**Section 391.503 Analyses of Sludge Samples**

a) It is recommended that the following parameters be analyzed according to the referenced sections in Standard Methods for Examination of Water and Wastewater (14th ed), or as approved in 40 CFR 136. Other analyses or methodologies are acceptable provided equivalent results are obtainable. The permittee or applicant shall demonstrate that equivalent results are obtainable based on the nature of the test methodology, the nature of the parameter and the level of statistical accuracy.

1) Ammonia nitrogen, Part 418(D)

2) Total Kjeldahl nitrogen, Part 421 (Macro-Kjeldahl Method in 15th Edition)

3) pH, part 424, glass electrode method

4) Volatile acids (total organic acids), Part 504-A, chromatographic method

5) % total solids, Part 208-G, "Procedure", Subpart 3.a.l. "Total Residue"

6) % volatile solids, Part 224-G, "Procedure", Subpart 3.a.2. "Volatile Residue"

7) Phosphorus (total), Part 425-C

8) Potassium (total), Part 317-B

b) Heavy Metals

1) Metals Other Than Mercury

A) Homogenize wet sludge sample in blender, ultrasonic homogenizer, or other suitable device.

B) An aliquot of homogenized sludge suitable to provide 5-10 grams of dry material is dried at 103° C for 48 hours.

C) Accurately weigh about 1 gram of dry sludge to the nearest 0.1 mg and place in a "Tallform" beaker containing 20 ml of reagent grade nitric acid.

D) Place a watch glass over the mouth of the beaker, and warm the mixture on a hot plate, allowing the acid to gently reflux off the watch glass.

E) Reflux the mixture until a clear solution is obtained (45-50 minutes). Sand and other non-digestible material present in the sample will settle out.

F) Using quantitative technique, filter the cooled, digested sample, and make the filtrate up to 100.0 ml in a volumetric flask.

G) Analyze according to USEPA procedures specified in "Methods for Chemical Analysis of Water and Waste," March 1979.

H) Repeat steps (C) through (G) on two additional 1 gram samples. It is the intent that triplicate analysis be performed.

I) Report all results.

2) Mercury: Tentative procedure

 Analyze three separate portions according to USEPA procedure "Mercury in Sediment".