

APPLICATION NOTE

Effects of Suspended Solid Concentration (SSC) on Optical Backscatter (OBS) Measurements



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WHEN MEASUREMENTS MATTER

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This application note discusses the effects of sediment concentrations on optical backscatter (OBS) measurements.

Of all the factors that influence the signal output of a light-scattering sensor, suspended solids concentrations (SSC) has the largest effect. The concentration of suspended sediment over time and from place to place can easily change by a factor of 1000. In large rivers for example, it is not unusual for SSC to vary from several mg l^{-1} to several thousand mg l^{-1} . The most linear response to such changes in SSC is obtained with a backscatter-measuring sensor such as our OBS-3+ and OBS-5+. Most other designs cannot respond to them. Figure 1 shows the effects for various types of sediment.

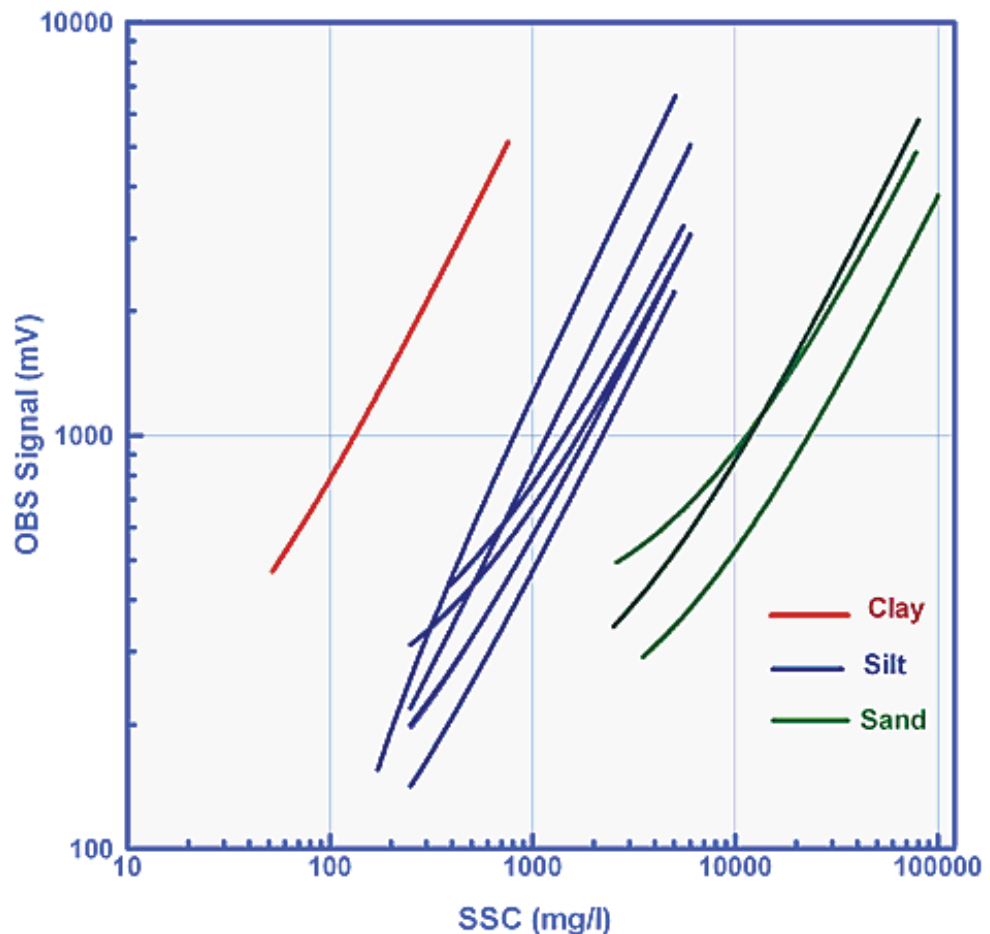


Figure 1. Graph shows the sample calibrations for sand, silt, and clay.

Reference

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