Loading & Concentration Calculations

Monthly Average (all of the samples in a month)
Weekly Average (samples within a certain week)

C= concentration
F=flow
L= loading

NOT Continuous Recorder

Concentration

Concentration Average = $\dfrac{C1 + C2 + C3 + C4}{4}$

Loadings

Loading Average = $\dfrac{L1 + L2 + L3 + L4}{4}$

Day 1 $L1 = (F1)(C1)(8.34\ lbs/day)$
Day 1 $L2 = (F2)(C2)(8.34\ lbs/day)$
Day 1 $L3 = (F3)(C3)(8.34\ lbs/day)$
Day 1 $L4 = (F4)(C4)(8.34\ lbs/day)$

WITH Continuous Recorder

Concentration

Concentration Average (C^{fw}) = $\dfrac{C1(F1) + C2(F2) + C3(F3) + C4(F4)}{F1 + F2 + F3 + F4}$

Loadings

Loading Average = $C^{fw} \times \dfrac{F1+F2+F3+F4}{4} \times 8.34\ lbs/day$

Fecal Coliform Geometric Average

Geometric Mean (Average) = $\sqrt[n]{(C1)(C2)(C3)(C4) \ldots \ldots \ldots}$

Geometric Mean (Average) is the product of all the sample values followed by taking the nth root of the resulting value where n equals the number of samples

Example: 4 samples of 150, 75, 200, 24
             Multiplied together equals 54,000,000
             The 4th root equals 85.72