

## Vapor Intrusion Data Quality Evaluation Worksheet

This list serves as a tool to track the data quality issues important to vapor intrusion evaluations. You may wish to check off items and make notes as you go, or you may prefer to complete your report and then run the checklist.

### 1) **Sample Collection Methods & Handling**

- a. Methods used
  - i. Stainless canisters (active or passive collection)
  - ii. Tedlar bags
  - iii. Mobile unit (Hapsite / TAGA)
  - iv. Sorbent samplers (active or passive collection)
  - v. PID/FID
- b. Ambient conditions
  - i. Precipitation over past 72 hours
  - ii. Temperature
  - iii. Wind speed and direction
  - iv. HVAC operation status and windows/doors closed 24 hour period before sampling
- c. Mitigation system operation status
- d. Review DLs, SOPs for field instruments and analytical methods
- e. Field records, shipping records, chain of custody, lab log books, raw data, photos, locations

### 2) **Analytical Methods**

- a. VOCs – TO-15 / 8260
- b. SVOCs – TO-17
- d. Other (mercury or permanent gases, i.e. CO<sub>2</sub>, CO, H<sub>2</sub>S, He, H<sub>2</sub>)

### 3) **Data Quality Indicators**

- a. Precision
  - i. Reviewed duplicate samples / split samples / repeat analytical analysis on the same sample
- b. Bias
  - i. Reviewed results from running analytical references or spiked samples
  - ii. Assessed indoor sources: indoor products survey / chemical ratios / handheld data / occupational
- c. Accuracy
  - i. Analytical percent recovery acceptable
  - ii. Initial (~30" Hg) & final (≠zero) summa canister pressures (zero upon collection = decreased duration)
  - iii. No water in soil gas borings / no heavy rainfall 2 to 3 days prior to sampling
  - iv. No tracer detected in sample during leak testing
- d. Representativeness
  - i. Samples placed appropriately / sufficient data to assess spatial variability
  - ii. Multiple samples taken in multiple seasons to assess temporal variability. Does the data reflect reasonable maximum exposures, i.e. collected in the more extreme seasons?
  - iii. Used appropriate sample durations
  - iv. Groundwater wells screened at groundwater surface (for VI) or deep (for DNAPL detection)
  - v. Statistical analysis shows representativeness (difficult for VI)
- e. Comparability
  - i. Qualitative confidence that different data sets can be compared for decision making, i.e. soil gas, indoor air, outdoor air collected concurrently
  - ii. Measured concentrations reflect reasonable maximum exposure concentrations
- f. Completeness
  - i. Degradation products considered
  - ii. Sufficient number of samples collected to meet all other data quality indicators
- g. Sensitivity
  - i. Reviewed method & instrument limits <= screening levels, lab quantitation limits, reporting limits
  - ii. Care taken with personally identifying information