

1-1-1994

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Recommended Citation

Ballestero, Thomas P.; Malley, James P.; and Estes, George O., "FIELD EVALUATION OF THE LAND APPLICATION OF PAPER MILL SECONDARY CLARIFIER SLUDGE" (1994). *NH Water Resources Research Center Scholarship*. 111.
https://scholars.unh.edu/nh_wrrc_scholarship/111

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FIELD EVALUATION OF THE LAND APPLICATION OF PAPER MILL SECONDARY CLARIFIER SLUDGE

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Descriptors: Groundwater quality, heavy metals, industrial wastewater, infiltration, sludge

Problem and Research Objectives:

Wausau Paper Company (formerly James River Corporation - Groveton, NH plant) was faced with high costs of landfilling its secondary clarifier sludge. The sludge was derived from the wastewater treatment process of paper mill process waters, and it was composed of 2% solids. The solids were basically microorganism husks, paper fibers and clay colloids. It was felt that the sludge could be land applied to grow crops suitable for forage, or in aiding with revegetation of disturbed lands. The significance of the project was specifically at saving landfill space and in sludge management. More generally, the project aided with sludge management of the regional paper mill industry.

Principal Findings and Significance:

The permits were granted, wells were drilled, soil moisture equipment was installed, and the first application (2 million gallons) occurred over the middle two weeks of June. The annual application rate was controlled by the cadmium in the sludge (4 ppm). The source of the cadmium was boiler blow down water. Since that time, the site did not show much evidence of the application. At the time of this report, chemical analyses were pending.