains black particles of [graphite](#) arranged in geometric patterns. The graphite is pushed aside by crystal growth within a rock that is being metamorphosed. As growth occurs, the particles become concentrated at crystal interfaces. The result can be a cross-shaped pattern within the mineral - similar to the "cross-stone" shown in the photo here. People have known about these cross stones for centuries and have valued them for their perceived religious or spiritual meaning. Attractive specimens are often cut and polished for use as amulets, charms, and novelty gems.

Andalusite has a number of useful physical properties. It has the ability to withstand high temperatures without alteration. For that reason it is used to make high-temperature ceramics and refractories. The white porcelain of many spark plugs is made using andalusite.

Andalusite is one of a small number of minerals that commonly forms prismatic crystals with a square cross-section. This can be important information for identification in the field.

Transparent specimens of andalusite are often strongly pleochroic. This makes them have different apparent colors when viewed from different directions. This pleochroic effect allows andalusite to be cut into unique [gemstones](#).

Continued

Although twinning is not common in andalusite, nicely crystallized specimens that possess twinning can be distinctive. Twinning can produce cross-shaped structures perpendicular to the crystallographic c-axis, similar to what is shown in the rock in the photo above.

Andalusite, kyanite, and sillimanite all share the chemical composition of Al_2SiO_5 . However, they have different crystal structures. Their crystal structure differs because they form under extremely different conditions of temperature and pressure. The phase diagram at left summarizes the conditions under which these minerals form.

Andalusite is the low-temperature mineral of the three. Sillimanite is the high-temperature mineral, and kyanite forms at high pressures and lower temperatures.

Information from a phase diagram can be useful during mineral exploration. If a geologist finds andalusite in the field, the phase diagram reveals the possible range of temperatures and pressures that the rocks were subjected to when the andalusite crystallized. If the mineral being sought has a dramatically different temperature and pressure of crystallization, then it might not be present in those rocks. If the pressure range of the target mineral is higher, then it is possible that it exists at depth. If the temperature range of the target mineral is higher, then exploration should move toward a heat source or toward greater depth. That is a simplified example of how the phase diagram can be used.



Photos of Chiasmolite (Andalusite)

Physical Properties of Andalusite

Chemical Classification	Silicate
Color	Reddish brown, olive green, white to gray
Streak	White
Luster	Vitreous
Diaphaneity	Transparent to nearly opaque
Cleavage	Good
Mohs Hardness	6.5 to 7.5
Specific Gravity	3.17
Diagnostic Properties	Crystal form, associated minerals, strongly pleochroic, symmetrical inclusions
Chemical Composition	Al_2SiO_5
Crystal System	Orthorhombic
Uses	Used to manufacture high-temperature porcelain of spark plugs; used to make high-temperature ceramics used in furnaces, kilns, incinerators; high-quality crystals are often used as gemstones.

For more information see Geology.com