

GRS forges solid path in gem treatment detection

GRS GemResearch Swisslab AG remains at the forefront of developing modern technologies and techniques to detect new treatments in the coloured gemstone industry. In an interview with *JNA*, Dr. Adolf Peretti, founder and CEO of GRS, talks about the lab's chief accomplishments in the past year, and market trends and growth outlook in 2016.

JNA: What were GRS' major accomplishments in the area of coloured gemstone treatment detection in 2015?

Adolf Peretti: A major discovery was that of a new cobalt-diffusion treatment of natural spinel. This treatment is used to make different types of pastel blue spinels to imitate the most expensive varieties of cobalt blue spinel from Vietnam. We alerted the industry and soon after, the market was flooded with this new treatment emerging from Bangkok. The alert came just in time and was shared globally through GRS' social media account. New media allow laboratories to extend its reach to



Dr. Adolf Peretti, founder and CEO of GRS GemResearch Swisslab AG, collects stone samples from an emerald mine shaft in Colombia in October 2015

a wider spectrum of the industry and make it more difficult for new treatments to remain undetected.

JNA: Please tell us more about your findings on misidentification of synthetic spinels in the market and their implication on the gemstone industry.

Peretti: The discovery of a new type of synthetic spinel was made by GRS in Bangkok when the producer claimed that laboratories were misinterpreting his synthetic invention. It was a type of lavender spinels such as pastel violet or purple with a refractive index of natural spinels. These spinels can be mixed into lots with their natural counterparts. Since they were never available in the market, these stones are sometimes misinterpreted by some laboratories in Europe. The key is the high chromium and cobalt concentrations of these new spinels that are not found in natural stones. A simple test can be done using an ultraviolet lamp. More information is found on our website. With proper attention, this synthetic spinel can easily be identified so as not to harm the gemstone industry.

JNA: GRS introduced a new mineral called Perettiite at the 8th European Conference on Mineralogy and Spectroscopy in Rome in August last year. What is the significance of this find to the gemmological world?

Peretti: Discovering new minerals is a constant race against time. Due to erosion and careless exploitation of gem mines, some minerals may remain undetected and lost to science forever. These new minerals are inventions of



From left: Cobalt spinel from Vietnam and two new examples of a cobalt-diffused spinel that recently appeared in the Sri Lankan market

nature made at one point in time, with unique structural and chemical arrangements unknown to science. Perettiite is a spectacular new mineral with the formula $Y^{3+}_2Mn^{2+}_4Fe^{2+}[Si_2B_8O_{24}]$, which is a totally new structure. The mineral was presented in a world tour in 2015. It will be showcased again this year at the Mineralogical Museum in Vienna.

JNA: What is your outlook for the coloured gemstone market in 2016?

Peretti: GRS conducted a market research during the Hong Kong International Jewelry Manufacturers' Show and the China International Jewellery Fair in Beijing held late last year. We talked to around 50 participants to understand emerging trends in the coloured gemstone market through fluctuations in gemstone prices. Our findings suggest that the economic environment had an impact on the gemstone industry and the price range of gemstones. The changes strongly depend on the type and size of coloured gemstones. We will continue to monitor the situation and publish more relevant information on our website and social media channels. **JNA**