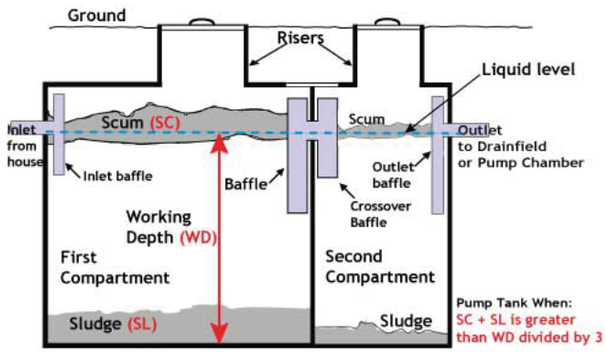
The Stick Test

Septic tanks are mainly settling chambers. They allow time for solids and scum to separate from the wastewater, so clear liquid can safely go to the drainfield. Over time, the scum and sludge layers get thicker, leaving less space and time for the wastewater to settle before passing to the drainfield.

For every gallon entering the tank, one gallon is pushed out to the drainfield. So it is important to keep the level of scum and sludge from building up and nearing the inlet or outlet baffles, where the scum or sludge could plug them up or be carried out to the drainfield.

Septic tanks should be checked for buildup every 1 to 3 years until you can get on a predictable pumping schedule. Most septic tanks need pumping every 3 to 5 years. How often depends on the size of the tank, the number of people in the household, and the amount and type of solids entering the tank.

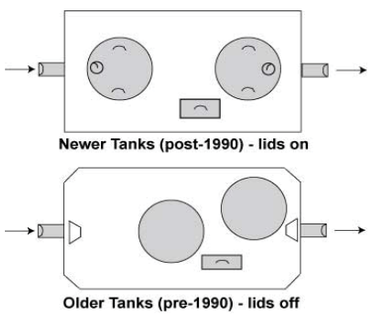


TYPICAL SEPTIC TANK WITH RISERS

You can hire a professional or inspect your septic tank yourself. The “stick test” procedure below will guide you through the steps of measuring the amount of scum and sludge in the tank, discovering the working capacity of the tank, and determining whether the tank needs pumping. A more complete inspection includes inspecting the condition of the baffles and the pipe seals into and out of the tank (see Step 4).

Step 1

First uncover and remove the first manhole cover. Some systems have “risers” that make this job easier by bringing the tank lids up to the ground surface. (We encourage you to have risers installed so you won’t need to dig down each time you inspect.)


Newer Tanks (post-1990) - lids on

Older Tanks (pre-1990) - lids off

The diagram at left shows the tops of the two most common septic tank configurations. The upper figure is found on newer tanks and the bottom one is usually found on older septic tanks. In most cases, the hole to the left is the first compartment, the hole to the right is the second compartment, and the rectangular cover is to the crossover baffle. (Some tanks, 25 years or older, may have only one compartment that is round, oval, or square.)

Step 4 — Inspect the Baffles

Remove the covers over the inlet, outlet, and cross-over baffles. Inspect the baffles to ensure they are present and not severely corroded. If the baffles are concrete and molded into the rest of the tank, venting holes should be present and unobstructed.

- The inlet baffle should be unobstructed and the pipe sealed to the tank.
- The outlet baffle should be unobstructed and the liquid level should be at the bottom of the pipe, not below the pipe or above the bottom of the pipe. The pipe must be well sealed to the tank.
- The crossover baffle should also be free of obstruction.


In this picture, looking down an outlet baffle, the effluent is below the pipe, indicating a bad seal.

Safety and Cleanup

- **Wear gloves.**
- **Discard soiled gloves and sludge toweling in a plastic bag.**
- **Rinse sticks with bleach water to disinfect before storing.**

For more information on septic system care, inspection and maintenance, contact:

Thurston County Environmental Health
2000 Lakeridge Dr. SW
Olympia, WA 98502
360-786-5490 or
360-867-2626
TDD 360-867-2603
www.co.thurston.wa.us/health/ehoss

To receive this in an alternative format, please call 360-867-2626.

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Inspecting Your Septic Tank

It’s not so bad... really!

Step 2 — Measuring the Scum Level

This procedure determines the thickness of the scum level **(SC)**.

1. Make the ***scum stick*** — Cut one of the 10-foot PVC pipes to 6 feet. Glue a 90° elbow to one end. Cut a 6-inch piece of PVC pipe and glue to elbow (see below). Place end caps on open ends.

2. Lay a board or stick across the top of the hole, manhole, or riser.

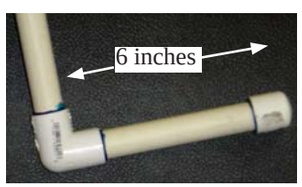
3. Place the scum stick down the manhole of the first compartment of the tank until it rests on top of the scum layer (see Figure 1) and mark the scum stick where it crosses the reference point (A).

4. Work the stick through the scum layer, leading with the elbow end. Push straight through the scum layer, turn the stick 90°, pull up on the stick until you feel the bottom of the scum layer.

5. Mark the scum stick where it crosses the reference point (B).

6. Remove the scum stick and measure the distance between the two marks. This is the thickness of the scum layer **(SC)**.

Scum stick is 6 feet long with a 6 inch leg. Sludge stick is two 5 foot sections screwed together. *NOTE: Scum and sludge sticks can be any length up to 10 feet.*



WHAT YOU NEED TO DO THE STICK TEST

- two 10-foot PVC pipe*
- four end caps*
- one 90° elbow*
- PVC cement (blue cement used in rain and wet)
- two adapters, SxMPT, threaded*
- one coupler, threaded*
- two feet of white rag or old towel or old gym sock
- string or duct tape
- pencil or waterproof marker
- rubber gloves
- disinfecting solution made of 1/4 cup bleach per gallon of water in a bucket
- plastic bag for disposal of towel, rag/sock, gloves

* all PVC materials are 1/2-inch Schedule 40 PVC plastic

CAUTION:

NEVER enter a septic tank—fumes can be fatal!

NEVER leave an open tank unattended. Keep kids and pets away. Cover with a large board, if needed.

Step 3 — Measuring the Sludge Level

This procedure determines the thickness of the sludge level **(SL)**.

1. To make the ***sludge stick*** — Cut the other 10-foot PVC pipe into two 5-foot sections. Glue an adapter to each stick. Screw the coupler into one of the adapters. Connect the two sections to make a 10-foot stick.

2. Tightly wrap two feet of a white rag or old towel around the bottom of the stick. Fasten it with tape or string.

3. Make hole in scum – do not stain the sludge stick with scum.

WHEN TO PUMP

Pump the tank when the sludge depth, plus the scum depth, is greater than one-third of the working depth of the tank:

(a) SC _____ inches + SL _____ inches = _____
(b) WD _____ ÷ 3 = _____

If (a) is greater than (b), the tanks needs pumping.

For example, if SC = 10, SL = 8, and WD is 48":
10 + 8 = 18 inches and 48/3 = 16 inches...

18 is greater than 16, so the tank needs pumping.

4. Carefully lower stick through the hole in scum in first compartment until it rests on top of the liquid layer. Mark the stick where it crosses the opening of the manhole or riser (C in Figure 1).

5. Lower the stick to the bottom of the tank. Hold the stick in the tank for at least five minutes to allow sludge particles to adhere to the towel.

6. Mark the sludge stick where it crosses the board (D in Figure 1). The distance between the two marks (C and D) is the working depth of the tank **(WD)**.

7. Carefully remove the stick. There should be a distinct dark stain on the rag. Measure the height of the stain. This is the depth of the sludge layer **(SL)**.

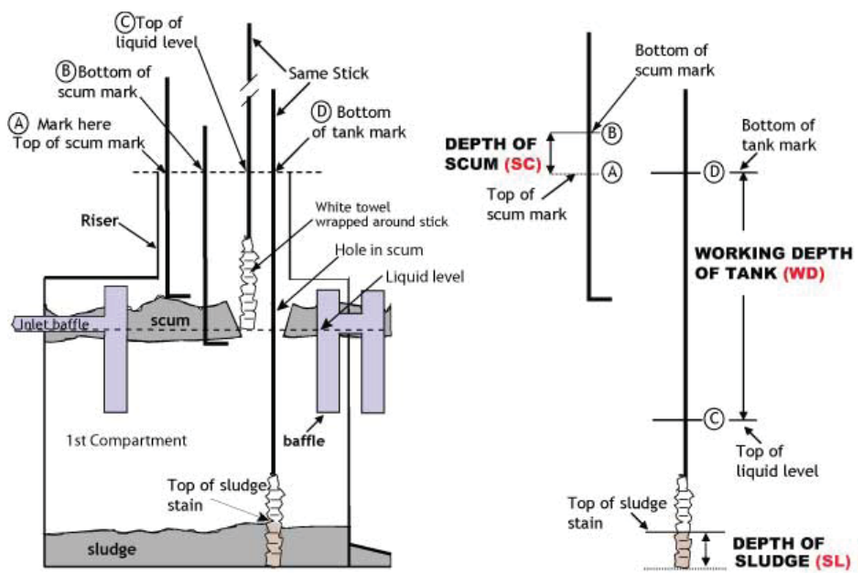


FIGURE 1 - SCUM DEPTH (SC), SLUDGE DEPTH (SL) AND WORKING DEPTH OF TANK (WD)