

DEPOSIT STRUCTURE AND PROCESSES OF SAND DEPOSITION FROM DECELERATING SEDIMENT SUSPENSIONS

ESTHER J. SUMNER, LAWRENCE A. AMY,* AND PETER J. TALLING

Department of Earth Sciences, University of Bristol, Queen's Road, Bristol BS8 1RJ, U.K.
e-mail: esther.sumner@bris.ac.uk

* Present Address: Institute of Petroleum Engineering, Heriot-Watt University, Riccarton Campus,
Edinburgh, EH14 4AS, U.K.

These video clips complement Figure 11 of the article (v. 78, no. 8, p. 542) which illustrates the styles of deposition observed in experiments with different deceleration times.

In all of the videos the horizontal and vertical scales are in centimeters.

It should be noted that in all of the clips the base of the channel is horizontal. The apparent angle results from the relative positions of the camera and mirror during filming.

Seven short videos:

1. **Flume.mov (2.5MB):** A video clip showing the annular flume. The annular ring with attached paddles rotates anticlockwise whilst the channel of the flume rotates clockwise; this is to minimise secondary circulation in the channel. The suspension in the channel comprises tap water and 39.8 kg of silica sand up to 250 microns in size. The radius of the channel is 0.6 meters.
2. **Short Exp.mov (87.8MB):** A video clip showing sediment in a short duration experiment. Deposition occurs by the sub-vertical fallout of particles from suspension. There is little horizontal movement of particles along the bed before particles are buried by the rising deposit interface.
3. **Structureless.mov (59.3MB):** A video clip showing a structureless deposit aggrading from the collapse of high concentration, shearing near-bed layers (laminar sheared layers). This process occurred in both the medium and long duration experiments.
4. **Laminations.mov (49.5MB):** A video clip showing the development of planar laminations from the deposition and partial erosion of laminar sheared layers.
5. **Traction.mov(9.8):** A video clip showing traction of particles along the bed during the late stages of deposition.
6. **Inverse grading.mov (42.3MB):** A video clip showing the shear of a thin layer of particles along the base of the channel prior to deposition in a long duration experiment. The presence of this shearing layer correlated with the presence of inverse grading at the base of the deposit.
7. **Ripples.mov (45.9MB):** A video clip showing the development of ripples in the deposit of a long duration experiment.