

## Centrifuge Bench Sheet

### Centrifuge: Wasting Calculation

Tank Capacity

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Volume Aeration Tank # \_\_\_ = \_\_\_\_\_ Million Gallons (MG)

Volume Clarifier, Tank # \_\_\_ = \_\_\_\_\_ Million Gallons (MG)

Solids Inventory

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Aeration Tank # \_\_\_ \_\_\_\_\_ MG x \_\_\_\_\_ Spin = \_\_\_\_\_ Sludge Units (a)

Clarifier Unit # \_\_\_ \_\_\_\_\_ MG x \_\_\_\_\_ Spin = \_\_\_\_\_ Sludge Units (b)

\_\_\_\_\_ Total Sludge Units (c)  
(c = a + b)

Wasting Rate

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RAS spin (average) = \_\_\_\_\_ % RAS Spin (d)

Desired MCRT = \_\_\_\_\_ Days (e)

WAS Rate =  $\frac{\text{Total Sludge Units (c)}}{\text{Desired MCRT (e)}}$  = \_\_\_\_\_ Sludge Units Removed Per Day (f)

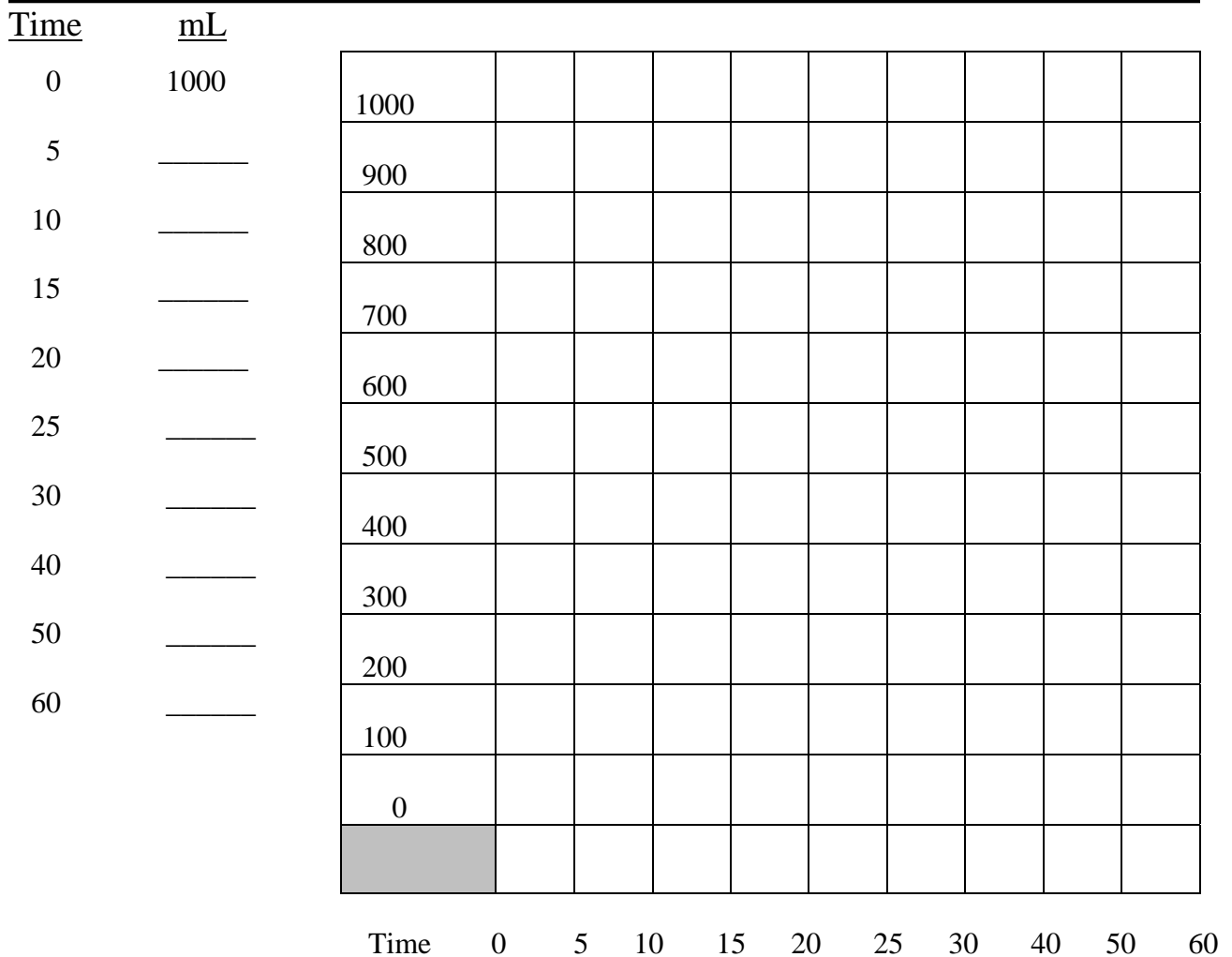
$\frac{\text{S.U. Removed / Day (f)}}{\text{RAS Spin (d)}}$  = \_\_\_\_\_ MG Sludge to Waste (g)

\_\_\_\_\_ MG Sludge to Waste (g) X 1,000,000 = \_\_\_\_\_ Gallons to waste

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### Centrifuge: RAS Adjustment Calculation

Settling Velocity



Determine the “knee” of the curve, the location on the graph at which the settling rate significantly slows down. Read across from the “knee” to the left to determine the settled volume in mL.

#### RAS Calculations

Aeration Tank Spin \_\_\_\_\_ % (a)                      Actual RAS Spin \_\_\_\_\_ % (b)

“Knee” Value \_\_\_\_\_ mL (c)

Desired RAS concentration (d) =  $\frac{(a) \times 1000}{(c)}$

If desired RAS spin (d) is lower than actual RAS spin (b) increase RAS rate, wait 30 minutes, measure RAS and adjust RAS rate again if necessary.

If the desired RAS spin (d) is higher than actual RAS spin (b) decrease RAS rate, wait 30 minutes, measure RAS and adjust RAS rate again if necessary.