The manufactured products can usually be separated from natural gold-in-quartz by the typical fracture-aligned or spiderweb-like texture of the gold, which is distinct from the blebs and irregular pods of gold that occur in natural quartz (see GNI entry on p. 58). However, Mr. Taylor indicated that some of the manufactured gold-in-quartz looks so natural that it cannot be separated by visual means. In that case, chemical analysis of the metal alloy could be used to identify it. Distinguishing the manufactured silver-in-quartz from natural material (which is quite rare in jewelry quality) is straightforward, due to the distinctive texture and the use of fine silver in this product.

BML

GNI Regular Features

DIAMONDS

10.53 ct gem-quality diamond from Saskatchewan, Canada. Kensington Resources Ltd., of Victoria, British Columbia, reported that it recently recovered a 10.53 ct gem-quality diamond crystal (figure 20) from a core sample of kimberlite at its Fort à la Corne Diamond Project in central Saskatchewan (see B. A. Kjarsgaard and A. A. Levinson, "Diamonds in Canada," Fall 2002 *Gems & Gemology*, pp. 208–238, for more information about diamond exploration in this area). The diamond was one of several recovered from core samples drilled in 2004. These diamonds (which also included a 1.32 ct crystal) were sampled from a depth interval of 118–130 m. A 140.34 tonne core sample from another drill hole yielded 135 macrodiamonds (generally defined as larger than 0.5–1.0 mm) weighing a total of 15.45 carats; the largest diamond was 0.46 ct, and 16 others weighed more than 0.25 ct. A 10.23 ct diamond was recovered from this property in 2002.

Figure 20. This 10.53 ct diamond was recently recovered from a drill core at the Fort à la Corne Diamond Project in Saskatchewan, Canada. Courtesy of Kensington Resources.

The Fort à la Corne Diamond Project is a joint venture between Kensington, De Beers Canada Inc., Cameco Corp., and UEM Inc.

Russell Shor

INCLUSIONS IN GEMS

Spiral in aquamarine. Dudley Blauwet of Dudley Blauwet Gems in Louisville, Colorado, provided us with an interesting Pakistani aquamarine crystal from Nyet, Braldu Valley, Baltistan. As shown in figure 21, the transparent, singly terminated gem-quality crystal weighed 117.64 ct and measured 53.4 × 19.3 × 11.3 mm. The most intriguing feature of this aquamarine was an eye-visible decorated dislocation pattern in the form of a centrally located growth spiral extending the entire length of the crystal.

With low magnification, when viewed through the side in any one of several different directions perpendicular to the length, the spiral pattern looked very much like a feather or a partial fish skeleton (figure 22). The crystal's overall clarity made a dramatic showcase for the intricate growth spiral. This feature is actually a visual form of growth disturbance propagated through the host crystal along a screw dislocation that develops from a source such as a small solid inclusion or structural defect, often at or near the base of a crystal during the earliest stages of growth. Growth spirals also have been observed in other beryls, such as natural and synthetic emerald (see *Photoatlas of Inclusions in Gemstones*, pp. 82 and 473).

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"Bamboo" moonstone. An 81.59 ct freeform orthoclase feldspar from Mogok, Myanmar, was provided to these contributors for examination by Mark Smith of Thai Lanka Trading Ltd., Bangkok, because of its obvious eye-visible inclusions. The identification as orthoclase was confirmed through standard gemological testing. As shown in figure 23, this 38.2 × 27.3 × 12.3 mm polished feldspar not only showed adularescence, as would a moonstone, but also contained

Figure 21. Weighing 117.64 ct and measuring 53.4 mm long, this aquamarine crystal from Pakistan hosts a striking eye-visible spiral dislocation pattern. Courtesy of Dudley Blauwet; photo by Maha Tannous.

Figure 22. When viewed through the side of the aquamarine crystal, the spiral pattern is reminiscent of a feather or fish skeleton. Photomicrograph by John I. Koivula; magnified 10×.

several etch tubes of varying thickness that appeared to be oriented along twin planes. The light brown color of these tubes appeared to be due to an epigenetic filling material.

Figure 23. This 81.59 ct orthoclase feldspar (moonstone) from Mogok, Myanmar, contains obvious etch tubes filled with a light brown material. Courtesy of Mark Smith; photo by Maha Tannous.

Some of these rough-edged, "dirt-filled" tubes were in near-parallel formation, and with low magnification they resembled stalks of dried bamboo (figure 24). The "nodes" apparent on these "stalks" were created by intersecting cleavage cracks. Interestingly, the epigenetic fillings in some of the tubes fluoresced moderate yellow to long-wave UV radiation. This is the first moonstone with such inclusions that we have seen.

John I. Koivula and Maha Tannous

Figure 24. Where they are aligned in near-parallel formation, the etch tubes in the moonstone resemble stalks of dried bamboo. Photomicrograph by John I. Koivula; magnified 5×.

Pezzottaite in quartz. Pezzottaite, a Cs,Li-rich member of the beryl group that is known from Madagascar and Afghanistan, has been described in detail in recent articles (see, e.g., F. C. Hawthorne et al., "Pezzottaite, $Cs(Be_2Li)Al_2Si_6O_{18}$, a spectacular new beryl-group mineral from the Sakavalana pegmatite, Fianarantsoa Province,