

# TECHNICAL BULLETIN

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(Revised 1/18/06)

## TBTSS.2

### TOTAL SUSPENDED SOLIDS CALIBRATION USING HYDRATED SILICATE MATERIALS

Most wastewater treatment facilities use a laboratory for the purpose of maintaining continuous records of the quality of the influent waters, process and effluents of their plants. They will often use these technical members of their staff for the purpose of calibrating their continuous monitoring and control instrumentation.

In the case of total suspended solids (TSS) analysis, laboratories often prefer to use a hydrated silicated material, which can be purchased at any laboratory supply house, as their reference standard for raw sludge calibration of TSS instruments. The most common material of this type is a dry clay called Fuller's Earth.

All Royce Operator's Manuals specifically state that Fuller's Earth SHOULD NOT be used for calibration of continuous monitoring analyzers; we suggest that actual raw sludge from the customer's own clarifiers be used as the standard. But, should your customer choose to calibrate or verify calibration of a Royce TSS analyzer using any hydrated silicate material, they should use one of the following mixing formulas, depending on the amount of calibration sample desired.

To achieve a 1,000 mg/l standard, mix 10 grams of Fuller's Earth by weight to 990 milliliters of water.

To achieve a 10,000 mg/l standard, mix 100 grams of Fuller's Earth by weight to 990 milliliters of water.

The above formulas will closely represent the color and particle size content of raw sludge at the densities noted.

Should there be questions on this material, call Royce Technical support at 1 800 347 3505.