



## **A Dazzling Discovery in the Yukon**

### **Canadian Emeralds**

While prospecting for metal resources in the Yukon, field geologist Bill Wengzynowski made a spectacular chance discovery of one of Earth's rare treasures—emeralds. It was a green shimmer of light appearing from a rocky outcrop that caught his keen eye. Within two hours of discovering the dazzling gems, he had collected a kilogram of emeralds from the area, launching what may be Canada's first emerald mine!

Since 1997, there have been two discoveries of emeralds in or near the Yukon Territory. The gems are described as transparent to translucent and are up to 2 cm long and 0.50 cm wide. A small, good quality emerald could be worth in excess of \$10,000. Displaying a beautifully deep and brilliant green, the emerald is a fascinating gemstone.

The formation of Yukon emeralds occurred in rare conditions over 65 million years ago, during a time when the Earth's crust in that region became subject to extreme forces caused by plate tectonics. An emerald is a naturally occurring crystalline form of the mineral beryl, with its key ingredient being the element beryllium. Pure beryl is actually colourless, but various colours of beryl exist because traces of certain elements are added during its formation. Traces of the elements chromium and vanadium are responsible for emerald's fascinating colour. Usually concentrations of chromium and vanadium occur in the Earth's crust at completely different locations from beryllium. So why do emeralds even exist at all? During extreme tectonic processes these elements can be brought together allowing crystallization to occur under enormous heat and pressure, creating the precious green gem.

### **Nature's Dazzling Green Gemstone**

- On the Mohs scale of hardness, emeralds have a hardness of 7.5 to 8 — diamonds are the hardest at 10
- The more vivid the green, the more valuable the emerald
- Emeralds are rarer and more valuable than diamonds
- An emerald's origin can generally be determined by its colour and inclusions, as they are usually specific to where the gems are mined
- Emeralds are mainly mined in Brazil and Colombia and are also found in Africa, Pakistan, and Russia
- Emeralds are the birthstone of people born in May