

CHAPTER 58

TECHNOLOGY  
CIVIL ENGINEERING

Doctoral Theses

625. JHAMNANI (Bharat)  
**Contaminant Transport From Landfills.**  
Supervisor : Prof. S. K. Singh  
Th 16907

*Abstract*

The present study is undertaken to determine the rate of movement of potential contaminants from the bottom of a landfill, so as to evolve a rational method for the determination of thickness of landfill liner. A mathematical model is formulated to express the mass transport of contaminants from a landfill due to the migration of leachate. Various mechanisms of contaminant migration from the bottom of landfill are taken into account. The solution of the model in the form of concentration profile of potential contaminants below landfill is obtained using the explicit Finite Difference Method implemented in MatLab 7.0. The model developed is validated for two cases of field data.

*Contents*

1. Introduction. 2. Objectives of study. 3. Literature review. 4. Contaminant transport model for landfill. 5. Application of model for Bhalaswa landfill site at Delhi. 6. Design charts for landfill liner thickness. 7. Evaluation of various admixtures for landfill liners. 8. Conclusions and recommendations. Bibliography and Appendixes.