The case study materials in the Appendices show some of the possibilities that can be exercised in the graphics display the plume features described in the *fn*.CXn output files. As shown above, the plume is characterized by its centerline trajectory, dilution, and width values. For understanding added detail in the plume cross-section, it is important to keep in mind the different concentration distributions and meanings of "plume width". These are explained in the supplemental statements at the beginning of each flow module (see Figures 5.2 and 5.3). Also, Figure 5.5 may be useful for further illustration. It gives the cross-sectional distribution of concentration for many of the commonly occurring plume cross-sections in the various regions predicted by the CORMIXn subsystems.

In some instances, users may desire to plot concentration isolines for the predicted plume shapes. The information contained in the HYDROn output file for each module and the definitions shown in Figure 5.5 are sufficient to construct such plots. In particular, in submerged plume or passive mixing regions having a Gaussian distribution, the following formula can be used

$$c(n) = c_c e^{-\left(\frac{n}{b}\right)^2}$$

where c(n) is the lateral concentration, n is the coordinate position measured tranversely away from the centerline, c_c is the centerline concentration, e is the natural logarithm base, and b is the local plume half-width. However, this equation can not be used to plot concentration isolines in the control volume or buoyant spreading regions because they are defined with a top-hat or uniform concentration profile and not a Gaussian distribution.

By and large, all CORMIXn predictions are continuous from module to module satisfying the conservation of mass, momentum and energy principles. Occasionally, some *mismatches in plume width* can occur as a consequence of enforcing these principles. Most of these will be barely noticeable with the usual plotting resolution and they can usually be safely ignored. Some of the mismatches or discontinuities can be kept to a minimum by *specifying a large number for the grid intervals* (see Section 4.9) to increase the resolution of the CORMIX prediction. This is especially useful for the final simulations on a particular design case.

In addition, when bottom attachment or bank interaction occurs, the plume trajectory is assumed to (and simulation predictions do) shift suddenly to the boundary. In actuality, that shift would be much more gradual and this should be considered when interpreting the results of the CMXGRAPH plots or, alternatively, when plotting plume features by hand.