are on the order of 16% to 20% solids by volume with the remainder being water and pipeline velocities are on the order of 5 to 8 m/s.

The "side-casting" dredge is a variation of a suction dredge which discharges the sediment only a short distance (30 m to 100 m) to the side through a pipe-line supported above the water surface. The relocation of sediment by such short distances raises questions about its effectiveness, i.e. the length of time before the sand will be redeposited in the area deepened by the dredging. Because of these concerns, most sidecasting is carried out only for emergency purposes.

Hopper dredges are essentially a ship hull configured as a bulk carrier. These dredges can have bottom doors which allow release of the material carried or more recent designs are termed "Split Hull", with large hinges fore and aft allowing the hull to split, dropping its cargo of material, Figure 20. Loading of hopper dredges occurs through two "drag heads" while the dredge is underway; these drag heads are pulled along the bottom agitating and entraining the material into a pipe which carries the slurry up and into the hull. The hull functions as a settling basin with the sediment settling out and water and fine sediments returning over the side. Once the dredge is fully loaded, the drag heads are raised above the water and the material transported to the placement site.