FGS DYE HANDLING/CROSS-CONTAMINATION AVOIDANCE

To avoid cross-contamination when using dyes, especially when low level (parts per trillion) analytical methods are being utilized, one should at all times handle dyes with thoughtful consideration.

The dyes were ground shipped to the FGS main office in sealed 5-gallon plastic containers. Upon arrival, the dyes were placed in a secure room.

The sampling equipment (ISCOs, batteries, tubing, charcoal packets, glass vails) and the primary field sampling staff are housed in a separate building. Transport of the dye to introduction sites was in commercial grade large garbage bags, sealed with duct tape on a trailer towed by a vehicle that would not be used by the sampling staff.

Introduction of the dye at Dead River was performed with full body Tyvek, taped on gloves, respirator, and lab goggles. Following dye introduction, all containers, equipment, and personal protective equipment, including personal clothing, was double bagged in commercial garbage bags and tied shut. The person deploying the dye then bathed by full immersion using a bleach solution rinse and put on a clean set of clothing. At the Tiger Creek site, the same protocol was followed for the dye introduction. Upon returning from the field, the vehicle transporting the dye and discarded equipment was sprayed with a dilute bleach solution with a hand-pump sprayer and rinsed with City water (contains some chlorine). Chlorine is used because it destroys the dye.

Field sampling- When collected, charcoal packet samplers and glass vials used to obtain water samples were placed in pre-labeled high quality plastic freezer bags or equivalent and placed in dedicated coolers.

Upon visual observation of the dye at Alapaha Rise, each sample container in all of the ISCO automated samplers were rinsed using well water from outside the study area prior to re-deployment. This protocol was utilized for several weeks following the visual dye detection. Sample storage prior to shipping was in the FGS's geochemistry lab's refrigerator. Sample packing for shipment to the analytical laboratory was conducted in the FGS's geochemistry lab.