

**FIELD PROCEDURE 22**  
**Visible Fugitive Emissions from Material**  
**Sources and Smoke Emissions from Flares**

*Note: Read initially the written materials found in Citations 1 and 2 in the Bibliography of Method 22 or attend the lecture portion of the Method 9 certification course to be trained and knowledgeable about the effects on the visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor). The data sheet serves as a summary; hence, there is no Summary Sheet.*

**A. Preliminary Determinations**

1. Determine the applicable subpart and the process to be observed, i.e., affected facility, building, or housing structure and the requirements for observations.
2. Determine an observation location of potential emissions, i.e., outside observation of emissions escaping the building/structure or inside observation of emissions directly emitted from the affected facility process unit.
3. Select a position that enables a clear view of the potential emission point(s) and where the sun is not directly in the observer's eyes. This position should be > 15 feet, but < 0.25 miles, from the emission point.
4. Record the information on FDS 22 (outdoor locations) or on FDS 22a (indoor locations).
5. For indoor locations, measure the level of illumination as close to the emission sources(s) as is feasible. The illumination must be > 100 lux (10 foot candles).
6. Choose an observation period that meets the requirements for determining compliance. If the process operation is intermittent or cyclic, it may be convenient for the observation period to coincide with the length of the process cycle.

**B. Observations**

1. Determine the observation period as follows:
  - a. Start the accumulative stopwatch when observation period begins, and record the clock time.
  - b. Stop and start (without resetting) the stopwatch during breaks (process shutdowns, observer rest breaks) in the observation period. Record the corresponding clock times.
  - c. Stop the stopwatch at the end of the observation period, and record the clock time. The accumulated time on the stopwatch is the observation period.

2. Determine the total time that visible emissions were observed as follows:
  - a. During the observation period, continuously watch the emission source.
  - b. Upon observing an emission (condensed water vapor is not considered an emission), start the second accumulative stopwatch; stop the watch when the emission stops.
  - c. Continue this procedure for the entire observation period. The accumulated elapsed time on this stopwatch is the emission time.
3. If the observation period is terminated because fugitive emissions from other sources (e.g., road dust) obscure a clear view of the affected facility to such a degree that the observer questions the validity of continuing observations, note this fact on the FDS.

**C. Observer Rest Breaks**

1. Take a rest break every 15 to 20 min for 5 to 10 min.
2. For extended observation periods, alternate two observers between observations and breaks.

**D. Alternative**

The observation period (optional) may be ended if the emission time indicates noncompliance. For example:

1. If the standard is  $\leq 6$  min in any hour, then observations may be stopped after emission time is > 6 min.
2. If the standard  $\leq 10\%$  of the time in any hour, then observations may be terminated after emission time is > 6 min (10% of an hour).





