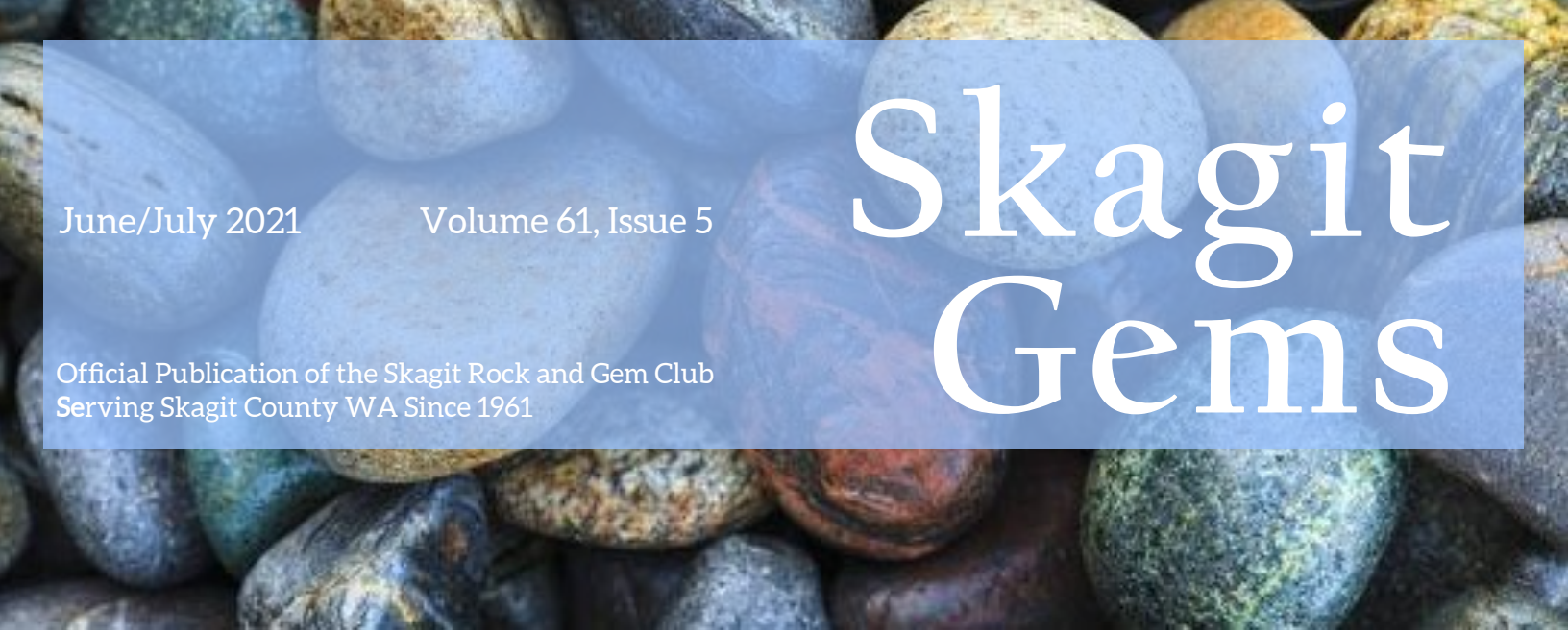


June/July 2021 Volume 61, Issue 5

Skagit Gems

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

Letter from the Editor...

Hi All,

I hope you all are feeling a little relief this Spring and looking forward to returning to "normal". Wes and I have a lot of fun projects lined up for the summer, like residing the house and reroofing the shed. Woohoo! We will also be taking our trip to the east side of the mountains for a much needed vacation. Although we will be putting up a fence over there… Don't worry, I am planning lots of reading and relaxation time as well.

With the latest announcement from the Governor about lifting all restrictions in a month or so, I thought it was a good idea to give everyone an update. I am cautiously optimistic that we can resume meetings in the next couple months. We will look at opening the shop as well when we are allowed to have bigger gatherings. We also need to wait for the Senior Center in Mt. Vernon to reopen and allow us to use the space again.

Regarding our annual show in November, the issue is the same. The Sedro Woolley Community Center has not reopened and is not even taking reservations for events. Planning for the show takes time and we will need to see if we have enough members to run it. It is still a waiting game for a number of variables so I will update you as we learn more.

This edition of the newsletter is for June and July so there will not be another one until the August issue. I will continue to send out emails and if there is any urgent update I will call the members that receive the newsletter by mail.

I can't wait to see you all happily chatting away during our meeting's refreshment time and enjoying the latest yummy creation that Frank has brought us! See you soon!

---Debbie

How the Inca Discovered a Prized Pigment

The centuries-old history of titanium white

In 1908, at a lab in Niagara Falls, New York, a metallurgist named Auguste Rossi invented a brilliant white pigment that would become almost ubiquitous in human-made stuff and is found today in everything from paint to plastic to pills. The chemical, titanium dioxide, became what color researcher Matthijs de Keijzer calls the "most significant contribution" to an explosion in 20th-century pigment technology, in what some historians refer to as a chromatic revolution, a new look for the world. But archaeologists say that Rossi didn't get there first.

In 2018, researchers in the United States discovered titanium white in 400-plus-year-old ceremonial wooden drinking cups made by the Inca and residing today in various museums. Carved with elaborate geometrical designs, the cups, called *qeros,* traditionally were not colored. But around the time of the Spanish conquest of Peru in 1530, the Inca started mixing pigments, including titanium white, into resin and decorating qeros with the bright goo.

In the Americas, white pigments were usually calcium carbonates—lime or chalk. In Europe, they were lead white. How did the Inca jump 400 years into the future? The answer might be the Giacomo Deposit, an unusual mineral sand deposit near the

border between modern Chile and Peru that's full of naturally occurring titanium dioxide and silica. And the Inca had access to it. "It's just an extraordinary deposit," says Emily Kaplan, a conservator at the Smithsonian National Museum of the American Indian, who studies the qeros. "We obtained a sample of the ore and compared it to white from the qeros," Kaplan says, "and it was super-similar."

Finding titanium white on even just a handful of qeros has rewritten the history of color, says Marilyn Laver, an independent conservation scientist who has published extensively about titanium white. The natural version of the pigment that the Inca used "might not have had the same optical properties as the modern pigments," she says, because those are subjected to chemical processing, but would still have had the bright whiteness and opacity that calcium carbonates and lead white lack.

Even so, by 1570, the Inca had stopped using titanium dioxide. Last year, Kaplan and her colleagues learned that Incan craftspeople switched to lead white, which the conquistadors brought from Europe. https://www.smithsonianmag.com/ June 2021

So what is Titanium Dioxide you ask?

Titanium is one of the most common metals on earth, but it does not occur naturally in this elemental form. Titanium dioxide – also known as titanium (IV) oxide or titania – is the naturally occurring compound created when titanium reacts with the oxygen in the air. As an oxide, titanium is found in minerals in the earth's crust. It also found with other elements, including calcium and iron.

Its chemical formula is TiO_2, which means it consists of one titanium atom and two oxygen atoms (hence dioxide). TiO_2 is typically thought of as being chemically inert, meaning it doesn't react with other chemicals and is, therefore, a stable substance that can be used in many different industries and for a variety of applications.

Titanium most commonly occurs as the mineral ilmenite (a titanium-iron oxide mineral) and sometimes as the mineral rutile, a form of TiO2. These inert molecular compounds must be separated through a chemical process to create pure titanium dioxide.

When used specifically as a pigment in paints, TiO_2 is called titanium white. Until laws changed in the 1920s, most commercial paint manufacturers used highly toxic white lead as a whitener and did not initially convert to using titanium dioxide, partly due to its higher cost. Zinc oxide (ZnO) is also used as a white pigment but is not as effective. tdma.info

ROCKHOUND ESTATES & DOWNSIZING SALE

ONE DAY ONLY!

SATURDAY, JUNE 5, 2021 9:00AM – 4:00PM EVERETT UNITED CHURCH of CHRIST

2624 ROCKEFELLER AVE DOWNTOWN EVERETT

GEMSTONES, JEWELRY, LAPIDARY ROUGH & SLICES; INCLUDING:

AMETHYST	FLUORITE	OBSIDIAN	SAPPHIRE	GRAVEL
BEADS (LOOSE)	FOSSILS	OPAL	ROUGH & CABS	SPHERES
BOOKS	GARNETS	PEARL NECKLACES		TUMBLING ROCK
BRAZILIAN AGATE	GEMSTONE FACETS		PETRIFIED WOOD	TURQUOISE
CABOCHONS	GRAB BAGS (kids)		POLISHED AGATE SLICES and LOTS MORE...	
COCONUT HALVES	MAGAZINES		QUARTZ CRYSTALS	
CRAFT STONES	MINERAL SPECIMENS		RUTILATED QUARTZ	

A GREAT FIELD TRIP(INDOORS)...MARK YOUR CALENDAR...PRICED TO SELL !!!

BUY THE PIECE...BUY THE FLAT...***CASH ONLY***

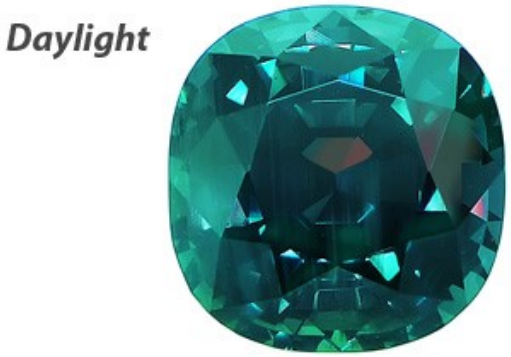
BRING A FRIEND...BRING YOUR TRUCK...SHARE THE LOAD !!!

NO TAX, NO SHIPPING, JUST FUN! OPEN TO THE PUBLIC! WEAR YOUR MASK!

June Gem of the Month: Alexandrite

Often described by gem aficionados as “emerald by day, ruby by night,” alexandrite is the very rare color-change variety of the mineral Chrysoberyl. Originally discovered in Russia’s Ural Mountains in the 1830s, it’s now found in Sri Lanka, East Africa, and Brazil, but fine material is exceptionally rare and valuable. Alexandrite is also a strongly pleochroic gem, which means it can show different colors when viewed from different directions. Typically, its three pleochroic colors are green, orange, and purple-red. However, the striking color change doesn’t arise from the gem’s pleochroism, but rather from the mineral’s unusual light-absorbing properties.

It shares its status as a June birthstone with cultured pearl and moonstone. Mohs Hardness: 8.5



VISITORS ARE ALWAYS WELCOME!

Meetings on hold until further notice

Skagit Rock & Gem Club

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

2020 Officers

President	· Wes Frank 360-757-6276
Vice President	· Greg Hochmuht 360-223-5453
Treasurer	· David Britten 360-755-0741
Secretary	· Linda Keltz 360-424-6525
Fed. Director	· Virgil Keltz 360-424-6525
Bulletin Editor	· Debbie Frank 360-853-6883
Past President	· Eric Self 360-840-8342

Committees

Annual Show Chair-Eric Self

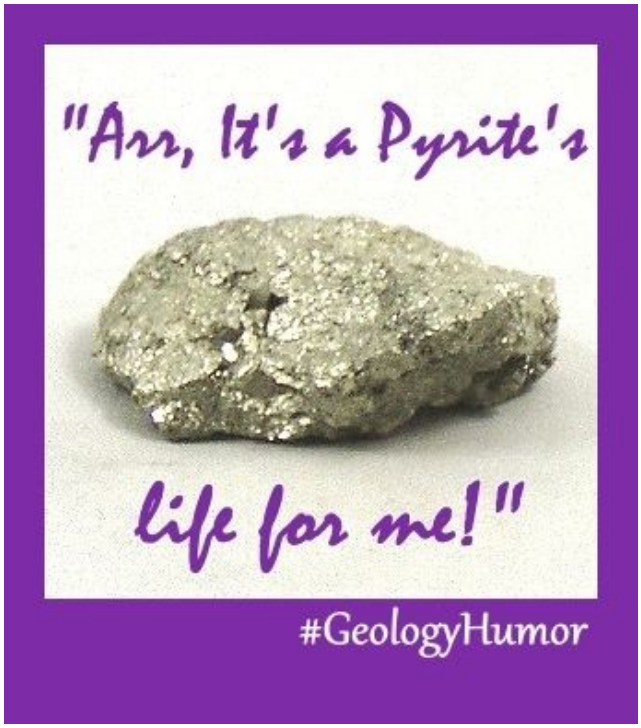
Facilities/Field Trips- Dave Britten
Greeter-Linda Keltz

Scholarship-Noni Avery & Linda Keltz
Publicity-Frank Isca

Stamps-Virgil Keltz

Sunshine- Noni Avery

Swap-Vandenburgs



Skagit Rock and Gem Club
Debbie Frank, Editor
20379 Aliston Ln.
Burlington WA 98233

Upcoming Rockhound Activities

June 4th, 5th, & 6th, 2021, 10am to 5pm daily
The Puyallup Valley 2021 Gem & Mineral Show
Swiss Park, 9205 198th Ave. East, Bonney Lake, WA

***Check their website before attending: puyallupvalleygemandmineralclub.com/Shows

Field Trip : 6/19 Meet @ 9am Verlot Ranger Station for Rainbow Chert. Contact for more info- Ed Lehman at wsmced2@outlook.com or (425) 334-6282 or (425) 760-2786

7/17 & 18 Darrington Rock Show and field trip(location to be announced) Check back on the Mineral Council site for updates or contact: Ed Lehman at wsmced2@outlook.com or (425) 334-6282 or (425) 760-2786