

USDA Soil Classification System

The Soil consists of Sand, Silt and Clay.

Example 1:

Given: Soil sample without gravel

Sand = 26%
Silt = 35%
Clay = 39%

Sum = 100%

Soil is Clay Loam

Example 2:

Given: Soil sample

Gravel = 13%

Sand = 14%

Silt = 34%

Clay = 39%

Sum = 100%

Drop the Gravel and recalculate the ratios.

Sand = 14%

Silt = 34%

Clay = 39%

Sum = 87

New Soil Percentages

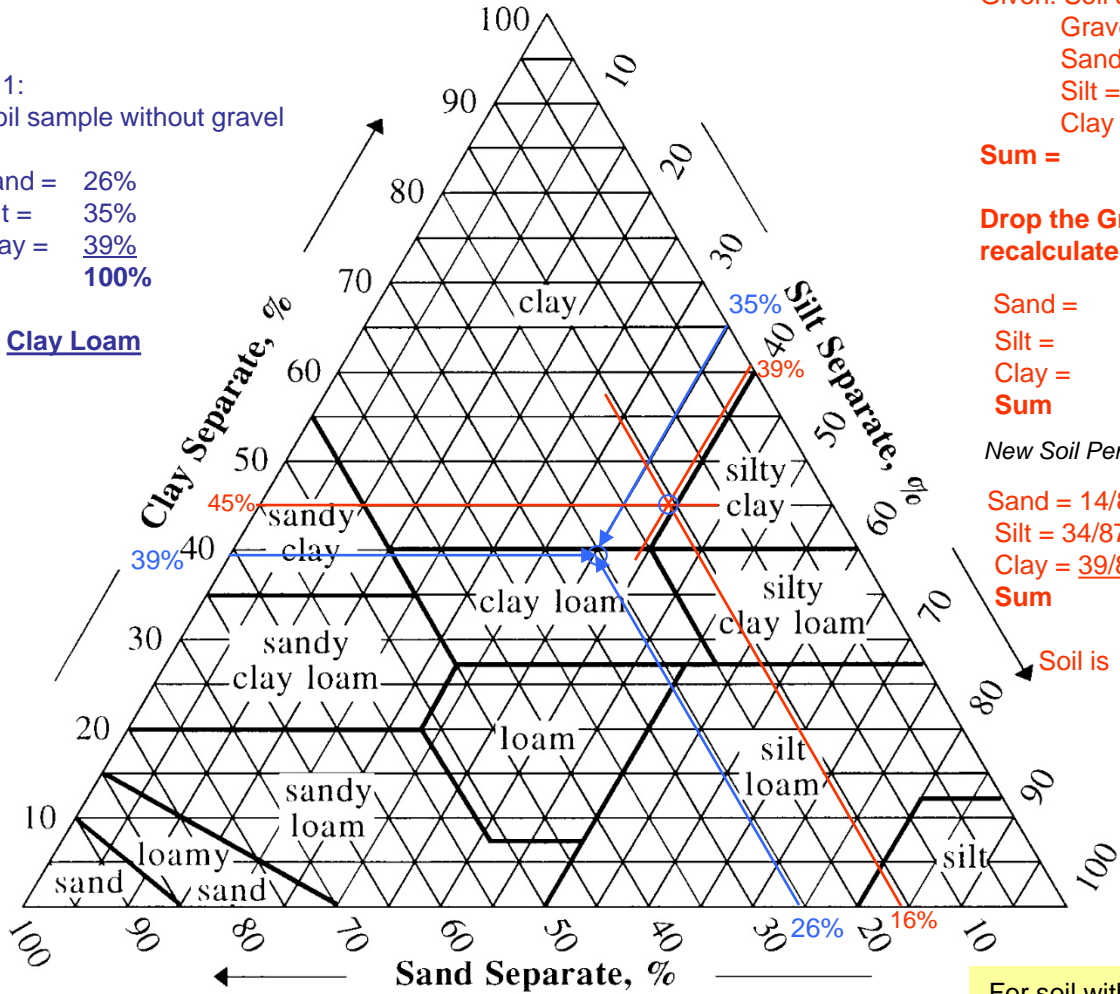
Sand = $14/87 = 16\%$

Silt = $34/87 = 39\%$

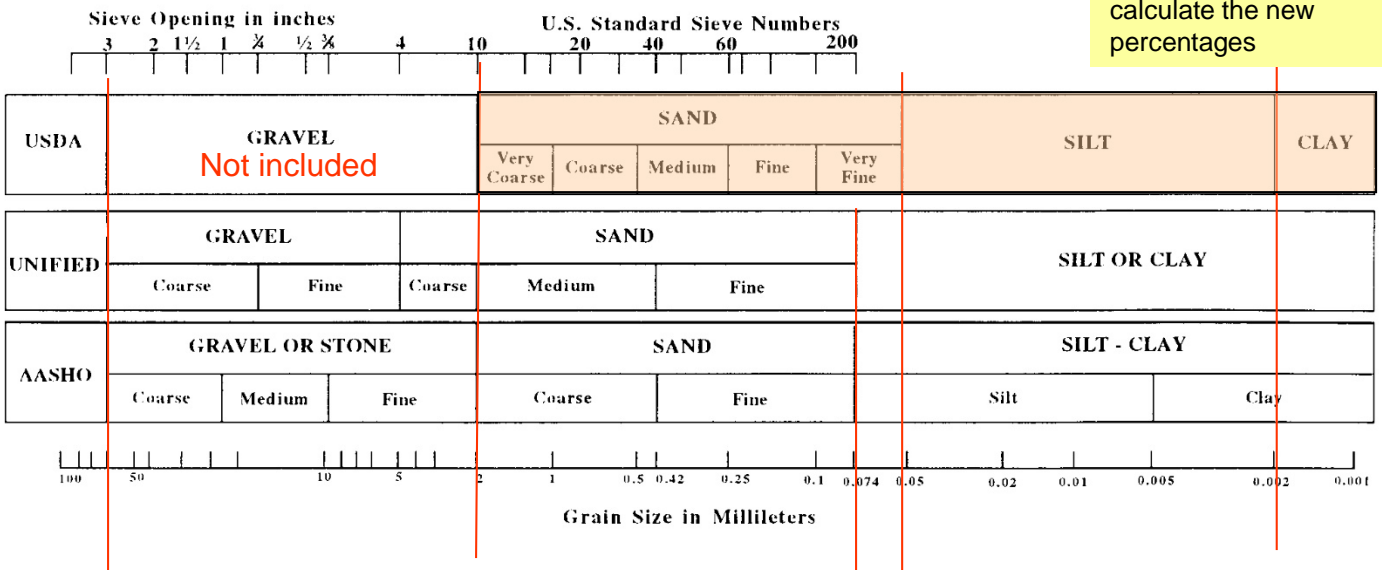
Clay = $39/87 = 45\%$

Sum = 100%

Soil is Clay



COMPARISON OF PARTICLE SIZE SCALES



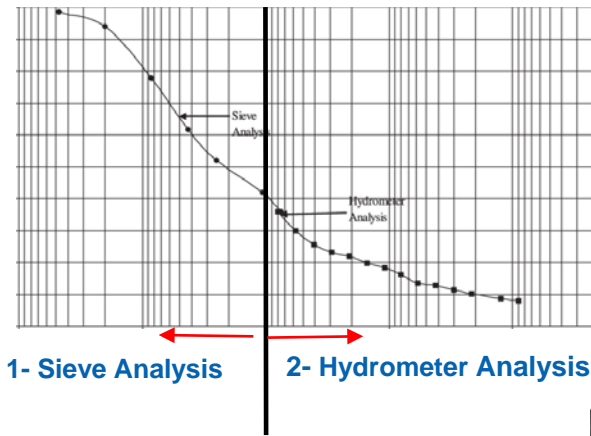
For soil with gravel, subtract the gravel from the soil and calculate the new percentages

Grain Size Distribution

1- Sieve Analysis



#200



PAN

2- Hydrometer Analysis

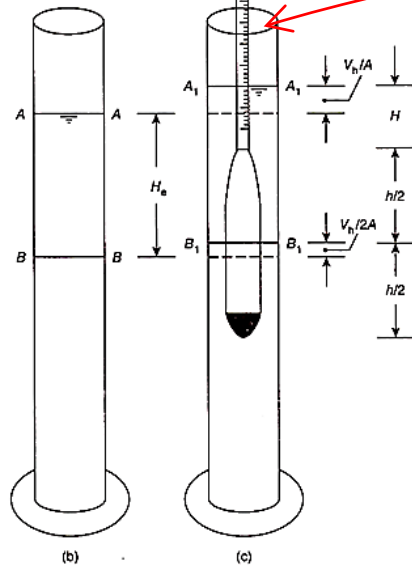
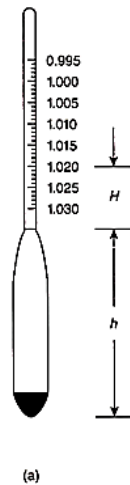


Figure 6.10 Hydrometer for sedimentation analysis: (a) Hydrometer, measuring jar (b) before and (c) after insertion of hydrometer.