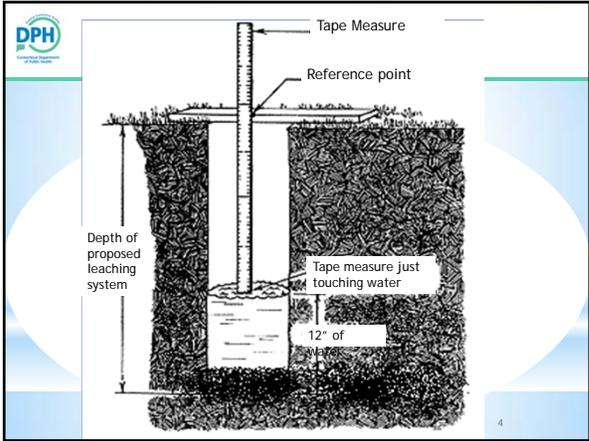


# \* Percolation Tests

Demonstrates how quickly water moves through the soil under saturated conditions

Technical Standards Section VII  
Pg. 35

DPH Connecticut Department of Public Health  
Keeping Connecticut Healthy



## \* Section VII Percolation Tests (pg. 35)

- \* Percolation tests are conducted in the primary and reserve leaching areas prior to the septic system design
- \* The number of percolation tests conducted
  - \* consistency of results
  - \* variation of soil types found in the proposed leaching system area
- \* The percolation test is a major component in the design of system

Perc Tests 2

## \* Percolation Tests Step one: Presoak

- \* The hole is pre-soaked to allow clay in the soil to saturate and swell and replicate saturated conditions
  - \* If water seeps away in 2 hours the hole may be refilled with 12 inches of water and the test may begin
  - \* If water remains after 2 hours re-fill the hole with 12 inches of water and allow to presoak for an additional 2 hours

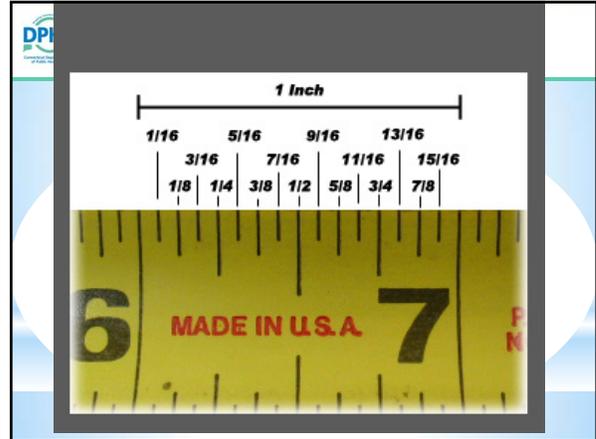
Perc Tests 5

## \* Percolation Tests

- \* The test is conducted in a 6 inch to 12 inch deep hole dug to the depth of the proposed leaching system
- \* The percolation test is done in only one soil strata or horizon at a time
- \* Readings are conducted at regular intervals and continue until there is 2 to 3 inches of water remaining in the hole
- \* Percolation testing is generally not recommended when extremely dry conditions are present

Perc Tests 3

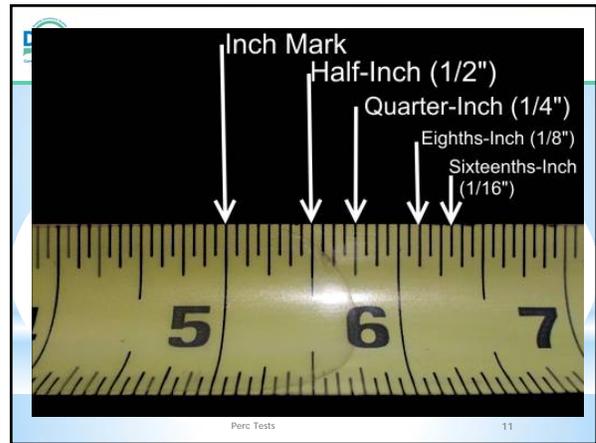




**\* Percolation Tests**  
**Step Two: Re-fill**

- \*After the percolation hole has been properly presoaked it is filled with 12 inches of water
- \*The test must be conducted within 30 hours of pre-soaking
- \*A reading is taken and recorded every 1 to 20 minutes depending on how quickly the water drains down

Perc Tests 8

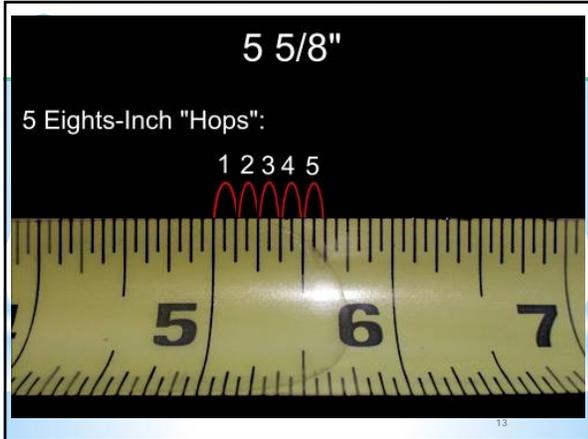


**\* Step Three: Monitor and Record**

\*Record the water level drop from the fixed reference point using timed intervals between 1 and 20 minutes

Perc Tests 9

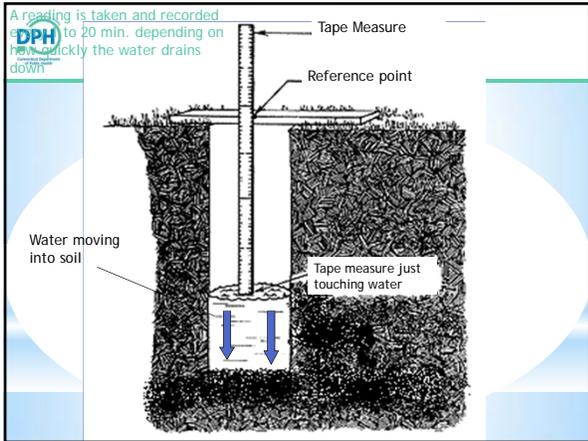




**DPH** Percolation Tests  
**Step four: Determine Percolation Rate**

- \*Readings should be converted to decimal form
- \*To determine the drop subtract the last reading from the previous reading
- \*Then divide the time interval by the difference in the readings (Time ÷ Reading = minutes/inch)
- \*Generally speaking, the highest/lowest percolation rate is used for design purposes unless additional testing proves otherwise

Perc. Tests 16



**DPH** Math Class Review

Calculating fraction to decimal

Fraction	Decimal
$1/8 =$	
$1/4 =$	.125
$3/8 =$	.25
$1/2 =$	.375
$5/8 =$	.5
$3/4 =$	.625
$7/8 =$	.75
	.875



**DPH** Determine Percolation Rate

Time	Reading (Inches)	Reading in Decimal	Diff.	Rate (min/inch)
10:00	12-3/8	12.375		
10:10	14-5/8	14.625	2.25	4.44
10:20	15-7/8	15.875	1.25	8
10:30	16-5/8	16.625	.75	13.33
10:40	17-1/8	17.125	.5	20
10:50	17-7/8	17.625	.5	20
11:00	17-1/8	18.125	.5	20



**DPH** **Leaching System:**  
**Soils with Slow Percolation Rates**

- \* No leaching product rated at or more than 7.4 square feet per linear foot effective leaching area credit shall be used where the receiving soil has a percolation rate slower than 30 minutes per inch
- \* Whenever a leaching system is elevated entirely in a select fill package, the system can be sized based on the percolation rate of the select fill provided the select fill is tested after placement

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