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Eastex Environmental Laboratory



Newsletter

Providing superior service and quality analysis for engineering firms, municipalities, school districts, government agencies, industrial facilities and individuals in Southeast Texas since 1986.

If you would like EEL to complete your DMR'S online, please contact Brian Sewell at 1-800-525-0508



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Oil and Grease

The term O&G (oil and grease) has become the popular term replacing the term FOG (fat, oil and grease), although both terms refer to the same wastewater constituents.

O&G constituents in wastewater can come from plants and animals (e.g. lard, butter, vegetable oils and fats) as well as petroleum sources (e.g., kerosene, lubricating oils).

O&G are generally hydrophobic (i.e., "water-fearing") and thus have low solubility in wastewater, resulting in relatively low biodegradability by microorganisms.

O&G becomes more soluble (i.e., more easily dissolved) in wastewater at high temperatures and will form emulsions (i.e., oil-water mixtures) that will often separate back out of wastewater as temperatures become cooler; thus, O&G are notorious for causing sewer collection system problems (e.g., blockages, pump failures).

WARNING! Since O&G adheres to plastic, only glass sample collection containers can be used to collect O&G samples!



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We Started this month with a new mystery Bug Of The Month



Can you guess what this is? Hint: This one is very common in digesters since it can tolerate low DO levels. It is often an indicator of high sludge age. *See answer on the back.*

Grease Trap Compliance

If your city or M.U.D. has a FOG or Grease Trap Ordinance, Eastex Environmental can do a turn key field sampling, analysis and reporting to the inspector. The coordination will be performed directly with the business so that your personnel are not unduly burdened. To set up this type of program contact Mark Bourgeois at Eastex Environmental Laboratory.



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Grease Traps

Grease traps or interceptors are the main way to try to keep some of the grease out of the collection system.



There are three important criteria in order for a grease trap to be successful.

- 1) *Time*. The grease trap or interceptor device must provide sufficient retention time for emulsified grease and oil to cool, separate and float to the surface of the chamber.
- 2) *Temperature*. The separation device must provide adequate volume to allow the wastewater to cool sufficiently for emulsified grease to separate.
- 3) *Turbulence*. Turbulence through the grease traps must be controlled so that grease and solids are not kept in suspension in the wastewater. Turbulence must be controlled, especially during high discharge rates associated with draining a triple sink or multiple fixtures simultaneously.

Tech Quiz

If water weighs 8.34 pounds per gallon, how much will seven and one-half gallons weigh?

★ Answer: 62.5 pounds

1 gallon water = 8.34 lbs
 $8.34\text{lbs/gal} * 7.5\text{ gal} = 62.5\text{ lbs}$

Hydrogen sulfide gives off an odor similar to what?

★ Answer: rotten eggs

OG versus Total Petroleum Hydrocarbon (TPH)

When you see that oily sheen on the influent and you want to know what it is, which analysis should you perform? If you have an Oil and Grease Ordinance and you want to see if this water violates it, sample for Oil and Grease. If you want to see what type of oil it may be, sample for TPH. This will give results for gasoline range (C6—C10), diesel range (C11—C29) and lube oil range (C28—C35).

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Oil and Grease analysis

FYI: This analysis requires technicians to use the entire contents of the sample container to ensure accuracy. If the site is very nasty, a smaller volume (about 125—300 ml) will give more accurate results than a 1000ml sample. The smaller volume allows more efficient extraction by the solvent.

Answer to

Bug Of The Month:

Aeolosoma

aka

Bristle Worm