

Turbidity and Other Sediment Surrogates Workshop, April 30 to May 2, 2002
Calibration and Blind Sediment Sample Measurement Session
Tuesday, April 30, 5:30 – 8:30 pm
Silver Baron A & B

Purpose: To demonstrate the variance of measured optical properties of water containing different sediment concentrations and /or sediment size distributions. The purpose is not to conduct a controlled experiment that would produce reliable findings. Variance in results will be introduced by many sources including human, measurement technology, sub-sampling, and other factors in this uncontrolled environment. The results will be illustrative rather than quantitative.

Approach:

The Session will involve calibration of instruments and measurement of blind reference samples. Calibration standards are provided by Hach and APS. The reference samples were prepared by the USGS, Branch of Quality Systems (BQS). There are four reference sediment concentrations represented in the blind samples; the samples are coded according to their four respective groups. Concentrations and material size distributions are not identified on the samples to ensure unbiased measurement.

Results of the blind sample measurements will be gathered and analyzed by the workshop coordinators. These will be presented at the workshop during the closing session on Thursday afternoon. Results will be analyzed to illustrate variance in measured optical properties for each blind sample sediment mixture. Results will not be shown for differences between instrument manufacturers and/or individuals making the measurements.

You may start the calibration process in the Silver Baron B room at 5:30 pm. The blind samples will be in the Silver Baron A room and that room will open at 6:00 pm for the reception. Use the suggested manufacture's procedures to calibrate or check your meter using either the StablCal Formazin or the APS polymer standards in the Silver Baron B room. Record your calibration or check measurements. If you wish, take and record reading of the other types of standard, i.e. if you used the APS standards to calibrate or check your meter, take reading with the StablCal, and record those reading also.

After you have calibrated/checked your meter, precede to the Silver Baron A room (after 6:00 pm they will be one room) and take reading on all four of the blind samples. Record your readings as you make them. When finished, please deposit your reporting sheet in the box next to the entrance to Silver Baron A before leaving the reception.

Please give us any comments you might have concerning this test and any observations that you would like to make. You need not give your name unless you wish to.

Thank you for helping with this little experiment and the results should help the group to design a more detailed, scientific round robin test for turbidity measurements.

REPORTING FORM FOR: **Calibration and Blind Sediment Sample Measurement Session**

Meter Specifications

Manufacturer: _____ Model: _____

Calibration: Follow manufacturers recommendations and any protocols you have developed. Please place an * next to the standard(s) you actually used to calibrate or check your instrument. If you wish, record readings of other standards that you read but did not use to calibrate or check the meter.

Calibration Standard			Instrument Readings					
Type	Value	Units	Time	Reading	Units	Time	Reading	Units

Blind Sample Measurement

Blind Sample ID	Instrument Readings					
	Time	Reading	Units	Time	Reading	Units

Blind Measurement Notes:
 Try to minimize mixing and sub-sampling errors. Mix sample thoroughly in bottle before transferring to sample container. If possible, measure entire bottle to reduce sub-sampling errors. Obtain reading quickly to reduce errors due to settling. Take instantaneous rather than averaged readings

COMMENTS/OBSERVAIONS: _____

Your name: _____
 Contact information : _____