

THE ORIGIN OF GEMSTONES



A HANDBOOK



AnpéAtelier cph
JEWELLERY

GEMSTONES & THEIR ORIGINS

Gemstones are the heart and soul of Anpé Atelier. From sapphires, rubies and diamonds, to emeralds, tsavorites, and tourmalines, these colorful and one of a kind natural beauties are a gift from the earth. When mounted in gorgeous gold, the result is truly out of this world - but have you ever stopped to ask where these gems specifically come from? Or how they even came to be in the first place?

The simple answer is that rough gems are naturally created by the Earth and are extracted by humans. The location in which they are created ranges across multiple different countries and continents, all with varying landscapes.

Some of the main areas that produce fine jewellery gem quality stones include Sri Lanka, Madagascar, Kenya, Tanzania, and Mozambique in East Africa and South America, North America and Australia, among others.

When we refer to gemstones in the booklet, we are referring to fine jewellery grade gems, as opposed to crystals, such as quartz or amethyst for example. Most of the origins mentioned also produce these types of crystals, however they are not the focus of this topic. The one of a kind gemstones used at Anpé Atelier include sapphire, ruby, tourmaline, tsavorite, diamond, emerald, aquamarine and spinel.

ORIGIN MAP



THE FORMATION OF GEMSTONES

Most gemstones are formed deep below the Earth's crust, approximately 3 to 25 miles beneath the Earth's surface. Diamond and peridot however can be found even further down, originating in the Earth's mantle, around 125 miles below the surface. The recipe to create a gemstone requires a combination of high heat, high pressure and time, as well as a mix of various minerals and chemical elements such as chromium, carbon, vanadium, iron, titanium and chromium, among many others.

It is this recipe that creates a specific stone as well as giving it a special and unique color. For example, a sapphire is made from the mineral corundum, and with the presence of titanium a blue sapphire is created, however when traces of chromium are present, it becomes a beautiful red ruby.

After the gems are crystalized, they are pushed to the surface of the Earth through natural forces such as volcanic eruptions, erosion, mountain forming and weathering. The rough stones can be found through various mining practices by hand and through mechanicalized processes.

There are a number of different styles of mining, such as, mechanized mining, pit mining and river mining. Traditional mining practices are encouraged within Sri Lanka, as there is less harm done to the land. Mining licences are regulated by the National Gem and Jewellery Authority (NGJA) who take the rehabilitation of land after mining very seriously.

Once the rough stones are found, they are sorted by shape and color and are ready to move on to pre-forming, cutting and polishing.



SRI LANKA

Sri Lanka is one of the most profound gemstone producers in the world. The gems found and produced on this small island found in the Indian Ocean are of incredible high quality, so much so that for hundreds of years, it was known as "Rathna Deepa", meaning Island of Gems.

The history of gem mining dates back at least 3000 years and was mentioned in legends across the ancient world, including those told by Marco Polo. He told of a ruby owned by the king that was the size of the palm of your hand. Sapphires, rubies, spinels, garnets and tourmalines are probably the most famous names of gemstones found in Sri Lanka but there are at least 70 more varieties found in the rich earth of this island paradise.

Some famous sapphires from Sri Lanka include the *Padparadscha* sapphire, a special variety of sapphire that has a unique blend of pink and orange, similar to the color of a lotus blossom. Padparadscha is the rarest and most valuable corundums found in Sri Lanka. Although pink and orange sapphires can be found in other countries, gem purists believe that Padparadschas can only be found in Sri Lanka due to the specific hues and color zoning.

Another special sapphire found in Sri Lanka is the *Ceylon Blue Sapphire*. All sapphires sourced from Sri Lanka are technically Ceylon sapphires, however the blue Ceylon sapphire is especially revered due to its velvety and bright blue hues.

Sri Lanka is also one of the origins for which Anpé Atelier's trusted gem source has mining operations.



MADAGASCAR

Located off the coast of Southern Africa is Madagascar, a leading producer of incredible sapphires and rubies for the past twenty years. Also found here are beautiful semi-precious gems such as aquamarine, morganite, tourmaline, tsavorite and more.

Madagascar has an incredibly vast gem producing area that is twice the size of Sri Lanka and Myanmar combined. In just two decades, the island country has become one of the top locations for sapphires and accounts for nearly 50% of the world's supply. The discovery of sapphires in 1998 in the village of Ilakaka, located in the southern part of the island, led to a gemstone rush that inundated the area with migrant workers.

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SOUTH AMERICA

Brazil and Colombia are the two countries located in South America with the highest quality fine jewellery grade gemstones, such as sapphire, emerald, aquamarine and diamond.

Brazil is one of the most prolific sources of high quality gems in South America. Mining has taken place here since the 1700's, after it became a Portuguese colony. One of the most famous mining locations in Brazil is called Minas Gerais, and was responsible for a gold rush in the 1700's after gold deposits were found in the mines. Diamonds were also found here, but the mining was short-lived.

Gemstones that are currently mined in Minas Gerais are beryl, such as emerald and aquamarine, as well as tourmaline, alexandrite, and kunzite, among many others.

Emeralds can be found worldwide in places such as Colombia, Zimbabwe and Zambia. Brazilian emeralds, however, have a beautiful light yellow to green color to them, and tend to be relatively free of inclusions. New deposits have been found since 1980, making Brazil one of the most important suppliers in emeralds today.

While Brazil is famously known for its high quality gems, Colombia also produces some of the finest quality emeralds in the world. They are renowned for their size, color and quality.



EAST AFRICA

East Africa is home to a myriad of gemstones including aquamarine, tanzanite, alexandrite, rhodolite, tsavorite garnets and tourmaline. These gems are mined in countries such as Tanzania, Kenya as well as Mozambique.

On occasion, the name of a gemstone is able to give us the origin of where it comes from, for example Tanzanite which is found in Tanzania, while tsavorite gets its name from the Tsavo National Park in Kenya.



AUSTRALIA

Australia plays a large role in today's gem and jewelry market. It has a very large consumer market for gemstones and jewelry and is most famous for their endless supply of fine quality opal and diamonds.

In the early 20th century, sapphire was discovered in Australia, however it was found to be too dark to gain the appeal from the public. Consumers were simply more interested in higher quality deposits found in Sri Lanka and other countries.

In 1979, a large diamond deposit was discovered in Western Australia, known as the Argyle Diamond Mine. This mine has produced over 800 million carats of rough diamond since mining began in 1983. By the late 1980's, Australia was already producing a third of the world's diamond supply. The Argyle mine produces a majority of their rough diamonds which are for industrial use, however they still produce some fine white, champagne and blue diamonds too.

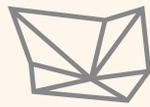
Australia's most famous gem is found to be opal. It is the world's finest quality and abundant source of opal and was named the country's national gemstone in 1993.

NORTH AMERICA

The United States and Canada both produce many types of mineral gemstones, from crystals such as garnet, quartz, citrine and moonstone to more precious gems such as diamond, emerald, aquamarine and sapphire. The gems found in the United States aren't as revered as those found in Africa, South America or Sri Lanka simply because they don't produce as high of quality as the countries mentioned.

The discovery of diamonds in Canada has recently put them on the map as a major gemstone producer. The first commercial production for Canada's diamond industry began in 1998. By 2006, there were three major mines active and working, which produced over 13 million carats per year. This made Canada the third largest producer of gem quality diamonds in the world. The appeal of Canadian diamonds is their high quality as well as the positive standards surrounding mining sustainability and ethics.

At Anpe Atelier we source our salt and pepper diamonds from Misfit Diamonds, located in Canada, as well as from South Africa, Botswana and India.



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