The Eyes of Africa

Where is it from? Erongo Mountain, Erongo Region, Namibia

What are its dimensions? H: 22.8 in W: 13.3 in D: 10.2 in

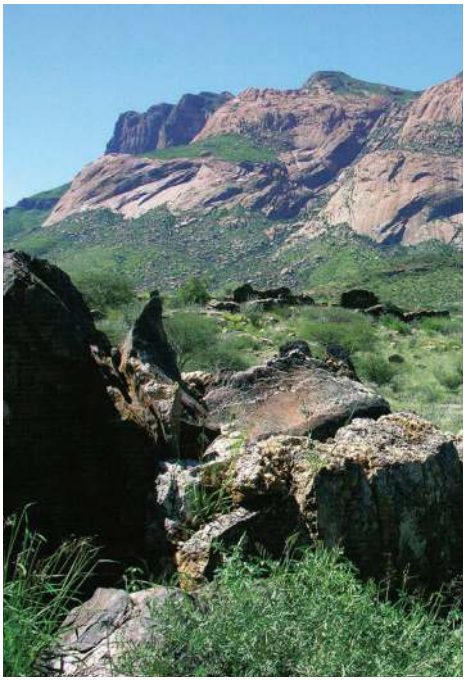
How much does it weight? 64.3 Pounds (29.2 kilos)

What is this mineral made of?
Fluorite & Quartz

What is Fluorite (CaF_2)?
Named in 1797 by Carlo Antonio Galeani Napione from the Latin, fluere = "to flow" (for its use as a flux). The term fluorescence is derived from fluorite, which will often markedly exhibit this effect. The element fluorine also derives its name from fluorite.

What is Quartz (SiO_2)?
Quartz has been known and appreciated since prehistoric times. Kristallos is the most ancient name known for quartz, recorded by Theophrastus in about 300-325 BCE. The root words κρύοσ (ice cold) and στέλλειυ (to contract) suggest the ancient belief that kristallos was permanently solidified ice.

Brief Description:
This specimen is known as "The Eyes of Africa." It is composed of several white, semi-translucent quartz crystals and large, green and black Alien Eye Fluorites. It was recovered from the Erongo Region of Namibia in 2007. Alien Eyes are a unique and unusual subset of fluorite that differentiates itself with its vivid green color and black outer zones that create a diamond shape at each crystal's center. They also have a naturally formed, complex crystal habit in the form of cuboctahedra. With light, Alien Eye fluorites glow with an incredible otherworldly quality which was what inspired their name. The total number of Alien Eye Fluorites recovered from the find is low, amounting to less than 30 fine specimens, due to the small pocket size and the fact that there was only one single discovery.



Most of the specimens that were recovered are single, free floating fluorite crystals in varying qualities. "The Eyes of Africa" was the largest, most impressive specimen to come from the pocket, and the pocket's signature example. It is among one of the few pieces recovered on a matrix (host rock) and every fluorite crystal is brilliantly saturated with color, wonderfully intact, and impressively large with crystals reaching 5cm across. This specimen was so impressive the lead miner from the project, Herold Gariseb, reserved it, driving it around in the trunk of his car, taking it wherever he went. Mineral collectors, Mark Kielbaso and Jurgen Tron, caught word of its existence and drove out in search of the mystery car with a must-see fluorite across an approximately 24,000 sq mile expanse for nearly a week. Luckily, they eventually found Gariseb and were able to acquire the piece. Kielbaso and Tron reserved the specimen for several years and its value grew immensely with no other comparable fluorites found. Dealer Daniel Trinchillo acquired the piece and offered it to his client, Lyda Hill who works extensively with the Perot Museum of Nature in Science. She acquired the piece so that the PMNS could share the "Eyes of Africa" with the world as a permanent fixture of the museum collection.

Aquamarine on Schorl, Erongo Mountain, Namibia

Cerussite, Tsumeb, Namibia

Where and why did this form?

Erongo Mountain was once a volcano that was active between 140-150 million years ago. It caved in on its magma chamber and filled its basin with slow cooling lava. Also present in the basin was element-rich water that contained fluorine, a necessary component of fluorite. Approximately 150-200 million years ago, this mineral-rich environment cooled to create the perfect conditions for fluorite to crystalize. Eventually, the lava cooled completely, creating a hard, granitic intrusion that had small pockets of crystalized minerals, some with fluorites, and others with any of the 70 other varieties found in the area today.

Fluorite, Kudubis, Erongo Mts., Namibia

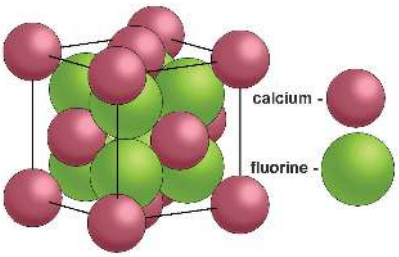
Azurite, Tsumeb Mine, Namibia, Africa

What minerals are found in the Erongo region?

There are more than 70 known minerals found in the area, the most abundant of which are: schorl (tourmaline), quartz, aquamarine, cassiterite, topaz, and of course, fluorite.

What makes fluorites look the way that they do?

Crystallization occurs when atoms, molecules, or ions bond together and try to become more stable. Attempting to create order out of chaos, these constituents then create organized structures which are what we perceive and understand as crystals. These crystals can take on any one of



thirty-two different, very orderly crystal forms. The elements within fluorite, calcium and fluorine (CaF_2), along with any other trace elements present during formation dictate the types of shapes the fluorite will take on. Fluorite crystals follow the cubic crystal forms. Depending on the conditions present and trace elements available they will take on different crystal habits which are cubic at their core but look more complex than a simple cube.

Fluorite colors are typically the result of impurities, which simply mean additional elements, known as trace elements, were present during formation. The addition of another element during the formative process can not only change a fluorite's shape but can also change its color. Sometimes these alternative forms and colors are dramatically different from what might have occurred without the trace elements. Alternatively, some fluorites exhibit different color varieties as a result of exposure to natural radiation deep in the earth's crust. Radiation of this kind is a unique process. Most of the fluorites affected were exposed to it millions of years ago, long before ever being found by man. When color is a result of trace elements, transitions in color from one zone to the next represent the availability of an element during the formation of bonds. More simply, one can think of each zone as a concentration of specific trace elements. Once the element is depleted, a visual shift in color occurs and sometimes the colors produced are strikingly different. This is how the color zones can shift so dramatically from one color to the next.