


Manual for certification of sludge

2.1 Testing of sludge

Municipality of Höganäs

2013

 HÖGANÄS KOMMUN <small>SAMHÄLLSBYGGNADSFÖRVALTNINGEN</small>	Manual för certifiering av avloppsslam	Revised:	2013-11-11
		Edition:	1.6
		Approved by:	Fredrik Arthursson
2.1. Testing of sludge	Established by:		Marianne Gleisner och Kristina Bruhn
	Sida:		1(3)

Purpose

To ensure that the selected sludge samples becomes representative.

Range

The routine includes withdrawal of dewatered sludge.



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(European Regional Development Fund)

Supervisor

VA - manager is responsible for the routine. Operating personnel are responsible for the execution.

Instruction

Sampling - the location and frequency

Sludge must be sampled every day as the centrifuge is running. When samples are drawn, it is done by the transport screw after the centrifuge while the centrifuge is running. The centrifuge is running about 1 hour before the sample is taken. 5 different samples are drawn and blended. From the sample about 30 g of each of the following pooled sample is added: the monthly tests and quarterly tests. When samples have been taken they are to be signed on a list attached on the freezer inside the lab.

Storage

The jars with the composite sample must be labeled with the respective month / quarter / year and stored in a freezer (-18 ° C).

Shipment of samples for analysis


Bulk samples are sent for analysis at an accredited laboratory every month and every three months. Analyzes performed, see Table 1. The samples should be kept refrigerated during transport. The volume that is sent is determined by the lab jars. Sheets of labels are copied and stored in the binder at the treatment plant. The accredited laboratory is responsible for the transport. The treatment plant laboratory also ensures that the measuring equipment is calibrated and controlled.

When quarterly sample has been sent, the remainder is saved for to the yearly sample, which is then used for analysis of 60 trace elements, see separate procedures 2.3.

When monthly samples has been sent, the remainder is saved for to the reference test in 3-6 months at the plant, i.e. at least until the results of the quarterly sample has arrived.

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Analysis

An accredited lab makes the analysis of the substances/parameters listed in Table 1 and the analysis of 60 trace elements.

Table 1. Parameters to be analyzed at an accredited lab 1 time per month respectively once every quarter.

Monthly Sample	Quarterly Sample
pH	7 pcs PCB (individually + total)
Dry matter TS	Benzo (a) pyrene
Residue on ignition	Benso(b+k)flouranten
Loss on Ignition	Benso(ghi)perylene
Ammonium NH ₄ -N	Flouranten
Total nitrogen Tot -N	Indeno(1,2,3,-cd)pyrene
Total phosphorus Tot -P	7 pcs PAH (sum)
Lead Pb	Nonylfenol
Cadmium Cd	
Copper Cu	
Chromium Cr	
Mercury Hg	
Nickel Ni	
Zinc Zn	
Effect lime CaO	
Silver- Ag	
Molybdenum Mo	

For the sake of the process, dry matter (DM) is measured at the treatment plant, and with a faster method and also with a SIS method.

Communication of analysis results to sludge contractor

The result for Höganäs sludge samples are sent to the sludge contractor directly from the analyst who performs them.

Documentation


Signing List of sampling filed in binder "Producerat slam årtal, Externslam och fett till röt-kammaren" in the lab.

Test results from an accredited laboratory filed in a binder at the plant labeled "Analyser ackrediterat lab. årtal". Name of laboratory, which is engaged, should be noted.

Measurement of TS content performed on the treatment plant is documented on a list tacked on the freezer in the lab.

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Half of the label, which is torn off and recorded, is kept in the binder "Lab-analyser Följesedlar kopior". The binder is available in the lab.

References

Naturvårdsverket's regulations (1994:2) with provisions on the protection of the environment, particularly the soil, when sewage sludge is used in agriculture.

Routine 2.3. Calculation of pace of accumulation for 60 trace elements

Manual for self-monitoring , Höganäs Municipality VA department , Tab 16 , MEASURING

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