Strategic Approach for VI Assessment and Mitigation along a 1,200 feet Trichloroethene Groundwater Plume

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Background/Objectives. Historical operations at a manufacturing facility resulted in the release of trichloroethene (TCE) to groundwater, ultimately resulting in a 1,200 feet long TCE plume migrating beneath commercial and residential properties. TCE was present in shallow groundwater at concentrations suggestive of possible vapor intrusion (VI) risk. Two commercial and 36 residential homes were identified to be problematic for vapor intrusion.

Approach/Activities. In cooperation with stakeholders and State officials, a strategic approach was developed to evaluate and mitigate potential vapor intrusion risk along the TCE groundwater plume to facilitate collection of soil gas, subslab soil gas and indoor air samples.

Results/Lessons Learned. Vapor mitigation challenges included structural building issues (e.g., brick-lined basements, sub-slab HVAC systems, etc.) disinterested property owners, a global pandemic, and commingled groundwater plumes. This case study presents the technical and community challenges, and lessons learned, associated with vapor assessment and mitigation in industrial and residential settings.