

## CURRICULUM VITA FOR DAVID E. DANIEL

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### College Education

B.S. University of Texas at Austin, 1972 (Engineering)

M.S. University of Texas at Austin, 1974 (Engineering)

Ph.D. University of Texas at Austin, 1980 (Engineering)

### Academic Experience

- Assistant Professor, University of Texas at Austin, 1981 to 1985
- Associate Professor, University of Texas at Austin, 1985 - 1991
- Professor, University of Texas at Austin, 1991 to 1996
- Associate Chairman for Academic Affairs, University of Texas at Austin, Department of Civil Engineering, 1994 - 1996
- Professor and Head, Department of Civil & Environmental Engineering, Univ. of Illinois at Urbana-Champaign, 1996 - 2001
- Dean, College of Engineering, Univ. of Illinois at Urbana-Champaign, 2001-2005
- President, The University of Texas at Dallas, 2005 – present

### Engineering Experience

Staff Engineer, Woodward-Clyde Consultants, San Francisco, 1974-1977

### Selected Advisory Boards, Boards of Directors, & Major Study Groups:

- Organizing Committee, Madison Waste Conference, Univ. of Wisconsin, 1989-1995.
- Technology Advisory Board, Warzyn Engineering, Madison Wisconsin, 1991-1992.
- Technical Advisory Panel, Browning-Ferris Industries, 1992-1993.
- Board of Directors, U.S. Society of Universities Conducting Geotechnical Engrg. Research, 1992-1993.
- Geotechnical Board, National Research Council, National Academy of Sciences, 1993-1994.
- Board on Energy and Environmental Systems, National Research Council, National Academy of Sciences, 1994-1996.
- Board of Directors, University of Illinois Research Park, 2001-2003.
- Vice-Chair, "Staging of High-Level Geologic Repositories for Radioactive Waste," National Academies, 2001-2003.
- Chair, "Risk-Based Approaches for Disposition of Radioactive Waste," National Academies, 2003-2005.
- Member, Nuclear and Radiation Studies Board, the National Academies, 2003-present.

- Member, Carle Hospital Foundation Board, 2003-2005.
- Metropolitan Technology Business Council Board, 2005 – present.
- Greater Dallas Chamber of Commerce Board, 2005 – present.
- Chair, External Review Panel, American Society of Civil Engineers, 2005 – present (Panel to review and advise the Secretary of Defense concerning the government’s work to document the condition and causes of failure of the hurricane protection system of New Orleans following hurricane Katrina)

## **Honors and Awards**

Chi Epsilon

Tau Beta Pi

Phi Kappa Phi

Norman Medal, American Society of Civil Engineers, 1975

J. James Croes Medal, American Society of Civil Engineers, 1984 & 2000

William J. Murray Fellowship in Engineering, 1985 - 1992

Faculty Excellence Award, College of Engineering, Univ. of Texas, 1989

Standards Development Award, American Society for Testing and Materials, 1991

L.B. (Preach) Meaders Professorship in Engineering, Univ. of Texas, 1992 - 1996

Special Service Award, American Society for Testing and Materials, 1994 & 2001

Middlebrooks Award, American Society of Civil Engineers, 1995

Richard R. Torrens Award, American Society of Civil Engineers, 1995

Gutgsell Professor, University of Illinois, 2000

National Academy of Engineering, 2000

Distinguished Alumnus Award, Univ. of Texas, College of Engineering, 2002

## **Journal Editorships**

Editor in Chief, Journal of Geotechnical and Geoenvironmental Engineering, American Society of Civil Engineers, 1992-1995.

Member, Board of Editors, Geotextiles and Geomembranes, 1997-present.

## **Professional Registration**

Registered Professional Engineer in Illinois and Texas.

## **Professional Society Committees**

ASTM Committee D-18 on Soil and Rock (1981-Present)

ASTM Subcommittee D-18.04 on Ground Water and Hydrologic Prop. of Soil and Rock  
(Chairman, 1986-1991)

ASTM Subcommittee D-18.14 on Geotechnics of Waste Management (1981-Present)

ASTM Subcommittee D-18.20 on Hydraulic Barriers (1981-Present)

ASTM Committee D34 on Waste Management (1987-1990)

ASTM Committee D35 on Geosynthetics (1990-present)

ASCE Committee on Environmental Geotechnology, Geotechnical Engineering Div. (Chairman, 1987-1992)

ASCE Committee on Computer and Numerical Methods, Geotechnical Engineering Division (Control Group Member, 1984-88)  
ASCE Committee on Publications in Geotechnical Engineering (Chairman, 1992-1995)  
ASTM Conference Co-Chairman for 1993 Symposium on "Hydraulic Conductivity and Waste Contaminant Transport in Soils"  
ASCE Organizing Committee for 1995 Specialty Conference on "The Geoenvironment 2000" (Chairman, 1991-1995)  
Engineering Deans Council, American Society for Engineering Education, 2001-present.

## Books

*Geotechnical Practice for Waste Disposal*, D.E. Daniel (Ed.), Chapman and Hall, London, 1993, 683 p.

*Hydraulic Conductivity and Waste Contaminant Transport*, David E. Daniel and Stephen J. Trautwein (Eds.), American Society for Testing and Materials, Philadelphia, 1994, 611 p.

*The Geoenvironment 2000*, Yalcin B. Acar and David E. Daniel (Eds.), American Society of Civil Engineers, New York, 1995, 1822 p.

*Waste Containment Systems: Guidance for Construction, Quality Assurance, and Quality Control of Liner and Cover Systems*, David E. Daniel and Robert M. Koerner, ASCE Press, New York, 1995, 354 p.

*Engineered Covers for Solid Waste Landfills and Abandoned Dumps*, R. M. Koerner and D.E. Daniel, ASCE Press, New York, 1997, 256 p.

## Chapters of Books

Daniel, D. E., "Waste Disposal and Underground Storage," in *Ground Engineer's Reference Book*, F. G. Bell (ed.), Butterworths, London, 1987, pp. 43/1-43/10.

Daniel, D.E., "Hydraulic Conductivity Tests for Clay Liners," *Geotechnical and Geohydrological Aspects of Waste Management*, D. Van Zyl et al. (eds.), Lewis Publishers, Chelsea, Michigan, 1987, pp. 15-34.

Brown, K. W., and D. E. Daniel, "Influence of Organic Liquids on the Hydraulic Conductivity of Soils," Section 4.3 in Chapter 4 of *Land Disposal of Hazardous Waste*, J.R. Gronow, A.N. Schofield, and R.K. Jain (eds.), Ellis Horwood Limited, Chichester, England, 1988, pp. 199-216.

Daniel, D.E., and K.W. Brown, "Landfill Liners: How Well Do They Work and What Is Their Future?" Section 4.6 in Chapter 4 of *Land Disposal of Hazardous Waste*, J.R. Gronow, A.N. Schofield, and R.K. Jain (eds.), Ellis Horwood Limited, Chichester, England, 1988, pp. 235-244.

Daniel, D.E., and C.D. Shackelford, "Containment of Landfill Leachate with Clay Liners," Chapter 5.3 of *Sanitary Landfilling*, T.H. Christensen, R. Cossu, and R. Stegmann (Eds.), Academic Press, London, 1989, pp. 323-342.

- Daniel, D.E., "Overview of Geoenvironmental Principles Applied to Remediation of Contaminated Waste Disposal Sites," in *Environmental Geotechnology*, M. A. Usmen and Y. B. Acar (Eds.), A. A. Balkema, Rotterdam, The Netherlands, 1992, pp. 311-320.
- Daniel, D. E., "Introduction," Chapter 1 of *Geotechnical Practice for Waste Disposal*, D. E. Daniel (Ed.), Chapman and Hall, London, 1993, pp. 1-14.
- Daniel, D.E., "Landfills," Chapter 5 of *Geotechnical Practice for Waste Disposal*, D. E. Daniel (Ed.), Chapman and Hall, London, 1993, pp. 97-112.
- Daniel, D.E., "Clay Liners," Chapter 7 of *Geotechnical Practice for Waste Disposal*, D. E. Daniel (Ed.), Chapman and Hall, London, 1993, pp. 137-163.
- Daniel, D.E., and R.M. Koerner, "Cover Systems," Chapter 18 of *Geotechnical Practice for Waste Disposal*, D. E. Daniel (Ed.), Chapman and Hall, London, 1993, pp. 455-496.
- Charbeneau, R.J., and D.E. Daniel, "Contaminant Transport in Unsaturated Flow," Chapter 15 of *Handbook of Hydrology*, McGraw-Hill, New York, 1993, pp. 15.1 - 15.54.
- Rumer, R.R., and Ryan, M.E., "Surface Control Barriers (Caps)," Chapter 5 of *Barrier Containment Technologies for Environmental Remediation Applications*, 1995, John Wiley & Sons, Inc., New York, 170 p.
- Daniel, D.E., and Koerner, R.M., "Construction Quality Assurance/Quality Control for Landfills," *Municipal Solid Wastes, Problems and Solutions*, R.E. Landreth and P.A. Rebers (Eds.), Lewis Publishers, Boca Raton, Florida, 1997, pp. 191-222.
- Daniel, D.E., "Barriers and Containment Methods," *Vadose Zone, Science and Technology Solutions*, B.B. Looney and R.W. Falta (Eds.), 2000, Battelle Press, Columbus, Ohio, pp. 1309-1424.

### Refereed Journal Publications

- Daniel, D. E., and R. E. Olson, "Stress-Strain Properties of Compacted Clays," *Journal of the Geotechnical Engineering Division*, American Society of Civil Engineers, Vol. 100, No. GT10, 1974, pp. 1123-1136.
- Johnson, L. J., Daniel, D. E., Abelle, W. V., Ledbetter, J. O., and W. R. Hansen, "Effects from Past Solid Waste Disposal Practices," *Environmental Health Perspectives*, Vol. 27, 1978, pp. 215-221.
- Daniel, D. E., "Measurement of Hydraulic Conductivity of Unsaturated Soils with Thermocouple Psychrometers," *Soil Science Society of America Journal*, Vol. 46, No. 6, 1982, pp. 1125-1129.
- Daniel, D. E., and R. E. Olson, "Failure of an Anchored Bulkhead," *Journal of the Geotechnical Engineering Division*, American Society of Civil Engineers, Vol. 108, No. GT10, 1982, pp. 1318-1327.

- Daniel, D. E., "Shallow Land Burial of Low-Level Radioactive Waste," *Journal of the Geotechnical Engineering Division*, American Society of Civil Engineers, Vol. 109, No. 1, 1983, pp. 40-55.
- Daniel, D. E., "Permeability Test for Unsaturated Soil," *Geotechnical Testing Journal*, Vol. 6, No. 2, 1983, pp. 81-86.
- Daniel, D. E., "Predicting Hydraulic Conductivity of Clay Liners," *Journal of Geotechnical Engineering*, American Society of Civil Engineers, Vol. 110, No. 2, 1984, pp. 285-300.
- Daniel, D. E., Trautwein, S. J., Boynton, S. S., and D. E. Foreman, "Permeability Testing with Flexible-Wall Permeameters," *Geotechnical Testing Journal*, Vol. 7, No. 3, 1984, pp. 113-122.
- Boynton, S. S., and D. E. Daniel, "Hydraulic Conductivity Tests on Compacted Clay," *Journal of Geotechnical Engineering*, Vol. 111, No. 4, 1985, pp. 465-478.
- Day, S. R., and D. E. Daniel, "Hydraulic Conductivity of Two Prototype Clay Liners," *Journal of Geotechnical Engineering*, Vol. 111, No. 8, 1985, pp. 957-970.
- Daniel, D. E., "Can Clay Liners Work?" *Civil Engineering*, Vol. 55, No. 4, 1985, pp. 48-49.
- Foreman, D. E., and D. E. Daniel, "Permeation of Compacted Clay with Organic Chemicals," *Journal of Geotechnical Engineering*, Vol. 112, No. 6, 1986, pp. 669-690.
- Daniel, D. E., "Under Ground, Over the Water Table," *Civil Engineering*, Vol. 57, No. 2, February, 1987, pp. 49-50.
- Bowders, J. J., and D.E. Daniel, "Hydraulic Conductivity of Compacted Clay to Dilute Organic Chemicals," *Journal of Geotechnical Engineering*, Vol. 113, No. 12, 1987, pp. 1432-1448.
- Daniel, D. E., Liljestrand, H. M., Broderick, G. P., and J. J. Bowders, Jr., "Interaction of Earthen Liner Materials with Industrial Waste Leachate," *Hazardous Waste & Hazardous Materials*, Vol. 5, No. 2, 1988, pp. 93 - 108.
- Daniel, D. E., and C. D. Shackelford, "Disposal Barriers that Release Contaminants Only by Molecular Diffusion," *Nuclear and Chemical Waste Management*, Vol. 8, September, 1988, pp. 299-305.
- Daniel, D.E., "In Situ Hydraulic Conductivity Tests for Compacted Clay," *Journal of Geotechnical Engineering*, Vol. 115, No. 9, 1989, pp. 1205-1226.
- Daniel, D.E., "A Note on Falling-Headwater, Rising Tailwater Permeability Tests," *Geotechnical Testing Journal*, Vol. 12, No. 4, 1989, pp. 308-310.
- Shackelford, C.D., Daniel, D.E., and H.M. Liljestrand, "Diffusion of Inorganic Chemical Species in Compacted Clay Soil," *Journal of Contaminant Hydrology*, Vol. 4, 1989, p. 241-273.

- Benson, C.B., and D.E. Daniel, "The Influence of Clods on the Hydraulic Conductivity of a Compacted Clay," *Journal of Geotechnical Engineering*, Vol. 116, No. 8, 1990, p. 1231-1248.
- Broderick, G.P., and D.E. Daniel, "Stabilizing Compacted Clay Against Chemical Attack," *Journal of Geotechnical Engineering*, Vol. 116, No. 10, 1990, pp. 1549-1567.
- Elsbury, B.R., Daniel, D.E., Sraders, G.A., and D.C. Anderson, "Lessons Learned from a Compacted Clay Liner," *Journal of Geotechnical Engineering*, Vol. 116, No. 11, 1990, pp. 1641-1660.
- Daniel, D.E., and C.B. Benson, "Water Content-Density Criteria for Compacted Clay Liners," *Journal of Geotechnical Engineering*, Vol. 116, No. 12, 1990, pp. 1811-1830.
- Shackelford, C. D., and D. E. Daniel, "Diffusion in Saturated Soil: I. Background." *Journal of Geotechnical Engineering*, Vol. 117, No. 3, 1991, pp. 467-484.
- Shackelford, and D. E. Daniel, "Diffusion in Saturated Soil: II. Results for Compacted Clay." *Journal of Geotechnical Engineering*, Vol. 117, No. 3, 1991, pp. 485-506.
- Daniel, D. E., "Law of the Landfill," *The Construction Specifier*, Vol. 44, No. 8, 1991, pp. 104-111.
- Daniel, D. E., and R. M. Koerner, "Landfill Liners from Top to Bottom," *Civil Engineering*, Vol. 61, No. 12, 1991, pp. 46-49.
- Koerner, R.M., and D.E. Daniel, "Better Cover-Ups," *Civil Engineering*, Vol. 62, No. 5, 1992, pp. 55-57.
- Kim, W. H., and D. E. Daniel, "Effects of Freezing on the Hydraulic Conductivity of a Compacted Clay," *Journal of Geotechnical Engineering*, Vol. 118, No. 7, 1992, pp. 1083-1097.
- Estornell, P., and D. E. Daniel, "Hydraulic Conductivity of Three Geosynthetic Clay Liners," *Journal of Geotechnical Engineering*, Vol. 118, No. 10, 1992, pp. 1592-1606.
- Shelley, T. L., and D. E. Daniel, "Effect of Gravel on Hydraulic Conductivity of Compacted Soil Liners," *Journal of Geotechnical Engineering*, Vol. 119, No. 1, 1993, pp. 54-68.
- Daniel, D. E., and Y. K. Wu, "Compacted Clay Liners and Covers for Arid Sites," *Journal of Geotechnical Engineering*, Vol. 119, No. 2, 1993, pp. 223-237.
- Benson, C. H., and D. E. Daniel, "Minimum Thickness of Compacted Soil Liners: I - Stochastic Models," *Journal of Geotechnical Engineering*, Vol. 120, No. 1, 1993, pp. 129-152.
- Benson, C. H., and D. E. Daniel, "Minimum Thickness of Compacted Soil Liners: II - Analysis and Case Histories," *Journal of Geotechnical Engineering*, Vol. 120, No. 1, 1993, pp. 153-172.
- Eykholt, G.R., and Daniel, D.E., "Impact of System Chemistry on Electroosmosis in Contaminated Soil," *Journal of Geotechnical Engineering*, Vol. 120, No. 5, 1994, pp. 797-815.

- Boardman, B.T., and Daniel, D.E., "Hydraulic Conductivity of Desiccated Geosynthetic Clay Liners," *Journal of Geotechnical Engineering*, Vol. 122, No. 3, 1996, pp. 204-208.
- Daniel, D.E., "Geosynthetic Clay Liners, Part Two: Hydraulic Properties," *Geotechnical Fabrics Report*, Vol. 14, No. 5, 1996, pp. 22-26.
- Hewitt, R.D., and Daniel, D.E., "Hydraulic Conductivity of Geosynthetic Clay Liners Subjected to Freeze-Thaw," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 3, 1997, pp. 305-313.
- Ruhl, J.L., and Daniel, D.E., "Geosynthetic Clay Liners Permeated with Chemical Solutions and Leachates," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 4, 1997, pp. 369-381.
- Gleason, M.H., and Daniel, D.E., "Calcium and Sodium Bentonite for Hydraulic Containment Applications," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 5, 1997, pp. 438-445.
- LaGatta, M.D., Boardman, B.T., Daniel, D.E., and Cooley, B.H., "Geosynthetic Clay Liners Subjected to Differential Settlement," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 5, 1997, pp. 402-410.
- Bowders, J.J., Tan, J.P., and Daniel, D.E., "Expanded Clay and Shale Aggregates for Leachate Collection Systems," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 11, 1997, pp. 1030-1034.
- Alston, C., Daniel, D.E., and Devroy, D.J., "Design and Construction of Sand-Bentonite Liner for Effluent Treatment Lagoon, Marathon, Ontario," *Canadian Geotechnical Journal*, Vol. 34, No. 6, 1997, pp. 841-852.
- Koerner, R.M., Carson, D.A., Daniel, D.E., and Bonaparte, R., "Current Status of the Cincinnati GCL Test Plots," *Geotextiles and Geomembranes*, Vol. 15, Nos. 5-6, 1997, pp. 313-340.
- Lai, J., Daniel, D.E., and Wright, S.G., "Effect of Cyclic Loading on Shear Strength of Unreinforced Geosynthetic Clay Liner," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 124, No. 1, 1998, pp. 45-52.
- Daniel, D.E., Koerner, R.M., Bonaparte, R., Landreth, R.L., Carson, D.A., and Scranton, H.B., "Slope Stability of Fourteen Full-Scale Field Test Plots Containing Geosynthetic Clay Liners," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 125, No. 7, 1998, pp. 628-637.
- Benson, C.H., Daniel, D.E., and Boutwell, G.P., "Field Performance of Compacted Clay Liners," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 125, No. 5, 1999, pp. 390-403.

Toupiol, C., Willingham, T.W., Valocchi, A.J., Werth, C.J., Krapac, I.G., Stark, T.D., and D.E. Daniel (2002), "Long-Term Tritium Transport through a Field-Scale Compacted Soil Liner," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 128, No. 8, pp. 640-650.

Willingham, T., Werth, C.J., Valocchi, A.J., Krapac, I.G., Toupiol, C., Stark, T.D., and D.E. Daniel (2004), "Evaluation of Multi-Dimensional Transport through a Field-Scale Compacted Soil Liner," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 130, No. 9, pp. 887-895.

Giroud, J.P., & Daniel, D.E. (2005), "Liquid Migration in a Bentonite Layer Overlain by a Geomembrane Having Defects and Underlain by a Geomembrane," *Geosynthetics International*, in press.

### **Other Technical Publications (Partial Listing)**

Olson, R. E., Daniel, D. E., and T. K. Liu, "Finite Difference Analyses of Sand Drain Problems," *Proceedings, American Society of Civil Engineers Specialty Conference on Analysis and Design in Geotechnical Engineering*, June, 1974, Vol. 1, pp. 85-110.

Daniel, D. E., Hamilton, J. M., and R. E. Olson, "Suitability of Thermocouple Psychrometers for Studying Moisture Movement in Unsaturated Soils," in *Permeability and Groundwater Contaminant Transport, ASTM STP 746*, T. F. Zimmie and C.O. Riggs (Eds.), American Society for Testing and Materials, Philadelphia, 1981, pp. 84-100.

Hamilton, J. M., Daniel, D. E., and R. E. Olson, "Measurement of the Hydraulic Conductivity of Partially Saturated Soils," in *Permeability and Groundwater Contaminant Transport, ASTM STP 746*, T. F. Zimmie and C.O. Riggs (Eds.), American Society for Testing and Materials, Philadelphia, 1981, pp. 182-196.

Olson, R. E., and D. E. Daniel, "Measurement of the Hydraulic Conductivity of Fine-Grained Soils," in *Permeability and Groundwater Contaminant Transport, ASTM STP 746*, T. F. Zimmie and C.O. Riggs (Eds.), American Society for Testing and Materials, Philadelphia, 1981, pp. 18-64.

Daniel, D. E., "Problems in Predicting the Permeability of Compacted Clay Liners," *Proceedings, Fourth Annual Conference on Uranium Mill Tailings Disposal*, Colorado State University, Ft. Collins, Colorado, 1981, pp. 665-675.

Daniel, D. E., "Geotechnical and Geomechanical Parameters Required for Characterization of Sites," *Proceedings, Low-Level Waste Disposal: Site Characterization and Monitoring*, U. S. NRC, Arlington, Virginia, June 16-17, 1982, NUREG/CP - 0028, pp. 93-113.

Trautwein, S. J., Daniel, D. E., and M. W. Cooper, "A Case History Study of Water Flow through Unsaturated Soils," *Role of the Unsaturated Zone in Radioactive and Hazardous Waste Disposal*, J. W. Mercer, P.S.C. Rao, and I. W. Marine (eds.), 1983, Ann Arbor Science, Ann Arbor, Michigan, pp. 229-254.

- Foreman, D. E., and D. E. Daniel, "Effects of Hydraulic Gradient and Method of Testing on the Hydraulic Conductivity of Compacted Clay to Water, Methanol, and Heptane," *Proceedings*, Tenth Annual Research Symposium on Land Disposal of Hazardous Waste, U.S. EPA, EPA/600-9-84-007, April, 1984, pp. 138-144.
- Daniel, D. E., "Effects of Organic Chemicals on the Hydraulic Conductivity of Compacted Clay," *Proceedings*, International Symposium on Clay Barriers for Isolation of Toxic Chemical Wastes," Stockholm, Sweden, 1984.
- Daniel, D. E., "Effects of Organic Chemicals on Clay Liners," *Proceedings*, Seventh Symposium on Management of Uranium Mill Tailings, Low-Level Waste, and Hazardous Waste, Colorado State University, Ft. Collins, Colorado, February 6-8, 1985, pp. 383-390.
- Brown, K. W., and D. E. Daniel, "Potential Groundwater Implications of Land Disposal of Toxic Substances," in *Issues in Groundwater Management*, E. T. Smerdon and W. R. Johnson (eds.), Center for Research in Water Resources, Austin, Texas, 1985, pp. 387-402.
- Daniel, D. E., "Design, Construction, and Testing of Earth Liners," *Proceedings*, Seminar on Geotechnical Aspects of Waste Management, Metropolitan Section, American Society of Civil Engineers, Soils and Foundations Group, December 3-4, 1985, New York City, New York.
- Daniel, D. E., Anderson, D. C., and S. S. Boynton, "Fixed-Wall Vs. Flexible-Wall Permeameters," *Hydraulic Barriers in Soil and Rock*, ASTM STP 874, A.I. Johnson et al. (Eds.), American Society for Testing and Materials, Philadelphia, 1985, pp. 107-126.
- Day, S. R., and D. E. Daniel, "Field Permeability Test for Clay Liners," *Hydraulic Barriers in Soil and Rock*, ASTM STP 874, A.I. Johnson et al. (Eds.), American Society for Testing and Materials, Philadelphia, 1985, pp. 276-288.
- Bowders, J. J., Daniel, D. E., Broderick, G. P., and H. M. Liljestrand, "Methods for Testing the Compatibility of Clay Liners with Landfill Leachate," *Hazardous and Industrial Solid Waste Testing: Fourth Symposium*, ASTM STP 886, J. K. Petros et al. (Eds.), American Society for Testing and Materials, Philadelphia, 1985, pp. 233-250.
- Daniel, D. E., S. J. Trautwein and D. McMurtry, "A Case History of Leakage from a Surface Impoundment," *Proceedings*, Symposium on Seepage from Dams and Impoundments, R. L. Volpe and W. M. Kelly (eds.), Denver, Colorado, May 5, 1985, American Society of Civil Engineers, New York, pp. 220-235.
- Daniel, D. E., "Clay Liners: Where Do We Go From Here?" *Proceedings*, International Conference on New Frontiers for Hazardous Waste Management, September 15-18, 1985, Pittsburgh, Pennsylvania, EPA/600/9-85/025, pp. 266-273.
- Daniel, D. E., and S. J. Trautwein, "Field Permeability Test for Earthen Liners," *Proceedings*, American Society of Civil Engineers Specialty Conference on In Situ Test Results, Virginia Tech University, Blacksburg, Virginia, June, 1986, pp. 146-160.

- Daniel, D. E., "Earthen Liners for Land Disposal Facilities," *Proceedings*, Geotechnical Practice for Waste Disposal '87, R.D. Woods (Ed.), Ann Arbor, Michigan, June, 1987, American Society of Civil Engineers, New York, pp. 21-39.
- Daniel, D. E., "Hydraulic Conductivity Tests for Clay Liners," *Geotechnical and Geohydrological Aspects of Waste Management*, D. Van Zyl et al. (eds.), 1987, Lewis Publishers, Chelsea, Michigan, pp. 15-34.
- Daniel, D. E., and C. D. Shackelford, "Disposal Barriers that Release Contaminants Only by Molecular Diffusion," *Proceedings*, Oak Ridge Model Conference, Oak Ridge, Tennessee, October, 1987.
- Daniel, D. E., Shackelford, C. D., and W. P. Liao, "Transport of Inorganic Compounds through Compacted Clay Soil," *Proceedings*, Fourteenth Annual Research Symposium on Land Disposal, Remedial Action, Incineration and Treatment of Hazardous Waste, U.S. Environmental Protection Agency, Cincinnati, Ohio, May, 1988, EPA/600/9-88/021, pp. 114-125.
- Liao, Wing P., and D.E. Daniel, "Time of Travel of Contaminants through Soil Liners," *Proceedings*, Twelfth Annual Madison Waste Conference, September 20-21, 1989, University of Wisconsin, p. 367-376.
- Daniel, D.E., "Keys to Successful Design, Construction, Testing, and Certification of Soil Liners for Landfills," *Journal of Municipal Solid Waste Management*, Government Refuse Collection and Disposal Association, Silver Spring, Maryland, Vol. 1, August, 1990, pp. 17-27.
- Daniel, D.E., "Summary Review of Construction Quality Control for Compacted Soil Liners," *Waste Containment Systems: Construction, Regulation, and Performance*, R. Bonaparte (ed.), American Society of Civil Engineers, New York, 1990, pp. 175-189.
- Grube, W. E., and D. E. Daniel, "Alternative Barrier Technology for Landfill Liner and Cover Systems," Air & Waste Management Association Meeting, Vancouver, B.C., June, 1991, Paper 91-5-9, 11 p.
- Shan, H.Y., and D. E. Daniel, "Results of Laboratory Tests on a Geotextile/Bentonite Liner Material," *Proceedings*, Geosynthetics '91, Industrial Fabrics Association International, St. Paul, Minnesota, Vol. 2, 1991, pp. 517-535.
- Daniel, D. E., "Compacted Clay and Geosynthetic Clay Linings," Presented at the 15th Geotechnical Conference, Politecnico di Torino, Torino, Italy, November, 1991, 23 p.
- Daniel, D. E., "Geosynthetic Clay Liners," *Geotechnical News*, Vol. 9, No. 4, 1991, pp. 28-33
- Daniel, D.E., "Overview of Geoenvironmental Principles Applied to Remediation of Contaminated Waste Disposal Sites," in *Environmental Geotechnology*, M.A. Usmen and Y.B. Acar (Eds.), Balkema, Rotterdam, 1992, pp. 311-319.

- Daniel, D. E., Burton, P. M., and S. D. Hwang, "Evaluation of Four Vadose Zone Probes Used for Leak Detection and Monitoring," *Current Practices in Ground Water and Vadose Zone Investigations*, ASTM STP 1118, D. M. Nielsen and M. N. Sara (Eds.), American Society for Testing and Materials, 1992, 124-139.
- Daniel, D.E., "Case Histories of Compacted Clay Liners and Covers for Waste Disposal Facilities," *Proceedings: Third International Conference on Case Histories in Geotechnical Engineering*, Univ. of Missouri, Rolla, Missouri, Vol. 2, 1993, pp. 1407-1425.
- Daniel, D.E., "Geosynthetic Clay Liners (GCLs) in Landfill Covers," *Proceedings, Thirty-First Annual Solid Waste Exposition*, The Solid Waste Management Association of North America, Silver Spring, Maryland, 1993.
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