

STORM WATER MONITORING PLAN DUPONT WAYNESBORO PLANT

South River Science Team

April, 29, 2003

Study Objectives

- Determine the mercury concentration and relative mass loading to the South River from several outfalls from the Waynesboro Plant.
- Provide insights into possible pathways for mercury migration from areas potentially impacted from the past use of mercury at the Plant.
- Completed as part of RCRA Corrective Action Program for Waynesboro Plant

Storm Selection

- In accordance with USEPA storm water sampling requirements (40CFR 122.21(g)(7)), an acceptable storm to collect surface water samples will exhibit the following characteristics:
 - There has been less than 0.1 inch of rainfall in the last 72 hours before the storm is monitored,
 - The total rainfall of the event should be forecasted not to vary more than 50 percent of the average or median event for the sampling area.
- The Waynesboro Plant is in the Midatlantic region with an average storm event of 10.1 hours and 0.64 inches of precipitation . Therefore, the following range in storm duration and quantity will be used to select a representative storm to sample:
 - 5.05 – 15.15 hours in duration
 - 0.32 – 0.96 inches of rainfall

Technical Approach

- Baseflow Sampling
 - 19 sampling stations
 - No precipitation for the proceeding 72 hours.
 - Mercury loading from the Waynesboro Plant during non-storm event conditions.
 - 1 grab sample
 - Flow measurements
- Storm Flow Sampling
 - 15 sampling locations
 - Characterize mercury loading during a precipitation event
 - Flow measurements
 - First-flush and flow-weighted average samples
 - first-flush - grab sample collected during first 30 min. of storm discharge
 - flow-weighted average
 - 9 samples collected over first 3 hours of storm discharge
 - composited in the lab (proportional compositing based on measured flows)

Sampling Locations

