

06-096

Department of Environmental Protection

Maine Solid Waste Management Rules:

CHAPTER 405

**WATER QUALITY MONITORING, LEACHATE
MONITORING, AND WASTE
CHARACTERIZATION**

Proposed Revisions
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TABLE OF CONTENTS

	Page
1 General	
A Purpose	1
B Applicability	1
C Transition	1
2 Water Quality Monitoring	2
A Standards for Ground Water Monitoring	2
B Standards for Surface Water Monitoring	6
C Types of Water Quality Monitoring Programs	7
D Corrective Action Plans	11
3 Standards For Ground And Surface Water Data Evaluation And Reporting	13
A Data Validation	13
B Statistical Analyses	13
C Reporting Requirements	14
4 Leachate, Leachate Collection, Leachate Detection System And Leachate Treatment Residue Monitoring	15
5 Standards For The Installation, Construction And Maintenance Of Wells And Piezometers, And For The Advancement Of Borings	16
A Construction of wells and piezometers	16
B Geologic sampling	18
C Well and piezometer development	19
D In-situ hydraulic conductivity testing and well performance evaluation	19
E Report on the Design, Construction and Development of Monitoring Wells and Piezometers	20
F Routine Inspection, Maintenance and Testing of Monitoring Wells	20
G Replacement of wells and piezometers	20
H Abandonment of wells, piezometers and borings	20
6 Solid Waste Characterization Program	21
A Applicability	21
B General Program Requirements	21
C Specific Analytical Requirements for the Disposal or <u>Beneficial Use</u> of Solid Waste	234
D Specific Analytical Requirements for Agronomic Utilization Facilities	<u>3029</u>
Appendix A	36
Appendix B	38
Appendix C	42
Appendix D	43
Appendix E	47

- (ii) after initial characterization is complete, each biomedical incinerator ash source must be analyzed for the parameters listed above at a frequency of one representative sample per one hundred (100) tons of ash, or one representative sample annually, whichever is more frequent
- (5) Pulp and paper mill sludges and POTW sludges
- (a) Prior to initial acceptance at a solid waste facility, a sufficient number of samples to meet the requirements for statistical analysis as required by US EPA SW-846 must be analyzed as follows
 - (i) Complete TCLP (per US EPA Method 1311, Federal Register/Volume 55, No 126),
 - (ii) For beneficial use only, total Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc per Methods in US EPA SW-846, and
 - (iii) Sulfide Reactivity
 - (b) After initial characterization is complete, each sludge source must be analyzed annually as listed above, except that operators of generator-owned landfills are not required to perform annual analysis provided the processes that create the waste streams or the composition of the waste streams accepted for disposal have not changed

(6) Construction and Demolition Debris Wood Fuel.

- (a) Samples for physical and chemical characterization shall be obtained by randomly taking a minimum of 20 or more sub-samples sufficient to make up a composite sample of 15 gallons. Mix the composite sample to a homogeneous state using the quartering method as follows
 - (i) Mix the 15 gallon sample with shovels on a smooth, clean surface with an area large enough to handle the initial sample size (about 8' X 8'), indoors at room temperature.
 - (ii) Shape the sample into a conical pile and quarter.
 - (iii) Collect the opposing quarters (about 7.5 gallons), pulverize, blend and submit for chemical analysis for total lead and arsenic.
 - (iv) Combine the two remaining quarters and repeat the mixing and quartering.
 - (v) Collect the two opposing quarters (about 4 gallons) and air dry the sample for a minimum of 24 hours. Submit for physical analysis.
 - (vi) Retain the remaining quarters for additional analysis, if needed.

(b) Physical analysis shall be performed as follows

(i) The moisture content of the sample should be approximately at equilibrium with the testing environment to prevent weight changes due to drying during analysis. Spread the sample in the testing environment on a flat surface to approximately 3 inches in thickness. Let sample sit for a minimum of 24 hours to equilibrate.

(ii) [A]fter weighing and recording the weight of the sample, run the entire sample through a 3 inch sieve. Collect materials that are over 3 inches in size and determine the percent by weight of the sample. Run the materials that are less than 3 inches in size through a #4 sieve, which has a square opening size of 0.187 inches. Collect the fine materials that pass through the #4 sieve and determine the percent by weight of the sample. Save the fine materials that did not pass through the #4 sieve for the physical separation step. Report gradation results as a percent by weight of the total sample for the following components.

- 3 inch plus
- Fines (#4 minus)

(iii) Take the material that did not pass the #4 sieve and separate manually into the following components

- Plastics (including carpet, PVC and plastic coated wire)
- Treated wood, including painted treated wood
- Painted wood
- Non-combustible materials (~~metals, rocks~~ exclusive of rocks, brick and concrete)
- Combustible materials

Weigh each component and determine the percent by weight of the total sample for each.

(iv) Determine the non-~~burnable~~[combustible] (ash) weight of the fine materials by burning off the organic component of the fines in a high temperature furnace and weighing the resultant ash. Combine the weight of the ash with the weight of the non-~~burnable~~ [combustible] materials collected through visual examination and divide by the total sample weight. [~~This is the percent by weight of the non-burnable materials in the sample.~~]

(v) Complete a report narrative, clearly identifying the sample that was analyzed, describing the analytical procedures used and provide the following data results as the percent of total sample by weight

- 3 inch plus

- Fines (#4minus)
- Plastics (including carpet, PVC and plastic coated wire)
- Treated wood
- Painted wood
- Non-combustible materials (~~(metals, rocks, soil, etc exclusive of rocks, brick and concrete)~~)
- Non-~~burnable~~(combustible) content (ash fines and non-combustible materials)
- Combustible materials

D. Specific Analytical Requirements for Agronomic Utilization Facilities. Solid wastes proposed for agronomic utilization must be characterized in conformance with the requirements of this section unless otherwise approved by the Department, based on specific characteristics. The frequency of sampling must be adequate to represent the residual or site conditions. Frequencies may be enumerated below or in chapter 419 of these rules. The groups of parameters that the generator may be required to analyze depends upon the processes that generate the residual, inputs to that process and the intended use of the residual. Groups of parameters that the Department may require to be analyzed for by the generator or at sites where residuals are utilized include the following:

(1) Soil Nutrient Analysis

- (a) **Initial analysis.** A complete soil nutrient analysis includes the following: pH, available phosphorus, available potassium, available calcium, available magnesium, cation exchange capacity (CEC), percent CEC saturation with potassium, percent CEC saturation with calcium, percent CEC saturation with magnesium, percent CEC saturation with sodium, and percent organic matter. Available nitrogen may be required by the Department to be measured. It may be measured in the field using protocols such as the Pre-Sidedress Nitrogen Test.
- (b) **On-going analysis.** A minimum of one composite topsoil sample per eight (8) acres of utilization area must be collected at the site prior to utilization each year that a residual will be land applied. Results of the analyses must be received and interpreted by the license holder prior to utilization. These results must be used as a factor in determining the amount of residual to be land applied.

- (2) **Initial Residual Analysis.** The Department may require that generators test for the following parameters. The Department will determine testing requirements based on the proposed utilization program, an assessment of parameters likely to be in the residual, an evaluation of the chemical compounds known or suspected to be present in the waste stream from which the sludge or residuals originate, the processes used to generate the residual, the database of analytical results developed by the Department, and other factors as appropriate.

Initial analysis for target volatile organic compounds, target semi-volatile organic compounds, total PCBs, and dioxin are required for sewage sludge generated by POTWs with an average daily flow greater than 2.5 millions of gallons/day, POTWs with pulp and paper, tannery, textile-related or other