

## INNER STRUCTURE OF THE EARTH - RELEVANCE TO EARTHQUAKES

S P TRIPATHI<sup>1</sup> & B D PANDEY<sup>2</sup>

<sup>1</sup>S P Tripathi, National WHS Manager and Head, QBE, Australia

<sup>2</sup>B D Pandey, Retired Researcher, R & D Tata Steel, Jamshrdpur, Jharkhand India

### ABSTRACT

A study of the earth's interior structure is quite helpful in understanding the science behind the earthquake. At the present level of understandings, earthquakes are usually caused when rock underground suddenly breaks along a fault. This sudden release of energy causes the seismic waves that make the ground shake. When two blocks of rock or two plates are rubbing against each other, they stick a little. They don't just slide smoothly; the rocks catch on each other. The rocks are still pushing against each other, but not moving. After a while, the rocks break because of all the pressure that's built up. When the rocks break, the earthquake occurs. During the earthquake and afterward, the plates or blocks of rock start moving, and they continue to move until they get stuck again. The spot underground where the rock breaks is called the **focus** of the earthquake. The place right above the focus (on top of the ground) is called the **epicenter** of the earthquake. Movement of seismic waves from the point of focus up to the earth's surface through different layers of rocks/plates governs the magnitude and severity of the earthquake.

**KEYWORDS:** Earth's Layered Structure, Continental Crust, Oceanic Crust, Upper Mantle, Lower Mantle, Outer Core, Inner Core, Seismic Waves, Tectonic Plates, Fault Boundaries, Earth's Double Core