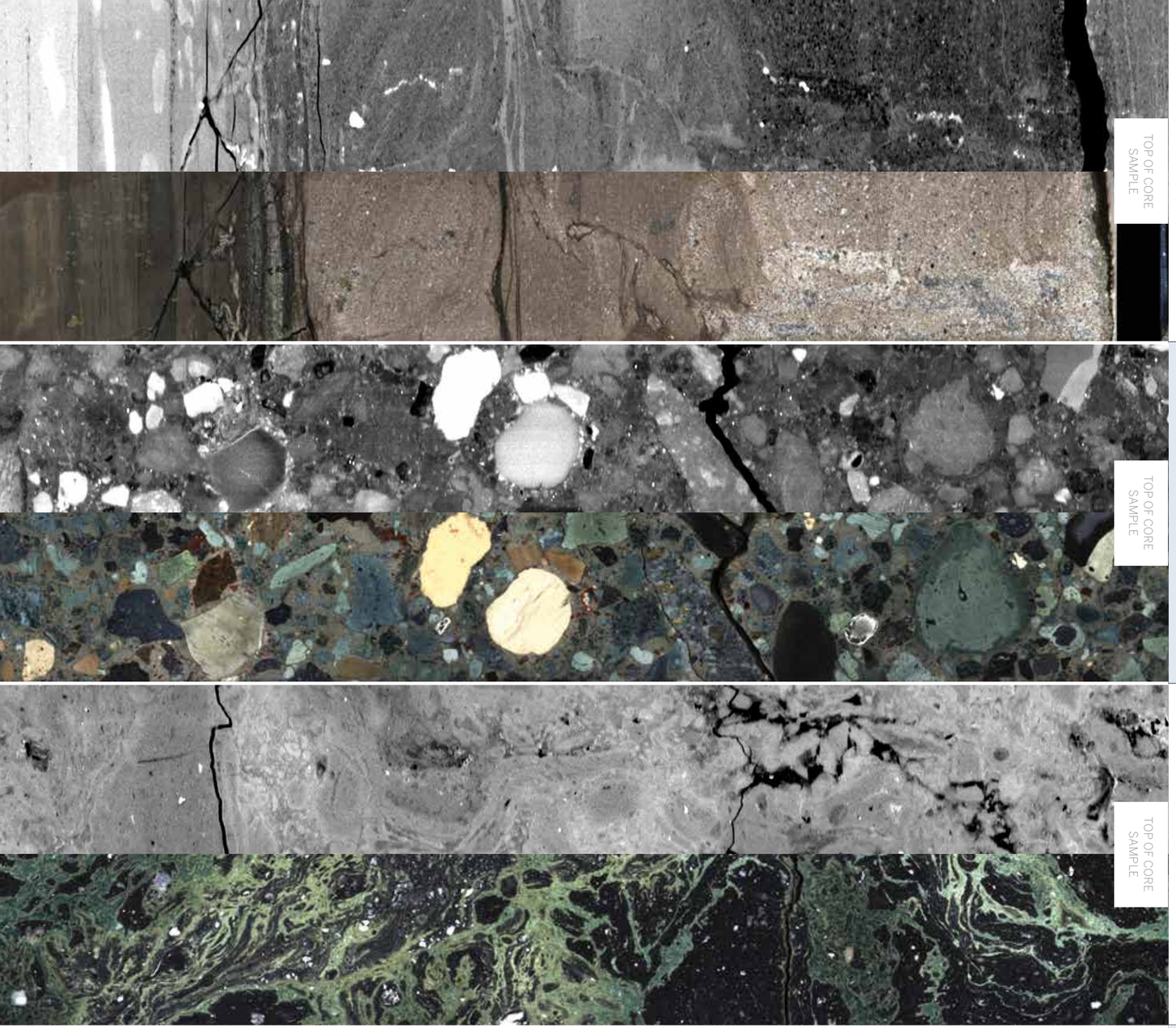


TSUNAMI DEPOSIT

CORE 40-1

COMPOSITION

Tsunami layer: sand-sized impact debris and glass. Settling layer: silt-sized particles including surviving plankton.

RECOVERY DEPTH

618–619 meters

A major result of the Chicxulub impact was a monstrous tsunami that reached up to modern day Illinois. When the water rushed back into the crater it brought untold amounts of impact debris with it. This core shows debris from the tsunami (lighter in the picture and darker in the CT-scan), including cross-bedding from the tsunami waves, and the transition to settled particles on the seafloor. Note the white particles of melt rock flecking the tsunami in the CT-scan. The material in the settling layer includes the particles and surviving plankton that filtered down from the water column. The debris and glass from the tsunami were deposited the first day after the asteroid hit, but scientists are still unclear on how long it took the debris in the settling layer to filter down. Theories range from a matter of weeks to tens of thousands of years. It is a hot topic of current research.

END OF AN AGE

CORE 76-1

COMPOSITION

Suevite breccia

RECOVERY DEPTH

703–704 meters

The Chicxulub asteroid impact marks the end of the Cretaceous Period and the beginning of the Paleogene Period. When the asteroid hit, shallower rocks were vaporized or shattered. A small amount of that rock was left behind in a layer of shattered suevite depicted in this core. These include chunks of pulverized sandstone, limestone and granite that are now mixed and jumbled together. Most of the chunks are angular, which means that they were deposited very rapidly after the impact—probably within minutes—and therefore didn't have time to roll around and soften their edges.

UNDER PRESSURE

CORE 92-2

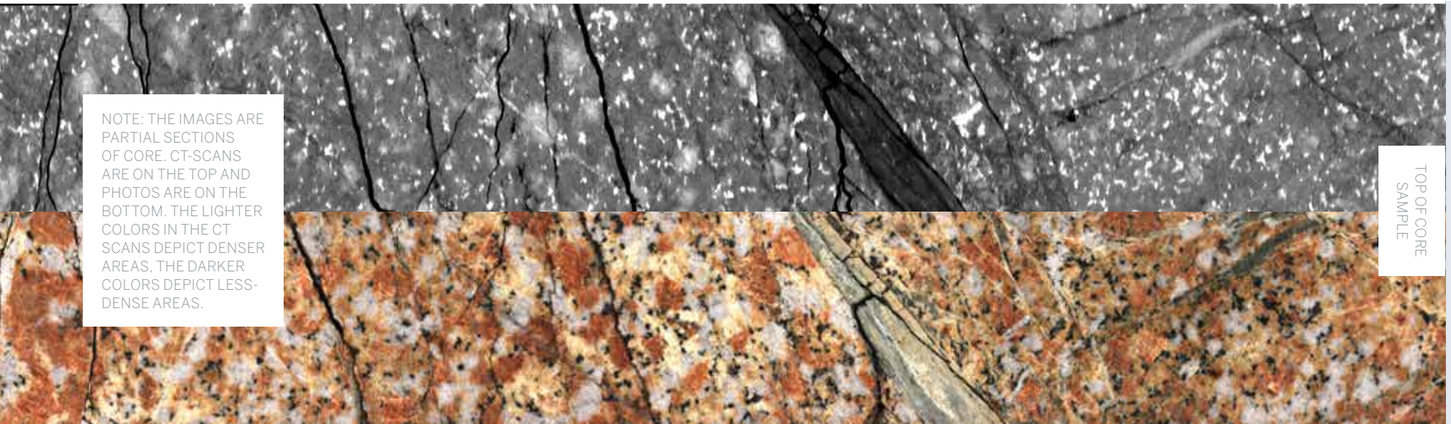
COMPOSITION

Impact melt rock

RECOVERY DEPTH

738–739 meters

The Chicxulub impact generated 9.6 million PSI of pressure—a force roughly equivalent to 10 billion of the atomic bombs detonated on Hiroshima in World War II. The immense pressure and heat melted the underlying granite and some of the overlying limestone (the rest was vaporized), creating swirls of black silica-rich melt rock and green carbonate melt rock in a pattern known as a schlieren texture. Roughly 10 to 15 meters of melt rock is found capping the peak ring where the scientists drilled. A sheet of melt rock almost 2 miles thick is at the center of the crater.



NOTE: THE IMAGES ARE PARTIAL SECTIONS OF CORE. CT-SCANS ARE ON THE TOP AND PHOTOS ARE ON THE BOTTOM. THE LIGHTER COLORS IN THE CT SCANS DEPICT DENSER AREAS, THE DARKER COLORS DEPICT LESS-DENSE AREAS.

PEAK RING

CORE 197-2

COMPOSITION

Granite

RECOVERY DEPTH

1018-1019 meters

When the Chicxulub asteroid hit, the Earth rebounded, bringing pink granite from 6 miles below the surface. The force of the impact made the surrounding rock temporarily behave like a slow-moving liquid, with deep granite rocks moving upwards and collapsing outwards to form a ring of peaks surrounding the center of the crater. The dark color of the fault zone in the CT-scan shows that the zone was porous and likely a pathway for fluids. The porosity makes it an intriguing place for scientists to look for the recovery of life in the form of microbes in the peak ring.