



10.5 FIELD EQUIPMENT AND LABORATORY INSTRUMENT CALIBRATION

10.5.1 Field Equipment Calibration

Investigations of soil, water, or gas phase matrices utilize variety of field equipment, such as a photo-ionization detector (PID) or flame-ionization detector (FID) to measure volatile constituents in soil sample, water quality measurement instruments, or a flow controller to limit or regulate the flow of gas.

In general, calibrate field equipment at least daily prior to its first use. Re-calibrate or check field equipment throughout the field day to verify that it is operating properly. Record field equipment calibration and equipment field checks in a field logbook and/or on a calibration log sheet accompanying the instrument. At a minimum, record:

1. Date and time of calibration
2. Type and identification number of equipment being calibrated
3. Reference standard(s) used for calibration
4. Name or initials of person performing the calibration.

10.5.2 Laboratory Equipment Calibration

For Method 8000 analyses, laboratory instruments are typically calibrated with a linear 5-point calibration curve prior to use. A calibration is considered valid if the 5-point linear curve meets a less than or equal to 20 percent RSD. Continual calibration verifications throughout the analytical day assess whether the calibration curve has drifted as a result of instrument use (USEPA, 2008a).