MONITORING

Joe Goodman

OnSite Monitoring & Management, LLC

WHY DO WE MONITOR OR SAMPLE?

- **THE GENERAL PERMIT SAYS SO!**

SAMPLING REQUIREMENTS

- Sampling requirements established by 40 CFR Part 136 & "NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-011"
- Containers labeled prior to collection
- Large, well cleaned glass or plastic jars should be used for collecting samples
- The samples should be taken from the center of the receiving water
- The container should be held so that it faces upstream
- The samples should be kept free of floating debris
- Samples should be analyzed within 48 hours after collection
- Report results must be submitted to EPD using GEOS by the 15th of the following month.

SAMPLING REQUIREMENTS

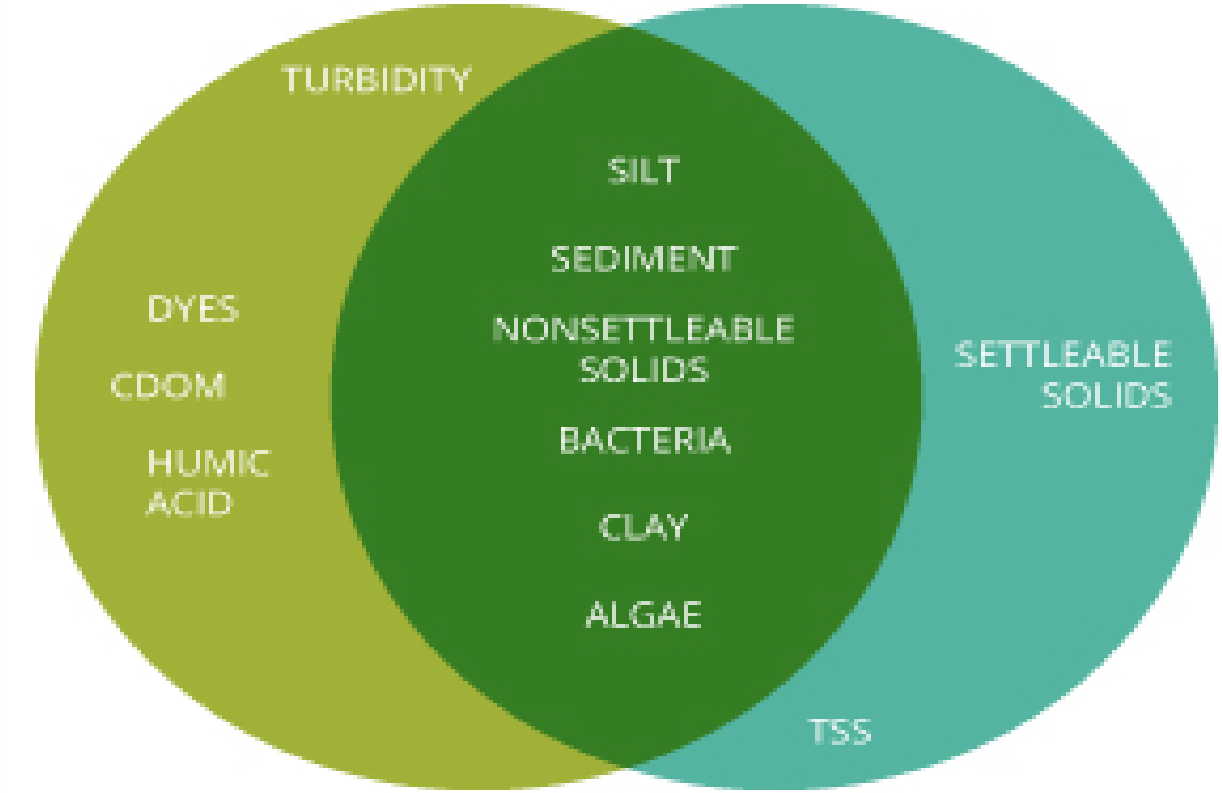
- Where sampling is required but not possible. The primary or tertiary permitee must include a written justification in the inspection report.
- Additional Sampling. Part IV.D.6.d.3(c)

SAMPLE BOTTLE?

Correct Sample Bottle

Turbidity vs Total Suspended Solids – What is the difference?

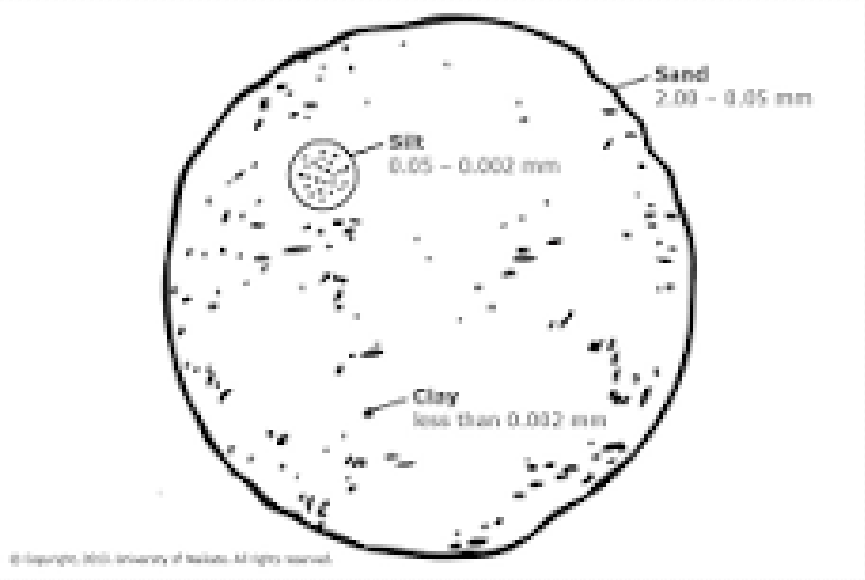
- Turbidity is determined by the amount of light scattered off of these particles. Turbidity is optical.
- Total Suspended Solids (TSS) are a total quantity measurement of solid material per volume of water.
- TSS are a specific measurement of all suspended solids, organic and inorganic.
- TSS can be used to calculate sedimentation rates and turbidity cannot.



https://www.fondriest.com/environmental-measurements/parameters/water-quality/turbidity-total-suspended-solids-water-clarity/

GRAIN SIZE

Grain **size** is classified as **clay** if the **particle** diameter is <0.002 mm, as **silt** if it is between 0.002 mm and 0.06 mm, or as **sand** if it is between 0.06 mm and 2 mm. Soil texture refers to the relative proportions of sand, silt, and **clay particle sizes**, irrespective of chemical or mineralogical composition.



BEST MANAGEMENT PRACTICE

- Are the BMP's properly designed, installed, and maintained?
- If not, what happens?

Erosion / Sediment Loss

EROSION / SEDIMENT LOSS

- Sediment is the #1 non-point source pollutant
- Erosion is Defined as the process by which the land is warn away by the action of water, wind, ice and gravity.
- Sedimentation is the process by which the eroded material is *TRANSPORTED* and *DEPOSITED* by water, wind, ice and gravity.

Failure to maintain BMPs?

Correct BMP installation

RESUSPENSION

- Remove previous materials (Sedimentation) from an issue.
- Address the issue at the source (REPAIR OR REPLACE the BMP).
- Stabilize when ever possible.

LEGACY SEDIMENTS

Felipe Maion Casarim

A thesis submitted to the Graduate Faculty of Auburn University. May 14, 2010

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Resources

- NPDES General Permit
- *LEGACY SEDIMENTS IN SOUTHEASTERN UNITED STATES COASTAL PLAIN STREAMS by Felipe Maion Casarim A thesis submitted to the Graduate Faculty of Auburn University in partial fulfillment of the requirements for the Degree of Master of Science Auburn, Alabama May 14, 2010*
- https://www.fondriest.com/environmental-measurements/parameters/water-quality/turbidity-total-suspended-solids-water-clarity/
- weppi.gtk.fi/publ/foregsatlas/text/Grainsize.pdf

QUESTIONS?

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