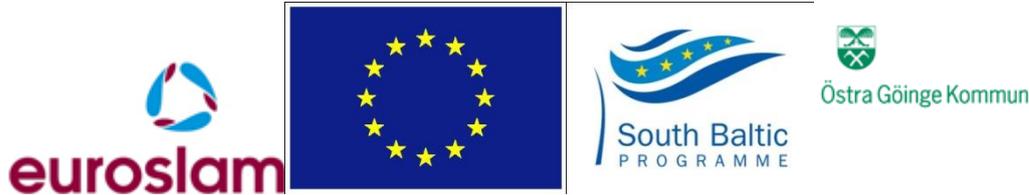


# **Instructions for sampling of raw sludge from the storage study, Hanaskog**

**Municipality of Östra Göinge**

2012



Part-financed by the European Union  
(European Regional Development Fund)

Development of self-monitoring manual Östra Göinge kommun

## Instructions for sampling of raw sludge from the storage study in Hanaskog autumn 2012

**Purpose:** Instruction to ensure that the sampling is done in a careful and proper storage to maintain safe analysis results.

**Supervisor:** Technician / operator on duty

**Scope:** According to this instruction.

**Material:** Auger / cutlass, bucket, drill, mixing rod, cooler bag, ice packs, sample jars, scales, sludge ladders.

### *Sampling range*

In the hygienic sampling it is included to collect samples that enable analyzation of the following organisms:

Organisms that are analyzed from samples
<i>Salmonella</i> spp
<i>Enterococcus</i> (enterococci)
<i>E. coli</i> (O157)

If the analysis of two subsequent tests do not show any presence of one or more of the analyzed organisms, these analyzes are excluded in the future.

### *Sampling intervals*

Overview of all samples taken during the experiment (total 10 samples):

Sampling Time	Test-ID	Number of samples	Total number of samples
When sludge arrives at the treatment plant	Knislinge 1 , 2, 3 Broby 1 , 2, 3	A sample is taken from each delivery	6 (one from each delivery )
After all sludge arrived Hanaskog and bulldozed together	Hanaskog "0 " sample	1	1
After 2 months storage	Hanaskog 2	1	1
After 4 months storage	Hanaskog 4	1	1
After 6 months storage	Hanaskog 6	1	1

When the samples from 6 months of storage have been analyzed, the need to continue and take the test after, for example, 8 months of storage is evaluated.



Part-financed by the European Union  
(European Regional Development Fund)

Development of self-monitoring manual Östra Göinge kommun

### ***Sampling Method***

The following sampling methods are used for all sludge samples in the storage experiment in Hanaskog.

### ***Sampling Time***

Sampling should strive to be performed on Mondays. This is because the laboratory need to be able to perform the requested analyzes.

Due to logistical reasons sampling should be aimed to be performed in the morning.

### ***Equipment***

The equipment used for sampling must be properly cleaned prior to sampling.

### ***Collection of samples***

1. At least 25 **primary samples** are taken randomly in the sludge batch with a depth of minimum 30 cm (no sampling on the edges) . At least 8 of the samples must be taken down to a maximum depth (bottom of the pile). Total weight of sample size should be at least 5 kg.
2. The primary samples are collected in a well-cleaned bucket or equivalent, making one **composite sample** and are mixed well to a homogeneous sample for at least 3 minutes of mixing.
3. A final sample is derived from the composite sample for transport to the laboratory. Fill the containers in half (a full container risks leading to fermentation of the sample).
4. The sample is labeled with sampling time, samplers and dates

### ***Storage and transport of samples***

- The sample should be kept cold (fridge and / or cooler) until it is delivered to the laboratory. The sample should not be frozen or heated. The test should be provided to the laboratory within 24 hours.

- Samples are sent by the postal company mail or other mail services which enables it to be there by 9:00 am the following day. Samples should therefore be taken in the morning.

- Samples sent to:

*SMI*

*Vattenlaboratoriet*

*Tomtebodavägen 12B*

*17182 SOLNA*



Part-financed by the European Union  
(European Regional Development Fund)

Development of self-monitoring manual Östra Göinge kommun

## ***Sampling Range***

### ***Sampling on arrival at the treatment plant***

The experiment includes six deliveries á approximately 10 tonnes, three from Broby and three from Knislinge. From each of these a sample is taken, upon arrival at the treatment plant, and sent to the analytical laboratory.

### ***Sampling of the entire trial heap in Hanaskog***

When all the sludge batches, which is to be included in the study, are in place in Hanaskog the batches are all bulldozed together to form one batch. Then, a "0" sample is derieved and sent to the analytical laboratory.

### ***Other information***

Equipment is stored in Broby treatment plant, between samplings, to prevent tampering or theft. The equipment should be marked appropriately and kept coherent during the trial period.

See also "Routine for long term storage of sludge 'and' Routine for the transport of sludge."

### ***Documentation:***

Storage of routine and analytical results in particular binder at Broby treatment plants.

This instruction is stored together with the other documents for the sludge storage study:

"Journal - provtagning av slamparti Hanaskog 2012 ", "Instruktion för långtidslagring av slam Hanaskog" och "Instruktion för transport av slam som ska ingå i långtidsstudie på Hanaskog".