

Publication

Steady-state considerations in vapor intrusion study design

In vapor intrusion (VI) studies, sampling is generally expected to be performed under steady-state, representative conditions. However, as Senior Technical Expert Bart Eklund and Technical Expert Rich Rago explain in their new white paper, “Steady-state considerations in vapor intrusion study design,” the existing steady-state conditions at a site may be perturbed by the preparations for sampling, such as installation of soil vapor probes and/or removal of potential indoor air emission sources. Changes in building operation, such as changes in HVAC ventilation rates, can also perturb the existing steady-state conditions. State and federal guidance for VI investigations sometimes addresses how long to wait for new steady-state conditions to be established after system perturbations but may lack scientific justification in some cases or be silent on some important issues.

VI evaluations need to be based on a robust conceptual site model (CSM) and incorporate defensible steady-state considerations where appropriate. Nonetheless, the importance of steady-state conditions is often overlooked or poorly understood. This paper identifies eight VI-related topics where steady-state is an important consideration and makes recommendations to improve the current standard practice to help practitioners design defensible, efficient VI studies.

Read the full white paper.

HALEY ALDRICH