

GEMSTONES*

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For gemstone mining and production 2002 was a very turbulent year. The markets started the year in a fairly subdued state and there was even a small increase in sales and production during the middle part of the year. Soon after the major incidents in the US in early September, large-scale investment in gem mining and production was cut, mainly owing to the sudden economic downturn as a result of the worsening political situation and the considerable nervousness in the world markets.

Despite the difficult conditions, China and Myanmar (Burma) still continued to flood the world markets with inexpensive, extensively treated, artificially, coloured gem materials, together with small quantities of high quality, expensive untreated stones. There was, however, a noticeable absence of the larger, high-quality gems, despite new mining ventures and finds of new gem deposits especially rubies in Myanmar.

There was relatively little mining for gems in Brazil in the earlier part of the year, but after September there was even less activity.

African production was also affected during the year and there were problems with production in Nigeria and Madagascar owing to political unrest in these countries. Zimbabwe production was affected by the worsening unrest in the country, and foreign mining investments decreased.

The Chinese internal consumer market for gems remained strong through 2001 and much of the production was purchased for internal consumption.

In the US, the demand for gemstones remained strong for the first half of 2001 but

decreased sharply by the third quarter of the year as consumers and producers' minds became pre-occupied with the worsening international situation. There was one marked increase in production and that was from the red beryl mines in the Thomas and Wha Wha Mountain ranges in Utah. New investment in specialist extraction machinery paid dividends, with the successful extraction of sizable crystals largely intact. Previously, mining techniques had broken considerable numbers of gem-quality crystals as they were extracted from the hard unforgiving kaolinised granite. Crystals as large as 25 cm in length were reported.

The Indian market was fairly strong but was also affected by a major downturn towards the end of the year. There was large-scale production of gem materials, but despite this there was still a shortage of fine-quality stones. The State of Orissa continued to produce a range of medium-sized chrysoberyl catseyes. There was a major find of gem-quality sapphire-blue kyanite, and a range of fine blue almost clean gems were finding their way on to the world markets. Despite the considerable difficulties in cutting these gems, (this material has considerable variance in hardness with cutting direction) a number of gems were produced. These stones can easily be mistaken for fine-quality sapphires and many are finding their way into jewellery.

Pakistan started the year with more finds of rubies, emeralds, and sapphires in the Hunza area. Finds were made of aquamarines, peridots, multicoloured fine quality tourmalines, hessonites, spessartines, and demantoid garnets, together with some fine blue and vivid purple apatites. A find of cobalt blue natural

* excludes diamonds which are covered in a separate section

spinel was made in the Hunza Valley with some crystals up to 5 cm across. With the war in Afghanistan and the general unrest in the region, mining had been largely curtailed in these areas in the later stages of 2001. A number of mining projects funded by US companies have been shelved until the long-term political situation becomes much clearer.

Madagascar produced quantities of rubies and sapphires, the majority of these were only usable as gem material after heat treatment to produce commercially acceptable colours. Aquamarine, rose quartz and rock crystal and tourmaline were all produced during the year. Production was affected by political unrest towards the end of 2001.

There was a slow down in the gem production in Afghanistan during the first half of 2001, and there was virtually no production in the fourth quarter of the year.

Sri Lanka was still suffering from its continuing political problems and gem production was sporadic as a result, however there seemed to be an improvement in the situation towards the end of the year.

Corundum

Ruby

There was an increase in production during 2001 of small, good quality gems from several new mines in Myanmar. There was still a shortage of fine coloured stones in excess of three carats. The larger fine stones still held their prices and despite the find of a number of new sources big gems of good purity and fine colour remained scarce. Large quantities of lower quality material which was heated to improve its colour and appearance was appearing on the market from Thailand where goods are imported from Myanmar, Vietnam, Cambodia, and a number of African sources.

Pakistan and Afghanistan production was severely limited this year and a few stones were reported as coming from sources in Russia and Tajikistan.

Madagascar produced quantities of low quality rubies and smaller number of facet grade gems. Large impure rubies were still available from Tanzanian and Indian sources.

Sapphire

Fine quality Sri Lankan sapphires were again available during 2001, and there was an excess of material in the marketplace from this source. Gems from a number of African mines were being imported cut and treated by Sri Lankan dealers subsequently to be sold to the unsuspecting dealers as gems of Sri Lankan origin.

Sapphire mining in Australia, Thailand, and Nigeria was limited during 2001 and there was a general reluctance for mining companies to invest in production from these sources. China increased its mining operations but most of the material was consumed internally.

Madagascar continued to produce a number of low- and medium-grade sapphires, nearly all of the material needed heat treatment to adjust the colour so it would be acceptable for use in jewellery.

Pakistan produced hardly any sapphires during 2001.

Beryl

Emerald

Colombian emerald production was stable during 2001 and good quality small stones were widely available. Fine material was in short supply and large stones were not readily available. Brazilian emerald production was already hit by a downturn in the market and many producers ceased mining after the drop in the markets in September. Afghanistan and Tajikistan produced little material due to political problems in the region. Nigeria, Zambia, Zimbabwe, Mozambique and Madagascar, all produced a range of gem material in 2001, although Zimbabwe production was affected by considerable political unrest. Pakistan increased its production from the Hunza Valley deposits for the first half of

2001, but production all but ceased due to the nearby war. Russia produced some emeralds from its mines in the Urals during 2001 most of which was exported to India for cutting and mounting.

Aquamarine

Aquamarines were produced in commercial quantities in China, Nigeria, Pakistan, Nepal, India, Madagascar, and in small quantities from Brazil.

Other Beryls

Golden beryl was found in Madagascar, Pakistan, and Brazil. Red beryl in fine colours and much larger sizes than had previously been seen were produced from mines in Utah, US.

Garnet

The general run of common garnets, red garnets, are produced from many sources worldwide and are not as a rule highly valued gems. In recent years, however, there have been some rarer species which do command high prices, and are commercially desirable. Green grossular garnet was mined in Kenya, Madagascar, and in small quantities from Pakistan. Demantoid (chrome-coloured andradite) is now once again being produced in the Urals in Russia, and in Italy, and Pakistan. A cabochon-grade uvarovite garnet was found in a valley in the Bo Mi area of Tibet,

and crystals were reported to be as large as 20 mm across, which is a large size for this extremely rare variety of garnet. A source of star pyrope/almandine/spessartine was found in Madagascar at Ambatondrazaka which produces a range of cabochon cut gems which can exhibit four and six ray stars, and some stones are large enough to be cut into decorative spheres up to 10 cm in diameter.

Spinel

Ruby red spinels are the most commercially desirable shade and the finest colours are most commonly found in the gem gravels and altered limestone deposits of Myanmar. A range of colours in spinel is mined from the gem gravels in Sri Lanka, and during 2001 a range of different coloured spinels varying from bright red to pink, mauve, and blue. were found at Ilakaka, Madagascar.

General Remarks

In general, 2001 started slowly and gem mining investment was down on previous years, culminating with the closure of a number of projects globally with the aftermath and uncertainty in the market place after the terrorist attacks on the US in September. With luck, some of the mining projects will be revived, but it is unlikely that any large-scale operations in the north of Pakistan will be resumed for some while.