GEM NEWS

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DIAMONDS

Africa

Diamond find in Guinea. An exciting new diamond find has been made by Australia's Bridge Oil, one of the partners in the Aredor Diamond Project. The new deposit, which lies outside the main project area, contains six pipes and potentially rich alluvial diggings. Bridge Oil believes at this time that the kimberlite pipes and alluvials contain at least 2.5 million carats of diamonds.

The discovery site covers approximately 300 km^2. The only major investment in the exploitation of the area will be to build a road from the deposit to the ore-processing compound.

Ninety-five percent of the diamond output is expected to be gem quality, with the rough averaging 1–1.2 ct. Diamonds of 3 ct or more are expected to form one-third of the output. Production was scheduled to begin by April of this year. (*Diamant,* January 1985)

Kimberley diamonds dated. According to geochemist Stephen Richardson and his co-workers, the diamonds in Kimberley, South Africa, may be more than 3 billion years old. This is the first time that researchers have been able to scientifically date diamonds.

Hundreds of Kimberley diamonds were crushed to free small garnet inclusions trapped inside. The garnets, which formed at essentially the same time as their diamond hosts, contain trace quantities of radioactive samarium and rubidium and their decay products neodymium and strontium. Using the ratios of these radioisotopes and their corresponding half-lives, the scientists were able to calculate that the diamonds formed 3.1–3.5 billion years ago and were subsequently carried to the earth's surface by igneous eruptions that occurred millions of years later. (*De Belgische Diamantnijverheid,* December 1984)

Australia

Production at Argyle Mines declines. As anticipated, the carat yield of diamonds at Argyle Diamond Mines in Western Australia declined from 6.2 million carats in 1983 to 5.69 million carats in 1984. This is due to a depletion of the higher-grade alluvial material. The average yield for 1984 was 3.86 ct per ton, down from 5.81 ct per ton in 1983. (*Mining Journal,* April 1985)

Canada

Exploration scheduled in British Columbia. Diamond exploration of an area in British Columbia known to have two kimberlite pipes is planned by Dia Met Minerals. A core sample taken in 1982 of the larger pipe revealed a total of 60 diamond indicator minerals such as pyrope, ilmenite, and chromite. A 0.43-mm gem-quality diamond was also found on the site. (*Mining Journal,* March 1, 1985)

China

Diamonds discovered in China. A group of Australian gemologists who were allowed to explore mainland China have reported recent discoveries of "exceptionally beautiful" diamonds in that country. As a result, the government at Peking has decided to accelerate diamond-mining development. In view of these recent discoveries, and a few notable ones in the past, it is possible that significant diamond finds may be made in China. (*Gem and Jewellery Business Intelligence,* March 13, 1985)

United States

Diamond found in Alaska. A 1-mm octahedral crystal found in 1982 in a gold sluice box in the Circle District near Fairbanks, Alaska, was recently examined by a De Beers subsidiary and found to be diamond.

A team of geologists has since explored the area where the crystal was discovered and found chrome diopside, garnet, and magnetite, which are all associated with kimberlites. However, no other diamonds were found. The geologists believe that the diamond was transported a long distance from its geologic point of origin. (*National Jeweler,* February 16, 1985)

PRECIOUS METALS

Alluvial gold in India. Eight million cubic meters of gold-bearing alluvium estimated to contain approximately 3,000 kg of gold have been located by the Geological Survey of India in the Nilambur area of Kerala. The Kerala state government, with the assistance of United Nations experts, intends to set up a pilot mining operation to study the feasibility of mining this and other alluvial deposits. (*Mining Journal,* April 19, 1985)

Bacterial gold mining. Albert Bruynesteyn, of Burnaby, British Columbia, a research pioneer in the development of accelerated bacterial leaching of ore, has proposed a plan to rework abandoned gold mines by using bacteria to eat away the unwanted waste material and leave the gold behind.

Precious Metals Bioleaching reported at a recent Canadian Institute of Mining conference that they have found a way to accelerate the leaching process so that it proceeds thousands of times faster than it occurs in nature. The technique should be viable for commercial application within the next few years. (*The Daily Breeze,* November 18, 1984)

Bolivian placer gold. Cofadena, the armed forces development corporation of Bolivia, has recently announced that it will develop its placer gold deposits in the Kaka and Mapiri rivers, located approximately 150 km (93 mi.) north of La Paz. Cofadena plans to work the high terraces by using a washing plant first and then follow up by dredging the alluvial deposits. The Upper and Lower Mapiri will be worked first; the Upper Mapiri area is said to average over 0.2 g of gold per cubic yard. (*Mining Journal,* April 5, 1985)

Gold and silver exploration in Guatemala. The Guatemalan Ministry of Mines began a 32-hole exploratory drilling program in February 1985. The target area measures 1.3 km^2 and is situated near El Pato and Poxte in the Chiquimula area. Some surface trenching and tunneling is also planned. Early geologic samples taken from the area have graded between 8 and 25 g of gold, and 5 to 15 g of silver, per ton. (*Mining Journal,* March 15, 1985)

Saudi Arabian gold mining. Two more contracts, for water and electrical works, for the development of the Mahd Al-Dhahab Gold Mine have been awarded by Petromin of Jeddah. When operational in mid-1987, the gold mine, located 275 km (171 mi.) northeast of Jeddah, is expected to produce two to three tons of gold. (*Gem and Jewellery Business Intelligence,* February 20, 1985)

SYNTHETICS AND SIMULANTS

Method for coating with synthetic diamond. When microwaves irradiate a mixture of methane and hydrogen gases, tiny microscopic synthetic diamonds are produced. This treatment decomposes the gases to create a plasma of charged particles. Over a period of hours, the carbon from the methane combines to form tiny synthetic diamonds not more than 30 μm in diameter. The synthetic diamonds form on the surface of a support placed inside the microwave chamber. Researchers at the Hitachi Research Laboratory in Japan, who discovered the technique, see possible future applications for placing synthetic diamond coatings on silicon wafers for the integrated-circuit industry. Such coatings could be deposited on other surfaces as well. According to the scientists, the method is far from ready for industrial application. The ideal conditions in the microwave chamber for producing synthetic diamonds have yet to be discovered. Under some circumstances, graphite or some other form of elemental carbon may be formed and deposited instead of diamond. (*Science News,* January 26, 1985)

New man-made materials developed. Two materials originally developed for the laser industry are now being faceted and set in jewelry: Alexandrium and Laserblue. They are not classified as synthetics because they do not duplicate natural minerals. Alexandrium, so named because it exhibits a color change from lavender to light blue, is a lithium aluminum silicate. Its color change is due to the added rare earth metal, neodymium. It has an R.I. of 1.58 and a hardness of 6.5. Laserblue is a borosilicate with a large percentage of copper that gives it a vivid blue color. It has an R.I. of 1.52 and a hardness of 6.75. Both materials are amorphous, singly refractive, and sensitive to heat, which causes them to lose color and crack; they are also attacked by acids. (*Jewellery World,* April 1985)

Plastic scrimshaw. Opaque white polymer plastics formed in the shapes of whale teeth and bones are being used as substitutes for the true whale bones and teeth traditionally used for the American art form known as scrimshaw. The carving on some of these imitations is excellent, and many are weighted with lead to give them a more realistic heft. If you intend to purchase scrimshaw, be sure to check the item closely under magnification for the typical structures associated with the natural materials (*Connoisseur,* March 1985)

ANNOUNCEMENTS

Hong Kong Jewelry & Watch Fair. The 1985 fair has been scheduled for September 10–13, 1985. Three venues—the Regent Hotel, the New World Hotel, and the Golden Mile Holiday Inn—will highlight every major line of the jewelry, watch and clock, and gemstone industry. For details, please contact the organizer: Headway Trade Fairs Ltd., 628 Star House, 3 Salisbury Road, Kowloon, Hong Kong.

A European conference on precious stones has been scheduled for October 18–21, 1985, in Antwerp, Belgium. Organized by the Coloured Gemstones Federation and the Diamond High Council in agreement with the Antwerp Chamber of Commerce, the conference will offer lectures and seminars under two headings: "Geology and Gemmology of Precious Stones" and "Economy of Precious Stones." Experts in these fields interested in speaking are encouraged to apply to the Dia-

mond High Council, Public Relations, Miss M. Moll, de Kayserlei 58-60, B-2018 Antwerp, Belgium.

At the request of the gem trade, the date of **Munich's INHORGENTA 86**—the 13th International Trade Fair for Watches, Clocks, Jewellery, Precious Stones and Silverware, and their Manufacturing Equipment, has been postponed and definitely fixed for February 7–11, 1986.

Diamond bourse in Singapore. As of January 1, 1985, the Diamond Importers Association of Singapore (D.I.A.S.) became the Diamond Exchange of Singapore (D.E.S.), the first diamond-trading center in Asia. D.E.S. is a member of the World Federation of Diamond Bourses and is determined to act as a self-regulating authority to maintain high standards in the diamond trade. All existing members of D.I.A.S. are automatically members of D.E.S. The exchange is located at 545 Orchard Road #05-06, Far East Shopping Center, Singapore 0923. Telephone: 2354326.

Schuetz design winners announced. GIA's Jewelry Manufacturing Arts Department, which each year administers the George A. Schuetz Memorial Fund Jewelry Design Contest, has announced the winners of the 1985 competition. First prize has been awarded to Judy Evans of Minneapolis, Minnesota, whose

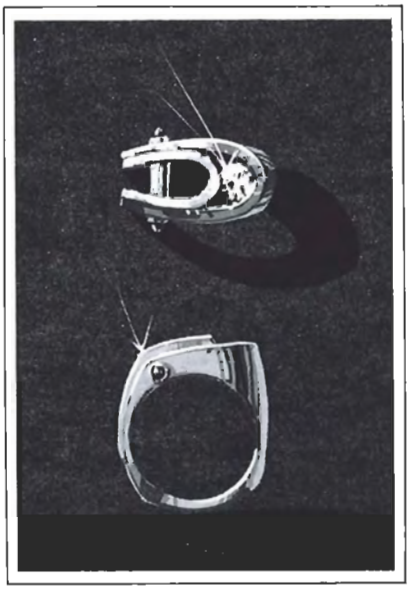

Figure 1. Judy Evans won first place in the 1985 Schuetz Jewelry Design Contest for this rendering of a platinum-and-gold man's ring.

rendering of a platinum and 18K gold man's ring earned her a $500 scholarship award. The ring, as designed, is set with two sapphire cabochons and one round-brilliant diamond.

Second place went to Victoria Jirikow of Playa del Rey, California. She was awarded a $300 scholarship for her design of a platinum man's ring with black onyx insets. Silvia Pompeo of Rome, Italy, garnered third place (a $200 scholarship) for her design of a platinum pocket watch (with chain), inset with burnished iron and diamonds.

The Schuetz contest, established in the memory of George A. Schuetz, Sr., longtime president of Larter and Sons, an East Coast jewelry manufacturing company, is for the design of men's jewelry only. The scholarships may be applied to jewelry-related training at any institution of the winners' choosing. The deadline for next year's Schuetz Contest is late February, 1986. Detailed information on contest rules will be available this fall from GIA's Jewelry Manufacturing Arts Department.

L. A. County Museum of Natural History unveils a new gemstone gallery. May 3 marked the opening of the Deutsch Gallery at the Los Angeles County Museum of Natural History.

The new permanent gallery, titled "Gemstones and Their Origins," explains how gem materials are formed, mined, and shaped into sparkling jewels. The graphically exciting exhibit contains colorful maps, rough-and-cut gems, a 400-lb. amethyst geode, and touchable turquoise and jade specimens. Visitors also have the opportunity to view the miniature world of gemstone inclusions as seen with a microscope video system. For more information about the gallery, call (213) 744-3411.