Sediments are diatomaceous ooze with variable terrigenous content. Plio-Pleistocene sedimentation rate = 120 m/m.y.

Cycles (~4-5 m = ~40 kyr) apparent in the gamma ray, bulk density, and resistivity logs reflect variations in the relative percentages of terrigenous and biogenic sediment content. These cycles are also apparent on the FMS images. Lighter intervals reflect the more resistive clay-rich layers.

The FMS tool uses 16 electrodes on each of 4 orthogonal pads to produce detailed (2.5 mm resolution) resistivity images of the borehole wall.

Core studies and the FMS images have demonstrated that there are smaller scale (~1 m) sedimentary cycles superimposed on the 4-5 m cycles. A typical cycle characterized by an organic-carbon-rich, laminated diatomaceous ooze unit which grades upward into a bioturbated, clay-rich diatom ooze.

The ~1 m dark-light cycles on the FMS images reflect the transition from the laminated diatom-rich unit (dark=conductive=higher porosity) to the bioturbated clay-rich unit.

The origin of these cycles is unknown, but may be related to episodes of enhanced productivity and/or basin anoxia.

The Spectral Gamma Ray (SGR) log was converted to a time-series using paleomagnetic data. This time-series was compared and correlated to the Site 607 oxygen isotopic record of continental ice volume variations. The general correspondence between the two records suggests that variations in the supply of terrigenous sediment to the Oki Ridge may have been climatically-modulated.