
Journal of the
SANITARY ENGINEERING DIVISION
Proceedings of the American Society of Civil Engineers

SANITARY ENGINEERING DIVISION
EXECUTIVE COMMITTEE

Dwight F. Metzler, Chairman; Robert E. Stiemke, Vice-Chairman;
H. Loren Thompson; John B. Nesbitt; David H. Howells, Secretary
Samuel I. Zack, Board Contact Member

COMMITTEE ON PUBLICATIONS

Roy E. Ramseier, Chairman; William W. Aultman, Vice Chairman;
William A. Cawley; Werner N. Grune; James M. Symons
David H. Howells, Executive Committee Contact Member

CONTENTS

June, 1963

Papers

	Page
Analysis of Thickener Operation by Vaughn C. Behn and Jon C. Liebman	1
Free Energy as a Parameter in Biological Treatment by J. A. Servizi and R. H. Bogan	17
Salt Balances in Ground Water by Aharon Meron and Harvey F. Ludwig (over)	41

Copyright 1963 by the American Society of Civil Engineers.

Note.—Part 2 of this Journal is the 1963-24 Newsletter of the Sanitary Engineering Division.

The three preceding issues of this Journal are dated November 1962, January 1963, and April 1963.

 DISCUSSION

Trickling Filtration Design and Performance, by W. Wesley Eckenfelder. (July, 1961. Prior discussion: January, March, 1962. Discussion closed.) by W. Wesley Eckenfelder (closure)	65
Mathematics of Complete-Mixing Activated Sludge, by Ross E. McKinney. (May, 1962. Prior discussion: January, 1963. Discussion closed.) by Ross E. McKinney (closure)	71
Activated Sludge Kinetics and Effluent Quality, by A. W. Busch. (November, 1962. Prior discussion: None. Discussion closed.) by Ross E. McKinney	75
Package Aeration Plants in Florida, by Ralph H. Baker, Jr. (November, 1962. Prior discussion: April, 1963. Discussion closed.) by Miles A. Lamb	79
by Gordon L. Culp and Grover L. Morris	81
by James A. Greiner	82
by Ross E. McKinney	85
Billion-Dollar River Clean-Up, by Edward J. Cleary. (November, 1962. Prior discussion: April, 1963. Discussion closed.) by Karl Imhoff	89
by O. C. Thompson	90
by C. Biemond	92
by F. G. Pohland	92
by Wyatt E. Williams	94
by G. W. Whetstone, P. G. Drake, and C. R. Collier	95
by John E. Kinney	97
by Roy E. Lundquist	97
by Allen V. Kneese	98
Functional Design of Rapid Sand Filters, by H. E. Hudson, Jr. (January, 1963. Prior discussion: None. Discussion closed.) by Milford E. Rogers	99
by Garrett Sloan	104
by James Girand	105
Hydraulic Model Tests of Estuarial Waste Dispersion, by R. L. O'Connell and C. M. Walter. (January, 1963. Prior discussion: None. Discussion closed.) by Alex N. Diachishin	109