



RUBY and SAPPHIRE

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A Blood-Red Ruby

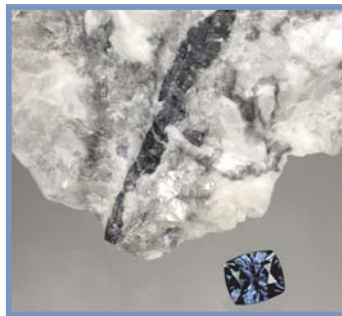
... and a deep blue sapphire are crystals of the same, relatively common mineral corundum. Corundum occurs in colours that vary from blue to red, green, violet, orange, yellow, and clear. Red gemstone varieties are called ruby: all the other coloured gems are referred to as sapphires. The colours come from trace amounts of elements: chromium gives ruby its red colour, lesser amounts creates pink sapphires. Iron and titanium make a sapphire blue, vanadium makes a violet sapphire; smaller amounts of iron and vanadium creates orange tones, at bit of iron gives yellow and green tones. Internal needle-like crystals of the mineral rutile produces a silky shine which when aligned just right produces a six-rayed star sapphire.

Sapphire and ruby have been desired and mined for centuries – the most famous regions for sapphire are in Asia (Kashmir, Myanmar, and Sri Lanka). Myanmar and Sri Lanka also have ruby.



Greenland ruby crystal

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Sapphire in rock, and gemstone, from Baffin Island, Nunavut

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Greenland ruby in rock

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Yellow sapphires from Baffin Island, Nunavut

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Sorting pink sapphires and rubies

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Sapphire from Baffin Island, Nunavut

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DID YOU KNOW?

Corundum is second only to diamond in hardness, so it is an excellent abrasive and is used in sandpaper

Expensive watches use slices of clear synthetic sapphire as covers because they are scratch resistant

Some red gems that look like ruby are really spinel, beryl, or garnet – completely different minerals

Some lasers use synthetic sapphire crystals to concentrate their light

Emery is a mix of the minerals corundum, magnetite, and quartz

Ruby is rarer and can be more valuable than diamond

Sapphire is September's birthstone; ruby is July's

RUBY and SAPPHIRE



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Canada's Sapphires

Canada's first corundum crystals were discovered near Bancroft, Ontario in 1847 when T. Sterry Hunt of the Geological Survey of Canada recognized them as tiny rubies and sapphires.

There are gem- and near-gem-quality sapphires in British Columbia, Ontario, and Nunavut. So far, gem-quality rubies have not been discovered in Canada, but ruby deposits in Greenland indicate they may be found on Baffin Island where the geology is similar.

Almost two billion years ago, the southern Baffin Island and western Greenland area was a warm and shallow ocean at the edge of a tectonic plate. Rocks and gemstones began as mud at the bottom of this ocean. Over time, this plate collided with another plate, squeezing the sediments. Heat and pressure transformed the old ocean bottom, first into

limestone and mudstone, and as more and more heat and pressure built up, finally into metamorphic rocks: marble, quartzite, and gneiss. In forming these metamorphic rocks, the temperature and pressure were so high that the rocks almost melted, and the minerals in the rocks changed form or combined to produce new crystals. The geological setting for this region is like that of the famous gem-producing areas of Kashmir and Myanmar where the Indian and Asian continents collided more than 40 million years ago.

Beluga Sapphire

Sapphire was discovered in 2002 by Inuit prospectors Seemeega and Nowdla Aqpiq in metamorphic rocks near Kimmirut on southern Baffin Island. A follow-up exploration project by True North Gems Inc. resulted in discovery of blue, pale blue, clear, and yellow sapphires. Some are gem-quality and naturally coloured, which means that they do not need to be heated to enhance their appearance like almost all other sapphires.

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Beluga area, Baffin Island, Nunavut



Sapphire crystal in rock

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Blu Starr Sapphire

Gemstones are found in metamorphic rocks of the Slocan Valley near Nelson in southeastern British Columbia. The exploration company Anglo Swiss Resources Inc. has discovered sapphires ranging in colour from sky-blue to cornflower and indigo blue, violet, and purple. Some of these are the desirable star sapphires. Gem quality iolite and garnet are also found in these rocks.



Sapphires from Beluga property, Baffin Island, Nunavut

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