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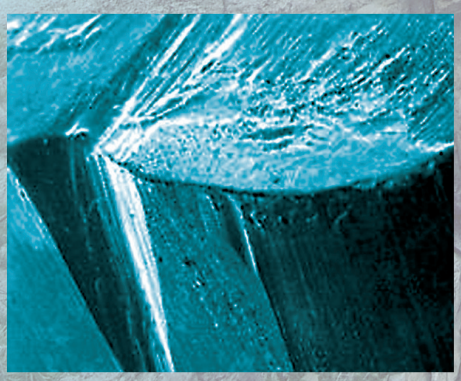

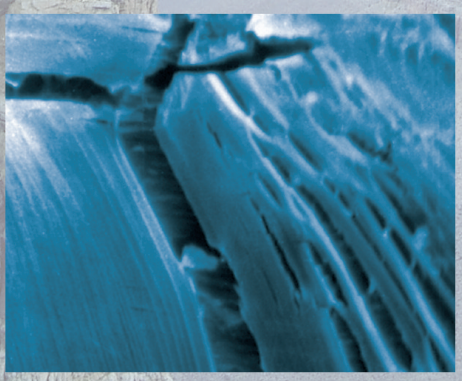

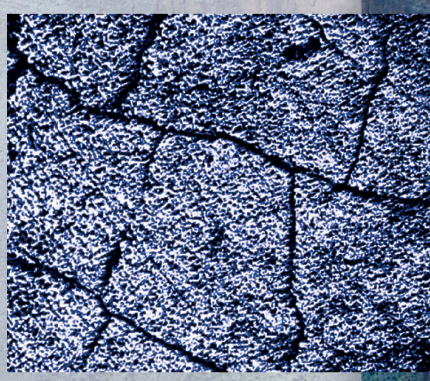

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Cover story

"Kaitab" in the language of the tribe of the Paiute Indians, leaving in Arizona, the USA, on the North Rim upon the Colorado river, means "a mountain lying down" or "a mountain inside out". That one word determines the Grand Canyon of the Colorado river. It seems that nobody even if saw pictures before is not prepared for seeing such a miracle of the nature. Everyone is surely surprised with its hugeness, space and beauty. Its length equals ca. 400 km and in the broadest place equals ca. 15 km and is more than 1.5 km deep. Rocks creating it are 2 billion years old and its shape was formed for the last 5 million years. Between 600 and 250 million years ago sedimentary rocks were created by water as the layers of sand stones, limestone and shale. Depositional environments included both warm, shallow inland seas and costal shorelines and damp swamplands with the exception of the Coconino Sandstone which was deposited under desert conditions. Solid rocks consisting of grains of sand, lime and mud joined by the pressure of layers and chemicals were created from sediments left by ancient sources of water in the region. The rocks created because of water activities were layered on the heat-born rock of the inner gorge, the whole region was lifted thousands meters above the sea level.

Yet ca. 65 millions years ago water coming from melting snow and precipitations by various ways get through the mountain regions to the Pacific Ocean boring a few hundred-meter-rim rocks in sedimentary rocks. Together with the creation of the Gulf of California which took place ca 5.3 million years ago, the process of the boring of the today Grand Canyon began. Waters of the Colorado river carrying the particles of mud, pebbles, cobbles, silt and boulders on rock layers formed as a result of the erosion process the today Grand Canyon ca. 1.2 million years ago. At present the Grand Canyon is the biggest product of erosion in our world and in the very persuasive way shows how big can be a scale of wear and damages as a result of the influence of external factors. Of course, this problem is applied to all engineering materials and machine building and technology. Tribology and corrosion science describe both mechanisms and also the methods of the evaluation of damages. In the present issue a few papers directly or indirectly deal with that issue. Look at the pages: **11**, **38**, **46** and **83**.