Printed from: Interstate Technology & Regulatory Council (ITRC). 2017. *Characterization and Remediation of Fractured Rock*. FracRx-1. Washington, D.C.: Interstate Technology & Regulatory Council, Characterization and Remediation of Fractured Rock, http://fracturedRx-1.itrcweb.org.

5.3 Identify Significant Data Gaps

Data gaps in CSMs occur throughout the characterization process. Data gaps are normal in CSMs because the models rely on working hypotheses in various phases of completion and on incomplete information. To maximize efficiency and cost-effectiveness, consider the influence of physical, hydrologic, and chemical characteristics on fate and transport. At each stage, investigators must identify significant data gaps, as well as which data needs should be addressed (data collection objectives) and which can be ignored.

Table 5-1 notes several examples of data gaps:

- vertical and horizontal extent of contamination
- the direction of contaminant movement
- the rate of contaminant movement

Each of these data gaps can easily be transformed into one or more specific characterization objectives. For example, the second data gap becomes the objective: *determine the direction of contaminant movement.* The resulting data collection objective to resolve this data gap might be to use borings to provide site-specific data on VOC concentrations at various depths. Locations of these borings can be determined with the help of the desktop evaluation. While all data gaps are assessed when confirming or refuting the CSM hypotheses, only significant data gaps should be considered for further investigation. The data gap in this example is significant because any deep migration of VOCs threatens the existing water supply wells.

One way to identify data gaps is using the 21-Compartment Model, completed during assessment of the initial CSM. After supplying the known information, partially filled or empty compartments may identify significant data gaps.