

Guidelines for Sludge Analysis

1. Sampling and Analysis Plan.

Before analysis of sludge or septage is performed pursuant to 310 CMR 32.00, the wastewater treatment plant owner or operator must submit a sampling and analysis plan to DEP for review and approval. Such a plan usually can be prepared for the treatment plant by the laboratory under contract to perform the sludge or septage analysis. Acceptable laboratories are those which have been fully certified (not provisionally) by DEP to do water analysis for the same parameters as those required for sludge analysis or those which have been rated as acceptable under EPA's Quality Assurance Program.

The Sampling and Analysis Plan shall contain at a minimum a completed Application for Approval of Sampling and Analysis Plan (BRP WP 28) and a narrative describing the following:

1. The proposed sampling methods and frequency.
2. The proposed sampling locations.
3. The proposed procedure for handling samples.
4. The name and address of the laboratory performing the analysis.
5. The analytical procedure the laboratory proposes to use, including references and methodology numbers and quality assurance/quality control procedures.

2. Substances to be Analyzed.

a. A minimum of one (1) TCLP Toxicity Test must be performed initially in order to demonstrate that the sludge, sludge product, or septage is not a hazardous waste as defined in 310 CMR 30.00.

b. Bulk analysis for the following substances is required by 310 CMR 32.00, "Regulations for Land Application of Sludge and Septage" (a minimum of three separate analyses is required for initial approval). Appropriate test methods and required information are listed in Application for Approval of Sampling and Analysis Plan (BRP WP 28):

1) For all sludge and septage, the minimum requirements (in all cases, except pH and percent solids, expressed in terms of dry weight, mg/kg) are:

1. pH
2. percent solids
3. percent Nitrogen
4. percent Ammonium Nitrogen (NH₄-N)
5. percent Nitrogen Nitrate (NO₃-N)
6. percent Phosphorus (P)
7. percent Potassium (K)
8. parts per million Cadmium (Cd)
9. parts per million Total Chromium (Cr)
10. parts per million Copper (Cu)
11. parts per million Lead (Pb)
12. parts per million Mercury (Hg)
13. parts per million Nickel (Ni)
14. parts per million Zinc (Zn)
15. parts per million Molybdenum (Mo)
16. parts per million Boron (B)
17. parts per million PCB's

2) Also, in order to properly evaluate the potential impact of proposed U.S. EPA regulations on beneficial use of sludge, sludge products and septage the Department requests that the following additional parameters be incorporated into the list of analytes noted above.

1. Arsenic (As)
2. Selenium (Se)

The Department reserves the right to revise the test parameters listed above dependent upon the characteristics of the individual product and/or waste stream in question.