

# **MEASURE SCUM & SLUDGE - How and Why to Measure Septic Tank Scum and Sludge in the Septic Tank**

## **The Frequency of Septic Tank Pumping Depends on These Factors**

1. capacity of the septic tank
2. volume of wastewater (related to size of household) being placed into the tank daily - daily wastewater flow
3. amount of solids in wastewater (e.g. garbage disposals produce more solids)
4. the actual observed accumulated thickness of the floating scum layer in the septic tank
5. the actual observed accumulated thickness of septic tank sludge on the bottom of the septic tank
6. the effective septic tank effluent retention time, given the above parameters

## **The floating scum layer in a septic tank**

The floating scum layer in a septic tank includes oil and grease which, if pushed into the leach field, will clog that component of the septic system. Oil and grease are particularly harmful to the aerobic portion of septic effluent treatment in the soil absorption system. Therefore we want to clean the septic tank if the scum layer has thickened to the point of risking pushing grease and oil out of the tank. The tank needs to be pumped when the floating scum layer has accumulated to reach 3 inches of the bottom of the outlet baffle or tee.

## **The settled sludge layer in a septic tank**

The sludge layer on the bottom of a septic tank includes various solids which are not dissolved in the septic effluent and which are dense enough to fall to the bottom of the tank. The tank bottom sludge is comprised of "settleable solids" and that portion of "suspended solids" which will, given enough time, also settle out. These accumulate at the bottom of the septic tank until they are removed by a septic tank cleanout procedure. Normally a septic tank should be pumped when the bottom layer of sludge is within 18 inches of the tank outlet.

## **WHEN TO PUMP - How thick can the septic tank sludge and scum layer be before septic tank cleaning is needed?**

### **Septic tank effluent net free area or effective septic tank working volume**

Don't wait too long before removing septic scum and sludge. People who wait until their septic system stops working due to a clogged or over-filled (with sludge and scum) septic tank have waited too long. As the bottom sludge layer increases in thickness, and as the top septic scum layer increases as well, the remaining "net free area" or "effective septic tank volume" of effluent in the tank is reduced in volume.

When a septic tank is operating with a low volume of "net free area" of septic effluent, the system lacks adequate volume to provide adequate settlement time - time needed for sludge to settle to the tank bottom and scum to coagulate at the tank top. In this circumstance, although drains in the building seem to be just fine, the septic tank effluent is remaining in a constant state of stirred-agitation. In turn, that means that the system is pushing floating debris into the leach field or other absorption system. Pushing grease, scum, and small solid debris out of the septic tank and into the leach field reduces the future life of that expensive component of a septic system.