

Canadian Ammolite

Fossils with iridescent shells make luminous gemstones!

Ammonites, which get their name from the Egyptian ram-horned god Amun, are among the most well known fossils. Their distinctive spiral shape with its chambered interior is easily recognizable and is duplicated even today in its close relative, the nautilus. Ammonites were cephalopods and therefore predators. They probably relied on stealth to get close to prey and then grabbed it with their tentacles. They moved by jet propulsion similar to squid and possibly had a trap door that would seal off the head chamber. Although they existed for millions of years, ammonites became extinct with dinosaurs at the end of the Mesozoic era.

While ammonite fossils are found throughout the world, the iridescent form known as ammolite is found in only a few locales, with the majority of gem grade material mined in Alberta. Korite International was the first company to commercially mine ammolite and today they remain the majority producer on land leased in the Kainah Reserve. The fossils are recovered from shallow, open pit mines, which are then backfilled for ecological reasons. Initial removal is done with backhoes, but if good material is encountered, handpicking commences.

In 1981 the World Jewelry Federation (also known as CIBJO from the initials for its French name) officially designated ammolite as a gemstone, making it one of the most recent to gain that status. Ammolite is composed of aragonite, the same material as pearls so it has a hardness of less than four.

That makes it suitable for earrings and pendants, or for fun rings.

The aragonite is usually only a thin layer about half a millimeter thick found on top of clay or shale. When

polishing, the clay or shale is left as a supporting backing. Sometimes, the supporting rock has separated and the thin ammolite layer is then made into a doublet with some type of dark, durable base rock. The ammolite material also tends to flake, so it is usually stabilized with Opticon or some other type of epoxy resin. Sometimes the ammolite is also capped with clear, durable quartz or spinel to make doublets or triplets.

The fantastic colors in ammolite are pure spectral colors created when the fine layers of aragonite interfere with lightwaves. Thicker layers produce reds and greens while thinner layers produce blues and violets. Exposure to the elements fractures the aragonite layer leaving fantastic patterns given names like *dragon skin*, *lizard skin* and *stained glass window*. Ammolite that has been mined from greater depth has not fractured as much and is frequently found with smooth or rolling patterns.

Ammolite is so unique that it is not really confused with any other gemstones. The closest would probably be opal, but the backings on ammolite are a different type of stone than boulder opal. Since ammolite is not extremely expensive, it is best to choose patterns and colors that appeal to you.

Pictured top to bottom:

Ammolite and Spessartite Garnet in 22KT Gold and Silver Bi-Metal \$1200

Ammolite in Cast Silver Ring \$375

Ammolite Cabochons showing a range of colors

Ammonite Fossil



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TUCSON 2011

Brad will be returning from
the Tucson Gem Show
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