GEM NEWS

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DIAMONDS

Angola. Angolan production of industrial and gem diamonds for 1980 represents the highest output since the country gained its independence in 1975. The total of approximately 1.5 million carats contrasts with 840,000 carats for 1979 and 650,000 carats for 1978; although in 1973, prior to independence, Angola's Diamang mines produced 2.12 million carats, 8% of the world production. Civil war interrupted production in 1975, when the total had been expected to reach 3.5 million carats.

Seventy-seven percent of the shares in the Diamang mines are held by the Angolan government, which assumed control of the Portuguese holdings. British, South African, U.S., Belgian, and Swiss interests in the mines were unaffected.

Australia. The Ashton Joint Venture expects its large plant in Argyle, Western Australia, to begin operation some time in 1985. Once in operation, the plant is expected to employ 500 people (the current work force is 225) and to produce 20 to 25 million carats of diamonds a year from five million tons of ore. This amount represents a considerable percentage of world production, which in 1980 totaled 50 million carats. It is estimated that perhaps only 10% of the Ashton product will be stones of gem quality.

Botswana. The large new Jwaneng mine is expected to begin operation in 1982 and to produce 6 million carats per year by 1985, which will bring Botswana's total annual production to 10 million carats. The government of Botswana plans to establish a pilot diamond-cutting and polishing plant at Gabarone in cooperation with the Antwerp cutting firm of Mabrodiam. There will be an initial staff of 50 employees, with an anticipated expansion to 500.

Lesotho. The second phase of a joint Canadian/Lesotho diamond mining project, begun in 1978, will be Canada's grant of C$882,000 toward developing a cooperative for Lesotho diamond miners in the Maluti Mountains. The Canadian International Development Agency is providing a mining advisor, training, and mining equipment; the agency is also covering operating and maintenance costs. Twenty-five percent of the equity in the mining company is held by Lesotho, a small country in southern Africa. After amortization of the capital investment, 62.5% of the profits will accrue to the Lesotho government through taxes and dividends.

U.S.A. Increased tourism and pressure from commercial mining companies have followed the discovery on June 23 of an 8.82-ct. diamond at Crater of Diamonds State Park, Murfreesboro, Arkansas. Nearly 4,000 gemstones have been found at the site since it became a park in 1972. The stone discovered this year is the second largest on record; the first is a 16.37-ct. stone found in 1975. Anaconda Company and Superior Oil Company have joined other companies that have been purchasing mining rights from landowners near the park and propose to evaluate the commercial potential of the crater and the surrounding area.

U.S.S.R. A new diamond mine is under development in the Yakut area of Russia. Two shafts—one for extraction and one for ventilation—are already being excavated, and will reach a depth of almost 1,000 m.

PAKISTAN ENTERS THE GEM SCENE

Editor's Note: We are greatly indebted to Dr. Edward Gübelin for this report on current gemstone activity in Pakistan, where he traveled this past spring.

In recent years, with the discovery of large deposits of emerald in the valley of Swat and of ruby in the rugged Hunza Valley, Pakistan has become both producer and potential marketer of these stones. Pakistan is now producing a variety of gemstones, which mainly include emerald, ruby, spinel, topaz, aquamarine, chrome diopside, kunzite, garnet, chrome-tourmaline, and quartz; there are also ornamental stones such as agate, chalcedony, jasper, sodalite, serpentine, turquoise, and nephrite.

Emerald. Some of the finest emeralds in Pakistan come from the valley of Swat, in the foothills of the Hindukush range. The Gemstone Corporation of Pakistan, founded in February 1979, has resumed operation of the

emerald mines near Mingora, which produced about 410,000 carats in 15 years. All the mines—one large and two smaller ones—are being operated at the moment, and the emeralds excavated have become well known for their brilliant, medium-to-deep green color as well as for their unique transparency, comparable to the finest specimens from Muzo, Colombia. The stones are small, with cut gems averaging less than one carat, although a few larger stones have been found. Faceting of the stones presently lacks precision, but the corporation is aware of this deficiency and is introducing at least one automatic cutting machine as well as training a staff of lapidaries.

Ruby. Rubies that range in color from pigeon's-blood to pale red are found in abundance below the Karakoram Mountains in the Hunza Valley. These deposits are presently mined on a small scale, but expansion is anticipated. In this region, mica schists are frequently traversed by relatively broad banks of crystalline marble in which ruby, spinel, and chrome diopside are found. Hunza Valley rubies occur in very large sizes—some up to 40 mm in length. However, the majority of the stones are turbid, that is, marred by various inclusions and cracks, and many display large white patches of calcite. While the area has not yet produced transparent stones for faceting, the best-quality material lends itself very well to cabochons. The principal feature of the Hunza rubies is their color, which in numerous specimens is identical to that of the finest Burmese rubies. Those emerald and ruby crystals that are not suitable for cutting but are extracted on matrix are often attractive to collectors as mineral specimens. It may be expected that the quantity and quality of both emeralds and rubies will increase as prospecting and mining techniques in the area improve.

Spinel. Well-shaped crystals of spinel in a variety of colors—bluish pink to deep red, violet-blue, and purple-red to almost black—have been found associated with rubies in the Hunza Valley. Because of their clean crystal shapes, they are used primarily for mineral specimens on matrix.

Topaz. Topaz crystals of rare natural pink color (not treated, as those from Brazil are) were mined a couple of years ago at Katlang in the Mardan area, about 75 km northeast of Peshawar. That deposit may now be exhausted; demand for the stone has depleted the available supply.

Aquamarine. Large, clear, colorless goshenite crystals and light blue aquamarine crystals are found in great quantity beneath the famous K-2 peak—the second highest in the world—of the Karakoram range above Dassu in the area of Skardu. Close inspection of some crystals reveals that many specimens offered for sale have been fraudulently misrepresented: for example, some crystals were found to be sawed, with terminations artificially formed by grinding and polishing the stones. A note in an American journal recently mentioned a new source of aquamarines in the Haramosh Valley; however, there is no such valley and the Haramosh Mountain does not house aquamarine. Apart from quartz of inferior quality and a few odd goshenite crystals, the Haramosh Mountain does not appear to produce any desirable gemstones. The pegmatites in which the quartz and goshenite occur are covered by snow most of the year.

Chrome Diopside. Locally known as "Hunzanite," large emerald-green crystals of chrome diopside frequently are found associated with rubies in the Hunza Valley. Some of the more turbid specimens yield a cat's-eye effect when cut as cabochons.

Kunzite. Large, clear crystals of kunzite of cyclamen hue are commonly found in Chitral Province.

Garnet. Pyrope garnet is commonly found near Dir, in the Swat Valley in Chitral Province, and in the valley of Baltistan. It is quite abundant in the goldsmith and jewelry shops of northern Pakistan. Whether demantoid garnet is really found in the emerald-bearing belt in Swat, as is claimed in some gem booklets, is most uncertain.

Chrome Tourmaline. Chrome tourmaline has been observed to occur in calcareous rocks near Alpurai in the Swat Valley, but samples have proved too small for use as gemstones.

Quartz. Large, clear, and transparent quartz crystals (rock crystal and smoky quartz) occur in quantity near Dir, in Chitral Province, in the Gilgit area, and in the valley of Baltistan.

Ornamental Gems. Agate, chalcedony, and jasper also occur widely at several different localities in Pakistan. In the southeast corner of Swat Province, sodalite has been found. Other ornamental gems found in Pakistan include serpentine, green turquoise, olive green nephrite, and large deposits of chalcedony of fine luster and hardness in brown, chocolate brown, green, and bluish hues. Such stones, sometimes in the form of carved ornaments, may be encountered in shops all over the country. Lapis lazuli, tourmalines, and emeralds from Afghanistan are sold in large and small quantities by dealers in Pakistan. Synthetic stones and imitations are also in abundance.

EXHIBITS

American Museum of Natural History—Central Park West & 79th St., New York, NY 10024. Telephone (212) 873-1300.

"Through the Looking Glass: History of Microscopes" is an exhibition organized by the American Museum and the New York Microscopical Society which shows the development of the microscope "from an amazing curiosity to an important scientific tool." Numerous modern optical microscopes and the scanning electron microscope are subjects of the display, which uses enlarged photographs and videotapes, as well as the instruments, to tell the story. Opened September 30 and runs through December 30, 1981, in the museum's Akeley Gallery.

Arizona-Sonora Desert Museum—Route 9, Box 900, Tucson, Arizona 85704. Telephone (602) 883-1380.

The museum adds to its presentation of the origins and development of the American Southwest with a new main exhibit gallery, mineral hall, replica of an underground mine showing four mineral pockets, and terrace with amphitheater. The main gallery contains a number of exhibits depicting the history of the earth through dramatically presented films, sound effects, and natural settings which include live plants and animals. On display in the mineral hall are regional minerals, some in specimens viewed through microscopes, cut gemstones, and jewelry. The technology and equipment for dramatizing the various exhibits were developed only recently; in several instances, they are used here for the first time. Dedication ceremonies will be held December 10; the new exhibits will be open to the public December 11.

ANNOUNCEMENTS

Sri Lanka's First International Coloured Gem Stones Conference and Gem and Jewellery Exhibition will be held in Colombo February 1–2, 1982, at the Bandaranaike Memorial International Conference Hall. The conference theme is "Why Coloured Gem Stones?" Dr. Edward Gübelin will speak on the first day; there will also be talks by other gemologists, jewelers, and gem dealers as well as panel discussions. Further information may be obtained from Conventions (Colombo) Limited, P.O. Box 94, Colombo 1, Sri Lanka. Telex: 21124 MAKINON CE.

Preparations are under way for the first International Gemological Symposium, to be held in Los Angeles February 12–15, 1982. GIA will host the event at the Century Plaza Hotel, where there will be presentations by over 60 speakers from the international gemological community. Also planned are an open house at GIA and a ball at the L.A. County Museum of Natural History, which houses over 2,000 mineral specimens and the Hixon Collection of cut gemstones. Information is available by writing to Elizabeth E. Knowlton, Symposium Coordinator, GIA, 1660 Stewart St., Santa Monica, CA 90404. Telephone: (213) 829-2991

The annual commodity meeting of the Institution of Mining and Metallurgy will be held Thursday, December 3, 1981, at the Goldsmiths' Hall, London. Entitled "Gemstones," the meeting will cover exploration, production, and marketing of natural gemstones, as well as production of synthetics and problems of their identification. Speakers will include representatives from the Anglo-American Corporation of South Africa, the Diamond Trading Company of London, CRA Exploration of Western Australia, and Rio Tinto Mining of Zimbabwe. Information on papers to be presented and displays, as well as registration forms, is available from the Conference Office, Institution of Mining and Metallurgy, 44 Portland Place, London W1, England. Telephone: 01-580 3802; telex: 261410.