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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM	
1. REPORT NUMBER CERL-TR-N-183	2. GOVT ACCESSION NO. AD-A144003	3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle) LANDFILL LINERS AND COVERS: PROPERTIES AND APPLICATION TO ARMY LANDFILLS		5. TYPE OF REPORT & PERIOD COVERED Final	
		6. PERFORMING ORG. REPORT NUMBER	
7. AUTHOR(s) R. Shafer A. Renta-Babb		8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. ARMY CONSTRUCTION ENGINEERING RESEARCH LABORATORY P.O. BOX 4005, CHAMPAIGN, IL 61820		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 4A762720A896-A-033	
11. CONTROLLING OFFICE NAME AND ADDRESS		12. REPORT DATE June 1984	
		13. NUMBER OF PAGES 61	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified	
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.			
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)			
18. SUPPLEMENTARY NOTES Copies are available from the National Technical Information Service Springfield, VA 22161			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) sanitary landfills linings coverings			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Leachate produced by buried waste often must be totally contained to prevent groundwater and surface water contamination. Landfill gases must be similarly controlled to reduce the risk of explosion or asphyxiation at nearby structures. Liners and covers used at Army sanitary landfills can prevent the production and migration of landfill leachate as well as migration of gas outside refuse boundaries. Information is provided to help Army installations choose landfill liner and cover systems resistant to chemical attack from the leachate generated and compatible with the environment. (Continued)			

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BLOCK 20. (Cont'd)

A liner and cover system must be designed with consideration of pollution regulations, environment, climate, and type of leachate produced. Federal regulations requiring the landfill to comply with the most stringent local air and water quality standards are summarized.

The material used as a liner or cover must also be chosen based on the environment, climate, and chemical compatibility with the leachate. Both natural and synthetic materials are available and each type must be expected to react differently with the leachate produced at a given site. Natural materials include clays and soils--either local or transported from another location. Synthetic membranes include various manmade polymers that are seamed at the fill site to form a giant pouch to contain the leachate. In a separate class are asphalts and admixed materials; these may be either sprayed onto landfill walls or applied as with highway construction.

A liner and cover system may include piping, additional gas controls, and adjacent lagoons for collection, treatment, or recycling. The system should have monitoring devices or sampling points, as the landfill's continued success depends on careful control throughout the service life and after closure. Examples are cited of landfill sites actually using complete liner and cover systems.

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