

CHAPTER 3

GOALS OF THE SAMPLING PLAN

ESSENTIAL ELEMENTS OF A SAMPLING PLAN

- ▶ **Goals of the Sampling Plan**
- ▶ **Description of the Facility Generating Sludge/Biosolids**
- ▶ **Data Quality Objectives**
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To begin development of your sampling plan, the goal or purpose of your facility's sampling program must be clearly identified and articulated. Most state or federal sludge-related guidance documents suggest that collecting a representative sample is the foremost goal of any sampling effort. Your sampling plan should seek to ensure that representative samples are collected and that the analytical data generated are a true reflection of the chemical, biological, or physical characteristics of the material being evaluated.

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Goals of the Sampling Plan

The goals and objectives of the sampling effort should describe what your facility hopes to accomplish by implementing the sampling program. For example: Will the data be used for process control? Is the data intended to demonstrate compliance with state and federal regulations? Is the operator evaluating the sludge quality in order to decide on the appropriate sludge management options? In some instances there may be multiple goals and objectives for the sampling program. Evaluating sewage sludge can include the following objectives:

- Determine if a sewage sludge is suitable for land application
- Assess ongoing compliance with state or federal regulations
- Evaluate variability of biosolids in terms of their chemical, physical, and biological characteristics
- Determine the most cost-effective sludge-management options.

This section of the sampling plan need not be long or complex. A single sentence reflecting the reason for implementing your sampling program may be sufficient.

For example:

“The goal of our sludge sampling program, as detailed in this sampling plan, is to demonstrate compliance with state and federal biosolids regulations.”

This concise statement is more than adequate as a starting point for developing a sampling plan. In fact, POTWs typically institute sludge sampling programs to demonstrate compliance with state and federal biosolids regulations.

The goal(s) of your sampling program will lead to (or in some cases dictate) the elements needed within the sampling plan. If a demonstration of compliance with the federal Part 503 regulations for land application is the goal, then the sampling plan must contain all of the necessary elements to demonstrate compliance with federal regulations that require chemical contaminant sampling and analysis for nine metals (arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc). Samples may also need to be collected and analyzed to demonstrate that pathogen and vector attraction reduction requirements have been met. A sampling program designed to demonstrate compliance with state-specific land application regulations may require more elaborate sampling and chemical analysis and a more elaborate sampling plan. In summary, simple, clearly defined goals are necessary to develop a focused and coherent sampling plan.

CHAPTER 3 REFERENCES

POTW Sludge Sampling and Analysis Guidance Document. Permits Division, Office of Water, Washington, DC 20460. August 1989

Sampling/Analysis Work Plan Guidance. Maine Department of Environmental Protection, 17 State House Station, Augusta, ME. September 16, 2005.

Sampling Manual for Pollutant Limits, Pathogen and Vector Attraction Reductions in Sewage Sludge, 3620-BK-DEP2214, Rev. 12/2000. Pennsylvania Department of Environmental Protection, Bureau of Water Quality Protection, Division of Wastewater Management. December 2000.