



FIU Professor identifies ET diamond

MIAMI (Jan. 22, 2007)—They are among the hardest substances on the planet. But these particular diamonds are literally out of this world.

A team of researchers, led by a Florida International University professor recently determined that the diamonds known as *carbonados* literally come from heaven. Stephen Haggerty, a professor at FIU's Department of Earth Sciences, and graduate student Jozsef Garai recently published a paper in which they describe a series of tests that show these black diamonds originated billions of years ago as the result of a supernova.

"The series of experiments we did essentially show that *carbonados* are indeed E.T. diamonds," Haggerty said.

Their conclusions were published in a recent edition of the "Astrophysical Journal" in which Haggerty, Garai and a team from Case Western Reserve University in Ohio, describe the evidence that led them to their conclusion. They eliminated other minerals that contaminated the diamond, such as silica, and proceeded to analyze the *carbonado's* spectrum when it was exposed to infrared radiation.

The experiments, which were funded by a grant from the National Science Foundation, showed the presence of hydrogen, which means the diamonds developed in a hydrogen-rich environment such as a star. The results also resembled the spectrum of a type of diamonds that exists in space, called pre-solar diamonds.

Earthly diamonds are produced hundreds of miles beneath the earth's crust where carbon deposits are subjected to millions of pounds of pressure and very high temperatures. These diamonds are then carried to the surface by volcanic activity. Because of this, they are found through different parts of the world.

Carbonados, however, are found only in Brazil and the Central African Republic and are composed of millions of small diamonds arranged in different orientations.

"We believe they landed here some 2.3 billion years ago in an asteroid-type body when Brazil and Africa were part of the same land mass," Haggerty said.

Carbonados were first discovered in Brazil by Portuguese explorers in the 16th Century who marveled at their hardness and toughness. Haggerty said this diamond is so tough, his team had to use a 20-ton hydraulic press to break one, causing an explosion-like sound. This quality made it useful in polishing the hard, precious woods coming out of the New World, Haggerty said. The same quality has made it virtually impossible to work the *carbonado* as a jewelry piece. Haggerty expects, however, that the new techniques they developed to study the diamonds will lead to methods for the jewelry industry.

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