



Minerals on Stamps

Fred Haynes



Topical (or thematic) stamp collecting allows one to merge hobbies, connect a career with philately, or perhaps initiate a second career vicareously through stamps. The thematic options are basically endless, and the room for personal imagination and creativity is boundless.

For me, a retired geologist with an interest in mineral collecting, the thematic topic of minerals on stamps made perfect sense as an opportunity to combine my scientific and collecting interest in minerals with the fun of stamp collecting. Besides it is hard to collect minerals in the dead of winter in western New York. Topical stamps are also generally more affordable than some of the minerals and take up infinitely less space. They don't require cleaning and seldom break when you are moving or re-displaying them.

In this one-frame exhibit I offer just a few of the ways minerals on stamps can be organized and collected. Again the options are endless.

By country – often sets (Kenya, Botswana) --- pages 2-3

By mineral –Sphalerite – pages 4

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Really, there are no rules !! - page 16



KENYA



Gypsum



Trona



Kyanite



Amazonite



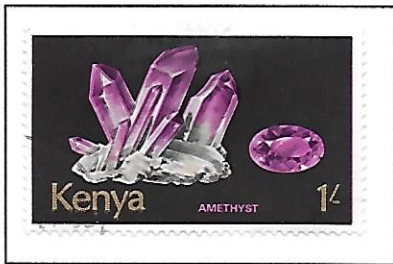
Galena



Petrified Wood



Fluorite



Amethyst



Agate



Tourmaline



Beryl (Aquamarine)



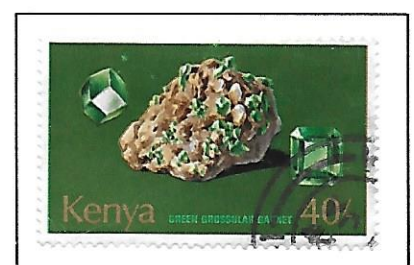
Rhodolite Garnet



Corundum (Sapphire)



Corundum (Ruby)



Grossular Garnet



BOTSWANA



Amethyst



Agate- Botswana pink



Quartz



Copper Nickel



Moss Agate



Agate



Stilbite



Banded Marble



Diamonds



Chrysotile



Jasper



Moss Quartz



Citrine



Chalcopyrite

Sphalerite (Zinc Sulfide – ZnS)

Szfalerit
φαλερίτη

сфалерит
Sfalerit

สังกะสี
Esfalerita



Hungary



Bulgaria



Thailand



Greece



Yugoslavia



Peru

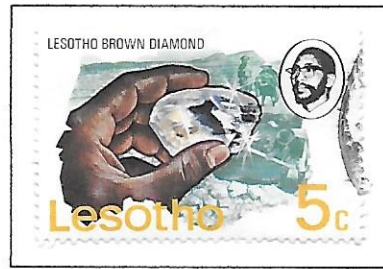
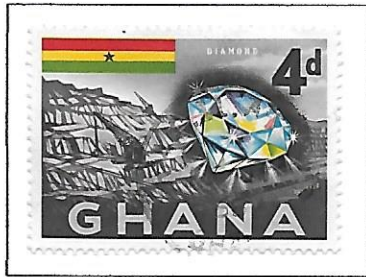
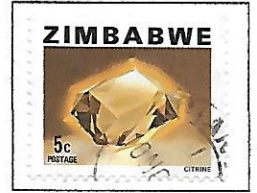
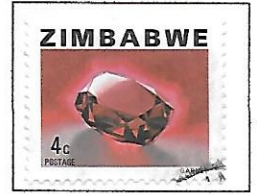
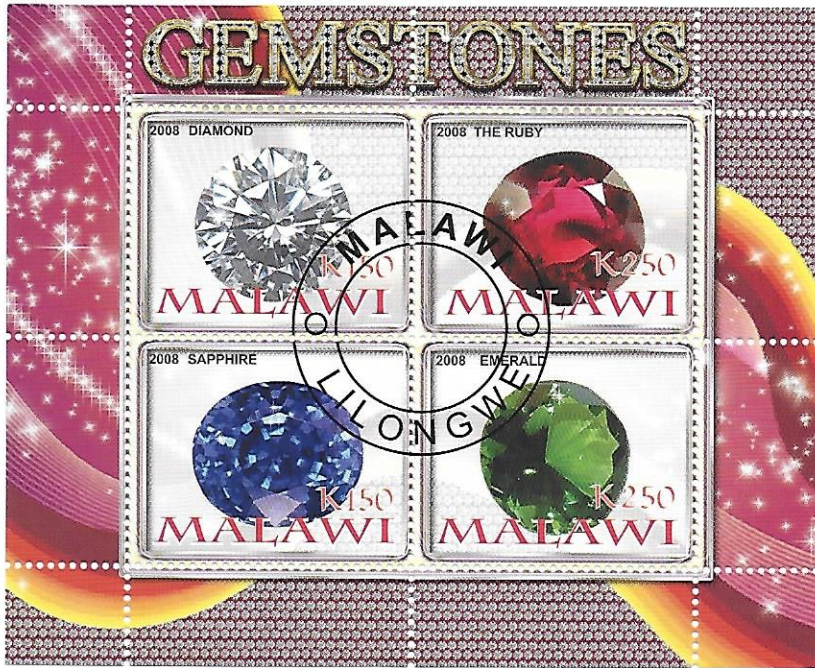
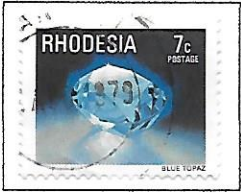
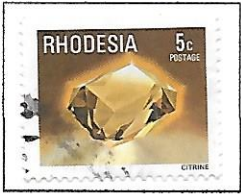
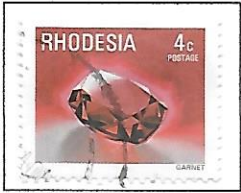
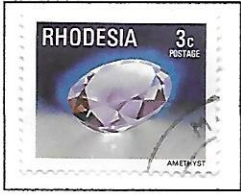
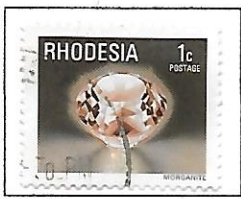
Located in the outback of Australia and discovered in 1883, zinc is still being mined in what is arguably the world's largest and richest zinc-lead ore body.



Sphalerite forms isometric-hexahedral crystals like those depicted on this stamp from Germany



AFRICAN GEMSTONES



Purple Minerals Majesty

Since the days of the Roman Empire, purple has been the color of royalty. As a combination of red and blue, purple is not a spectral color and therefore lacks a defining spectral wavelength. However, that has not prevented people from claiming purple to be their absolute favorite color. Women build their wardrobe around their purple dresses, folks paint their bedrooms purple, gardeners plan their seasonal blooms from tulips to iris to petunias, and yes mineral collectors must have plenty of purple in their displays. Fortunately they have some wonderful choices from which to choose.

In this exhibit, purple minerals are seen through the eyes of postage stamps. Offerings from a number of countries depicting a number of different minerals are displayed. Accompanying each grouping is a brief description of the mineral, its chemistry, and a bit about its importance.

Amethyst



Germany



Switzerland



Amethyst was one of four minerals featured in a set of 4 stamps issued by the United States in 1974. The stamps were placed on sale in Lincoln, Nebraska during the National Gem and Mineral show with the first day ceremony held at the State Fair Grounds.

Purple Minerals Majesty - Amethyst

By far the most common and most popular purple mineral is amethyst. Simple clear quartz (SiO_2) is colored to various shades of purple when small amounts (< 20 ppm) of iron (Fe) replace Si when the quartz is naturally exposed to ionizing irradiation. The smaller iron atom leads to lattice distortions that effect light passage imparting the color variation. With a hardness of 7, amethyst makes a wonderful gemstone as well as colorful mineral speimen.

Amethyst is found on all continents and has been featured on stamps from many countries.



Botswana



Rhodesia



Zimbabwe



Kenya

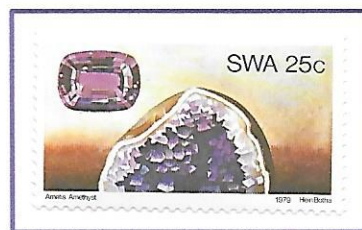


Russia

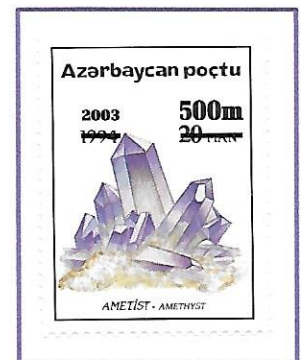
Amethyst comes from the ancient Greek word "methystos" which means intoxicated. It was believed that drinking from an amethyst drinkard protected one from become drunk!



Germany



Southwest Africa



Azerbaijan



Brazil



New Zealand



United States

Purple Minerals Majesty

Bornite

Bornite is a copper sulfide mineral. Due to its brilliant blue to purple iridescence it is often referred to as peacock ore. Cu_5FeS_4 is an important copper mineral along with chalcopyrite in many of the world's porphyry copper deposits.



Zambia

Fluorite

Fluorite (CaF_2) is probably the most useful of the purple minerals. Cubic in form, fluorite is used as a flux in smelting, as an additive to glass and enamels, in optics, and for generating hydrofluoric acid. It is also a key ingredient in most of today's toothpastes.



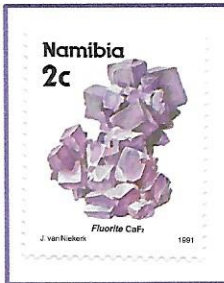
Thailand

Tourmaline

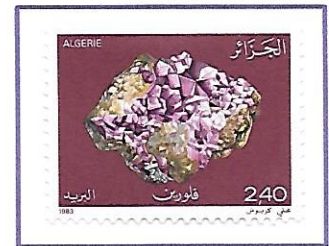


United States

This borosilicate mineral comes in many different colors. Purple gemmy tourmaline is called siberite and is usually elbaite in composition.



Namibia



Algeria

Erythrite



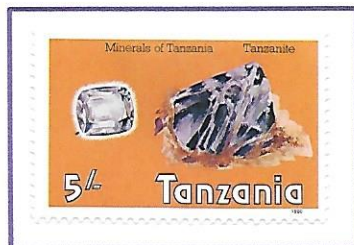
Germany



Morocco

Tanzanite is the violet-purple varietal form of the calcium silicate mineral zoisite. A small amount of vanadium in

Tanzanite



Tanzania

the lattice causes the color change. As the name implies, tanzanite was discovered in Tanzania, in the foothills to Mt. Killimanjaro. To this date, it has not been found elsewhere.

Erythrite is a secondary hydrated cobalt arsenate mineral with the chemical formula $\text{Co}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$. Although well formed crystals are rare, the pink-purple bloom of erythrite crusting on a primary cobalt mineral like cobalite can be uniquely pretty.

UNITED STATES commemoratives on cover



On June 13, 1974, the United States celebrated "Our Mineral Heritage" by issuing a set of four 10 cent stamps. The diamond design set featured petrified wood from the Petrified Forest of Arizona, tourmaline from San Diego County, CA, rhodochrosite from the Sweet Home Mine in Colorado, and amethyst from Due West, SC.



In 1992, with the postal rate now 29 cents, the United States issued a second set of commemorative mineral stamps. Once again they featured specimens from the Smithsonian Institute: azurite from Bisbee, AZ, native copper from the Keweenaw Peninsula of Michigan, variscite from Lander County, NV, and wulfenite from the Red Cloud Mine near Yuma, AZ.

The Postage Stamp Tourmaline



On June 13, 1974, the USPS issued a block of 4 mineral stamps, each depicting a specimen on exhibit at the Smithsonian Institute in Washington D.C.

Almost immediately the mineral world labeled the San Diego County watermelon tourmaline specimen as "The Postage Stamp Tourmaline".

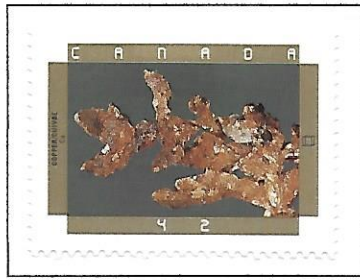


Above is the pen and ink drawing of the specimen by Wendell Wilson which was used by Leonard F. Buckley in the designing of the stamp.

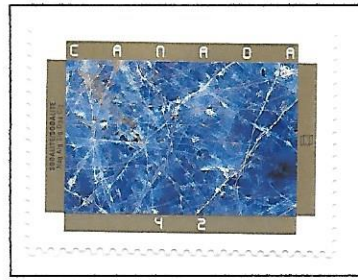


The stamps were placed on sale in Lincoln, Nebraska during the 1974 National Gem and Mineral show with the first day ceremony held at the State Fair Grounds.

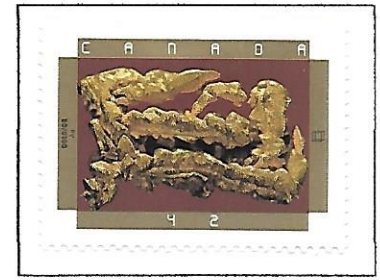
CANADA commemoratives and First Day cover



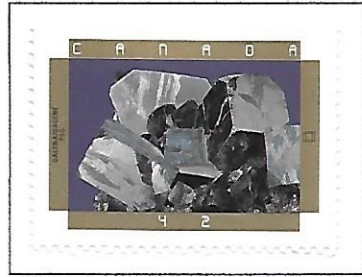
Native Copper
Cap D' Or, Nova Scotia



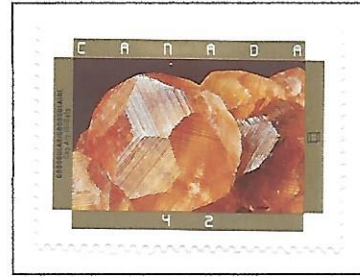
Polished Sodalite
Princess Mine, Bancroft, ONT



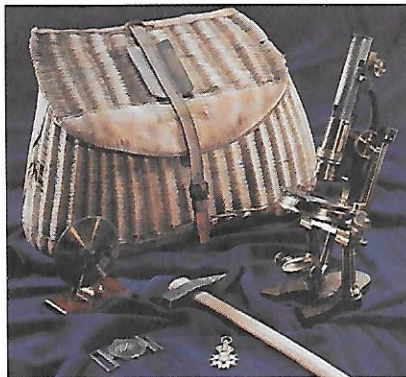
Native Gold
Klondyke Distric, Yukon Terr.



Galena
Flamboro Quarry, Wentworth, ONT

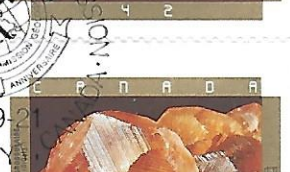
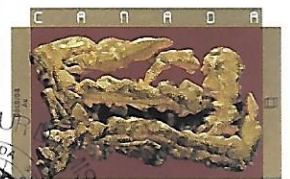
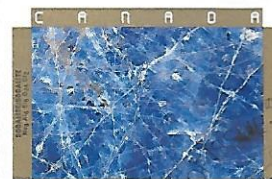


Grossular Garnet
Jeffrey Mine, Asbestos, Quebec



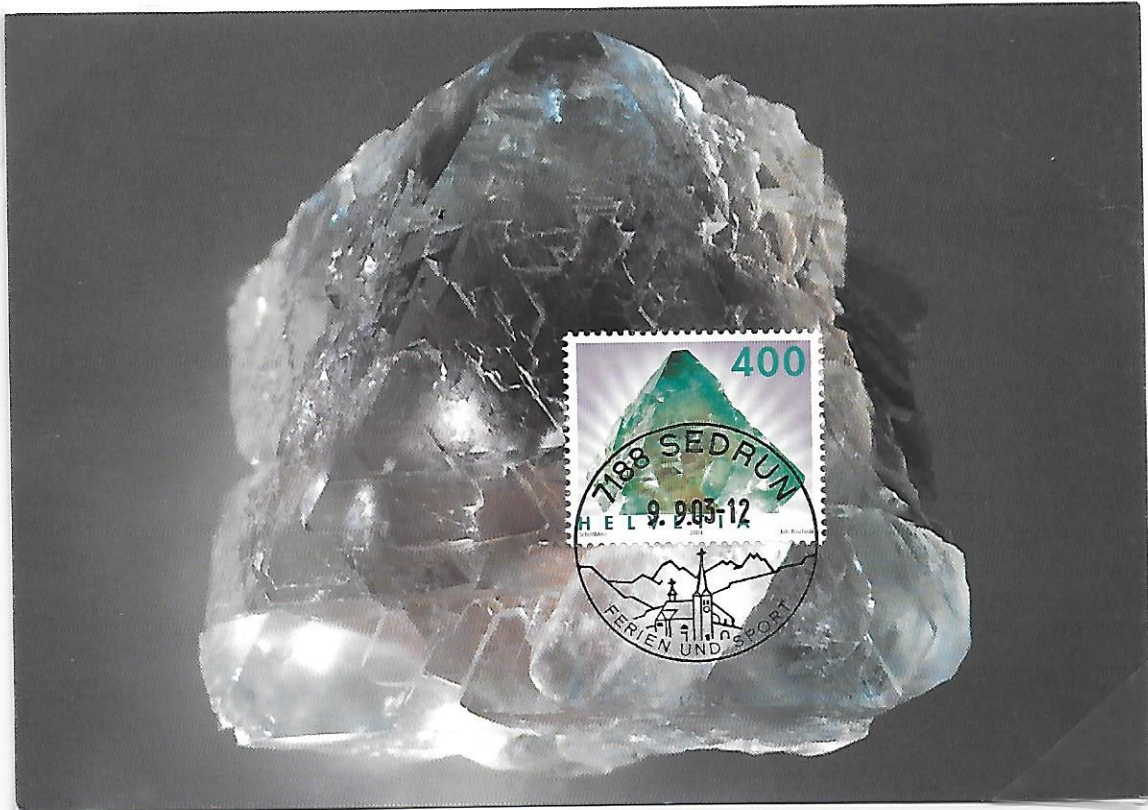
Day of Issue
Canada Post Corporation

Jour d'émission
Société canadienne des postes



In September 21, 1992, Canada issued a set of five mineral stamps to honor the 150th anniversary of the Geological Survey of Canada. The set, featuring five Canadian minerals, was released with a First Day ceremony in the Whitehorse Mining District of the Yukon Territories

SWITZERLAND Maximum Cards



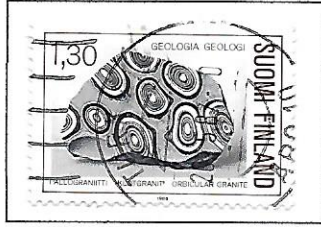
Fluorite (CaF_2) is a simple halide mineral that crystallizes in isometric cubic habit. However, octahedral forms like those on this stamp and maxicard are also common.



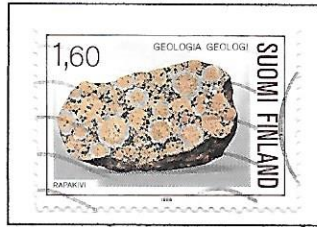
Titanite (CaTiSiO_5) is a titanium-bearing silicate mineral that forms monoclinic, sometimes gemmy, crystals. It is found in igneous rocks and in metamorphosed calcium bearing rocks called skarns.

ROCKS on stamps

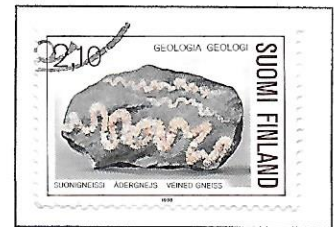
FINLAND



Orbicular Granite

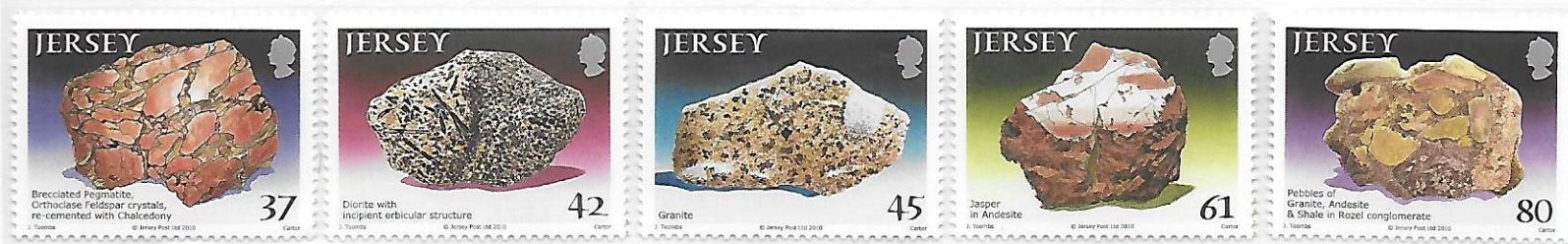


Rapakivi Granite



Veined Gneiss

JERSEY



Brecciated Pegmatite

Orbicular Diorite

Granite

Jasper

Conglomerate

AFARS & ISSAS



Diabase (dolerite)



Olivine Basalt

HONG KONG



Siltstone

Conglomerate

Volcanic Tuff

Granite

2014 – International Year of Crystallography



SOUVENIR LEAF דף מזכרת

שנת הקריסטלוגרפיה הבין-לאומית International Year of Crystallography



נומלאיבו ארבעה טורי, אבן טור ארם פטרך וברקת השור האחר. והטור השני נפק ספיר ויהלם. והטור השלישי לשם שבו ואהלמה. והטור הרביעי תקשיש שהם וישפה מוסבת משבצות זהב במקלאתם.

שמות ליט: רז-ריג

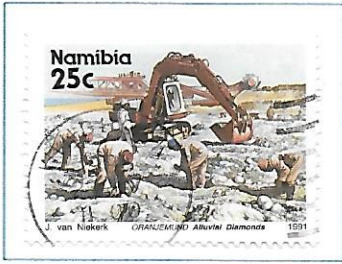


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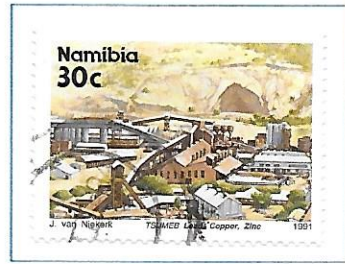
הנפקה: 2500 issue:

The United Nations declared 2014 as the International Year of Crystallography to celebrate the 100th year anniversary of X-ray crystallography and to emphasize the importance of crystallography in the modern world. A number of countries issued postage stamps to commemorate the UN proclamation and many depicted mineral crystals and forms. This "souvenir leaf" from Israel featuring a single stamp and twelve minerals highlights an interesting topical subset of mineral stamps.

MINING



Alluvial Diamonds



Tsumeb – Pb, Cu, Zn



Rosh Pinah - Zinc



Rössing Uranium



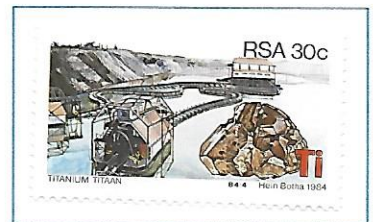
Manganese



Chromium



Vanadium



Titanium



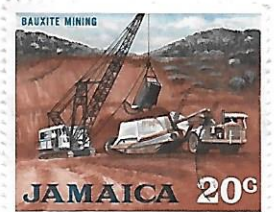
Salt



Retamus Gold Mine



bauxite



JAMAICA 20c



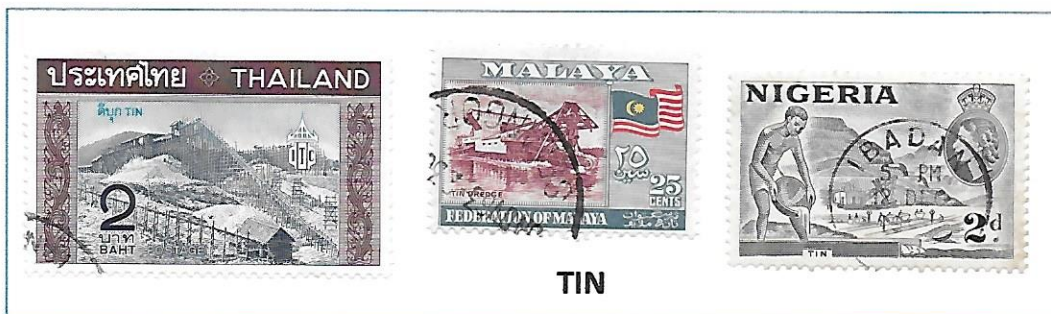
GOLD



Oil Sand



Cobalt, Silver



TIN



Manganese



Мінерали України

- ◆ Кварц
 (гірський криштал, мармароський діамант)
 SiO_2
 Карпати
- ◆ Сірка самородна
 S
 Прикарпаття
- ◆ Топаз
 $\text{Al}_2(\text{F, OH})_2 [\text{SiO}_4]$
 Волинь
- ◆ Берил
 $\text{Be}_3\text{Al}_2[\text{Si}_6\text{O}_{18}]$
 Волинь
- ◆ Око тигрове
 (кварц з амфібол-азбестом, сидеритом і магнетитом)
 переважно SiO_2
 Криворіжжя
- ◆ α -кереніт
 $\text{Fe}_1^{2+}\text{Fe}_9^{3+}(\text{OH})_6[\text{PO}_4]_6 \cdot 18\text{H}_2\text{O}$
 Крим