# Phase II Storm Water Sampling at the Invista Waynesboro Plant

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The Phase I Storm Water Monitoring Program at the Invista Waynesboro Plant was completed in 2003. Mercury was not detected in any of the base flow or first-flush storm flow samples collected from the outfalls discharging to the South River (MDL = 0.16 µg/l) during the Phase I sampling. Mercury was detected at low concentrations (up to 1.7 µg/l) in the flow-weighted composite samples collected from 4 of the plant outfalls that discharge to the South River.

The Phase II Storm Water Monitoring Program was initiated in early 2004. The primary objective of this program is to estimate the bioavailable percentage of the mass of mercury discharging to the South River. This objective will be met through additional base flow and storm flow sampling at the main plant outfalls. A secondary objective is to further characterize the up-stream portions of the storm water system where mercury was previously detected. This objective will be achieved through characterizing the sediment and water quality within the affected portions of the storm water system.

The Phase II program will include multiple base flow and storm flow sampling events with the aim of characterizing the concentration of mercury in the plant discharges under varying flow conditions. Three base flow sampling events will be completed. Samples will be collected at 8 outfalls and 2 up stream location (within the storm-water sewer system) during each base flow sampling event. At least 2 storm flow sampling events will be completed. During each storm sampling event, first-flush and flow-weighted (or time-weighted) composite samples will be collected from the 7 outfalls that receive storm flow.

Portable, automated samplers (ISCO 6712) will be used to collect samples at the 7 locations where storm-flow samples (first-flush and flow-weighted composites) will be collected. All Phase II storm monitoring samples will be analyzed for total and dissolved total mercury as well as TSS. Mercury analyses will be performed using the low detection limit 1631 methodology in order to quantify the mercury concentration in the plant discharges where previous results were below the method detection limit.

Base flow samples for dissolved total mercury will be filtered in the field. First flush and flow-weighted composite samples for dissolved total mercury will be filtered in the lab. At least two storm-flow split samples (either first flush or flow-weighted composite) will be filtered at the time of collection to allow direct comparison of field-filtered and lab-filtered dissolved total mercury results.

To identify potential sources of mercury to the storm water sewer system at the site, a limited sediment and water quality survey will be conducted under base flow conditions as part of the Phase II program. The survey will include collection of water and sediment samples from accessible junction boxes along the portions of the storm-water system that are up-stream of locations where mercury was detected during previous storm water sampling. Water samples will be analyzed for total and dissolved total mercury (using EPA method 1631). All sediment samples will be analyzed for total mercury.

The Isco samplers were installed at the site in August and September 2004. The three base flow sampling events will be completed in November and December, 2004. If weather

conditions allow, one or both of the storm sampling events will be completed during the same time period. The sediment and water quality survey will also be completed in November 2004.