PERMISSION TO PHOTOCOPY JOURNAL PAPERS

Permission to photocopy for personal or internal reference beyond the limits in Sections 107 and 108 of the U.S. Copyright Law is granted by the American Society of Civil Engineers for libraries and other users registered with the Copyright Clearance Center, 21 Congress Street, Salem, Mass. 01970, provided the appropriate fee is paid to the CCC for all articles bearing the CCC code. Requests for special permission or bulk copying should be addressed to the Manager of Technical and Professional Publications, American Society of Civil Engineers.

CONTENTS

Packed Bed Biofilm Reactors: Simplified Model by Alain D. Meunier and Kenneth J. Williamson	307
Packed Bed Biofilm Reactors: Design by Alain D. Meunier and Kenneth J. Williamson	319
Health Risks of Organics in Land Application by Vimala A. Majeti and C. Scott Clark	339
Flow Approaching Filter Washwater Troughs by Jonathan A. French	359
Oxygen Transfer Parameter Estimation by Michael K. Stenstrom, Linfield C. Brown, and Hyung J. Hwang	379
Coal Pile Leachate Quality by Edward C. Davis and William J. Boegly, Jr.	399

This Journal is published bimonthly by the American Society of Civil Engineers. Publications office is at 345 East 47th Street, New York, N.Y. 10017. Address all ASCE correspondence to the Editorial and General Offices at 345 East 47th Street, New York, N.Y. 10017. Allow six weeks for change of address to become effective. Subscription price to members is \$14.00. Nonmember subscriptions available; prices obtainable on request. Second-class postage paid at New York, N.Y. and at additional mailing offices. EE, EM.

The Society is not responsible for any statement made or opinion expressed in its publications.

TECHNICAL NOTES

Proc. Paper 16158

Verification of Ocean Outfall Performance Predictions by Ian G. Wallis	. 42	21
Nutrient Flux Estimate by Partial Load Method by L. John Zeman and Olay Slavmaker	. 4:	25

DISCUSSION

Proc. Paper 16147

Dividing-Flow Mainfolds with Square-Edged Laterals, by H. E. Hud-	
son, Jr., R. B. Uhler, and R. W. Bailey (Aug., 1979. Prior Discussions:	
June, Aug., 1980).	
closure	431
Hydraulic Design of Flow Distribution Channels," by Junn-Ling Chao	
and R. Rhodes Trussell (Apr., 1980. Prior Discussions: Dec., 1980,	
Feb., 1981).	
by Charles L. Swanson	432

INFORMATION RETRIEVAL

The key words, abstract, and reference "cards" for each article in this Journal represent part of the ASCE participation in the EJC information retrieval plan. The retrieval data are placed herein so that each can be cut out, placed on a 3×5 card and given an accession number for the user's file. The accession number is then entered on key word cards so that the user can subsequently match key words to choose the articles he wishes. Details of this program were given in an August, 1962 article in CIVIL ENGINEERING, reprints of which are available on request to ASCE headquarters.

^{*}Discussion period closed for this paper. Any other discussion received during this discussion period will be published in subsequent Journals.