

Point to Point Calibration

(Also known as Multiline or Piece-Wise)



Point to Point Calibration

“Calibration curve is a linear interpolation between two calibration points (if more than one replicate, the replicates are averaged before interpolation).”

Ref: DIONEX Chromeleon Software. Help: Calibration Type. Software version 6.60



Point to Point

$$y = mx + b$$

Where: **m = slope**
 b = intercept
 y = response of component
 x = concentration of
 component



Point to Point Statistical Equations

Slope (m) $m = \frac{y - y_1}{x - x_1}$

Intercept (b) $b = y_{ave} - (m * x_{ave})$

Where:

- y = response of first component
- y_1 = response of second component
- y_{ave} = average response
- x = concentration of first component
- x_1 = concentration of second component
- x_{ave} = average concentration



Point to Point Equation for Solving Concentration

$$y = mx + b$$

$$y - b = mx$$

$$(y - b)/m = mx/m$$

$$(y - b)/m = x$$

Where

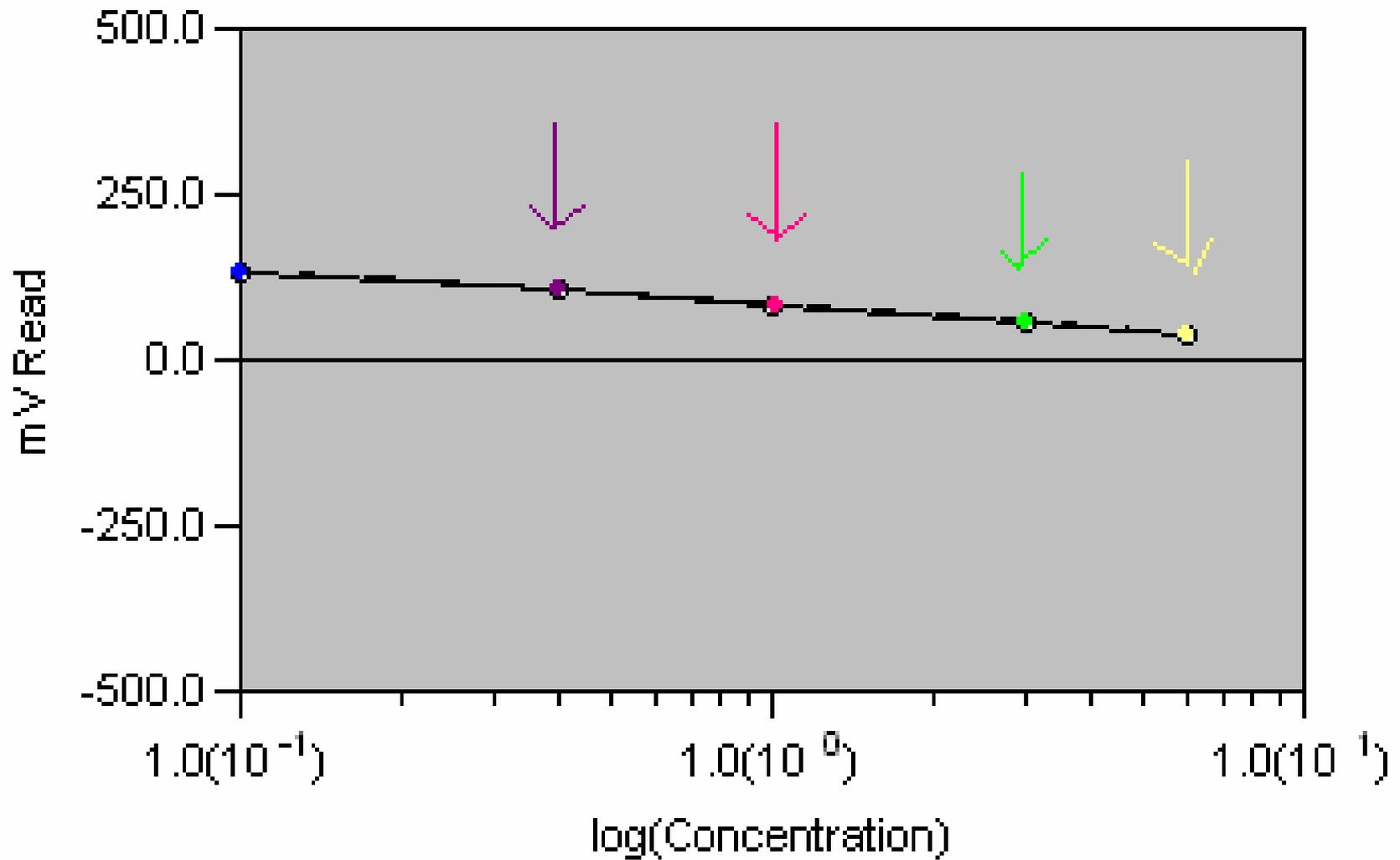
m = slope

b = intercept

y = response of component

x = concentration of component





Point to Point Example From a Fluoride Analysis



Benefits

- Provides greater accuracy of values obtained between points
- No criteria for correlation coefficients



Disadvantage

Analysis is restricted to samples that fall between the two calibration standards

