SKAGIT GEMS

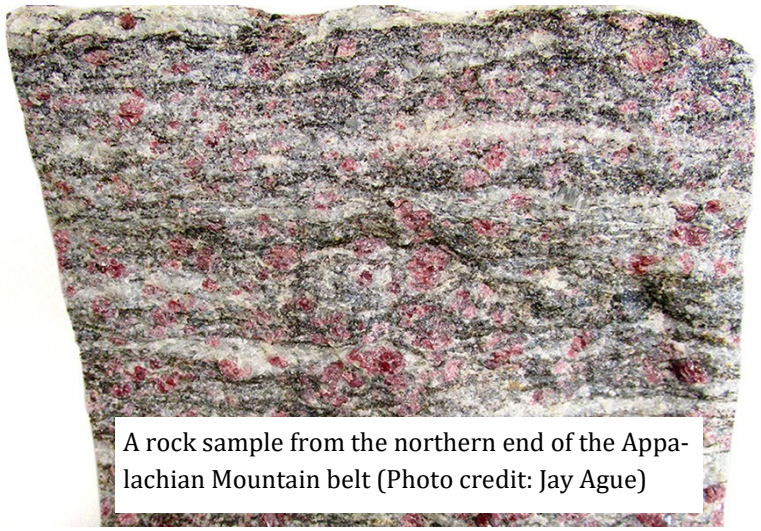
Official Publication of the Skagit Rock and Gem Club
Serving Skagit County WA Since 1961

December 2020
Volume 60, Issue 10

Our Vice President, friend, and resident knapper, Greg Hochmuht, has moved east for warmer climes. He sold his place in Marblemount and is now in the Grangeville, ID area. He said he will come back and attend a meeting sometime. (He'd better, because you can't get out of being a club officer just because you move across the state line!!!) Here he is from our gem show in 2014 when he won for best display case.

A deep dive into the upward mobility of rocks

By Jim Shelton March 16, 2020



A rock sample from the northern end of the Appalachian Mountain belt (Photo credit: Jay Ague)

Yale geologists have identified the deepest pieces of Earth's crust ever found in the United States or Canada — in the rolling hills of northern Connecticut. Tiny bits of quartz and other minerals, inside garnet crystals, tell the story of a tectonic escalator ride that started 100 miles below Earth's surface, some 400 million years ago.

The discovery, described in a study in the journal Science Advances, offers new insight into the way rocks move through the Earth during the formation of mountains. "These ultra-deep rocks give us a unique window into geological processes operating far beneath active mountain belts such as those in Japan and the Himalayas," said senior author Jay Ague , the Henry Barnard Davis Memorial Professor of Geology and Geophysics at Yale.

"It's just not possible to drill 100 miles below the surface to see what's going on today," Ague said. "But these ancient, deeply-eroded rocks provide access to Earth's vast interior that we would never have otherwise." Ague and the study's lead author, geology and geophysics graduate student Duncan Keller studied metamorphic rocks — rocks that have been transformed by intense heat and pressure — that they collected from northern Connecticut. The grayish-brown rocks, which are speckled with pink crystals of garnet, are part of the northern end of the Appalachian Mountain belt.

Typically, the researchers said, geologists recognize rocks that come from deep underground by looking for garnet crystals that contain even tinier diamond crystals. But the Yale researchers developed a new method for spotting these rocks. Keller and Ague said minerals such as quartz, amphibole, and sodium phlogopite formed from chemical components of the garnet in the rocks. The minerals collected into tiny arrays of needle shapes and plate shapes, inside the garnet crystals. "Using the chemistry and crystal structures of these needles and plates, we showed that they formed from the breakdown of a rare, ultrahigh-pressure mineral called majoritic garnet," Keller said.

A photomicrograph of a thin section of a rock sample (Image credit: Duncan Keller)

The researchers were able to calculate how deep into Earth's interior the transformation occurred — in this instance, more than 100 miles. Prior to this, the deepest rocks from Earth's crust found in the United States or Canada came from about 55 miles underground. They were collected in Canada. "Common rocks can preserve extraordinary histories," Ague said. Yale and the National Science Foundation funded the research.

Info from: https://news.yale.edu/

Hollandite Quartz is a variety of Quartz, silicon dioxide, which has dark grey/black six-pointed "star" inclusions of the mineral Hollandite. Star Hollandite formations are formed when deposits of Hollandite become trapped within Quartz during its formation. As the Hollandite becomes subjected to high thermal temperatures within the Earth, the Hollandite bursts into star formations within the Quartz. This variety of quartz is very rare.

Rare Urchin Quartz (Quartz crystal with Mannardite phantom inside) from Brazil Photo: Mike Bowers

Quartz belongs to the trigonal crystal system. The ideal crystal shape is a six-sided prism terminating with six-sided pyramids at each end. In nature quartz crystals are often twinned (with twin right-handed and left-handed quartz crystals), distorted, or so intergrown with adjacent crystals of quartz or other minerals as to only show part of this shape, or to lack obvious crystal faces altogether and appear massive.

Pineapple Quartz is the name given to a silicon dioxide mineral and is characterized by hundreds of small terminations forming around the base and sides of the main crystal termination all of which point in the same direction. Most of this form of Quartz is from Madagascar and the colour is off white/cream, sometimes with pinkish/red/brown markings and inclusions.

Info from: geologyin.com

ALAA - Who Are They and What Is Their Purpose?

By Shirley Leeson, ALAA President

In 1991, the President of the American Federation of Mineralogical Societies (AFMS) appointed a select committee to recommend ways to make the Federation more effectively responsive to the political challenges of increasing regulation and decreasing access to public lands that state and federal land management agencies were imposing on amateur fossil and mineral collectors. The committee recommended that the AFMS form a separate 501(c)(4) organization whose primary purpose would be to promote the amateur collectors' interests in present and proposed policies, rules, regulations and legislation with State and Federal land managers, elected officials and legislators. In compliance with that recommendation, the AFMS directors voted to establish the American Lands Access Association (ALAA) in July 1992 at their convention in Brunswick, Ohio.

The association is a 501 (c)(4) (non-profit) organization which means that all moneys raised by the association can go toward lobbying activity. Donations and memberships to ALAA are not tax-deductible. The purpose of the association is to promote and ensure the rights of amateur fossil and mineral collecting, recreational prospecting and mining, and the use of public and private lands for educational and recreational purposes; and to carry the voice of all amateur collectors and hobbyists to our elected officials, government regulators and public land managers. Their work began immediately! Within days of the July meeting, Senator Max Baucus (D-MT) introduced the Vertebrate Paleontological Resources Protection Act of 1992 into the U.S. Senate. If enacted, the legislation would have ended amateur fossil collecting on all public lands managed by the Federal government except under supervision of certain degreed paleontologists in "acceptable institutions."

ALAA has become an organization that is present wherever there are hobbyist and recreational users of our public lands whose interests and concerns are not being heard or are being jeopardized by proposed policy, regulation or legislation at the local, state and federal level. From defeating the Baucus Bill in 1992 to coordinating massive public protest to the proposed US Forest Service rules (withdrawn) and the Bureau of Land Management's RS (Revised Statutes) 2477 Rights-of-Way (rewritten), the ALAA has earned the respect of public officials from Washington, DC to state capitols across the country as the voice of the amateur and recreational users of public lands.

The association has also formed working relationships with many other organizations fighting for private property rights and multiple use of public lands including the Blue Ribbon Coalition as well as treasure hunters, metal detectorists, fishing and hunting enthusiasts, and mining and timber interests. With this network of contacts, the Association reaches into every State and into every Congressional District in the country on a national level. That network provides a swift and effective response to issues brought to our attention.

On another level, many officers, directors and members of the association have developed ongoing working relationships with local, state and federal officials and legislators. This other network provides us with immediate access to and an impact on many proposals for changing regulations, policy or legislation before they become set in the concrete of implementation. ALAA is also there when there are confrontations in the field and when proposals are made for expanding federal ownership of land such as publicizing and fighting the Heritage Corridor Act, and other attempts to establish additional wilderness areas under federal control.

YOUR HELP IS NEEDED TO CONTINUE OUR STRUGGLE TO PROTECT PUBLIC LANDS FOR THE PUBLIC TO WHOM THEY BELONG! ADD YOUR VOICE TO OURS! JOIN ALAA NOW !

VISITORS ARE ALWAYS WELCOME!

Meetings are on the FIRST Saturday of the month (except for Jan, July and Dec) at 10:00 am at the
Mount Vernon Community (Senior) Center
1401 Cleveland St. Mount Vernon WA 98273

- The purpose of this non-profit earth society shall be to stimulate interest in the study of geology, lapidary, and the collection of geological specimens
- We are a member of the Northwest Federation of Mineralogical Societies and the Washington State Mineral Council. We are affiliated with the American Federation of Mineralogical Societies.
- Dues are $15.00 per year for adults and $7.50 for those under age 16
- Visit our website: skagitrockandgem.com
- Email: skagitrockandgem@gmail.com
- Mailing address: PO BOX 244 Mt. Vernon 98273

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Xmas Party 2014