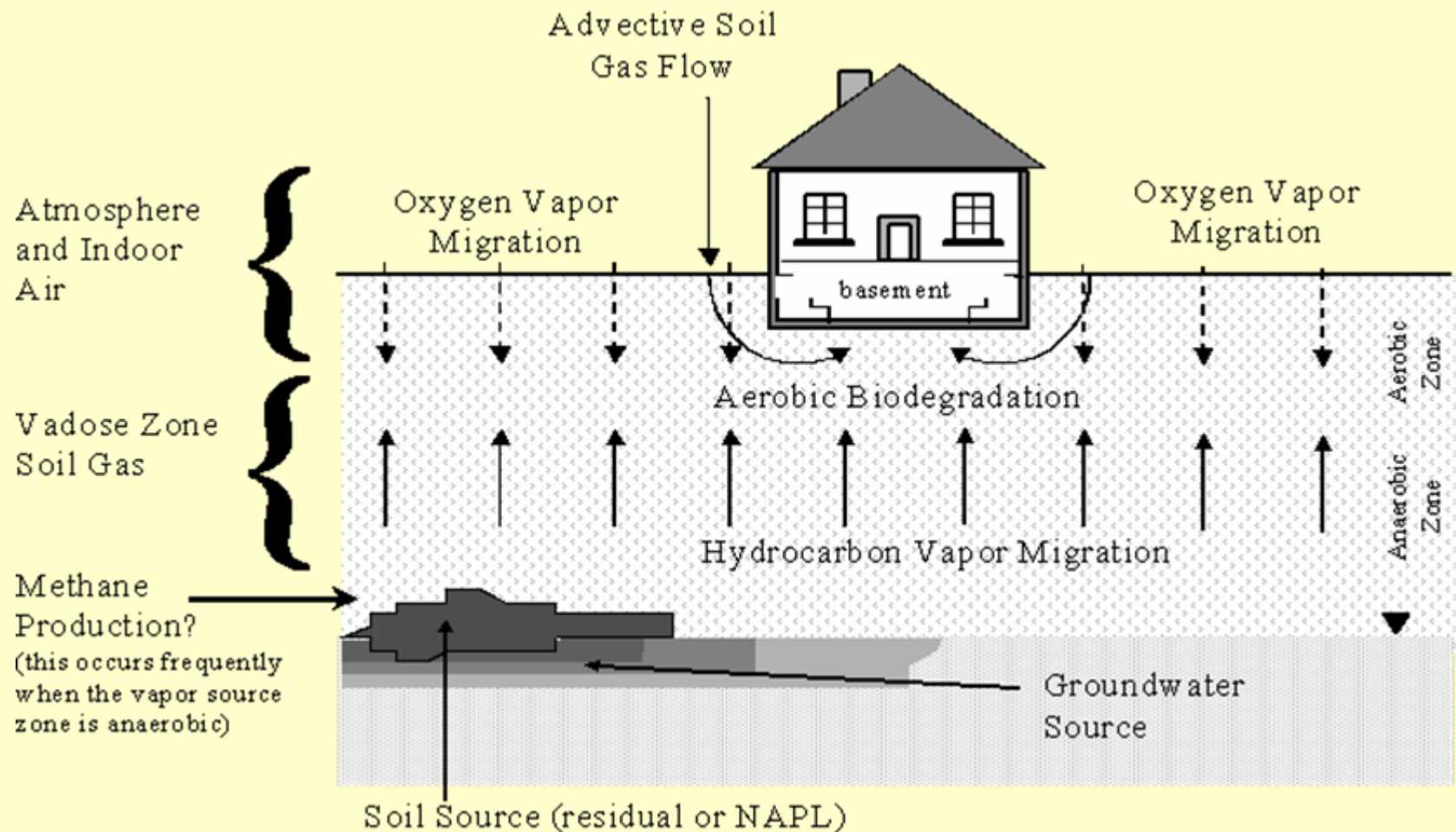




Goals of a Site Conceptual Model

- **Provide an understanding of the existing environmental and geologic conditions at the site based on available information.**
- **Minimize or eliminate any unnecessary activities.**
- **Prioritize site based on risk to human health and the environment.**
- **Based on the SCM, provide a clear path forward towards closure.**

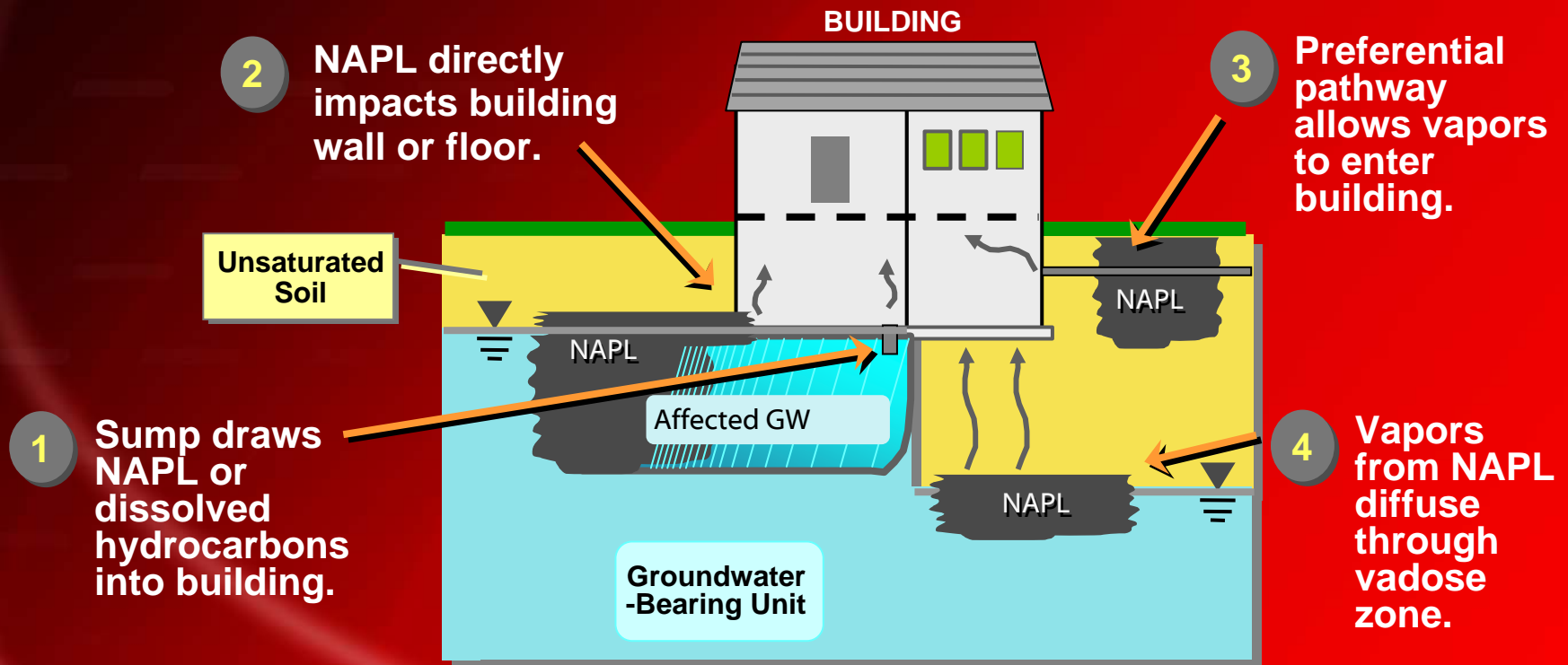
Generalized Site Conceptual Model for Vapor Intrusion



Data Needs to Constrain VI Site Conceptual Model

- **Sample spacing**
- **Collection depths (vertical profile)**
- **Sub slab samples-needed?**
- **Gas data: O₂, CO₂ CH₄ plus HC's)**
- **Soil physical parameters:**
 - Soil Moisture**
 - Permeability**
 - Porosity**
 - TOC**

Petroleum Vapor Intrusion: Petroleum Industry Experience



KEY POINT:

- For petroleum sites, vapor intrusion is generally associated with i) direct impacts or ii) NAPL sources, but not diffusion of vapors from dissolved plumes.
- Delineation of vapor sources is important for screening



When is a SCM Needed?

- Prior to initiation of site assessment activities.
- When site circumstances or conditions change or whenever new data are acquired.
- Whenever a health risk assessment or receptor pathway investigation is initiated.
- Whenever a closure document or correction action plan is submitted.

Discussion Topics for Petroleum Hydrocarbon VI SCM's

- What soil gas data are needed for petroleum hydrocarbon vapor intrusion SCM's?
- Examples of sites with petroleum hydrocarbon vapor intrusion to indoor air?
- How should we deal with background ambient air values of benzene when developing a SCM for indoor air?
- What data are needed to screen out low risk sites from detailed analysis of the vapor intrusion pathway?