The Translocaiton and Remidation of Thallium and Chromium by River System after Pollution

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Heavy metal pollution of water system has been and still is the most serious environmental in most country especially development country. In 2013, the West river and He river system have accidentally polluted by large amount of wastewater containing high amount of thallium and chromium. Right after the accident, we collected and analyzed more than 2000 water samples around the accident site and downstream of the river to access the scope of the pollution. We also collected and analyzed many sediment samples from river bed to evaluate the translocating of those heavy metal. In this report, we first discussed the analytical techniques and sample preparation methods for the analysis. Furthermore, we correlated the determined content of Tl and Cr from those collected water samples with the distance of sample collecting sites from the pollution source site, and discussed the spatial migration. We also correlated the the Tl and Cr content with the collection time of those water samples and discussed the translocation on time base. At last, by comparing the data from water and sediment samples, we further discussed the translocating rate (in both time and quantity scale) of these two pollution metals between different matrix. Those results will provide significant impact and insight on studying spontaneous remediation, and the translocation/absorption of pollution by large river.

Keywords: Hallium and chromium, River pollution, Remidation, Dynamic translocation

