

# **RESEARCH REPORTS, PAPERS, BULLETINS**

D. B. SIMONS

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#### ABBREVIATIONS USED IN THIS CATALOG

- AMS American Meteorological Society
- AS Atmospheric Science

ASMP Atmospheric Science Miscellaneous Papers

ASTP Atmospheric Science Technical Papers

ASRR Atmospheric Science Research Report

- ARS Agricultural Research Service
- SCS Soil Conservation Service
- ASAE American Society of Agricultural Engineers
- ASEE American Society for Engineering Education
- ASME American Society of Mechanical Engineers

#### INTRODUCTION

This is a catalog of works of the Civil Engineering Research Staff and students from 1948 - 1961, including U. S. Government cooperators stationed in the University facilities. These are presented in the following order: (A) Reports for Sponsored Projects; (B) Papers - Published or Presented, (excluding Discussions and Closures); (C) Discussions and Closures; (D) Unpublished Papers; (E) Bulletins and Circulars; (F) Theses, Masters Reports, and Dissertations; and Author Index.

All publications prior to 1957 are out of print. Publications from 1957 to date marked with \* are available, and publications marked with # are available on loan basis only. Available publications may be obtained, either free or for a nominal charge, by writing to the Chief, Civil Engineering, Colorado State University. Theses and dissertations are available on interlibrary loan by communication addressed to Director of Libraries, Colorado State University.

#### SECTION "A"

#### REPORTS FOR SPONSORED PROJECTS

- The Colorado River and Utah's Agriculture, by D. F. Peterson and W. P. Thomas and others. Prepared for Agricultural Experiment Station, Utah State Agricultural College, Logan, Utah. Special Report No. 1. April 1949. CER47-52WPT3.
- Hydraulic Model Tests for Hirakud Dam, by M. L. Albertson. Prepared for International Engineering Company, Inc., for Government of India Central Water Power Irrigation and Navigation, New Delhi, India, Colorado Agricultural Experiment Station, Civil Engineering Section, January 1950. CER47-52MLA4.
- Hydraulic Model Tests of Rihand Dam, by M. L. Albertson and Sol Resnick, Edited by International Engineering Company, Inc., for United Provinces, India, Public Works Department, Irrigation Branch, April 1950. CER47-52SDR5.
- Laminar Heat Convection in Pipes and Ducts, by C. S. Yih, and J. E. Cermak. Prepared for the Office of Naval Research under Contract No. N9 onr 82401, Report No. 5, September 1951. CER47-52CSY8.
- A Comparative Study of Momentum Transfer, Heat Transfer, and Vapor Transfer, Part I, Forced Convection, Laminar Case, by C. S. Yih. Prepared for Office of Naval Research under Contract No. N9 onr 82401, Report No. 1. September 1950. CER47-52CSY10.
- Calibration of Armco Metergates Model No. 101, by S. D. Resnick. Prepared for Armco Drainage and Metal Products, Inc., Hardesty Division, Denver, Colorado. January 1951. CER47-52SDR11.
- Fluctuation Studies in Stilling Wells for Armco Metergate Model No. 101, by M. L. Albertson. Prepared for Armco Drainage and Metal Products, Inc., Hardesty Division, Denver, Colorado. January 1951. CER47-52MLA13.
- A Comparative Study of Momentum Transfer, Heat Transfer, and Vapor Transfer, Part III, Free Convection, by C. S. Yih. Prepared for Office of Naval Research under Contract No. N9 onr 82401, Report No. 3. February 1951. CER47-52CSY14.

- A Comparative Study of Momentum Transfer, Heat Transfer, and Vapor Transfer, Part II, Forced Convection, Turbulent Case, by C. S. Yih. Prepared for the Office of Naval Research, Navy Department, Washington, D. C. Under Contract No. N9 onr 82401, Report No. 2. June 1951. CER47-52CSY15.
- Hydraulic Model Studies of Bhakra Dam, by M. L. Albertson. Prepared for the International Engineering Company, Inc. 1949. CER47-52MLA22.
- Atmospheric Diffusion from a Point Source, by C. S. Yih. Prepared for the Office of Naval Research Under Contract No. N9 onr 82401, Report No. 4. August 1951. CER47-52CSY28.
- Analysis of Climatological Data for the Spring Cloud-Seeding Period Over North Central Colorado, by S. D. Resnick. Prepared for Northern Colorado Natural Resources Association, Ft. Collins, Colorado. July 1951. CER47-52SDR32.
- Effect of Well Screens on Flow into Wells, by Carl Rohwer, Jack S. Petersen and M. L. Albertson. Prepared under direction of the Division of Irrigation and Water Conservation Soil Conservation Service, January 22, 1952. CER47-52JSP33.
- 14. Study of Seepage Losses from Irrigation Channels 1951, by A. R. Robinson and Carl Rohwer. Prepared under the direction of the Division of Irrigation and Engineering and Water Conservation, Soil Conservation Service. Progress Report. April 1952. CER47-52ARR41.
- Laminar Heat Convection in Pipes and Ducts, by J. E. Cermak and C. S. Yih. Prepared for the Office of Naval Research under Contract No. N9 onr 82401. Report No. 5. September 1951. CER47-52JEC46.
- 16. Atmospheric Diffusion from a Line and Point Source of Mass Above the Ground, by C. S. Yih. Prepared for the Office of Naval Research under Contract No. N9 onr 82401. Report No. 6. April 1952. CER47-52CSY47
- Analysis of Climatological Data for the Spring Cloud-Seeding Period over North Central Colorado, by S. D. Resnick. Prepared for the Northern Colorado Natural Resources Association, Ft. Collins, Colorado. June 1952. CER47-52SDR48

- Determination of Wind Chill on a Life-Sized Clothed Copper Man, by J. E. Cermak, R. A. Thomas, and M. L. Albertson. Prepared for U.S. Army Quartermaster Corps Contract No. DA44-109-qm-584. June 1952. CER47-52JEC49.
- Effect of Well Screens and Gravel Envelopes on Flow of Sand Into Wells, by Carl Rohwer and F. N. Leatherwood. Prepared under the Division of Irrigation Engineering and Water Conservation, SCS. Progress Report on the performance of well screens. August 1952. CER53CR1.
- Laminar Free Convection Due to a Line Source of Heat, by C. S. Yih. Prepared under the Office of Naval Research under Contract No. N9 onr 82401. Report No. 7. September 1952. CER53CSY3.
- On the Asymptotic Behavior of any Fundamental Solution of the Equation of Atmospheric Diffusion and on a Particular Diffusion Problem, by C. S. Yih. Prepared for the Office of Naval Research under Contract No. N9 onr 82401. Report No. 8. September 1952. CER53CSY4.
- 22. Temperature Distribution in the Boundary Layer of an Airplane Wing with a Line Source of Heat at the Stagnation Edge, Part I, Symmetric Wing in Symmetric Flow, by C. S. Yih, J. E. Cermak, and R. T. Shen. Prepared for the Office of Naval Research under Contract No. Nonr-544(00). October 1952. CER53CSY5.
- Design of the Loup River Bed-Load Measurement Structure, by M. L. Albertson. Prepared for U. S. Geological Survey. July 1, 1948. CER53MLA7.
- 24. Natural Roughness in Artificial Channels, Report on Research Completed under J. Waldo Smith Hydraulic Fellowship, by Arthur Willis Van't Hul. 1950-1951. CER53AWV8.
- 25. Influence of Shape on the Fall Velocity of Sedimentary Particles, by E. F. Schulz, R. H. Wilde, and M. L. Albertson. Prepared for District Engineer, Omaha District, Corps of Engineers, Department of the Army, under Contract No. DA-25-075-eng-2266 through Colorado A and M Research Foundation. May 1953. CER53EFS10.

- 26. Temperature, Seepage, and Turbulence as Factors Affecting Suspended Sediment Concentration, by J. R. Barton and M. L. Albertson. Prepared for the Bureau of Reclamation under Contract No. 12-R-19126. June 1953. CER53JRB12.
- 27. A Study of the Sediment Carrying Capacity of Closed Conduits, by D. F. Peterson. Sponsored by Armco Drainage and Metal Products, Inc. Middletown, Ohio. A Progress Report. July 15, 1953. CER54DFP1.
- 28. Influence of Shape on the fall Velocity of Sedimentary Particles, by E. F. Schulz, R. H. Wilde, and M. L. Albertson. Prepared for the U.S. Army Corps of Engineers, Missouri River Division, Sediment Series No. 5. July 1954. CER54EFS6.
- 29. Development of a Facility for Testing the Performance of Ship Hulls in Oblique Seas, by E. F. Schulz. Prepared for the David Taylor Model Basin, the Bureau of Ships, Navy Dep't. under Contract No. N9 onr 82403. March 1954. CER54EFS10.
- Development of a Basin for Investigation of the Seaworthiness of Model Seaplane Hulls, by E. F. Schulz. Prepared for the Bureau of Aeronautics, Navy Dep't. under Contract No. Noas 52-1077-c. March 1954. CER54EFS11.
- 31. Tests of the Seaworthiness of Seaplane Hulls Having a High Length to Beam Ratio, by E. F. Schulz. Prepared for the Bureau of Aeronautics, Navy Dep't. under Contract No. Noas 52-1077-c. May 1954. CER54EFS12.
- 32. Study of Seepage Losses from Irrigation Channels 1952, by A. R. Robinson and Carl Rohwer. Prepared under the direction of Division of Irrigation Engineering and Water Conservation, SCS. Progress Report. April 1953. CER54ARR13.
- 33. Ground Water Hydrology and Hydraulics, by D. B. Simons, W. V. Morris, and R. B. Hickok. Prepared for the Irrigation Institute Publication Series No. 1. June 1954. CER54DBS17.

- 34. Lake Hefner Model Studies of Wind Structure and Evaporation, Part I, by J. E. Cermak and H. J. Koloseus. Prepared for the Bureau of Ships, Navy Dep't. under Contract No. Nobsr 57053. Final Report. November 1953. CER54JEC20.
- 35. Lake Hefner Model Studies of Wind Structure and Evaporation, Part II, by J. E. Cermak and H. J. Koloseus. Prepared for Bureau of Ships, Navy Dep't. under Contract No. Nobsr 57053. Final Report. July 1954. CER54JEC22.
- 36. Development of a Miniature Air Velocity Indicator -- Experimental Study to Determine Sensitivity of New Designs, by J. E. Cermak and H. J. Koloseus. Prepared under Project Sig. C-131 Directing Agency, Special Activities Signal Corps Engineering Laboratory, Fort Monmouth, N. J. Unclassified Report. August 1954. CER54JEC23.
- 37. Development of a Constant-Force Bottom Contour for Seaplane Hulls, by E. F. Schulz. Prepared for the Bureau of Aeronautics, Navy Dep't. under Contract No. Noas 52-332-c. November 1954. CER54EFS31.
- 38. Selection of Gravel Pack for Water Wells in Fine, Uniform, Unconsolidated Aquifers, Progress Report on Performance of Well Screens, by J. R. Lockman and Carl Rohwer. Prepared under direction of Agricultural Research Service, Western Section of Soil and Water Management. December 1954. CER54JRL34.
- 39. Vapor Transfer by Forced Convection from a Smooth, Plane Boundary, by J. E. Cermak and P. N. Lin. Prepared for the Office of Naval Research under Contract No. N9 onr 82401. Report No. 9. January 1955. CER55JEC1.
- 40. A Study of the Sediment Transport in Alluvial Channels, by J. R. Barton and P. N. Lin. Prepared for the Corps of Engineers Dep't. of the Army, Omaha, Nebraska under Contract No. DA-25-075-eng-2632. March 1955. CER55JRB2.
- Abstracts covering technical material presented at the Conference on Evaporation, published at Colorado State University, April 12-13, 1954. CER55 - 3.

- 42. Effect of Boundary on Fine Sand Transport in Twelve-Inch Pipes, by A. R. Chamberlain. Prepared for Armco Drainage Metal Products, Inc. and Research Corporation, Santa Monica, California. Final Report. June 1955. CER55ARC6.
- 43. Sediment Lining Investigations, Fiscal Years 1954 and 1955, by R. D. Dirmeyer. Prepared for the Bureau of Reclamation under Contract No. 14-06-700-129. June 1955. CER55RDD7.
- 44. Penetration and Retention of Bentonite Suspensions in Porous Media, by R. B. Curry. Theses presented as Project Report in the Study and evaluation of canal lining by sedimentation. Prepared for various Bentonite Producers. August 1955. CER55RBC9.
- 45. Drainage and Water Conveyance, by A. R. Robinson. Prepared for Agricultural Research Service, Soil and Water Conservation Research Branch. Annual Report. 1955. CER55ARR13.
- 46. Study of Evaporation from Soil Surfaces in Terms of Soil and Micrometeorological Factors Using a Wind Tunnel, by A. T. Corey, and others. Prepared for Colorado Contributing Project of the Western Regional Research Project W-32, Basic Hydrological Factors Relating to Water Conservation. Progress Report No. 1. November 1955. CER55ATC17.
- 47. Report on the Calibration of the New Mexico, Williams-Type Meter, by H. H. Schweizer. Prepared for State Engineer's Office, N. Mexico. January 1956. CER56HHS2.
- 48. Turbulent Diffusion of Momentum and Heat From a Smooth, Plane Boundary with Zero Pressure Gradient, by A. C. Spengos. Prepared for the Air Force Cambridge Research Center. Under Contract No. AF19(604)421, AFCRC-TN-56-259. Scientific Report No. 1. February 1956. CER56ACS4.
- 49. Turbulent Diffusion of Momentum and Heat From a Smooth, Plane Boundary with Zero Pressure Gradient, Experimental Equipment, by A. C. Spengos and J. E. Cermak. Prepared for Air Force Cambridge Research Center, under Contract AF19(604)421, AFCRC-TN-56-273. Part I. Final Report, August 1956. CER56ACS12.

- 50. Report on Sediment Lining Investigations, Fiscal Year 1956, by R. D. Dirmeyer, Jr. Prepared for the U.S. Bureau of Reclamation, Region No. VII, under Contract 14-06-700-1157. August 1956. CER56RDD17.
- 51. 1956 Annual Report, by A. R. Robinson and R. W. Nelson. Prepared for U.S. Department of Agriculture, ARS Soil and Water Conservation Research Branch, Western Section. 1956. CER56ARR18.
- 52. Sediment Transport Through Pipes, by R. J. Garde. Prepared for Armco Drainage and Metal Products, Inc. October 1956. CER56RJG19.
- 53. Turbulent Diffusion of Momentum and Heat from a Smooth, Plane Boundary with Zero Pressure Gradient, Presentation of Data and Analysis, by J. E. Cermak and A. C. Spengos. Prepared for the Air Force Cambridge Research Center, under Contract AF19(604)421, AFCRC-TN-56-273. Part II. Final Report. 1956. CER56JEC22.
- 54. Model Test to Predict the Seaworthiness of Seaplane Hulls, by E. F. Schulz. Prepared for the Bureau of Aeronautics, Navy Dep't., under Contract No. Noas 54-908-c. January 1957. CER57EFS1.\*
- 55. Model Tests with a Tanker in Oblique Seas, by E. F. Schulz, T. T. Williams, and R. M. Ralston. Prepared for David Taylor Model Basin, Navy Dep't., under Contract No. N9 onr 824(03). January 1957. CER57EFS2.\*
- 56. Fluid Mechanics Research Laboratory Facility Needs, by D. F. Peterson and A. R. Chamberlain. Prepared for National Science Foundation. 1957. CER57DFP-ARC8. \*
- 57. Backwater Effects of Piers and Abutments, by H. K. Liu, J. N. Bradley and E. J. Plate. Prepared in cooperation with the U.S. Department of Commerce, Bureau of Public Roads, under Contract No. CPR 11-3298 October 1957. CER57HKL10, \*
- 58. Preliminary Model Tests of a Flume for Measuring Discharge of Steep Ephemeral Streams, by A. R. Chamberlain. Prepared for Rocky Mountain Forest and Range Experiment Station. February 1957. CER57ARC12.

- 59. First Approximation to a Confused Sea in a Circular Model Basin, by R. E. Glover. Prepared for the David Taylor Model Basin under Contract No. Nonr 1610(02). Technical Report No. 2. January 1957. CER57REG13.
- Brief Note on Mechanical Means of Generating a Confused Sea, by R. E. Glover. Prepared for the David Taylor Model Basin, under Contract No. Nonr 1610(02). Technical Report No. 3. January 1957. CER57REG14.
- 61. Description of Facilities for Seaworthiness Testing of Model Hulls at Colorado State University, by E. F. Schulz. (Internal Report). August 1957. CER57EFS15. \*
- 62. Scour and Energy Dissipation Below Culvert Outlets, by George L. Smith. Prepared for the Agricultural Research Service, under Contract No. 12-14-100-464(41). April 1957. CER57GLS16.
- Theory and Design of Stable Channels in Alluvial Materials, by Daryl B. Simons. Dissertation and Report prepared for the U.S. Bureau of Reclamation, under Contract No. 63052. May 1957. CER57DBS17.
- 64. Symposium of Arch Dams. Reprinted from Journal of the Power Division Proceedings of ASCE. September 1957. CER57REG18.\*
- 65. Report on Laboratory Testing of the Sediment-Sealing Method, Part I, Sealing Effects of Dispersed and Flocculated Bentonite Suspensions in a Dune Sand, by E. C. Newman. Prepared for the U.S. Bureau of Reclamation under Contract No. 14-06-700-1157. August 1957. CER57ECN19.
- 66. Report on Laboratory Testing of the Sediment-Sealing Method, Part II, Sealing Effects of Dispersed Bentonite Suspensions and Dispersant Solution on Greeley Fine Sandy Loam and Loveland Lake Sand, by R. T. Shen. Prepared for the U.S. Bureau of Reclamation, under Contract No. 14-06-700-1157. August 1957. CER57RTS20.
- 67. Research Reports, Published Papers, Bulletins and Theses 1948 through October 1957. October 1957. CER57ARC21.\*

- Production of a Confused Sea in a Rectangular Model Basin, by R. E. Glover. Prepared for the David Taylor Model Basin, under Contract No. Nonr 1610(02). Technical Report No. 4. March 1957. CER57REG23.
- 69. Estimates of Bending Moments and Pressures Due to Slamming, by R. E. Glover. Prepared for the David Taylor Model Basin, under Contract No. Nonr 1610(02). Technical Report No. 5. August 1957. CER57REG24.\*
- Requirements for Production of a Replica Sea in a Model Basin, by R. E. Glover. Prepared for the David Taylor Model Basin, under Contract No. Nonr 1610(02). Technical Report No. 6. October 1957. CER57REG25.
- Notes on the Generation of Complex Seas for Model Studies, by R. E. Glover. Prepared for the David Taylor Model Basin, under Contract No. 1610(02). October 1957. CER57REG27.
- 72. Model Studies for Bocono Dam, by Kersi Davar and A. R. Chamberlain. Prepared for Tipton and Kalmbach, Inc. Interim Report. October 1957. CER57ARC28.
- Bentonite Sedimenting of Canals in Wheatland Irrigation District, by R. D. Dirmeyer, Jr. Prepared for Wyoming Natural Resource Board and the Wheatland Irrigation District. Field Trip Report. October 1957. CER57RDD30.
- 74. Evaluation of the Effect of Approach Tubing Size upon the Calibration of 3/4-inch Turbine Flowmeters, by M. W. Bittinger. Prepared for the Martin Company, under Contract No. DEN 57-10195. November 1957. CER57MWB32.
- 75. On the Design of an Armorplated Stilling Basin for a Cantilevered Outlet on the Turkey Creek Watershed, Colorado, by George L. Smith. Pre-Pared for U.S. Bureau of Public Roads. November 1957. CER57GLS33.
- 76. Study of Evaporation from Soil Surfaces in Terms of Soil and Micrometeorological Factors, by A. T. Corey. Prepared for Colorado Agricultural Experiment Station and Agricultural Research Service, Western Regional Research Project W-32. Progress Report No. 3. November 1957. CER57ATC34.

- 77. Summary of Research Projects-Hydraulics Research. Prepared for National Bureau of Standards -"Hydraulic Research in the United States." December 1957.
   CER57ARC35. \*
- 78. Interaction of Ship and Wave Pressure Effects. Part I. Experimental Procedure for Studies, by E. F. Schulz. Prepared for David Taylor Model Basin. (Classified Report). December 1957. CER57EFS38.
- 79. Research and Development Project on Sedimenting Methods of Sealing Irrigation Canals, by R. D. Dirmeyer. Prepared for 7th Annual Meeting of Four-States Irrigation Council for the January 10, 1958 Sessions. Progress Report. 1958. CER58RDD1.
- 80. Flume Studies using Medium Sand (0.45 mm), A Laboratory Study of Roughness in Alluvial Channels, by D.B. Simons, E. V. Richardson, and M. L. Albertson. Prepared for the U.S. Department of the Interior Geological Survey. Progress Report. January 1958. CER58DBS2.
- Use of a Capacitance Influence Probe for Measuring Wave Profiles, by E. F. Schulz and J. E. Phillips. Prepared for the David Taylor Model Basin, Navy Dep't., under Contract No. Nonr 1610(03). January 1958. CER58EFS3.
- 82. Evaluation of the Effect of Viscosity on the Calibrations of Several Flow Meters, by Fred Videon. Prepared for the Martin Company, under Contract DEN 57-10195. February 1958. CER58FV5. \*
- 83. 1957 Annual Report by A. R. Robinson, R. H. Brooks, R. W. Nelson, and E. G. Kruse. Prepared for U.S. Department of Agriculture, ARS, Western Soil and Water Management Research Branch, Irrigation and Drainage Facilities Section. (Confidential - not for distribution). February 1958. CER58ARR7.
- 84. A New Type of Wave Generator, by R. E. Glover. Prepared for David Taylor Model Basin, under Contract No. Nonr 1610(02). Technical Report No. 7. March 1958. CER58REG8.

- 85. Bentonite Sediment Sealing Activities in Trans-Mountain Diversion System of the Twin Lakes Reservoir and Canal Company, near Aspen, Colorado, by R. D. Dirmeyer. Prepared for U.S. Department of Agriculture, ARS, under Contract No. 12-14-100-507(41). Interim Report. April 1958. CER58RDD15. \*
- Civil Engineering Section Annual Report, by A. R. Chamberlain. Prepared for Colorado Agircultural Experiment Station. April 1958. CER58ARC16.
- Bocono Dam River Outlet Tests, by A. R. Chamberlain and Kersi Davar. Prepared for Tipton and Kalmbach, Inc. Interim Report. May 1958. CER58ARC17.
- 88. Influence of Elbow Location and Dynamic Viscosity on Turbine Flowmeter Calibrations, by A. R. Chamberlain and Fred Videon. Prepared for the Martin Company, under Contract No. DEN 57-10195. May 1958. CER58ARC19.
- 89. Turbulent Boundary Layer Over Heated and Unheated, Plane, Rough Surfaces, by Benoyendra Chanda. Prepared for Air Force Cambridge Research Center, under Contract No. AF19(604)-1706, AFCRC-TN-58-428, ASTIA-AD 152599. Ph. D. Dissertation and Scientific Report No. 1. May 1958. CER58BC21. \*
- 90. Bentonite Sediment Sealing Activities in Lateral E-65-19.3 of the Central Nebraska Public Power and Irrigation District near Bertrand, Nebraska, by R. D. Dirmeyer. Prepared for U.S. Department of Agriculture, ARS, under terms of Contract No. 12-14-100-507(41). Interim Report. June 1958. CER58RDD23.
- 91. Model Studies for Bocono Dam, Venezula, South America, by Kersi Davar and M. Shaarawi Amin. Prepared for R. J. Tipton, Assoc. Engr. Inc., Final Report. May 1958. CER58ARC24.\*
- 92. Sediment-Sealing with Bentonite in a Dune Sand, by R. T. Shen. Field and Laboratory Studies of Lateral 1, Interstate Canal, Torrington, Wyoming, Pathfinder Irrigation District, North Platte Project. Prepared for the Bureau of Reclamation and Agricultural Research Service. Final Report. 1958. CER58RTS25.\*

- 93. Report on a Hydraulic Model Study of the By-Pass of the Cumbaya Project, Quitto, Ecuador, by S. Karaki and S. Ayoub. Prepared for R. J. Tipton Associate Engineers, Inc. 1958. CER58SK30.\*
- 94. Model Study of Interceptor Drains, by A. R. Robinson and Jack Keller. A contribution from the Western Soil and Water Management Research Branch and Colorado Agricultural Experiment Station, Ft. Collins, Colorado. 1955. CER58ARR32.
- 95. Hydraulic Model Study of the Makio Dam Spillway, Aichi Irrigation Project, Chubu District, Honshu Island, Japan, by S. S. Karaki and M. S. Amin. Prepared for Erik Floor and Associates, Inc. September 1958. CER58SSK34.\*
- 96. Soil and Water Research Needs in Colorado, prepared under direction of S. S. Wheeler, for Colorado Agricultural Experiment Station. October 1958. CER58SSW36.\*
- 97. Hydraulic Research at Colorado State University, Summary of Research Projects, "Hydraulic Research in the U.S." Prepared for the National Bureau of Standards. 1958. CER58ARC38.
- 98. Deceleration During Impact of Seaplane Hulls on a Water Surface, by A. R. Chamberlain and Bernard d'Utry. Prepared for the Navy Dep't., of the Bureau of Aeronautics, under Contract No. Noas 55-394-c. August 1957. CER58ARC40. \*
- 99. Wind Tunnel for the Study of Turbulence in the Atmospheric Surface Layer, by J. E. Cermak. Prepared for the Air Force Cambridge Research Center, under Contract No. AF19(604)-1706, AFCRC-TR-58-287. Final Report. 1958. CER58JEC42.
- 100. Methods of Creating a Complex Seaway in a Model Basin, by R. E. Glover. Prepared for the David Taylor Model Basin, under Contract No. Nonr 1610(02). 1958. CER58REG43.

- 101. Annular Jet Inducer, by S. S. Karaki. Prepared for Cooley Gravel Company. December 1958. (A Copywrited Report - not available). CER58SSK44.
- 102. Investigation of Flexible Conduit Type Structures for Atomic Shelter Purposes, by R. Szilard. Prepared for the Martin Company. (A Classified Report). 1958. CER58RSZ47.
- 103. Study of Evaporation from Soil Surfaces in Terms of Soil and Micrometeorological Factors of the Western Regional Research Project W-32, by A. T. Corey. Prepared for the Technical Committee meeting held in Pullman, Washington. Progress Report No. 4. October 1958. CER58ATC48.
- 104. Trapezoidal Measuring Flumes for Determining Discharges in Steep Ephemeral Streams, by A. R. Robinson. Prepared for the Rocky Mountain Forest and Range Experiment Station. February 1959. CER59ARR1.
- 105. Hydraulic Model Study of Spur Dikes for Highway Bridge Openings, by S. Karaki. Prepared for U.S. Bureau of Public Roads, Division of Hydraulic Research. January 1959. CER59SSK2.
- 106. Annual Report for 1958, by A. R. Robinson and R. W. Nelson, R. H. Brooks, and E. G. Kruse. Prepared for U.S. Department of Agriculture, ARS, and Soil and Water Conservation Research Div., Western Soil and Water Management Research Branch. March 1959. CER59ARR4.
- 107. The Most Efficient Stable Channel for Comparatively Clear Water in Non-Cohesive Materials, by H. K. Liu, E. W. Lane and P. N. Lin. Prepared for the Colorado State University Research Foundation. 1959. CER59HKL5.\*
- 108. Laboratory Observations of Scour at Bridge Abutments, by H. K. Liu and M. M. Skinner. Prepared for Hydraulics Division of the U.S. Bureau of Public Roads. January 1959. Publication 728. 1960. CER59HKL6.
- 109. Restrained Model Tests in Head Seas, by E. F. Schulz. Prepared for the David Taylor Model Basin, under Contract No. Nonr 1610(04). March 1959. CER59EFS7. \*

- 110. Evaluation of the Performance of the Gulton Ultra-Sonic, Gentile Tube and Potter Model 6-424 GLMD-5 Flowmeters, by G. L. Smith and Fred Videon. Prepared for the Martin Company, under Contract No. F8-51390. June 1958. CER59FV11.\*
- 111. Civil Engineering Section Annual Report 1959, by A. R. Chamberlain. Prepared for the Agricultural Experiment Station. April 1959. CER59ARC12.
- 112. Source Material for a Course in Transient Ground Water Hydraulics, compiled by R. E. Glover and M. W. Bittinger. Prepared for a course in Ground Water Hydraulics. April 1959. CER59REG16.
- 113. Hydraulic Model Study of the Morning Glory Spillway for Dillon Dam, by Susumu S. Karaki. Prepared for Tipton and Kalmbach, Inc. Denver, Colorado. June 1959. CER59SSK21.\*
- 114. Orifice Plates for Furrow Flow Measurement Research Project 323, by A. R. Robinson. Prepared for the U.S. Department of Agriculture, ARS, Soil and Water Conservation Research Division, Western Soil and Water Management Research Branch. (For administrative use only). December 1959. CER59ARR24.
- 115. Dispersion and Concentration of Radioactive Wastes by Stream Sediments, by A. R. Chamberlain, W. W. Sayre, and H. P. Guy. Prepared for U.S. Geological Survey in cooperation with Colorado State University for the U.S. Atomic Energy Commission. Progress Report. 1959. CER59ARC26.
- 116. Longitudinal Distribution of Virtual Mass and Damping Forces on a Pitching and Heaving Ship, by E. F. Schulz. Prepared for the S-3 Panel of the Hull Structure Committee, Society of Naval Architects and Marine Engineers. Status Report No. 4. August 28, 1959. CER59EFS28. \*
- 117. Synoptic Patterns Associated with Hail Occurrence in Northeastern Colorado, by Hayden Hodges. Prepared for National Science Foundation Research Participation. 1959. CER59HH29.

- 118. Colorado Cooperative Project in Climatology, by R. A. Schleusener. Prepared for Colorado Agricultural Experiment Station in Cooperation with U.S. Weather Bureau and U.S. Department of Agriculture, Soil Conservation Service. Status Report through 30 June 1959. CER59RAS30.\*
- 119. Hydraulic Model Study of Spur Dikes for Highway Bridge Openings, by Susumu Karaki. Prepared under the joint sponsorship of the State Highway Dep't., of Mississippi and Alabama, in cooperation with the Hydraulics Research Division of the U.S. Bureau of Public Roads. September 1959. CER59SSK36.
- 120. Research Conducted Concurrently with the Hail Suppression Program of the Weather Modification Company in 1959, in Northeastern Colorado, by R. A. Schleusener. Prepared for the Directors of the Northeast Colorado Hail Suppression Association. Preliminary Report. 1959. CER59RAS37.
- 121. Magnitude and Frequency of Floods from Small Watersheds in Semi-Arid Areas, by R. A. Schleusener and G. L. Smith, and Nobu Yotsukura. Prepared for the U.S. Bureau of Public Roads. Preliminary Report. (AST Paper No. 2). 1959. CER59RAS39.#
- 122. The Characteristics of Alluvial Channels, by D. B. Simons. Prepared for U.S. Geological Survey Technical Training School, Quality of Water Branch, Austin, Texas. 1959. CER59DBS40.
- 123. Estimates of Runoff from Small Watersheds in Eastern Colorado, Western Kansas and Nebraska and Southeastern Wyoming, by R. A. Schleusener, L. O. Grant and G. L. Smith. Prepared under the sponsorship of the Hyd. Div. of U.S. Bureau of Public Roads. (AST Paper No. 3). 1959. CER59RAS41.\*
- 124. Summary of an Analytical Approach to Two-- and Three--Dimensional Scour Problems, by G. L. Smith. Prepared for the U.S. Bureau of Public Roads. 1959. CER59GLS42.

- 125. Elements of Open Channel Flow and Sediment Transport, by D. B. Simons and R. B. Vice. Prepared for U.S. Geological Survey Technical Training School of Quality of Water Branch, Austin, Texas. 1959. CER59DBS44.\*
- 126. Evaluation of the Performance of the Floating Rotor Design Flowmeter Manufactured by the Pottermeter Company - Flow Meter Model 2-353A, by Susumu Karaki and Fred Videon. Prepared for the Martin Company, Denver Division, under Contract F8-51390. September 1959. CER59SSK45. \*
- 127. Ground Water Recharge in Prospect Valley, Colorado, Part I, Analytical Studies, by R. E. Glover. A study made possible through approval of Senate Bill 336 by Colorado General Assembly. Preliminary Progress Report. 1959. CER59REG46.\*
- 128. Measuring Seepage from Irrigation Channels, by A. R. Robinson and Carl Rohwer. Prepared in cooperation with Colorado Agricultural Experiment Station and U. S. Bureau of Reclamation. Technical Bulletin No. 1203, U.S. Department of Agriculture, ARS Report. September 1959. CER59ARR47.
- 129. Hydraulic Research at Colorado State University Summary of Research Projects, compiled by M. M. Skinner. Prepared for the Hyd. Research Bulletin of the U. S. National Bureau of Standards. December 1959. CER59MMS50.\*
- 130. Preliminary Analyses of Meteorological Parameters in the Upper Colorado River Basin, by R. A. Schleusener. Prepared for the State of Colorado Dep't. of Natural Resources. Regarding work done by Colorado State University in cooperation with University of Colorado Bureau of Economic Research - The High Altitude Observatory and Mr. Loren Crow in a study of the Variability of stream flow in the upper Colorado River. Status Report. December 1959. CER59RAS51.\*
- 131. Fluid Mechanics, Research Reports, Bulletins, Papers, and Theses -Colorado State University. Prepared as an Engineering Research Report 1948 through 1959. December 1959. CER59ARC52.\*

- 132. Model Study of a Trapezoidal Flume for Measurement of Stream Discharge, by A. R. Robinson. Prepared for the Rocky Mountain Forest and Range Experiment Station. January 1960. CER59ARR57.
- 133. A Study of Evaporation from Soil Surfaces in Terms of Soil and Micrometeorological Factors of the Western Regional Research Project W-32 Basic Hydrological Factors Relating to Water Conservation, by A. T. Corey, R. A. Schleusener, and Larry G. King. Prepared for Annual Report for Western Regional Meetings in fall of 1959. Colorado Agricultural Experiment Station Progress Report No. 5. 1959. CER59ATC63.
- 134. Hydraulic Model Study of the Outlet Works in Diversion Tunnel No. 2 for Bhumiphol Dam, by Susumu Karaki. Prepared for Engineering Consultants, Inc., Denver, Colorado. 1960. CER60SSK5.\*
- 135. Sediment Sealing Investigations, by R. D. Dirmeyer, Jr. A report prepared for Regional Drainage Research Review Conference, Reno, Nevada, February 2-3, 1960. Progress Report. CER60RDD6. \*
- 136. A Study of Artificial and Natural Recharge of Ground-Water Reservoirs in Colorado, by M. W. Bittinger. Report of the first six month's activities (July 1 - Dec. 31, 1959) under Colorado Agricultural Experiment Station Project 112, sponsored by an appropriation of the Forty-Second Colorado General Assembly under Senate Bill No. 336. Progress Report. 1960. CER60MWB8.
- 137. Analytical Study of the Mechanics of Scour for Three-Dimensional Jet, by George L. Smith, M. L. Albertson and Yuichi Iwagaki. Report prepared for the U.S. Bureau of Public Roads, under Contract No. CPR11-5504. 1958. CER60GLS9.\*
- 138. Analytical Study of Mechanics of Scour for Two-Dimensional Jet, by George L. Smith, Lucien Duckstein, Yuichi Iwagaki and M. L. Albertson. Prepared for U. S. Bureau of Public Roads, under Contract No. CPR11-5504. April 1960. CER60GLS12.
- 139. Evaluation of the Performance Characteristics of Turbine-Type Flowmeters, by S. S. Karaki, Fred Videon and F. Trelease. Prepared for the Martin Company, Denver Division, under Contract No. F8-51390. March 1960. CER60SSK14.

- 140. A Study of Shear Stress at a Fluid-Solid Interface by Measurement of the Electrokinetic Potential, by J. E. Cermak. Prepared for Research Corporation, New York City, N. Y. Status Report. March 1960. CER60JEC15.
- 141. Evaluation of the Effects of Viscosity on Performance of Turbine-Type Flowmeters, by S. S. Karaki, Fred Videon and Frank Trelease. Prepared for the Martin Company, Denver Division under Contract F8-51390. March 1960. CER60SSK19.\*
- 142. The Effects of Bearing Wear and Induced Fluid Rotation on Several Flowmeters, by S. S. Karaki and Fred Videon. Prepared for the Martin Company, Denver Division. March 1960. CER60SSK20.\*
- 143. Evaluation of the Performance of Turbine-Type Flowmeters, by S. S. Karaki and Fred Videon. Conducted for the Martin Company, Denver Division, under Contracts DEN-57-10195 and F8-51390. A Summary Report. March 1960. CER60SSK21.\*
- 144. Effect of Bridge Constriction on Scour and Backwater, by H. K. Liu, F. M. Chang and M. M. Skinner. Prepared for U.S. Bureau of Public Roads, under Contract No. CPR11-5480. February 1961. CER60HKL22.\*
- 145. Precipitation Frequencies and Potential Yields of Runoff Water at 18 Weather Stations in Colorado in the Upper Colorado River Watershed, by Loren W. Crow. Prepared for the State of Colorado. March 1960. CER60LWC23.
- 146. Annual Report Colorado Agricultural Experiment Station, Civil Engineering Section, by A. R. Chamberlain. Prepared for the State Board of Agriculture. April 1960. CER60ARC27.
- 147. Calibrations of Thin Plate Orifices for Feedwater Measurement in The A1W Atomic Reactor Plants, by S. S. Karaki. Conducted for Westinghouse Electric Corporation, Idaho Falls, Idaho. May 1960. CER60SSK29.

- 148. Procedures for Estimating Peak Rates of Runoff in Eastern Colorado and Adjacent Areas, by R. A. Schleusener, G. L. Smith and L. O. Grant. Prepared under the sponsorship of the Hydraulic Research Division of U. S. Bureau of Public Roads and Colorado Department of Highways. Final Report. (AST Paper No. 7). May 1960. CER60RAS30.\*
- 149. Study of Peak Rates of Runoff in Eastern Colorado and Adjacent Areas, by R. A. Schleusener, L. O. Grant and G. L. Smith. Prepared under the sponsorship of the Hydraulic Research Division of the U. S. Bureau of Public Roads, and Colorado Department of Highways. Final Report. (ASR Report No. 2). May 1960. CER60RAS31.\*
- 150. Longitudinal Distribution of Virtual Mass, Virtual Moment of Inertia, Damping Force and Damping Moment on a Pitching and Heaving Ship, by E. F. Schulz and M. R. Bottacinni. Prepared for S-3 Panel, Hull Structure Committee, Society of Naval Architects and Marine Engineers. September 1960. CER60EFS32.\*
- 151. Bentonite Sediment Sealing of Irrigation Canals, by R. D. Dirmeyer, Jr., and R. T. Shen. Prepared for Agricultural Research Service under Contract No. 12-14-100-507(41). Report for the Three-Year period of 1957 through 1959. July 1960. CER60RDD33.\*
- 152. Locating and Designing Structures to Improve Stream Gauging Accuracy in the Rio Grande River Basin, by Susumu Karaki, A. R. Chamberlain, D. B. Simons, A. R. Robinson, and M. L. Albertson. Prepared for the International Boundary and Water Commission, U. S. Section, El Paso, Texas. Field Inbestigation Report. June 1960. CER60SSK34.
- 153. Undergraduate Research Participation Program at Colorado State University, Summer 1959, by James R. Barton. (Academic year 1959-1960). Prepared for the National Science Foundation. June 1960. CER60JRB35.
- 154. Sediment Sealing Trial with SS-13 in Coachella Canal in Southern California. A Summary of Development Activities carried on by the Imperial Irrigation District During the Period of 1955 - 1960, by R. D. Dirmeyer, Jr., and R. T. Shen. Prepared for U.S. Department of Agriculture, ARS, under Contract No. 12-14-100-507(41). July 1960. CER60RDD39.

- 155. Unsaturated Flow as Affected by Intrinsic Soil Parameters in a Sloping Aquifer, by R. H. Brooks. Prepared for report to Western Regional Technical Committee - W-51. Contribution from Western Soil and Water Management Research Branch, SWC Res. Div. ARS, U. S. Department of Agriculture. Colorado Agricultural Experiment Station Cooperating. July 1960. CER60RHB40.
- 156. Dual Channel Stream Monitor, by S. S. Karaki and Earl E. Gray. Prepared for Agricultural Research Service, Beltsville, Md. Final Report. August 1960. CER60SSK46.\*
- 157. A Preliminary Study of Stream and Water Flow in Venturi Tubes, by R. V. Smith, et al. Prepared under sponsorship of National Bureau of Standards Cryogenic Engineering Laboratory, and the Dep't of Mechanical Engineering, Colorado State University. September 1960. CER60RVS47.\*
- 158. Summer Fluid Mechanics Institute for College Teachers, by M. E. Bender. Sponsored by the National Science Foundation, Colorado State University, Ft. Collins, Colorado June 20 through August 26, 1960. Director's Report. CER60MEB48.\*
- 159. Annotated Bibliography and Comments on the Estimation of Flood Peaks from Small Watersheds, by B. M. Reich. Prepared for the Department of Agriculture, Union of South Africa. October 1960. CER60BMR52.
- 160. A Study of Design and Operation of a Low Speed Precision Wind Instrument Test Facility, by E. J. Plate and J. E. Cermak. Prepared for U.S. Army, White Sands Missile Range, New Mexico, under Contract No. DA-29-040-ORD-2346. November 1960. CER60EJP58.\*
- 161. Study of Evaporation from Soil Surfaces, by R. A. Schleusener. Colorado Contributing Project to Western Regional Project W-32. Basic Hydrologic Factors Relating to Water Conservation, Colorado Agricultural Experiment Station. Progress Report No. 6. November 1960. (AST Paper No. 11) CER60RAS60.\*
- 162. Undergraduate Research Participation Program at Colorado State University, Summer of 1960, by James R. Barton. Prepared for the National Science Foundation. October 1960. CER60JRB61.

- 163. Hydraulic Model Studies Del Rio Site Stream Gaging Control Structure Rio Grande, Phase 1 - Two Dimensional Studies, by S. S. Karaki. Prepared for the International Boundary and Water Commission, U.S. Section. Interim Report. November 1960. CER60SSK62.
- 164. Hydraulic Research at Colorado State University Summary of Research Projects, compiled by M. M. Skinner. Prepared for Hydraulic Research in the United States, National Bureau of Standards. December 1960. CER60MMS64.
- 165. Bentonite Sealing Investigations, by R. D. Dirmeyer, Jr. Prepared for the Southeastern Colorado Water Conservancy District and Colorado Water Conservation Board. Third Quarterly Progress Report. November 1960. CER60RDD66. \*
- 166. Evaluation Studies of a Brodie Birotor Meter, Model B-40D, Serial No. 183379, For Cold Flow Laboratory, by S. S. Karaki. Prepared for the Martin Company, under Contract No. DEN-FCO-60733. November 1960. CER60SSK67. \*
- 167. Surface Processes in Hurricane Donna Extended Abstract, by Herbert Riehl. A report prepared on hurricane structure and mechanisms. 1960. CER60HR69.
- 168. Competence of a Glacial Stream, by R. K. Fahnestock. Prepared for U.S. Geological Survey, General Hydrology Branch, Water Resources Division. January 1961. CER61RKF2.
- 169. Study of the Cox Flowmeter (modified Hall Pitot Tube), by A. R. Robinson. Prepared for the Board of Water Commissioners, City and County of Denver, Colorado. January 1961. CER61ARR5.
- 170. Hail Suppression Evaluation, by Richard A. Schleusener. Prepared for the National Science Foundation, under Grant NSF-G-10036. January 1961. CER61RAS7.\*
- 171. Study of the Beaver Creek Measuring Flumes, by A. R. Robinson. Prepared for the Rocky Mountain Forest and Range Experiment Station, Ft. Collins, Colorado. February 1961. CER61ARR10.

- 172. Tailings Disposal Pipe Lines of the Climax Molybdenum Plant at Climax, Colorado, by S. S. Karaki and W. W. Sayre. Prepared for the Climax Molybdenum Company. Preliminary Field Investigation Report. January 1961. CER61SSK11.
- 173. Scour and Scour Control Below Cantilevered Culvert Outlets, by G. L. Smith. Prepared for U. S. Bureau of Public Roads, under Contract No. CPR11-7746. February 1961. CER61GLS14.#
- 174. One the Balance of Forces and Radial Accelerations in Hurricanes, by William M. Gray. Prepared on Research conducted under Contracts between the U.S. Weather Bureau and Colorado State University and the University of Chicago. (ASR Report No. 1). February 1961. CER61WMG16.\*
- 175. Hydraulic Model Studies Stream Gaging Control Structure in the Rio Grande, by S. S. Karaki. Prepared for International Boundary and Water Commission, U. S. Section. Final Report. February 1961. CER61SSK17.\*
- 176. Bentonite Sealing Investigations, by R. D. Dirmeyer. Prepared for the Southeastern Colorado Water Conservancy District and the Colorado Water Conservation Board, Colorado State University Experiment Station Engineering Research. Period of February 1, 1960 to January 31, 1961. Final Report. CER61RDD20. \*
- 177. Graduate Education and Research, by A. R. Chamberlain. Report presented at the Joint Meeting of the Joint Budget Committee and the Legislative Committee on Education Beyond High School of the Colorado General Assembly. September 22, 23, 1961. CER61ARC21. \*
- 178. Flow in a Sloping Aquifer as affected by Hydraulic Properties of Porous Media, by R. H. Brooks. Prepared for U.S. Department of Agriculture, ARS, Soil and Water Conservation Research Division, Northern Plains Branch. Non-funded contributing project of the Western Regional Research Committee, Project W-51, Drainage Design for Irrigation Agriculture. Progress Report No. 1. October 1961. CER61RHB22.
- 179. Hydrologic Studies of the Upper Colorado River, by Richard A. Schleusener. This project was sponsored by the State of Colorado, acting through the Upper Colorado River Commission. Progress Report. April 1961. (AST Paper No. 15). CER61RAS23.

- 180. Cloud Seeding in Central Colorado, by Lewis O. Grant. Prepared for presentation at Sixteenth Annual Meeting Colorado River Water Forecast Committee, Senate Chambers, State Capitol Building, Salt Lake City, Utah 10 April 1961. Progress Report. (AST Paper No. 16). CER61LOG25.
- 181. Civil Engineering Section Annual Report, by A. R. Chamberlain. Prepared for the Colorado Experiment Station. May 1, 1961. CER61ARC27.
- 182. Work Accomplished at Colorado State University on the Cooperative Project on Climatology of the Upper Colorado River Basin as of 1 November 1960, by R. A. Schleusener. Prepared for the State of Colorado, Department of Natural Resources, Account Number 1720-74-0. Progress Report. April 1961. CER61RAS28.
- 183. Desilting Structure at the Gualanday Canal Headworks Coello Project, Colombia, S.A. - A Model Study, by S. S. Karaki. Prepared for Tipton and Kalmbach, Inc., Denver, Colorado. April 1961. CER61SSK29.\*
- 184. Measurement of Atmospheric Ozone with the Dobson Spectrophotometer, by Lewis O. Grant. Prepared for Geophysics Research and Development Command, U.S. Air Force, Bedford Mass., under Contract AF19(604)-7303. April 1961. CER61LOG30.
- 185. Studies of Flow in Alluvial Channels Basic Data from Flume Experiments, by E. V. Richardson and D. B. Simons. Report prepared for U.S. Geological Survey. Unpublished. April 1961. CER61EVR31.
- 186. Depressed Curb Opening Inlets Super Critical Flow Experimental Data, by S. S. Karaki and R. M. Haynie. Prepared for U. S. Dep't. of Commerce Bureau of Public Roads, Hydraulic Research Div. June 1961. (Not for distribution). CER61SSK34.
- 187. Specifications for the Temperature and Humidification Control Units of the Micrometeorological Wind Tunnel at Colorado State University, by E. J. Plate and J. E. Cermak. Prepared for White Sands Missile Range, New Mexico, under Contract No. DA-36-039-SC-8037. June 1961. CER61EJP36.\*

- 188. Unsteady Free Surface Flow in a Storm Drain, by Vujica M. Yevdjevich. Prepared for U. S. Bureau of Public Roads under Contract No. CPR 11-7940. July 1961. CER61VMY38.\*
- 189. Hydraulic Model Studies Stream Gaging Control Structure for the Rio Grande Conveyance Channel near Bernardo, New Mexico, by E. V. Richardson and D. D. Harris. Prepared for U. S. Geological Survey and U.S. Bureau of Reclamation. July 1961. CER61EVR42.
- 190. Fluid Mechanics of Porous Media, I, Hydraulic Characteristics of Porous Media, by R. H. Brooks and A. T. Corey. Preapred for U. S. Department of Agriculture, ARS Soil and Water Conservation Research Division Northern Plains Branch. Non-funded contributing Project of the Western Regional Research Committee - Project W-51, Drainage Design for Irrigation Agriculture. Progress Report No. 1. October 1961. CER61RHB47.
- 191. Report on the 1961 National Science Foundation Summer Fluid Mechanics Institute for College Teachers, 19 June through 11 August 1961, by James R. Barton. Prepared for National Science Foundation under Contract No. NSF G-15399. August 1961. CER61JRB48.
- 192. Evaluation Study of the Pendvane Flowmeter, by A. R. Robinson. Prepared through the cooperation of the Applied Research Company, The Colorado Agricultural Experiment Station and ARS, Soil and Water Conservation Research Division, Northern Plains Branch. September 1961. CER61ARR51.
- 193. Analysis of PrecipitationData in the Upper Colorado River Basin, by Richard A. Schleusener and Loren W. Crow. Prepared for the State of Colorado (AST Paper No. 18). October 1961. CER61RAS52. \*
- 194. Analytical Study of Local Scour, by F. M. Chang. Prepared for U. S. Bureau of Public Roads, under Contract No. CPR 11-7866. September 1961. CER61FMC53.
- 195. Some General Aspects of Fluctuations of Annual Runoff in the Upper Colorado River Basin, by Vujica M. Yevdjevich. Prepared for the State of Colorado. October 1961. CER61VMY54. \*

- 196. Hail Genesis Area in and Near Northeastern Colorado, by Richard A. Schleusener and Thomas J. Henderson. Prepared for The Crop Hail Insurance Actuarial Association. Report of Research supported by National Science Foundation Grant G-17964 and Crop Hail Insurance Actuarial Association. (AST Paper No. 21). October 1961. CER61RAS58.#
- 197. Investigations to Develop Wind Tunnel Techniques for Measuring Atmospheric Gaseous Diffusion in Model Vegetative Surfaces, by E. J. Plate. Prepared for U. S. Department of Agriculture, ARS, under Contract No. 12-14-100-4546(41). First Annual Report July 1, 1960 to July 1, 1961. CER61EJP60.
- 198. Die Feinstrukstur Der Strahlstroeme, by Elmar R. Reiter. Prepared under U.S. Navy Weather Research Facility Contract No. N189(188)538-28A. Submitted for publication in Die Umschau, Frankfurt. October 1961. (AST Paper No. 22). CER61ERR61.
- 199. Colorado Cooperative Project in Climatology, by R. A. Schleusener. Prepared by Colorado Agricultural Experiment Station in cooperation with U. S. Weather Bureau. Status Report. September 1961. CER61RAS64. \*
- 200. Model Study of the Sediment Ejector for the Trimmu-Sidhnai Link Canal, by S. S. Karaki. Prepared for Tipton and Kalmbach, Inc., Denver, Colorado. Interim Report. November 1961. CER61SSK65.
- 201. Influence of Inorganic Watershed Covers on Moisture Exchange in a Vertical Direction Across the Soil-Air Interface, by A. T. Corey and L. G. King. Colorado Contributing Project to Western Regional Project W-73 - Hydrologic Processes of Moisture Exchange in Moisture Conservation. Colorado Agricultural Experiment Station. Progress Report No. 1. October 1961. CER61ATC70
- 202. Design Criteria for Drain Tile Filters and Envelopes, by N. A. Evans, A. R. Qazi and C. des Bouvrie. Colorado Participating Project to Regional Res. Project W-51, Colorado Agricultural Experiment Station in cooperation with U.S. Department of Agriculture, ARS and Colorado Soil Conservation Service. Progress Report. October 1961. CER61NAE71.

- 203. Forces and Moments on a Restrained Model in Regular Waves, by E. F. Schulz. Prepared for David Taylor Model Basin, under Contract No. Nonr 1610-04. November 1961. CER61 EFS72
- 204. Hydraulic Research at Colorado State University, by R. A. Schleusener. Prepared for the National Bureau of Standards, "Hydraulic Research in the United States." December 1961. CER61RAS73.
- 205. The Oceanic Heat Budget as Affected by Hurricane Audrey (1957), by Arthur C. Pike. A report on research conducted under Contract No. CWB-9918 between the U.S. Weather Bureau and Colorado State University. November 1961. CER61ACP74.
- 206. Wind Tunnel Modeling of Atmospheric Diffusion, by J. E. Cermak and L. V. Baldwin. Prepared for U.S. Department of Health, Education and Welfare, Public Health Service, NIH. Summary Progress Report 1 March 1959 to 1 December 1961. December 1961. CER61JEC76.
- 207. Sediment Ejector for the Trimmu-Sidhnai Link Canal, by S. S. Karaki. Model Investigation prepared for Tipton and Kalmbach, Inc., Denver, Colorado. December 1961. CER61SSK81.
- 208. Research Reports, Papers, Bulletins and Theses, 1948 through 1961. December 1961. CER61RAS82.

#### SECTION "B"

#### PAPERS, PUBLISHED OR PRESENTED (Excluding Discussions and Closures)

- Influence Lines for Continuous Structures by Geometrical Computation, by Dean F. Peterson, Jr. Published in ASCE Trans. v. 113, 1948, p. 755, Paper No. 2347, 1947. CER47-52DFP1.
- Some Remarks on the Hydraulics of Steady-State Wells in Unconfined Media, by D. F. Peterson, Jr. Presented to a Graduate Seminar in Irrigation Engineering. Colorado A. and M. College. March 1951. CER47-52DFP20.
- Diffusion of Submerged Jets, by M. L. Albertson, Y. E. Dai, R. A. Hensen and Hunter Rouse. ASCE Trans. v. 115. 1950. CER47-52MLA23.
- An Extension of Dehn's Theorem on the Approximation of a Function by a Power Series, by C. S. Yih. Published in the Journal of the Indian Mathematical Society (News Series) v. XVIII, Nos. 3 and 4. University of British Columbia, Van Couver, Canada. 1950. CER47-52CSY24.
- Problems in Rain Making in the West, by T. H. Evans. Published in Public Works Magazine, p. 36-38. July 1951. CER47-52THE27.
- Diffusion From a Line Source in Laminar Flow Over a Wedge and in Blasius Flow, by C. S. Yih. Published in ASME Proceedings, First National Congress of Applied Mechanics. 1951. CER47-52CSY29.
- Report of Rainmaking, by T. H. Evans. Published in Colorado Rancher and Farmer, v. 5, No. 19. October 1951. CER47-52THE30.
- Evaporation from a Plane Boundary, by M. L. Albertson. Proceedings of Heat Transfer and Fluid Mechanics Institute, Stanford University, California. Preprints of Paper 1951, 254 pages. 1951. CER47-52MLA31.

- Artificial Roughness Standard For Open Channels, by A. R. Robinson and M. L. Albertson. Published in Trans. of Amer. Geophys. Union, v. 33, No. 6. December 1952. CEB47-52ABB34.
- Model and Prototype Studies of Sand Traps, by R. L. Parshall. ASCE Proc., v. 77, Separate No. 67, May 1951. CER47-52RLP36.
- Analysis of Results of Rainmaking Projects in the Western States, by S. D. Resnick. Paper presented to Amer. Geophys. Union, May 1952. CER47-52SDR37.
- Influence of Particle Shapes on Their Fall Velocity, by E. F. Schulz. Abstract of Paper presented to Colorado-Wyoming Academy of Science. May 1952. CER47-52EFS38.
- Use and Design Considerations of Sprinkler Systems in Colorado, by W. E. Code. Paper presented to Colorado-Wyoming Academy of Science, Boulder, Colorado. May 1952. CER47-52WEC39.
- Artificial Roughness Standard for Open Channels, by A. R. Robinson and M. L. Albertson. Abstract presented to the Colorado-Wyoming Academy of Science, Boulder, Colorado. May 1952. CER47-52ARR40.
- On a Differential Equation of Atmospheric Diffusion, by C S. Yih. Published in Trans. of Amer. Geophys. Union, v. 33, No. 1. February 1952. CER47-52CSY43.
- An Evaluation of Surveying in the Civil Engineering Curriculum, by D. F. Peterson. Published in Civil Engineering Journal of ASEE, v. 18, No. 1. December 1952. CER47-52DFP44.
- Stilling Basins, by David Navon. Paper prepared for CE252 Design of Irrigation Structures. December 1951. CER47-52DN45.
- Similarity Solution of a Specialized Diffusion Equation, by C. S. Yih. Published in Trans. of Amer. Geophys. Union, v. 33, No. 3. June 1952. CER47-52CSY50.

- Turbulence Flume to Measured Bed Load, by M. L. Albertson. Published in Trans. of Amer. Geophys. Union, v. 32, December 1951. CER47-52MLA52.
- 20. Application of Model Techniques to Mass Transfer and Evaporation Studies, by J. E. Cermak. A paper presented to Centennial of Engineering, Chicago, Illinois. September 1952. CER53JEC2.
- Laminar Free Convection Due to a Line Source of Heat, by C. S. Yih. Prepared for the office of Naval Res. Report No. 7. Under Contract No. N9 onr 82401. Published in Trans. of Amer. Geophys. Union v. 33, No. 5, October 1952. CER53CSY3.
- 22. On Tides in Estuaries and Around Small Islands, by C. S. Yih. Published in Trans. of Amer. Geophys. Union, v. 34, No. 3, June 1953. CER53CSY13.
- Discharge of Pipes Flowing Partly Full, by Carl Rohwer. ASCE Publication v. 13, No. 10, October 1943, Colorado Agricultural Experiment Station, Fort Collins, Colorado. September 1953. CER54CR2.
- Z4. Total Sediment Load Measured in Turbulence Flume, by M. L. Albertson,
   P. C. Benedict and D. Q. Metejka. ASCE Separate No. 230, v. 79.
   August 1953.
   CER54MLA3.
- Scour from Jets, by M. L. Albertson, R. K. Thomas, and D. Doddiah. Proc. of Minnesota International Hydraulics Convention, Minneapolis, Minnesota. September 1953. CER54MLA4.
- 26. One Year's Experience with Electrical Soil Moisture Units, by Homer J. Stockwell. Paper presented at the Snow Surveyor's School, McCall, Idaho, January 19, 1954. CER54HJS15.
- Concrete Blocks Simplify Parshall Flume Construction, by R. L. Parshall. Paper published in Farm and Home Colorado Research, v. 4, No. 5, p. 6, January-February 1954. CER54RLP16.

- Run-off Forecasts, 1954 Water Supply in the West, by H. J. Stockwell and C. E. Houston. Published in Western Construction. May 1954. CER54HJS18.
- 29. Factors Affecting the Supply of Graduate Students in Engineering, by D. F. Peterson, Jr. A paper presented before the ASEE Graduate Studies Division, June 16, 1954, and published in Journal of Engineering Education, November 1954. CER54DFP19.
- 30. Effect of Well Screens on Flow Into Wells, by Jack S. Petersen, Carl Rohwer, and M. L. Albertson. Published in ASCE Proc. v. 79, Separate No. 365. December 1953. CER54JSP21.
- Hydraulics of Wells, by D. F. Peterson, Jr. Published in ASCE Proc., Separate No. 708, v. 81, Irrigation and Drainage Division. 1955. CER54DFP24.
- 32. Equipment for Testing Model Ship and Seaplane Hulls in Oblique Seas, by E. F. Schulz. A paper presented to Conference on Ships and Waves at Stevens Institute of Technology, Hoboken, N. J., October 25-27, 1954, and published in First Proceedings of Conference on Ships and Waves. CER54EFS25.
- Colorado Needs Ground-Water Legislation, by W. E. Code. A paper prepared for Colorado Agriculture Experiment Station, General Series Paper No. 560. October 1954. CER54WEC26.
- Hydraulic Head Loss at the Interface Between Uniform Sands of Different Sizes, by F. N. Leatherwood and D. F. Peterson, Jr. Published in Trans. of Amer. Geophys. Union, v. 35, No. 4. August 1954. CER54FNL27.
- 35. Filters for Water Wells and Drain Pipe, by N. A. Evans. A paper presented to ASAE, Winter Meeting, December 8, 1954, Chicago, Illinois. CER54NAE32.
- Underground Water is Colorado's Gold, by W. E. Code. Published in Colorado A. and M. News, v. 9, No. 3. September 1954. CER54WEC33.

- 37. Some Mistakes in the Design of Flood Control Works, by E. W. Lane. Published in United Nations ECAFE Flood Control Journal, June 1955. CER54EWL35.
- 38. Measurement of Canal Seepage, by A. R. Robinson and Carl Rohwer. Paper presented at San Diego Convention of ASCE, February 10, 1955, and published in ASCE Proceedings, v. 81, Separate No. 728, Irrigation and Drainage Division. CER55ARR4.
- Many Factors to Consider for Efficient Water Use, by D. F. Peterson, Jr. Published in Colorado Rancher and Farmer, v. 9, No. 6. March 26, 1955. CER55DFP5.
- 40. Modernizing the Surveying Cirriculum, by M. E. Bender. Paper presented to ASEE at Pennsylvania State University, June 1955, Published in Civil Engineering Bulletin, v. 21, No. 3, April 1956. CER55MEB8.
- Flow Into a Well by Electric and Membrane Analogy, by D. F. Peterson, Jr., R. O. Bock and Chong-Hung Zee. Published in ASCE Proc. Separate No. 817, v. 81. October 1955. CER55DFP11.
- 42. Design of Stable Channels, by E. W. Lane. Published in ASCE Trans. Paper No. 2776, v. 120, p. 1234. 1955. CER55EWL12.
- 43. Charge as a Factor in Stable Irrigation Canals, by E. W. Lane. Published in Irrigation and Power Journal, v. 12, No. 2. April 1955. CER55EWL14.
- 44. The Importance of Fluvial Morphology in Hydraulic Engineering, by E. W. Lane. Published in ASCE Proc. Separate No. 745, v. 81. July 1955. CER55EWL15.
- 45. Wells and Pumps for Irrigated Lands, by Carl Rohwer. Published in 1955 in Yearbook of Agriculture, Separate No. 2602, p. 285-294. CER55CR16.
- 46. Recent Developments in the Design of a Simple Overfall Structure, by D. E. Hallmark and M. L. Albertson, a paper presented at the Four-States Irrigation Council's 5th Annual Meeting, Denver, Colorado. January 1956. CER56DEH1.

- 47. A Summary of Hydraulics Related to Wells, by D. F. Peterson, Jr. Paper presented to ASEE, Rocky Mountain Section, Las Cruces, N. M. March 31, 1956. CER56DFP5.
- Ground-Water Legislation, by W. E. Code, Paper presented to ASAE, Rocky Mountain Section, Las Cruces, N. M. March 1956. CER56WEC6.
- 49. Complete Developments of the Turbulent Distribution of Velocity in Smooth Ducts, by H. Reichardts, translated by H. H. Schweizer. 1956. CER56HHS10.
- 50. Use of Colloidal Clay Sediments in Sealing Irrigation Canals, by R. D. Dirmeyer, Jr. Prepared for the third Congress of the International Commission on Irrigation and Drainage, San Francisco, California. April-May 1957. CER56RDD14.
- 51. Seepage Measurement and its Relation to Drainage and Canal Lining Programs, by A. R. Robinson. Soil and Water Conservation Journal. March 1956. CER56ARR15.
- 52. Automatic Radial Gate Water Measuring Device, by R. L. Parshall. Prepared for S. Side Water Works, Pueblo, Colorado. October 1956. CER56RLP20.
- 53. Heat Transfer by Forced Convection from a Horizontal Flat Plate Into a Turbulent Boundary Layer, by J. E. Cermak and A. C. Spengos. Proceedings Heat Transfer and Fluid Mechanics Institute, Stanford University, June 21-23, 1956. CER56JEC21.
- 54. Surveys Point Up Ground-Water Problem Wells Now Producing Fraction of Capacity, by W. E. Code. Prepared for Farm and Home Colorado Research, January-February 1957, v. 7, No. 4, p. 6-7. CER57WEC3.
- 55. Principles of Energy Dissipation in Erosion-Control Structures, by M. L. Albertson and G. L. Smith. Paper presented to ARS-SCS, Irrigation Drainage Conference, Colorado Springs, Colorado. January 1957. (For in-service use only) CER57MLA4. \*

- 56. Laboratory Investigations on Interceptor Drains, By A. R. Robinson. Paper presented to the Joint ARS-SCS Drainage Conference, Colorado Springs, Colorado. January 1957. (For in-service use only) CER57ARR5.
- 57. Research on Well Screens and Gravel Filters for Water Wells, by A. R. Robinson. Paper presented to the Joint ARS-SCS Irrigation Drainage Conference, Colorado Springs, Colorado. January 1957. (For in-service use only) CER57ARR6.
- 58. Transport of Sediment in Helical Corrugated Pipe, by A. R. Chamberlain, R. J. Garde, and M. L. Albertson. Paper presented to ASCE, Jackson, Mississippi. February 1957. CER57ARC9.
- 59. Difficulties in Some Field Methods of Measuring Hydraulic Conductivity, by R. William Nelson. Prepared for presentation to the joint ARS-SCS Irrigation Drainage Conference, Colorado Springs, Colorado. January 1957. CER57RWN11.
- 60. Drainage Research in Colorado, by N. A. Evans and A. R. Robinson. Paper presented at the ASAE Winter Meeting, December 1957, in Chicago, Illinois. CER57NAE26.
- Methods of Sealing Irrigation Canals in the United States, by R. D. Dirmeyer, Jr. Prepared for XIX International Navigation Congress, London. Section 1, Inland Navigation. July 1957. CER57RDD 37.
- Upper Colorado River Basin Investigation: Soil, Water, and Crop Studies, by N. A. Evans and others. Colorado Agricultural Experiment Station General Series Paper No. 669. July 1957. CER57NAE39.
- 63. Theory of Drainage by Pumping from Wells, by D. F. Peterson, Jr. Chapter II, Sec. IV, p. 181-215, v. 7, Agronomy, a series of monographs prepared under the auspices of the American Society of Agronomy. 1957. CER57DFP40.
- 64. The Theory of Drainage as Related to Wells, by D. F. Peterson, Jr. Chapter V, Monograph on Drainage, American Society of Agronomy. 1957.
   CER57DFP41.

- Flume Studies Using Medium Sand (0.45 mm), by D. B. Simons, E. V. Richardson, and M. L. Albertson. U. S. Geological Survey Water Supply Paper 1498A. 1958. CER58DBS2.
- 66. Mechanics of Sediment-Ripple Formation, by H. K. Liu. This paper presented to Engineering Mechanics Division of ASCE, Knoxville, Tenn. Convention June 7, 1956 and published in Proceedings Paper 1197, v. 83, No. HY2, ASCE Journal of Hyd. Div. April 1957. CER58HKL10. \*
- 67. A New Method for Predicting Transient States of Salinity Intrusion Into the Sacramento-San Joaquin Delta, by R. E. Glover. Trans. of Amer. Geophys. Union, v. 36, No. 4, August 1955. CER58REG12.
- River Depletion Resulting from Pumping a Well near a River, by R. E. Glover and Glenn G. Balmer. Trans. of Amer. Geophys. Union, v. 35 No. 3. June 1954. CER58REG13.
- Arch Dams: Review of Experience, by R. E. Glover. ASCE Proc. Paper No. 1217, v. 83, No. PO2. April 1957. CER58REG14.
- 70. Use of Wind Tunnels in the Study of Atmospheric Phenomenon, by J. E. Cermak and M. L. Albertson. Paper No. 58-32 presented at the Air Pollution Control Association's Annual Meeting, May 26-29, 1958, in Philadelphia, Pennsylvania. CER58JEC18.
- 71. Laboratory Research on Interceptor Drains by A. R. Robinson and Jack Keller. Paper presented at the ASCE Convention, Portland, Oregon, and published in Journal of Irrigation and Drainage Div. ASCE, September 1959. Paper No. 2154, v. 85-IR3. CER58ARR20.
- A Switching arrangement for Automatic, Remote Temperature Recording, by R. A. Schleusener. A paper published in Agricultural Engineering, v. 40, No. 1, p. 32-33. January 1959. CER58RAS22.

- 73. The Role of Hysteresis in Reducing Evaporation from Soils in Contact with a Water Table, by R. A. Schleusener and A. T. Corey. Prepared for Trans. of Amer. Geophys. Union and published in Journal of Geophys. Research, v. 64, No. 4. April 1959. CER58RAS26.
- 74. Relations Between Evaporativity and Evaporation from Soils in Contact with a Water Table, by R. A. Schleusener. Prepared for presentation at Amer. Meteor. Soc. Conference on Practical Problems of Modern Meteorology, Denver, Colorado. September 22-24, 1958. CER58RAS27. \*
- 75. Uniform Water Conveyance Channels in Alluvial Material, by M. L. Albertson and D. B. Simons. Presented at ASCE Hyd. Conference, Atlanta, Georgia, August 20, 1958 and published in ASCE Journal, Hyd. Div., v. 86, HY5, Paper 2484. May 1960. CER58MLA31. \*
- 76. Tractive Resistance of Cohesive Channels, by Irving S. Dunn. Proceedings Separate No. 2062 of the Soil Mechanics and Foundation Division of ASCE, June 1959. CER58ISD 33.
- 77. Trapezoidal Flumes for Open Channel Flow Measurement, by A. R. Robinson and A. R. Chamberlain, Prepared for presentation at Annual Meeting of ASCE, Chicago, Illinois, December 1958, and published in ASAE Trans.
  v. 3, No. 2, p. 120-128. 1960. CER58ARR39.
- 78. A Note on the Differential Equation of Steady, Gradually Non-Uniform Flow in Open Channels, by H. K. Liu. Published in Trans. of Amer. Geophys. Union, v. 39, No. 5. October 1958. CER58HKL41.\*
- 79. A Discharge Formula For Flow in Straight Alluvial Channels, by H. K. Liu and S. Y. Hwang. Presented at ASCE Meeting in Portland, Oregon. June 1958, and published in Proceedings No. 2260, Journal of Hyd. Div. Paper No. 3276 CER58HKL45.\*
- Leaky Reservoir Aids Water Table, by W. E. Code. Prepared for the Colorado Farm and Home Research, v. 9, No. 1, p. 3-4. Summer of 1958. CER58WEC49.

- Laboratory Study of Backwater Caused by Bridge Abutments and Piers, by H. K. Liu and H. N. Bradley. Paper presented at ASCE National Conference, Chicago, Illinois in February 1958. CER59HKL3.
- 82. Laboratory Observations of Scour at Bridge Abutments, by H. K. Liu and M. M. Skinner. Prepared for Hyd. Div. of USBPR and presented at the 38th Annual Meeting of the Highway Research Board in January 1959. Published in Highway Research Board Bulletin 242, Publication 728, 1960. CER59HKL6.
- 83. A Review of Development of the Bentonite Sedimenting Method of Sealing Irrigation Canals, by R. D. Dirmeyer and R. T. Shen. Paper presented at Conference of Rocky Mountain Section of ASAE, Logan, Utah, April 3, 1959. CER59RDD8.
- 84. Characteristics of Bed Forms and Regimes of Flow in Alluvial Channels, by R. J. Garde and M. L. Albertson. Paper presented at the IAHR Conference at Montreal, Canada. August 1959. CER59RJG9.
- 85. Design of Underground Structures for Atomic Blast Loads, by R. Szilard. Paper presented at Amer. Soc. of Testing Materials, University of Utah, Salt Lake City, Utah. Published in Bull. No. 102 of the Utah Engineering Experiment Station Proceedings of the Explosives Conference, sponsored jointly by the Rocky Mountain Dist. of Amer. Soc. for Testing Materials and the Utah Eng. Exp. Station of the University of Utah. Compiled by P.J. Elsey. CER59RSZ10.
- Vortex Tube Sand Trap, by A. R. Robinson. Paper presented at the Cleveland ASCE Meeting, May 4-8, 1959. CER59ARR13.
- 87. Concept of Total Potential in Water and Its Limitations, by A. T. Corey and W. D. Kemper. Paper presented at Meeting of Western Soil Science Society, San Diego, California. June 1959. Published in Soil Science v. 91, No. 5. May 1961. CER59ATC14.
- 88. Status of Research and Research Needs for Water Supply, Storage, Diversion, Conveyance, and Distribution as Related to Irrigation and Drainage, by M. L. Albertson and Harry F. Blaney, Jr. Paper presented at the ASCE Drainage Division Conference at Cleveland, Ohio. May 1959. CER59MLA15.

- Pressure Distribution During Steady Flow in Unsaturated Sands, by V. H. Scott and A. T. Corey. Paper presented to SSSA at Purdue University, 1958. CEB59VHS17.
- 90. Apparatus for Repeated Load Tests on Soils, by J. W. N. Fead and H. B. Seed. Published as American Society for Testing Materials Special Technical Publication No. 154. Papers on Soils Meetings. CER59JWNF18.
- 91. Drawdown Due to Pumping From an Unconfined Aquifer, by M. W. Bittinger R. E. Glover. Published in Irrigation and Drainage Div. of ASCE as Paper 2594, v. 86, IR3. September 1960. CER59MWB19.
- 92. Significance and Application of Froude and Reynolds Numbers as Criteria for Similitude, by H. K. Liu and M. L. Albertson. Paper presented at the ASCE Hydraulic Conference, Fort Collins, Colorado. July 1959. CER59HKL20.\*
- 93. Discussion of Impact of Modern Technology on American Water Development, by R. A. Schleusener. Paper prepared for Western Resources Conference, Boulder, Colorado. July 15, 1959. (AS Misc. Paper No. 1) CER59RAS22.
- 94. An Energy Method for Relative Estimates of Hail Intensity, by R. A. Schleusener and Paul C. Jennings. Published in the Bulletin of AMS v. 41, No. 7, p. 372-376. July 1960. (AST Paper No. 1) CER59RAS25.
- 95. Introductory Remarks on Bed Forms, by H. K. Liu. A paper prepared for the Sediment Seminar of International Association of Hydraulic Research Meeting in Montreal, Canada. August 1959. CER59HKL27.
- 96. The Effect of Roughness Spacing in Rigid Open Channels, by W. W. Sayre and M. L. Albertson. Proc. Paper 2823, ASCE Journal Hyd. Div., v. 87, HY3, p. 121-150. May 1961. CER59WWS31.\*
- 97. Some General Equations for Structures, by J.W.N. Fead. A paper prepared at CSU. (Not for distribution) CER59JWNF33.

- 98. A Study of Rapidly Varying Flow in Alluvial Channels, by D. B. Simons and E. V. Richardson. Paper presented at the Advanced Fluid Transport School, U.S. Geological Survey, Fort Collins, Colorado. July 1959. CER59DBS34.\*
- 99. Self-Sustaining Station for the Moon, by Rudolph Szilard. Published in Civil Engineering, The Magazine of Engineered Construction, v. 29, No. 10, October 1959. CER59RSZ43.
- 100. Resistance to Flow in Alluvial Channels, by D. B. Simons and E. V. Richardson. A paper presented at the New York ASCE Convention and published in ASCE Journal, Hyd. Div., v. 86, HY5, Paper No. 2485. May 1960. CER59DBS48.\*
- 101. New Developments for Erosion Control at Culvert Outlets, by G. L. Smith and D. E. Hallmark. Paper presented to the 39th Annual Meeting of Highway Research Board, Washington, D. C., January 11-15, 1960. CER59GLS49.
  - 102. Design of Prestressed Composite Steel Structures, by Rudolph Szilard. Paper published in Proc. of ASCE, Structural Div. No. 2262, v. 85, No. ST9. November 1959. CER59RSZ53.
  - 103. Laboratory Study of Spur Dikes for Highway Bridge Protection, by Susumu Karaki. Paper presented to the 39th Annual Meeting of Highway Research Board, Washington, D. C., January 11-15, 1960. CER59SSK54. \*
  - 104. Soil Reclamation and Cropping Studies in the Grand Valley, by N. A. Evans. Colorado Agricultural Experiment Station Gen. Series Paper No. 710. July 1959. CER59NAE64.
  - 105. Influence of Stratigraphy on Yield of Tile Drains in Northeast Colorado, by N. A. Evans. Paper prepared for Annual Meeting of ASAE, Chicago, Illinois. December 16, 1959. CER59NAE65.
  - 106. Hailstorm Damage to Crops in Northeastern Colorado and an Analysis of Precipitation Anomalies Associated with a Cloud-Seeding Program in 1959, by R. A. Schleusener. Amer. Soc. of Sugar Beet Technologists Journal, v. 11, No. 5, April 1961. (AST Paper No. 4) CER60RAS1. \*

- 107. Sedimenting Canals, by R. D. Dirmeyer, Jr. Paper presented at the Ninth Annual Meeting of the Four States Irrigation Council in Denver, Colorado, January 14-15, 1960. CER60RDD2.
- 108. Forms of Bed Roughness in Alluvial Channels, by D. B. Simons and E. V. Richardson. Published in Proc. of ASCE Hyd. Div., v. 87, HY3, p. 87-105. May 1961. CER60DBS3.
- 109. The Vane Meter and Division Problem, by R. L. Parshall. Prepared for the Four-States Irrigation Council. January 14-15, 1960. CER60RLP4. \*
- Hail Events in Northeastern Colorado in 1959, Including an Evaluation of a Hail Suppression Program, by R. A. Schleusener. Prepared for presentation to the AMS Conference on Applied Meteorology, April 4-8, 1960, at Santa Barbara, California. (AST Paper No. 5) CER60RAS7. \*
- 111. Analytical Study of the Mechanics of Scour for Three-Dimensional Jet, by G. L. Smith, M. L. Albertson and Yuichi Iwagaki. Paper presented at ASCE Hydraulic Conference, Atlanta, Georgia. August 20, 1958. CER60GLS9. \*
- 112. The Effect of Fine Sediment on the Mechanics of Flow Studies of Roughness in Alluvial Channels. Water Supply Paper 1948-B, by D. B. Simons, E. V. Richardson and W. L. Haushild. February 1960. CER60DBS10.
- Sonic Depth Sounder for Laboratory and Field Use, by E. V. Richardson, D. B. Simons and G. J. Posakony. U. S. Geological Circular No. 450, p. 1-7, 1961. CER60EVR11.
- Breaking Stress of Glass at Ambient and Low Temperatures, by R. V. Smith, H. W. Tyler and K. E. Anderson. Published in Design News, October 12, 1959.
   CER60RVS16.
- 115. An Experimental Study Concerning the Pressurization and Stratification of Liquid Hydrogen, by R. V. Smith, A. F. Schmidt, J. R. Purcell, and W.A. Wilson. Paper presented at the Cryogenic Engineering Conference, Berkeley, California. September 1959. Submitted to National Bureau of Standards Journal of Research for Publication. CER60RVS17.

- 116. A Note on Dimensional Analysis, by R. V. Smith. Published in ASEE Journal, v. 50, No. 1, p. 63, October 1959. CER60RVS18.
- A Summary of Sand Waves and Regimes of Flow in Alluvial Channels, by M. L. Albertson and R. J. Garde. Presented at LIHR Conference in Montreal, Canada. August 1959. CER60MLA24.
- Modification of Bridge Controls to Simulate Diurnal Cyclic Variation of Temperature, Humidity, and Radiation, by R. A. Schleusener and L. G. King. Published in Agricultural Engineering, v. 41, No. 7, p. 450-451. July 1960. (AST Paper No. 6) CER60RAS25.
- A Review of Research on Hail, by R. A. Schleusener. Published in Colorado Farm and Home Research, v. 10, No. 2. May-June 1960. (AS Misc. Paper No. 2). CER60RAS26. \*
- 120. Radioisotopes in Hydraulic Engineering Research A Summary of Literature, prepared by W. W. Sayre. Prepared for CSU personnel, April 1960. CER60WWS28.
- 121. Effect of Flow Diversion for Irrigation on Peak Rates of Runoff from Watersheds in and Near the Rocky Mountain Foothills of Colorado, by R. A. Schleusener, G. L. Smith and Ming Cheng Chen. July 1960. Submitted to Journal of Geophys. Res. for publication. (AST Paper No. 8) CER60RAS36.
- 122. Channel Slope An Index of Watershed Characteristics, by Ming Cheng Chen and R. A. Schleusener. Submitted for publication in the Journal of the Irrigation and Drainage Division of ASCE, November 1961. CER60MCC37.
- 123. The 1959 Hail Suppression Effort in Colorado and Evidence of its Effectiveness, by Richard A. Schleusener. Submitted to NUBILA for publication 1960. (AST Paper No. 9) CER60RAS41.
- 124. The Occurrence and Variability of Ice Forming Nuclei During the Hail Season in Northeastern Colorado as Measured at 11,300 feet msl at an Upwind Mountain Station, by L. O. Grant and R. A. Schleusener. Prepared for Verona Hail Conference, Verona, Italy, August 1960. Submitted to NUBILA for publication. (AST Paper No. 10) CER60LOG42.

- 125. Transport of Material by Fluids in Pipes, by A. R. Chamberlain, N. Yotsukura, S. S. Karaki and M. L. Albertson. Presented to the ASCE Hydraulic Div. Conference in Seattle, Washington. August 17-19, 1960. CER60ARC43.\*
- 126. Ground Water Surface Water Relationships, by R. E. Glover. Prepared for Western Resources Conference, Boulder Colorado. August 24, 1960. CER60REG45.
- 127. Normal Error for Common Mathematical Functions, by R. V. Smith. Published in Machine Design. September 15, 1960. CER60RVS49.
- 128. The Development and Dissipation of a Ground Water Mound Beneath a Spreading Basin, by Morton W. Bittinger and Frank J. Trelease. Presented at the Winter Meeting of the ASAE at Memphis, Tenn. ASAE Paper No. 60-708. December 1960. CER60MWB50.\*
- 129. Unsaturated Flow as Affected by Intrinsic Parameters of the Porous Media in a Sloping Aquifer, by R. H. Brooks. Presented at Western Soil Science Meeting at Eugene, Oregon, in June 1960. Contribution from Western Soil and Water Management Research Branch, Soil and Water Conservation Research Div. ARS-USDA, Fort Collins, Colorado, Colorado Agricultural Experiment Station cooperating. September 1960. CER60RHB51.
- 130. Theoretical Distribution of Water from a Moving Irrigation Sprinkler, by Morton W. Bittinger and Robert A. Longenbaugh. Presented at the 1960 Winter Meeting of ASAE, Memphis, Tennessee. Published in ASAE Paper No. 60-726. December 1960. CER60MWB53.\*
- Unsteady Flow of Ground Water into Drain Tile, by R. H. Brooks. Published in ASCE Proceedings, v. 87, No. IR2, p. 27-37, June 1961. October 1960. CER60RHB54.
- Flow Measurements in Drain Tiles for Drainage Systems, by R. H. Brooks and V. H. Scott (in preparation). CER60RHB56.
- 133. Proceedings of the First Annual Bridge Engineering Conference, Prepared for First Annual Bridge Engineering Conference at Colorado State University, Fort Collins, Colorado. 1960. CER60JWNF57.\*

- 134. Use of Mathematical Models in Drainage Design, by R. E. Glover. Prepared for presentation at the 1960 Winter Meeting of ASAE in Memphis, Tennessee. December 4-7, 1960. ASAE Paper No. 60-724. CER60REG59.\*
- 135. Computing a Design Flood in the Absence of Historical Records, by H. Riehl and H. R. Byers. Published in the Review Geofisica Pura E. Applicata Milano. v. 45 (1960/I) p. 215-226. November 1960. (AST Paper No. 12) CER60HR63.
- 136. Wind Tunnel Modeling of Atmospheric Diffusion, by J. E. Cermak. A paper presented at the Third Air Pollution Research Seminar, New Orleans, Louisiana. March 1960. CER60JEC65.
- 137. Transient Flows Through an Infinite Saturated Aquifer of Zero Slope, by William L. Haushild and E. Gordon Kruse. Published in ASCE Journal of Hyd. Div. Paper No. 2552, p. 13-20, v. 86, HY7. July 1960. CER60WLH68.
- 138. Further Evidence of Hysteresis as a Factor Affecting Evaporation from Soils, by Larry G. King and Richard A. Schleusener. Published in Trans. of Amer. Geophys. Union in December 1961. (AST Paper No. 13) CER61LGK3.
- Depth Discharge Relations in Alluvial Channels, by D. B. Simons,
   E. V. Richardson and W. L. Haushild. Prepared for ASCE review and publication. January 1961.
   CER61DBS4.
- Time-Lapse Photography for Geologic Research, by R. K. Fahnestock. Submitted to Photogrammetric Engineering for publication. 1961. CER61RKF6.
- 141. The Significance of the Effective Fall Diameter of Bed Materials, by
   W. L. Haushild, D. B. Simons and E. V. Richardson. U. S. Geological Survey Professional Paper. January 1961. CER61WLH8.
- 142. Qualitative Effects of Temperature on Flow Phenomena in Alluvial Channels, by D. W. Hubbell, and Khalid Al-Shaikah Ali. U. S. Geological Survey Paper. February 1961. CER61DWH9.

- 143. The Variable Depth-Discharge Relations in Alluvial Channels, by D. B. Simons, E. V. Richardson and W. L. Haushild. U. S. Geological Survey Professional Paper. February 1961. CER61DBS12.
- 144. Boundary Form and Resistance to Flow in Alluvial Channels, by E. V. Richardson, D. B. Simons and W. L. Haushild. Presented for publication in International Association for Scientific Hydrology. September 1961. CER61EVR13.
- 145. Quantitative Representation of the Velocity Distribution along the Vertical, by H. Riehl. February 1961. (AST Paper No. 14) CER61HR15.#
- 146. Let's Muddy the Ditch Water, by R. D. Dirmeyer, Jr. Published in Colorado Farm and Home Research, v. 11, No. 4, January - February 1961. CER61RDD18.
- 147. Dual Channel Stream Monitor, by S. S. Karaki, E. Gray and Jack Collins. ASCE Hydraulic Div. Journal Publication. October 1961. CER61SSK19.
- 148. Hydrologic Studies of the Upper Colorado River, by Richard A. Schleusener. Prepared for presentation at Sixteenth Annual Meeting of Colorado River Water Forecast Committee, Senate Chambers, State Capitol Building, Salt Lake City, Utah, April 10, 1961. (AST Paper No. 15) CER61RAS23.
- 149. Snowfall and Snowfall Accumulation near Climax, Colorado, by Lewis O. Grant and Richard A. Schleusener. Presented at the joint meeting of Western Snow Conference and Columbia River Water Forecast Committee, April 11-12, 1961, at Spokane, Washington. (AST Paper No. 17) CER61LOG24.
- 150. Uniform Water Conveyance Channels in Alluvial Material, by D. B. Simons and M. L. Albertson. Presented at the 1958 ASCE Hydraulics Division Conference in Atlanta, Georgia. Published in Proceedings of ASCE, Hyd. Div. v. 86, No. HY5, Paper No. 2484. May 1960. CER61DBS26.
- 151. Ground-Water Recharge Research in Colorado, by Morton W. Bittinger. Prepared for presentation at the Biennial Conference on Ground-Water Recharge, University of California at Berkeley, California. June 28-29, 1961. CER61MWB32. \*

- 152. Radiation Safety in Sediment Studies, by D. W. Hubbell. To be published in Water Resources Division of U. S. Geological Survey. August 1961. CER61DWH35.
- 153. Managing Our Ground Water Resources, by Morton W. Bittinger. Published in Colorado Farm and Home Research, v. 11, No. 5. March-April 1961. CER61MWB37.
- 154. Development of a Graduate and Research Program in Fluid Mechanics, by A. R. Chamberlain and M. L. Albertson. Prepared for a joint meeting of Civil Engineering and Sanitary Engineering Divisions of the ASEE Meeting at the University of Kentucky. June 28, 1961. CER61ARC40.
- 155. Water Application by Sprinkler and Furrow Irrigation, by Gordon Kruse, Paul Schleusener, Walter Selby and Bert Somerhalder. Presented at the ASAE Winter Meeting at Chicago, Illinois, in December 1961. CER61EGK41.
- 156. The Role of Ground-Water Reservoir Management in the Comprehensive Development of the Water Resources of the South Platte River Basin, by Morton W. Bittinger. Prepared for presentation at the 120th Meeting of the Missouri Basin Inter-Agency Committee. August 3, 1961. Fort Collins, Colorado. CER61MWB43.
- 157. The Mechanics of a Mathematical Ground-Water Model, by M. W. Bittinger and F. J. Trelease. Submitted to the Irrigation and Drainage Division of ASCE for publication. August 1961. CER61MWB44.
- 158. On the Relation of the Latitude and Strength of the 500 Millibar West Wind along 110 Degrees West Longitude to the Occurrence of Hail in the Lee of the Rocky Mountains, by Richard A. Schleusener. Prepared for AMS Severe Storm Conference in Norman, Oklahoma. February 1962. CER61RAS46.
- 159. Some Properties of Water-Clay Dispersions and Their Effects on Flow, by D. B. Simons, E. V. Richardson and W. L. Haushild. A Water Supply Paper No. 1498 () on studies of Flow in Alluvial Channels. August 1961. CER61DBS50.
- 160. Flume Studies of the Transport of Pebbles and Cobbles on a Sand Bed, by W. L. Haushild and R. K. Fahnestock. Presented at The Conference of the Geological Society of America, Cincinnati, Ohio. November 4, 1961. CER61WLH55.

- 161. Characteristics of Hailstorms in the Colorado State University Network, 1960-61, by R. A. Schleusener and L. O. Grant. A Paper presented at the 9th AMS Radar Conference at Kansas City, Missouri. October 4-26, 1961. (AST Paper No. 20) CER61RAS59. \*
- 162. The Effects of Some Properties of Water-Clay Dispersions on Flow in Alluvial Channels, by W. L. Haushild, D. B. Simons and E. V. Richardson. Submitted to ASCE for publication. October 1961. CER61WLH62.
- 163. The Interactions of Microclimate, Plant Cover, and Soil Moisture Content Affecting Evapotranspiration Rates, by W. E. Marlatt. Prepared for the Fourth Conference of Agricultural Meteorology at St. Louis, Missouri. November 27-30, 1961. (AST Paper No. 23) CER61WEM67.
- 164. Flume Studies of the Effect of Temperature on the Mechanics of Flow in Alluvial Channels - Studies of Flow in Alluvial Channels, by D. W. Hubbell, S. S. Karaki and Khalid Al-Shaikh Ali. U. S. Geological Survey Water Supply Paper 1948, Chapter F. CER61DWH68.
- 165. Mechanization in Agriculture, by Norman A. Evans. Paper prepared for the Western Business Review Magazine, June 1961. CER61NAE69.
- 166. Operating Characteristics of Ground-Water Reservoirs Occupying a Trench, by Morris M. Skinner and Robert E. Glover. Prepared for presentation at the annual meeting of the American Association for the Advancement of Science, Denver, Colorado. December 30, 1961. CER61MMS75.
- 167. Diffusion of an Instantaneous Plane Source in a Steady Uniform Channel Flow, by A. R. Chamberlain. Prepared for U.S. Geological Survey. December 1961. CER61ARC78.
- 168. Flume Studies of the Transport of Pebbles and Cobbles on a Sand Bed, by R. K. Fahnestock and W. L. Haushild. U.S. Geological Survey paper submitted to the Bulletin of Geological Society of America for publication. December 1961. CER61RKF 80.

#### SECTION "C"

#### DISCUSSIONS AND CLOSURES

- Influence Lines for Continuous Structures by Geometrical Computation, discussion by D. F. Peterson, Jr., et al. Published in ASCE Trans., v. 113, p. 755, Paper No. 2347, 1948. CER47-52DFP1.
- Rigorous, Simple Method of Measuring and Recording Particle-Size Distribution in Dispersed Material, discussion by P. N. Lin. Published in Trans. of Amer. Geophys. Union, v. 34, No. 4, p. 630-631, August 1953. CER53PNL14.
- Turbulent Transfer Mechanism and Suspended Sediment in Closed Channels, discussion by Pin-Nam Lin, Emmett M. Laursen, et al. Published in ASCE Trans. v. 117, Paper No. 2500, p. 409. 1952. CER54PNL8.
- Numerical Analysis of Continuous Unsteady Flow in Open Channels, discussion by P. N. Lin. Published in Trans.of Amer. Geophys. Union v. 34, No. 5, October 1953. CER54PNL14.
- Artificial Roughness Standard for Open Channels, discussion by A. R. Robinson and M. L. Albertson. Published in Trans. of Amer. Geophys. Union v. 35, No. 4, August 1954. CER54ARR28.
- Analysis of Water Hammer by Characteristics, discussion by P. N. Lin, et al. Published in ASCE Trans., v. 119, Paper No. 2717, p. 1176. 1954. CER54PNL29.
- Design of Stable Channels, discussion by E. W. Lane, et al. Published in ASCE Trans, v. 120, Paper No. 2776, p 1234. 1955. CER55EWL12
- Flow Into a Well by Electric and Membrane Analogy, discussion by Carl Rohwer. Published in ASCE Proc. Separate No. 817, v. 81, October 1955. CER55CR18.

- Effect of Well Screens on Flow Into Wells, discussion by D. F. Peterson. ASCE Trans., v. 120, Paper No. 2775, p. 597, 1955. CER55DFP19.
- A Concept of Lacey's Regime Theory, Closure by Ning Chien. Proc. ASCE, Separate No. 808, pages 11-15, September 1955. CER55NC20.
- Flood Erosion Protection for Highway Fills, discussion by E. W. Lane. ASCE Journal of the Highway Division No. 1, v. 82, Paper 877, p. 4, January 1956. CER56EWL11.
- Graphic Design of Alluvial Channels, discussion by E. W. Lane. ASCE Trans. v. 121, 1956. CER56EWL13.
- Measurement of Canal Seepage, discussion by A. R. Robinson and Carl Rohwer. ASCE Trans. Paper No. 2865, v. 122, p. 347, 1957. CER57ARR29.
- Drainage in the Mississippi River Valley, discussion by R. T. Shen and C. P. Cass. ASCE Proc. Paper No. 1784-11. September 1957. CER57RTS36.
- Systematic Changes in the Beds of Alluvial Rivers, discussion by H. K. Liu. March Journal of ASCE, Hyd. Div. v. 84, HY2, April 1958, Part I. CER58HKL6.
- Riverbed Degradation Below Large Capacity Reservoirs, discussion by H. K. Liu and M. L. Albertson. ASCE Proceedings Paper No. 982, v. 82, No. IR2, May 1956. CER58MLA-HKL9.
- The Present Status of Research on Sediment Transport, discussion by H. K. Liu. ASCE Proceedings Paper No. 748, July 1955. CER58HKL11.
- Mechanics of Sediment Ripple Formation, closure by H. K. Liu. ASCE Paper No. 1832, Hyd. Div. October 1958, HY5. CER58HKL28.
- Mechanics of Streams with Movable Beds of Fine Sand, discussion by H. K. Liu, James R. Barton, Pin-Nam Lin, Norman H. Brooks, et al. ASCE Paper No. 2931, ASCE Trans. v. 123, p. 256, 1958. CER58HKL46.

- 20. Essentials for Optimum Use of Ground Water Resources, discussion by
   W. E. Code. Paper prepared for Western Resources Conference, Boulder,
   Colorado, July 1959.
   CER59WEC23. \*
- Resistance Properties of Sediment-Laden Streams, discussion by D. B. Simons and E. V. Richardson. ASCE Journal of Hyd. Div. v. 85, no. HY12, December 1959. CER59DBS32.
- 22. Friction Factors in Corrugated Metal Pipe, discussion by A. R. Chamberlain. ASCE Journal, Hyd. Div. Paper no. 2426, v. 86, HY3, March 1960. CER59ARC56.
- 23. Analysis of the Flow of Water in a Shallow, Linear Aquifer, and of the Approach to a New Equilibrium, After Intake, discussion by M. W. Bittinger, Journal of Geophys. Res. v. 65, no. 11, p. 3849, November 1960. CER60MWB38.
- 24. Discharge Formula For Flow in Straight Alluvial Channels, closing discussion by S. Y. Hwang, ASCE Publication, May 1961. CER61SYH33.
- Unsteady Flow of Ground Water Into a Surface Reservoir, closure by William L. Haushild and Gordon Kruse. ASCE Journal of Hy. Div. v. 87, HY5, p. 211-213, September 1961. CER61WLH39.
- 26. Index Method of Rating Gaging Stations and Computing Records, discussion by E. V. Richardson and D. B. Simons, USGS Water Resources Bulletin (internal), September 1961. CER61EVR57.
- 27. Note on Hailstones of Irregular Shape, discussion by R. A. Schleusener for Amer. Meteo. Soc. 40(1):29. January 1959. CER59RAS66.
- Resistance to Flow in Alluvial Channels, closure by D. B. Simons and E.
   V. Richardson. Forwarded to ASCE for review and publication.
   December 1961.
   CER61DBS79.

#### SECTION "D"

## UNPUBLISHED PAPERS

- Design Characteristics of the Vortex-Tube Sand Trap, by George L. Koonsman and M. L. Albertson. 1950. CER47-52GLK9.
- Hydraulics of Steady-Flow Well Systems, by D. F. Peterson, Jr., and Orson W. Israelsen. 1951. CER47-52DFP12.
- 3. Direct Solution for Apron Elevation, by M. L. Albertson. 1951. CER47-52MLA16.
- Dimensional Analysis as a Tool in Hydraulic Design and Research, by M. L. Albertson. February 1951. CER47-52MLA17.
- A Study of Potential Flow from the Point of View of Differential Geometry, by C. S. Yih. 1951. CER47-52CSY25.
- The Use of Intrinsic Variables in Geographical Reconnaissances of Small Areas, by C. S. Yih. 1951. CER47-52CSY26.
- Report on Mineralization of Ground and Surface Waters of the South Platte Valley in Colorado, by W. E. Code and J. W. Tobiska. 1951. CER47-52JWT35.
- Effect of Porosity and Particle Shape and Diameter on Hydraulic Conductivity of Sands and Gravels, by Fred W. Keifer and D. F. Petersen, Jr. July 1953. CER53FWK15.
- Discussion of Mechanics of Manifold Flow, by James R. Barton. November 1953. CER54JRB7.
- Some Thoughts on the Design of Flood Ways, Why Not Reinforced Stone Construction, and the Need of a Study of Earthwork Construction Methods, by E. W. Lane. United Nations ACAFE Regional Technical Conference on Water Resources Development in Tokyo. 1954. CER54EWL9.

- Use of Gravel Armorplate in Drop Structure Design, by D. E. Hallmark and M. L. Albertson. 1956. CER56DEH8.
- Some Aspects of Roughness in Alluvial Channels, by M. L. Albertson and S. M. Ali. August 1956. CER56MLA16.
- Drainage Research in Colorado, by N. A. Evans and A. R. Robinson. October 1957. CER57ARR31.
- Evaluation Procedures of Sediment Material for Canal Sealing, by R. T. Shen, 1956, revised January 1958. CER58RTS4.
- The Manifold Stilling Basin, by M. L. Albertson and Gene R. Fiala. 1958, revised April 1960. CER58MLA35.\*
- Engineering Aspects of Ground Water Conditions in Bijou Valley, Colorado, together with comments on applicable types of Legislation, by W. E. Code. A W-42 unpublished report. 1958. CER58WEC50.
- Wind Induced Oscillations in a Stock Water Tank, by A. R. Chamberlain. 1959. CER59ARC55.
- A Study of Flow in Alluvial Channels The Effect of Large Concentrations of Fine Sediment on the Mechanics of Flow in a Small Flume, by D. B. Simons, W. L. Haushild and E. V. Richardson. September 1960. CER60DBS44.
- Studies of Flow in Alluvial Channels Basic Data from Flume Experiments, by E. V. Richardson and D. B. Simons. April 1961. CER61EVR31.
- A Unified Consolidation Theory, by I. S. Dunn and J. P. Nielsen. August 1961. CER61ISD49.

- The General Atmospheric Circulation of the Tropics by Herbert Riehl. (AST Paper No. 19). September 1961. CER61HR56.
- 22. A Control Structure for Measurement of Water and Sediment, by E. V. Richardson and D. D. Harris. U.S. Geological Survey Prof. Paper, 1962 Annual Review. December 1961. CER61EVR77.

### SECTION "E"

### BULLETINS AND CIRCULARS

- Reclamation of Saline-Alkali Soils by Leaching, Delta Area, Utah, by D. F. Peterson, Jr., R. C. Reeve and L. E. Allison. Utah Agricultural Experiment Station in Cooperation with the U.S. Regional Salinity and Rubidoux Laboratories, Riverside, California. December 1948. Bulletin 335.
  - CER47-52DFP2.
- Friction Losses in Selected Valves and Fittings for Irrigation Pumping Plants, by Carl Rohwer. U.S. Department of Agriculture, SCS-Div. of Irrigation and Water Conservation in cooperation with Colorado Agricultural Experiment Station, Fort Collins, Colorado. Technical Bulletin No. 41. May 1950. CER47-52CR6.
- When to Use Sprinkler Irrigation in Colorado, by W. E. Code and A. J. Hamman. Prepared for Colorado Extension Service. Bulletin 405A. June 1950. CER47-52WEC7.
- 4. Effectiveness of Gravity Drains and Experimental Pumping for Drainage Delta Area, Utah, by D. F. Peterson, Jr., O. W. Israesen and R. C. Reeve. Prepared for Utah Agricultural Experiment Station in Cooperation with the U.S. Regional Salinity and Rubidoux Laboratories, Riverside, California. Bulletin 345. February 1951. CER47-52DFP18.
- Hydraulics of Wells, by D. F. Peterson, Jr., O. W. Israelsen and V. E. Hansen, Utah State Agricultural Experiment Station, Logan, Utah. Bulletin No. 351. March 1952. CER47-52DFP42.
- Measuring Water in Irrigation Channels with Parshall Flumes and Small Weirs, by Ralph L. Parshall. Soil Conservation Service Circular No. 843. May 1950. CER47-52RLP51.
- Parshall Flumes of Large Size, by Ralph L. Parshall. Prepared under the direction of Div. of Irrigation Engineering and Water Conservation, Soil Conservation Service, May 1932, revised December 1952. Colorado Agricultural Experiment Station Bulletin No. 386, reprinted as Bulletin No. 426-A. March 1953. CER53RLP9.

- Effect of Shape on the Fall Velocity of Gravel Particles by M. L. Albertson, Proceedings, Fifth Hydraulics Conference, State University of Iowa Studies in Engineering Bulletin No. 34, June 1953. CER54MLA5.
- An Irrigation Guide for Colorado, by W. E. Code and A. J. Hamman, Colorado Agricultural Experiment Station Bulletin No. 432-A. April 1954. CER54WEC30.
- Parshall Measuring Flumes of Small Sizes, by A. R. Robinson, Colorado Agricultural and Mechanical College, Agricultural Experiment Station, Technical Bulletin No. 61, January 1957. CER57ARR7.
- Water Table Fluctuations in Eastern Colorado, by W. E. Code. Colorado State University Agricultural Experiment Station Bulletin No. 500-S, 34 pp. August 1958. CER58WEC29.
- Stratum Survey Techniques for Drainage Investigation on Irrigated Lands, by N. A. Evans. Colorado Agricultural Experiment Station Technical Bulletin No. 67. 1958. CER58NAE37.
- Colorado's Ground-Water Problems, by M. W. Bittinger. Colorado Experiment Station Bulletin No. 504-S. August 1959. CER59MWB35.
- Filters and Screens for Irrigation Wells, by A. R. Robinson. U. S. Department of Agriculture Leaflet No. 446. April 1959. CER59ARR38.
- Measuring Seepage from Irrigation Channels, by A. R. Robinson and Carl Rohwer. U. S. Department of Agriculture, ARS Report in cooperation with Colorado Agricultural Experiment Station for U.S. Bureau of Reclamation, Technical Bulletin No. 1203. September 1959. CER59ARR47.
- Sealing Sandy Ditches with the Bentonite Dispersion Method, by R. T. Shen. Colorado State University Ext. Ser. Circular 202-A (Wyo. Univ. Ext. Ser. Circular 158). April 1959. CER59RTS58.

- Sealing Rocky Ditches with the Bentonite Multiple-Dam Method, by R. T. Shen. Colora do State University Ext. Ser. Circular 203-A (Wyo. Univ. Ext. Ser. Circular 159). June 1959. CER59RTS59,
- Mixing Bentonite for Sealing Purposes, by R. T. Shen. Colorado State University Ext. Ser. Circular 204-A (Wyo. Univ. Ext. Ser. Circular 160). June 1959. CER59RTS60.
- 20. Testing Bentonite for Sealing Purposes, by R. T. Shen. Colorado State University Ext. Ser. Circular 205-A (Wyo. Univ. Ext. Ser. Circular 161). August 1959. CER59RTS61.
- 21. Sealing Farm Ponds and Reservoirs with Bentonite, by R. T. Shen. Colorado State University Ext. Ser. Circular 206-A (Wyo. Univ. Ext. Ser. Circular 162). July 1959. CER59RTS62.
- 22. A Preliminary Laboratory Study of Lateral Turbulent Diffusion at the Surface of an Alluvial Channel, by A. R. Chamberlain and W. W. Sayre. Geological Circular. November 1961. CER61ARC66.

# SECTION "F"

### THESES, DISSERTATIONS AND MASTER'S REPORTS

- 1. A Systematic Approach to the Hydraulic and Structural Principles involved in the Design of Low-Head Radial Gate by Kuo-Chang Lin. Thesis. 1947.
- 2. Sediment Diameter and Sieve Diameter, by E. F. Serr. Master's Thesis. March 1948.
- 3. Forecasting Maximum Probable Precipitation, by Saranjit Singh. Master's Report. 1948.
- 4. Energy Losses Through Conical Diffusers, by J. E. Cermak. Master's Thesis. 1948.
- 5. Cavitation and Pitting in Hydraulic Structures, by A. N. Harkauli. Master's Thesis. February 1949.
- Forecasting Seasonal Water Yield in the Upper Snake River Basin, by W. U. Garstka. Master's Thesis. May 1949.
- 7. Wave Action in Relation to the Design of Hydraulic Structures, by Lucien Hirschberg. Master's Thesis. May 1949.
- 8. Practical Effect of the Small Particles in a Soil on its Compacted Strength, by B. B. Gerhardt. Master's Thesis. June 1949.
- 9. Hydraulic Properties of Well Screens, by G. L. Corey. Master's Thesis. June 1949.
- Design of Stable Channels in Erodible Material, by King Yu. Master's Report. June 1949.
- 11. Correlation of Precipitation with Tree Rings, by Satnarayan Singh. Master's Report. July 1949.
- Irrigation Developments in the Republican River Valley of Nebraska, by L. B. Shrode. Master's Thesis. July 1949.
- Control of Meandering of Alluvial Rivers, by S. S. Lambda. Master's Report. August 1949.
- Influence of Shape on the Fall Velocity of Sand Grains, by A. T. Corey. Master's Thesis. December 1949.

- Comparison of Scour Caused by Hollow and Solid Jets of Water, by D. Doddiah. Master's Thesis. December 1949.
- 16. Effects of Pier Shape on Backwater Total Head Loss, and Water Surface Profile, by D. Q. Matejka. Master's Thesis. July 1950.
- Artificial Roughness in Open Channels, by A. R. Robinson. Master's Thesis. 1950.
- Efficiency of a Vortex-Tube Sand Trap, by G. L. Koonsman. Master's Thesis. 1950.
- 19. The Effect of the Size and Spacing of Floor Blocks in the Control of a Hydraulic Jump, by L. F. Weide. Master's Thesis. March 1951.
- 20. Nappe Characteristics for Flow Over Sharp Crested Weirs, by D. A. Thorson. Master's Thesis. August 1951.
- 21. Natural Roughness in Open Channels, by A. W. Van 't Hul. Master's Thesis. November 1951.
- 22. Discharge Characteristics of Submerged Spillways, by H. J. Koloseus. Master's Thesis. December 1951.
- 23. Comparison of Flood Routing Methods as Applied to the Osage River Basin, by Jesudasan Walter. Master's Report. 1951.
- Effect of Well Screens on Flow Into Wells, by Sterling Peterson. Thesis. 1951.
- 25. Turbine For Use in Integrating Flow Meter, by H. H. Schweizer. Master's Thesis. March 1952.
- 26. Hydraulic Head Loss at the Interface Between Porous Media of Different Sizes, by F. N. Leatherwood. Master's Thesis. May 1952.
- 27. Laminar Flow Between a Stationary Disk and a Rotating Disk, by A. D. Farmanfarma. Master's Thesis. June 1952.
- 28. Possibility of Effecting Economies in Construction of Gravity Type Dams, by Eduardo Lieras. Master's Thesis. June 1952.
- 29. Effect of Shape on the Fall Velocity of Gravel-Sized Particles, by R. H. Wilde. Master's Thesis. August 1952.

- 30. Triaxial Compression Tests of a Remolded Partially-Saturated Clay Soil, by David Navon. Master's Thesis. August 1952.
- 31. Scour in a Gravel Bed at the Base of a Free Overfall, by R. K. Thomas. Master's Thesis. May 1953.
- 32. Reynolds Number for Flow Through Porous Media, by F. W. Kiefer. Master's Thesis. June 1953.
- 33. Salinity and Alkalinity Problems in the Punjab, by F. K. Malik. Master's Report. June 1953.
- Influence of Shape Factor on the Fall Velocity of Small Sand Grains, by E. F. Schulz. Master's Thesis. June 1953.
- 35. Some Aspects of Roughness in Alluvial Channels, by Said M. Ali. Master's Thesis. 1953.
- 36. Development of Plan for Utilization of Water Resources of the Upper Tigris River within the Boundaries of Iraq, by Mowafaf Al-Badry. Master's Thesis. June 1954.
- Analysis of Unsteady Flow in Open Channels, by Komain Unhanand. Master's Thesis. June 1954.
- 38. Model Study of Seepage Flow from a Canal to a Shallow Water Table, by Susumu Karaki. Master's Thesis. June 1954.
- 39. Selection of Gravel Pack for Water Wells in Fine, Uniform, Unconsolidated Aquifers, by J. R. Lockman. Master's Thesis. August 1954.
- 40. Longitudinally Prestressed Concrete Pipeline Bridge, by R. T. Shen. Master's Thesis. August 1954.
- 41. Forecasting Snowmelt Runoff, by W. V. Morris. Master's Thesis. September 1954.
- 42. Preliminary Study of Sediment Sampling Efficiency, by D.J. Sadar, Master's Thesis. November 1954.
- 43. Correlation of Regime Theory and Tractive Force Theories of Stable Channel Design, by B. C. Raju. Master's Report. March 1955.
- 44. Lining of Irrigation Canals, by B. C. Raju. Master's Report. March 1955.

- 45. Water Spreading for Ground Water Replenishment and Recommendations for its Adaption to Anamur Valley, by H. K. Furtun. Master's Report. May 1955.
- 46. Seepage Flow from a Canal to a Shallow Water Table by Electrical Analogue, by P. V. Djanjigian. Master's Thesis. June 1955.
- Effect of Boundary Form on Fine Sand Transport in Twelve-Inch Pipes, by A. R. Chamberlain. Ph.D. Dissertation, Colorado A and M College. June 1955. CER55ARC6.
- 48. Influence of Particle Size Gradation on Scour at Base of Free Overfall, by D. E. Hallmark. Master's Thesis. August 1955.
- 49. Design of Gravel Filters for Water Wells in Fine, Unconsolidated Aquifers, by A. D. Halderman. Master's Thesis. August 1955.
- Penetration and Retention of Bentonite Suspensions in Porous Media, by R. B. Curry. Master's Thesis presented as a Report. August 1955. CER55RBC9.
- 51. Model Study of Interceptor Drains, by J. Keller. Master's Thesis. September 1955.
- 52. Effect of Rim Height on the Rate of Evaporation from Pans, by W. W. McFarland. Master's Thesis. November 1955.
- Suspended Sediment Transport in Alluvial Irrigation Channels, by D. L. Bender. Master's Thesis. December 1955. CER56DLB7.
- 54. The Potential Drainability of Grand Valley, by Al-Khafaji. Master's Thesis. March 1956.
- 55. The Penetration of Dispersed and Flocculated Bentonite Suspensions in a Dune Sand, by E. C. Newman. Master's Thesis. August 1956.
- 56. Piping under Masonry Dams on Earth Foundations, by R. S. Sanghavi, Master's Report. August 1956.
- 57. Methods of Hydraulic Energy Dissipation, by Christopher S. Donabedian. Master's Thesis. September 1956.

- 58. Sediment Transport Through Pipes, by R. J. Garde. Master's Thesis, and Report prepared for Armco Drainage and Metal Products on Project 740. October 1956. CER56RJG19.
- 59. Effect of Wash Load on Suspension of Bed Material Load, by A. Hasan Makarechian. Master's Thesis. November 1956.
- 60. Stabilization of Thompson Lake Outlet Channel, by Theodore T. Williams, Master's Thesis. December 1956.
- Drilled Water Wells for Indian Villages, by Prasanta K. Mohanty. Thesis. 1957.
- 62. Artificial Roughness Patterns in Open Channels, by William W. Sayre. Master's Thesis. March 1957.
- 63. Bank Protection by Vegetation, by Arnuif B. E. J. Pichler-Stainern. Thesis. 1957.
- 64. Theory and Design of Stable Channels in Alluvial Materials, by Daryl B. Simons. Ph.D. Dissertation and Report prepared for the U. S. Bureau of Reclamation under Contract No. 63052. May 1957. CER57DBS17.
  - 65. Laboratory Study of a Manifold Stilling Basin, by Gene R. Fiala. Master's Thesis. May 1957.
  - 66. Some Characteristics of an Artesian Aquifer in the Grand Valley of Colorado, by Maurice M. Hastings. Master's Thesis. June 1957.
  - 67. An Analysis of Scour Below Culvert Outlets, by George L. Smith. Master's Thesis. June 1957.
  - 68. Laboratory Studies on the Beginning of Sediment Ripple Formation in an Alluvial Channel, by Erich J. Plate. Master's Thesis. June 1957.
  - 69. Role of Forecasting in Flood Control, by Kersi Davar. Master's Thesis. August 1957.
  - Deceleration During Impact of Seaplane Hulls on a Water Surface, by Bernard d'Utruy. Master's Thesis. August 1957. CER58ARC40.

- 71. The Effect of Shape of a Plane, Smooth Saturated Surface on Evaporation Rate, by Duane F. Nelson. Master's Thesis. August 1957.
- 72. Effect of Wind Velocity and Depth of Water Table on Evaporation from Fine Sand, by Robert W. Staley. Master's Thesis. October 1957.
- 73. Multi-Purpose Project Planning for Undeveloped Regions, by Mahammad Athaullah. Master's Report. 1957.
- 74. Meandering Characteristics of Alluvial Rivers, by H. Nagabhushanaiah. Master's Thesis. May 1958.
- Turbulent Boundary Layer over Heated and Unheated, Plane, Rough Surfaces, by Benoyendra Chanda. Ph. D. Dissertation. May 1958. CER58BC21.
- Secondary Circulation in Open Channels, by Y. W. Wang. Master's Thesis. May 1958.
- 77. Factors Affecting Evaporation from Soils in Contact With a Water Table, by R. A. Schleusener. Ph.D. Dissertation. June 1958.
- 78. Analytical Study of the Roughness in Alluvial Channels, by S. Y. Hwang. Master's Thesis. August 1958.
- 79. The Measurement of Permeability in Non-Homogeneous Media Through an Analysis of the Steady Potential Distribution, by William R. Nelson. Master's Thesis. May 1959.
- The Turbulent Boundary Layer at Low Reynolds Number with Unstable Density Stratification Produced by Heating, by J. E. Cermak. Ph.D. Dissertation, Cornell University, Project 778. March 1959.
- Flow Characteristics of a Circular Submerged Jet Impinging Normally on a Smooth Boundary, by Michael Poreh. Master's Thesis. March 1959.
- 82. Pressure Distribution in Porous Media During Unsaturated Flow, by Verne H. Scott. Ph.D. Dissertation. June 1959.
- 83. Properties of the Hydraulic Jump in Sloping Circular Conduits, by Suleiman A. Ibrahim Ayoub. Master's Thesis. July 1959.
- 84. Sediment Transport in Alluvial Channels (Examination of Bagnold's Hypothesis) by E. V. Richardson. Master's Thesis. May 1960.

- 85. Effect of Watershed Characteristics on Peak Rates of Runoff in Eastern Colorado, by Ming-Cheng Chen. Master's Thesis. May 1960.
- 86. Mean Velocity Profiles for Flow Over a Plane, Smooth, Heated Boundary, by Edward N. Earle. Master's Thesis. May 1960.
- 87. Backwater Effects at Channel Constrictions, by Shou-Shan Fan. Master's Report. May 1960.
- The Effect of Fine Sediment on the Mechanics of Flow in Alluvial Channels, by William L. Haushild. Master's Thesis. May 1960. CER60WLH13.
- 89. Electrokinetic-Potential Fluctuations Produced by Turbulence at a Solid-Liquid-Interface, by Gilbert J. Binder. Ph.D. Dissertation. September 1960.
- 90. Influence of Temperature on Sediment Transport and Roughness in Alluvial Channels, by Khalid S. Al-Shaikh Ali. Master's Thesis. March 1961.
- 91. Effects and Benefits of Artificial Recharge in Fountain Creek Valley, Colorado, by Frank J. Trelease, III. Master's Thesis. May 1961.
- 92. Study of Membrane Solutions for Hyperbolic Paraboloid Groined Vault Structures, by James R. Goodman. Master's Thesis. May 1961.
- 93. Sediment Transport in Alluvial Channels a Critical Examination of Einstein's Theory, by Alvin A. Bishop. Ph.D. Dissertation. July 1961.
- 94. Diffusion from a Point Source Within a Turbulent Boundary Layer, by Kersi S. Davar. Ph. D. Dissertation. July 1961.
- 95. Unified Consolidation Theory, by John P. Nielsen. Ph. D. Dissertation. August 1961.
- 96. Analysis of Arch Dams by Slope Deflection Equations, by Omar Rashid Gardi. Ph. D. Dissertation. September 1961.
- 97. Some Effects of Bentonite Suspensions on Sand Transport in a Smooth Four-Inch Pipe, by Nobushiro Yotsukura. Ph.D. Dissertation. September 1961.
- 98. Separation Flow Downstream of a Plate Set Normal to a Plane Boundary, by H. S. Nagabhushanaiah. Ph.D. Dissertation. October 1961.

99. Diffusion from a Line Source in a Turbulent Boundary Layer, by Michael Poreh. Ph.D. Dissertation. October 1961.

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