

Testing procedures

What are we testing for? Decreased organic material.
Usual sewage influent measures:

Test	CBOD5	TSS
	mg/L	mg/L
Influent sewage	350 - 600	360-600
Treated Effluent	10	10

- Once we show adequate performance in simple reduction of CBOD--one measurement of the amount of organic material in the influent--we must turn to more comprehensive measures.

Here's an example of test results for a system sold by [MicroSepTec](#); or [Busse](#)

The most recent US standard (not counting newer state standards)
is the [ANSI/NSF 350.1](#)

Read it for the test standards RedHorse must meet.

Here are some relevant international standards.

[International standards for domestic on site treatment](#)

[A system for on-site evaluation of small wastewater treatment plants \(2003\)](#)

Note that many studies assess the value of creation of biogas in the anaerobic chamber for fuel. Our focus is clean water, not fuel, but a spectrum of designs should be examined.

- Treatment systems should meet NSF/ANSI 40 standards:

To achieve certification, treatment systems must produce an acceptable quality of
Class I systems must achieve a 30-day average effluent quality of 25 mg/L CBOD5 a



- [NSF/ANSI Standard](#)

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Amount of organic material in water

- By weight
 - Total solids
 - Total suspended solids + total sediment
- How to measure Total Suspended Solids:
- [TSS measurement](#)
- How to measure Total solids
- [TSS definition](#)
- [Total solids](#)
 - BOD, COD, and testing procedures

Look here for what to do at RedHorse this week - [Can COD test be done in 2 days, and substitute for BOD?](#)

Specific procedures for lab testing, showing equipment, and step-by-step

[University of Kwa-Zulu Natal](#)

Lists what is tested, and the appropriate standard

[CalTech Toilet](#)

All the standards

[Standard Methods](#)

Complete survey of all technologies.

Faecal Sludge Management: Systems Approach: EAWAG/UN

NSF/ANSI 350.1 Test Standards

Parameter	Sample	Raw influent	Treated effluent
BOD5	24 h composite	X	
CBOD5	24 h composite		X
Total suspended solids	24 h composite	X	X
pH	Grab	X	X
Temperature (°C)	Grab	X	
E. coli	Grab	X	X
Turbidity	24 h composite	X	X
TKN	24 h composite	X	
NO2/NO3	24 h composite	X	
Total phosphorous	24 h composite	X	
COD	24 h composite	X	
Total coliforms	Grab	X	
TOC	24 h composite	X	
Surfactants	24 h composite	X	
Fats, oil and grease	24 h composite	X	
Iron	24 h composite	X	