

# InColor

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## The ICA 2006 World Colored Gemstone Mining Report



**D**iaspore has made a new entry into the gem marketplace under the trade name zultanite. Zultanite, which is a rare variety of the diaspore mineral, is unique to Turkey. This color-changing variety of the stone is mined in a remote mountainous region of Anatolia. The deposit was first discovered in the early 1980s, but is now being mined commercially for the first time. It is located at a height of more than 4,000 feet above sea level and spans thousands of acres. The deposit



is now owned by Zultanite Gems LLC, a Turkish company with U.S. headquarters in Fort Lauderdale, Florida.

"Bringing electricity and water to the mine are our biggest challenges, as the

nearest village is seven miles away," explains company partner Murat Akgun, an ICA member. In the meantime, he said, Zultanite Gems is using traditional mining methods to recover material. "Although we're not able to confirm reserve figures, supplies seem promising," said Akgun, based on preliminary reports by Turkish geologists. He says the company is securing the land and preparing for steady production. "Our engineers are planning a mining strategy, and the mine should begin producing regularly by early 2006."

Zultanite from this deposit is known to shift hue from bright shades of green to raspberry, pink, rhodolite-like purplish-pink, champagne or ginger, depending on the light source. The colors are most intense in the rare specimens that weigh more than 5 carats, partly because it is a low-yield stone and difficult to cleave properly, so that 90 percent of the material is lost in the process. The typical size range available is 3 to 5 carats, with some exceptional pieces reaching 14 carats. Smaller stones are usually lighter in color.

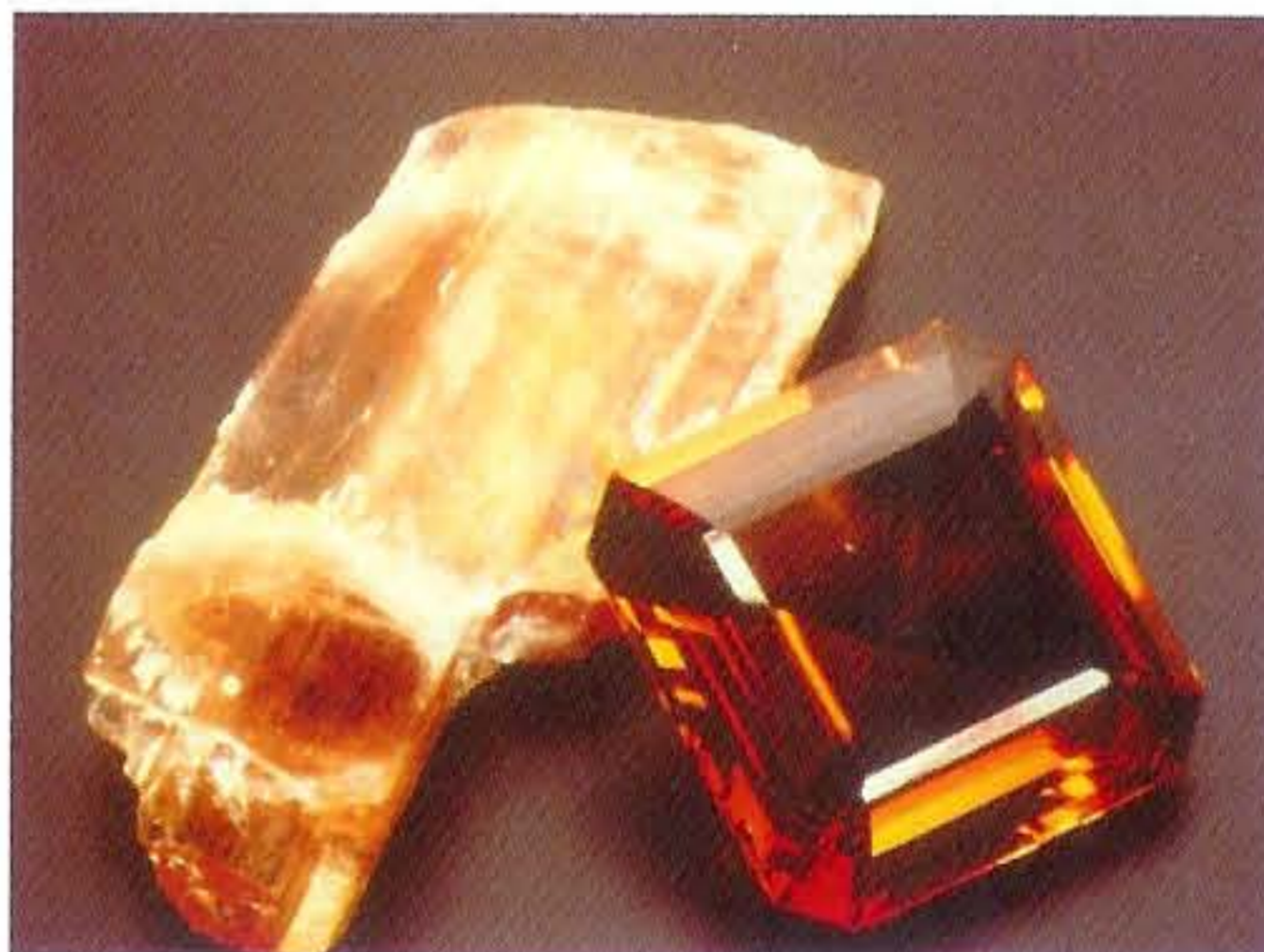
Generally, zultanite is a very transparent Type II gemstone, usually eye-clean with some inclusions under 10x magnification. Polished stones are available in most classic shapes, such as



**These diaspore or zultanite stones display color change when illuminated alternatively with daylight and incandescent light.** Photo: Zultanite Co.

ovals, cushions, princess cuts and round brilliants, as well as more innovative cuts such as concave, "Portuguese rounds," trillions, opposed bars and a variety of radial cuts. Gem cutters Stephen Kotlowski of Newburg, New York, Christopher Wolfsburg of Wilmington, North Carolina, and Rudi and Ralph Wobito of Ontario, Canada are presently cutting the majority of the gems for the Turkish mining company.

Technically speaking, diaspore is aluminum hydroxide with the chemical formula  $AlO(OH)$ . It has an orthorhombic crystal



**A cut 157.77-carat diaspore from the Dere region in Turkey.** Photo: ICA.

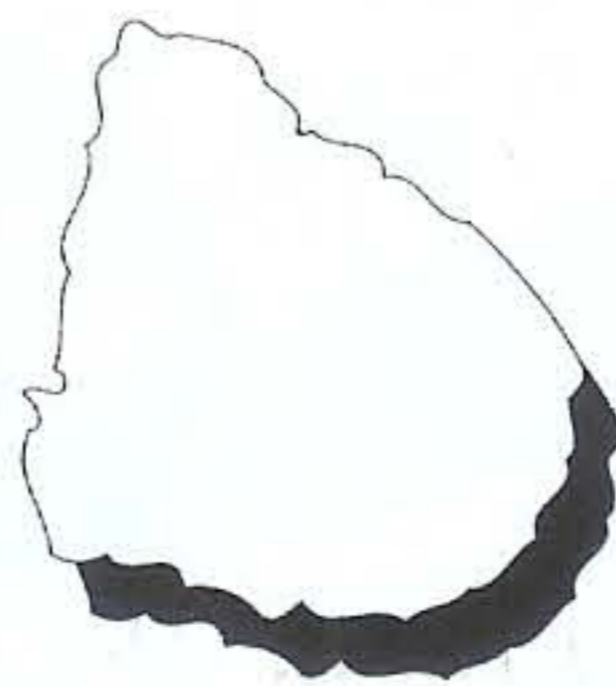
structure, a hardness of 6.5-7.0 on the Mohs scale, and a density (specific gravity) of 3.4. Other names for diaspore are empholite, kayselite, tanatarite, and variations of these. Gem-type crystals

are found with emery deposits in the Ural Mountains and Chester, Massachusetts, and in kaolin at Schmnitz, Hungary. No treatments are known.

Zultanite Gems is seeking to retool the reputation diaspore has acquired in the gem world as being inexpensive. Akgun explains that the material commonly seen is not representative of zultanite: "What's out there now are stones uncovered by independent miners looking to turn a fast dollar; they're of poor quality, very included, and cut in China or Thailand in ways that do not capture the color change. We hope this material will disappear from the market within the next year."



**T**wenty to 30 mines in Uruguay currently produce agate and/or amethyst. These deposits are located in the department of Artigas, about 375 miles north of Montevideo. A percentage of amethyst from this area is also heated to produce citrine.



Dealers in Uruguayan amethyst say that supply at the mines has held steady over the last few years. Artigas is not a high-producing area compared to other amethyst mines like those in Bolivia and Brazil, but demand is high

for Uruguayan amethyst, which is famous internationally for its distinctive deep violet color.