GEM NEWS

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DIAMONDS

DeBeers reports that world sales of diamond jewelry rose in 1982 to 33 million pieces from 32 million pieces in 1981, and Christmas sales of jewelry exceeded expectations.

Interest in medium- and higher-grade diamonds is picking up, and small polished diamonds are in short supply, according to Antwerp dealers.

A new diamond imitation has been circulating during the past year. It is a doublet consisting of a diamond crown and a cubic zirconia pavilion. The difference in girdle textures is immediately evident in the case of loose stones. In the case of mounted stones, however, British gemologist Alan Hodgkinson suggests the following tests: (1) look for a "picture frame" effect as the table facet is reflected off the junction plane; (2) hold a pin over the table—the pin will reflect from the table and from the junction plane as well; (3) use a fiber-optic light to pinpoint the reflection from the table and junction plane (*Retail Jeweller,* June 3, 1982).

Australia. A new company, Argyle Diamond Sales Ltd., will be marketing the 95% of Argyle diamonds produced for Conzinc Riotinto Australia and Ashton Mining Ltd. Initial mining of alluvial diamonds is expected to produce 5 million carats annually until mid-1985, when operations will commence at Kimberlite pipe AK1. The pipe should produce 2.9 million tons of kimberlite over a 20-year period, at a rate of 20 to 25 million carats per year (four to five tons of material). Mining in the area is foreseen for possibly 40 years. The deposit at Ellendale is not yet considered economically feasible. Four hundred and forty workers will work the mine.

Exploration in Western Australia during the three months prior to September 30 yielded 139,000 ct of diamonds. One hundred and twenty-six thousand carats were produced from 50,000 tons of ore, the largest crystal weighing almost 12.2 ct.

Belgium. Despite the recession, the import of diamonds into Antwerp, chiefy rough, maintained through the first 10 months of 1982 a 6% increase over the comparable period of 1981.

Twenty percent of Antwerp's 8,000-member diamond work force are unemployed, and a similar number are only partially employed, according to industry figures. To increase the competitiveness of this cutting center, the Industrial Committee of the Diamond High Council in Antwerp is conducting a retraining school. The aim is to teach techniques for additional cuts that are currently in demand in the world market.

Botswana. "Orapa House," Botswana's new sorting headquarters, has been opened in Debswana, so that the nation's growing diamond production can be sorted and priced within the country. Orapa, Letlhakane, and Jwaneng, Debswana's mines, are expected to produce 9.5 million carats of gem and industrial diamonds by 1985.

China. This past fall, the geological bureau of Shandong province recorded the discovery of a 96.94-ct diamond at the Chenjiafu diamond placer mine near Tancheng. Two other large diamonds were found in that area in 1979 and 1981; they weighed 158.79 ct and 124.27 ct, respectively. In addition to these stones, numerous diamonds of over 10 ct and large quantities of chrome-containing gem garnets were found in the same location. According to the bureau, a general survey of the area is being conducted to search for the as-yet-undiscovered primary deposit.

Guinea. Production of diamonds and gold in the Baule Basin of Guinea is scheduled to start in early 1984. Aredor, a joint venture of the People's Revolutionary Republic of Guinea (50%), Bridge Oil of Australia (45%), Industrial Diamond of London (2.5%), and Simonius Vischer of Switzerland (2.5%), is expected to process 400,000 cubic meters of diamond-bearing gravels per year and to maintain that level of production for 14 years. The rate of diamond recovery is estimated at 0.05 ct per cubic meter. Up to 80% of the diamonds are purported to be of gem quality.

Israel. Ramat-Gan's net diamond exports for 1982, which had been predicted to reach $800 million, rose to $900 million before the year's end. Exports to Hong Kong, the U.S., and Japan increased, while net imports (primarily of small stones) rose nearly 30%.

As a result of a labor dispute in Israel's diamond factories, workers are receiving a 10.9% pay increase retroactive to September 1, 1982. The increase met the approval of the nation's manufacturers, labor unions, and government.

Japan. As of April 1, 1983, the 3.1% customs duty on polished diamonds has been abolished. Leading bene-

ficiaries of the action are Israel, Belgium, and India, which combined represent 73% of Japan's annual polished diamond imports.

Diamond jewelry sales in Japan reached $3.2 billion in 1981, over five times the amount recorded for 1971. Figures for 1982 are expected to be on a level with 1981.

Portugal. Illicit diamond traffic in Portugal is estimated at 1.5 million carats. The Angolan government, suffering the loss of revenues from its Diamang mines, has requested help from Portugal in curbing the smuggling.

Singapore. South Asia Diamond Company, the Singapore polishing plant organized in the Kallang Basin industrial estates, completes its first year's operation with an output of 1,250 to 1,500 ct per month. The company polishes diamonds with computerized machines. The staff of 40 workers has been trained by cutters from Britain, Belgium, and Israel.

South Africa. A diamond weighing 64.94 ct was recovered in the latter part of 1982 at the Octha Mine near Sendelingsdrift on the Orange River. It has been speculated that the crystal would yield a round brilliant of at least 26 ct. The color of the rough is estimated at F or G and the clarity at flawless to VVSI.

U.S.A. Visitors to the Crater of Diamonds State Park, Park County, Arkansas, found approximately 1,300 diamonds—the majority of which are suitable only for industrial use or as mineral specimens—in 1982. The mining is considered a recreation; 68,000 people visited the park during the year.

Venezuela. Venezuela's annual output, down from 800,000 to 750,000 ct in 1981, is expected to drop to less than 500,000 ct for 1982. Approximately 21% of the production is of gem quality.

COLORED STONES

Cat's-eye Chrysoberyl. A large quantity of cat's-eye chrysoberyl was discovered on a ranch in central Zimbabwe, close to the Sandawana emerald deposits. Inasmuch as most cat's-eye material comes from secondary deposits—decomposed pegmatites or alluvials—this discovery may lead to the actual source of the stones.

Emeralds. Machinery made in the area of Ramat-Gan, Israel, is being used by the Israel Emerald Cutters Association to produce large quantities of emeralds in calibrated sizes. The new equipment improves cutting efficiency while increasing the yield from rough stones.

In 1982, three emerald deposits were discovered in Pakistan, at Charbagh, Makad, and Gujar Killi in Swat. The Gujar Killi emeralds will be mined by open-pit methods. Existing emerald mines at Mingora, Swat, will be modernized. Deposits of aquamarine and golden topaz have been located in northern Pakistan. Topaz occurrences at Katlang, in the Mardan district, are currently under study.

The Santa Terezinha deposits in the Brazilian state of Goias, discovered within the past two years, may be mined only by native Brazilians, by order of the government. To date, the largest reported clean stone is a 60-ct crystal.

Pearls. Japan's export of cultured pearls decreased considerably during 1982; records for the first eight months show a 14% drop when compared with the same period for 1981.

Small Biwa and Keshi pearls are difficult to obtain, but medium-sized pearls are in sufficient supply. It is not presently known what quantities the spring Biwa harvest will yield.

Chinese freshwater cultured pearls are plentiful.

Quartz. An amethyst deposit has been discovered in the Brazilian state of Goias, 35 km from the Santa Terezinha emerald mines.

Demand for fine, large amethysts is reportedly strong. Supplies of commercial grades from Africa and South America are adequate (see the following section on "Tucson" for a description of amethysts from another new source in Brazil), although Zambian exports have been interrupted for political reasons.

Fine citrines are also showing increased popularity; supplies in all sizes and grades are plentiful.

Taaffeite. In December, the discovery of another taaffeite was reported. The 2.41-ct specimen was included in a parcel of assorted rough purchased in Thailand. The stone is colorless, waterworn, and irregular in shape. The ordinary ray has an R.I. of 1.717, and the extraordinary, 1.720, with a birefringence of 0.004 and a specific gravity of 3.59. There are iron oxide stains in cracks, and the crystal contains small planes of liquid and crystal inclusions. Only about 50 specimens of taaffeite have been identified to date.

Topaz, Radioactive Irradiated. The Brazilian government is investigating unauthorized irradiation of gemstones at its two nuclear reactor facilities following the recent discovery that some irradiated topaz exhibited excessive levels of radioactivity. Stones irradiated by high-energy electron beams or by gamma radiation do not retain appreciable radioactivity and are quite safe for jewelry use. Stones that have been treated in atomic piles, however, are exposed to neutron radiation, which can cause lasting radioactivity. American gem dealers are concerned that Brazil may end all irradiation of stones to curtail the supply of irradiated topaz—in the interests of economics as much as of health.

Tourmaline. The Himalaya Mine in Southern California is continuing to produce pink, green, and bicolored

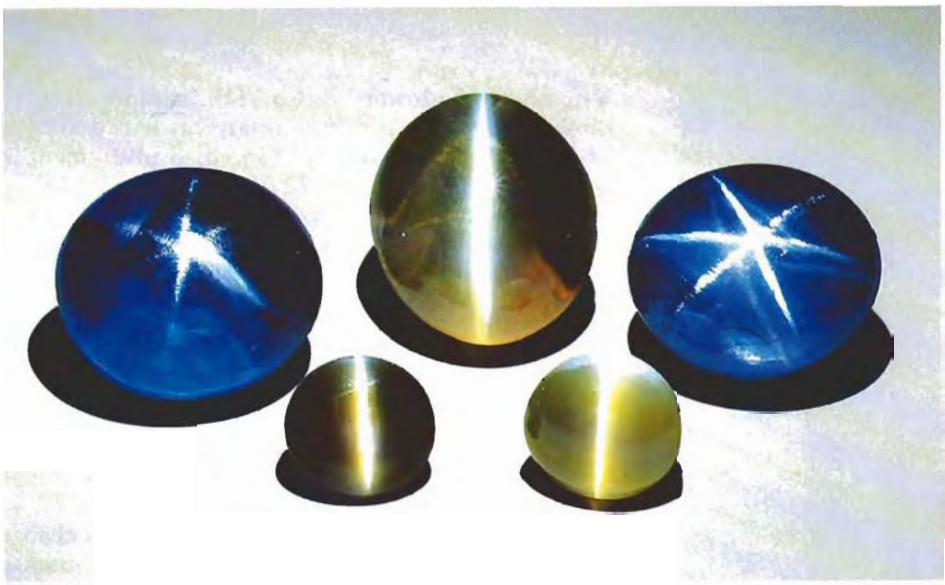

Figure 1. These star sapphires and cat's-eye chrysoberyls are representative of some of the fine gems seen at the February 1983 Tucson gem and mineral show. Upper row, left to right: 70.26 ct, 63.07 ct, 78.52 ct. Lower row: 12.08 ct, 17.08 ct. Photo © 1983 Tino Hammid.

tourmalines. The crystals are generally one-half to two inches (1–5 cm) in length, although some are three inches (7.5 cm) or longer. A substantial proportion of the material is recovered as gem "pencils." The average yield for one month is 100 to 200 pounds of all qualities. Approximately 80% is bead material, 10% fine bead, 8% cabochon, and 2% suitable for faceting. The largest stone cut from a Himalaya crystal thus far is a 75-ct bicolor.

Synthetics. The Ramaura Created Ruby, introduced this year at the February Tucson show, is being produced and will soon be marketed in Southern California. It has been manufactured in a range from dark red to lighter red with pink overtones, and in orangy to purplish hues. Flux grown, it displays characteristic flux inclusions, in addition to growth zoning and some color zoning. The manufacturer reports that the material will be doped to produce a characteristic fluorescence. This synthetic will be discussed at length in an article currently being prepared for *Gems & Gemology*.

In the experimental stage is a hydrothermal emerald with mid-range optical and physical properties. It is nonfluorescent and close to inclusion-free.

TUCSON, 1983

Initiated in 1955 by the Tucson Gem & Mineral Society, what began as a two-day show for eight small mineral dealers has become a two-week event involving hundreds of dealers gathering from around the world to exhibit gems and mineral specimens in eight hotels in addition to the Tucson Community Center. There was more activity at Tucson in 1983 than has been seen there the past two years, and participants hoped the attitude presaged an improved business climate for jewelers and gem dealers in the months to come.

Sri Lankan rubies and sapphires were seen in abundance. In recent months, fancy-colored sapphires have been more readily available in the Far East, although blue stones, particularly in calibrated sizes, have been scarce in fine quality.

Attracting a great deal of attention was a 1,126-ct pinkish orange sapphire crystal (illustrated on page 35 of this issue) reported by its owner to have been recently removed from Ratnapura in January. It was expected to yield a cut stone of at least 200 ct. The same concern displayed four translucent deep blue star sapphires, in weights ranging from 70.26 to 87.06 ct, and several fine cat's-eye chrysoberyls (see figure 1).

Yogo sapphires were also seen. These lighter and brighter blue sapphires, mined in Montana and promoted by a Denver-based firm, will be marketed in finished jewelry pieces throughout the U.S., Europe, and Japan by the end of 1983.

Spinels, especially in reds and pinks, have been plentiful in Bangkok, and were shown by numerous dealers. Topaz was in good supply, especially in rough form, and several faceted imperial topazes were on display.

There was a great deal of tourmaline, including indicolites and rubellites. Rubellites from last year's discovery in Ouro Fino (near the southern tip of Minas Gerais, Brazil) were displayed, including a 48.32-ct faceted oval-shaped stone. Approximately 85% of the faceted stones from the mine's yield are smaller than 4 ct. There have been, however, a number of 9-ct stones; the oval stone, known as the Princess of Ouro Fino, is the largest yielded by the mine. The fine red material, of exceptional clarity, was found in two pockets, both of which are now depleted.

Emeralds were plentiful. Two particularly large stones, one of 44.07 ct and the other of 47.30 ct, were shown by different companies. What is reported to be

Figure 2. This 667-ct Muzo emerald crystal (2¼ in. high × 1½ in. wide) was on display at the Tucson Community Center. Stone property of Allan Caplan, New York, NY. Photo © 1981 Harold & Erica Van Pelt—Photographers, Los Angeles, CA.

one of the finest emerald crystals known to exist today was on display at the Tucson Community Center (see figure 2). The 667-ct deep-green crystal came from the Muzo mine in Colombia.

In spite of repeated reports concerning the rarity of tanzanites and tsavorites, especially in substantial sizes, a number of both were shown. (The tanzanite mine is closed, and the Tanzanian military has halted mining of the dumps. However, the Tanzanian government is in the process of taking over the mine, and should be releasing more material in the near future. A number of Kenyan tsavorite mines have closed; the cost of production—gasoline for vehicles is a serious consideration—became prohibitive.)

A new find of aquamarine, displayed in rough form, came from Hunan, China. The crystals were less than 10 cm in length, and of a medium blue reminiscent of Pakistan material.

There were a number of fine Burmese peridots, including one of 77.5 ct. Another dealer had six stones of 40 ct each, all cut from the same crystal.

A fine 14.74-ct alexandrite exhibited a color change from plum to olive green. There was also an intense green 4.35-ct faceted demantoid, which displayed an easily eye-visible horsetail inclusion under the table.

Amethyst was seen in quantity. Fine-colored amethyst has been coming from Para State, Brazil, since last summer. The material is intense, with red overtones, and is found in crystals of up to 40 ct. Many dealers were also displaying synthetic amethyst.

Sugilite was abundant *en cabochon* and in carvings, as well as in a few faceted stones.

A golden yellow fluorite of 1,031 ct was displayed in the main show at the Tucson Community Center. It is reported to be the world's largest faceted eye-clean fluorite.

Also on exhibit at the main show were some sizable crystals of spodumene and tourmaline from a pegmatite discovery made a year ago in Nuristan, Afghanistan. Morganite in feldspar, quartz in feldspar, and lepidolite mica were also found in the pegmatite. Approximately 25% of the spodumene and tourmaline has been cut into stones. Some of the tourmaline was sent to China for carving. It is reported that the mine owners were able to smuggle the bulky material out of the country despite the Russian occupation.

ANNOUNCEMENTS

AGTA Design Contest

The American Gem Trade Association has announced the first competition to promote the design of colored-stone jewelry. The contest is open to participants throughout the world from students to professional jewelry designers. At least 80% of the gems in the finished piece submitted *must* be colored stones, and no more than 20% may be diamonds. Awards will be made during the AGTA Fair and Conclave in Tucson, Arizona, February 1984. Rules and applications are available from the AGTA Spectrum Award Commission, P.O. Box 32086, Phoenix, AZ 85064. The deadline for entries is July 29, 1983.

GASA

The Gemmological Association of South Africa has been established in Johannesburg. The president is Arthur Thomas; Ian Campbell (founder of the Rhodesian Gemmological Association) is secretary.