

Procedural Strategy for Management and Oversight of Commingled Plumes: A Regulatory Perspective

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Background/Objectives. A commingled plume occurs when separate groundwater plumes originating from separate discharges of wastes intermix within the same water-bearing zones. These commingled plumes are technically challenging because it can be difficult to differentiate between the separate plumes, especially if contaminants are similar and the timing of the discharges are unknown. Commingled plumes are also difficult to manage because of the complexity in dealing with multiple responsible parties (RPs), their attorneys, and their environmental consultants.

Approach/Activities. Typically, we start out with the investigation of a single source of discharge, and evaluate the data to determine if discharges of waste associated with other sources/operations have impacted the area under study and resulted in a commingled plume. These investigations are inherently time consuming and progress is hindered by (1) difficulties obtaining property access, (2) contentious dischargers shifting blame and responsibility, and (3) attorney involvement. More often than not, rather than spending their available resources to remediate the impacted media, the RPs are focused on arguing over their percentage of liability, thus wasting resources and prolonging the process by opting for litigious paths.

Under that scenario, it is extremely difficult to convince the RPs to cooperate because of a common belief that the other parties have not contributed their fair share. One way to address and minimize this disruption is to divide each project into two parts: (1) on-site source area and (2) off-site commingled plume. This minimizes disruption to the source area investigation and remediation, and prevents further impacts to the groundwater. Meanwhile, we coordinate with all stakeholders, discuss the efforts and progress at each site, and emphasize the need for collaboration in addressing the commingled plume.

Results/Lessons Learned. In our experience, the RPs are generally more receptive of working together when they are fully informed about the progress of work at each source area. We provide an opportunity for the RPs to cooperate voluntarily, but if necessary, joint administrative orders would be issued to ensure the progress of work. Two case studies will be presented.