



I-CORP INTERNATIONAL Inc.



6072 N. Ocean Blvd.
Ocean Ridge, FL 33435
Office 561 369 0795
Fax 561 369 0895
Mob 561 809 3444
icorp@geosynthetic.com
www.geosynthetic.com
Ian.Peggs (Skype)

RESUME OF IAN D. PEGGS

geosynthetic materials science
failure and forensic analyses
construction quality assurance
nondestructive testing
durability assessment
leak location surveys
workshops/seminars

SUMMARY

Over thirty years experience in polymer, geosynthetics, and composite research
Geosynthetics Consultant and Instructor
Previously President and co-Founder of GeoSyntec, Inc., USA (now Geosyntec Consultants)
Former Vice-President and Principal of GeoServices, Inc. (now Geosyntec Consultants)
Former Manager of Polymer Engineering, Hanson Materials Engineering (now Acuren), Canada
Active in international standards development and geosynthetics education
Performed more than 200 liner integrity surveys and failure analyses on lining systems
Author of more than 250 papers and presentations on geosynthetics
Registered Professional Engineer: Alberta, Canada
Registered Professional Engineer: Maine, USA
Special Recognition IGS Award 1994
Nominated for IGS Award 1998
Awarded composite liner patent 1998
Clients in more than 40 countries

EDUCATION

Sheffield University, UK: Ph.D., Physical Metallurgy 1967
Imperial College of Science & Technology, London University: B.Sc. (Eng.), First Class (Honors), Fabrication Metallurgy, 1963

PROFESSIONAL HISTORY

March 1991 - present

I-CORP INTERNATIONAL, Inc., President, Principal, Ocean Ridge, Florida, USA

1986 - 1991

GeoSyntec, Inc., (President) and GeoServices Inc./GeoSyntec Consultants (Principal, Vice-President, and Manager, Materials Testing Laboratory), Florida, USA

1985 - 1986

Geosyntech Ltd., Director, Joint Venture between Hanson Materials Engineering and EBA Engineering, Alberta, Canada

1981 - 1986

Hanson Materials Engineering, Manager, Polymer Engineering Division, Alberta, Canada

1967 - 1979

Atomic Energy of Canada Limited, Whiteshell Nuclear Research Establishment, Head, Thermophysical Properties Laboratory, Pinawa, Manitoba, Canada

ACHIEVEMENTS

Introduced geomembrane CQA to Canada in 1983.

Introduced transmission microscopy microstructural analysis to geosynthetics.

Identified stress cracking phenomenon in HDPE geomembranes.

Developed advanced geomembrane seam specifications, published in 1987.

Introduced infrared thermography for the nondestructive measurement of geomembrane seam strength, 1994.

Awarded IGS Award (1994) for contributions to the Influence of Polymer Microstructure on the Performance of Geomembranes. Nominated for IGS Award of Excellence (1998) for paper "HDPE Geosynthetics – Premature Failures and Their Prediction".

Awarded United States Patent 5,788,413 for Geocomposite Membrane (1998).

Initiated Industry Insight newsletter which became www.geosynthetica.net industry web site (1999).

Proposed protocol to assess remaining lifetime in exposed HDPE liners (2005).

Diplomate of the American Board of Forensic Engineering and Technology (2000).

Fellow of American College of Forensic Examiners Institute (2000).

EXPERIENCE

Dr. Peggs has been involved with the failure analysis, research and development, and testing of polymeric materials in bulk, composite, and coating form since 1977. He has had extensive experience with all geosynthetics since 1981 and has specific interest in the nondestructive examination, microstructure, and performance of geomembrane seams. He initiated the use of the multifrequency ultrasonic shadow technique for 100% nondestructive seam inspection and developed microtome techniques for the microstructural examination of seams. He has been involved with the preparation and management of construction quality assurance programs for geomembrane-lined impoundments and landfills in the U.S., Canada, Europe, South Africa, Australia, the Middle East and SE Asia. Dr. Peggs has also been involved in failure analyses for many clients throughout North America, Europe and Australia on high-strength geotextile seams, geotextiles, geomembranes, geomembrane seams, plastic pipe, fiberglass components, and GCLs. He is presently developing infrared thermography technology as the first technique for the 100% nondestructive measurement of geomembrane seam bond strength.

He has performed survivability and durability studies on geomembranes and geotextiles and is Past-Convener of the International Organization for Standardization (ISO) TC38/SC 21 Working Group on the Durability of Geotextiles. He is also past-chairman of the RILEM (TC-144-GMP) Technical Committee on Geomembranes.

He has presented more than 250 papers, seminars, and workshops on geosynthetics for manufacturers, installers, regulators, and users of geosynthetics worldwide.

Dr. Peggs became involved with the investigation, development, and testing of non-metallic materials, including polymers, during the time that he headed Atomic Energy of Canada's Thermophysical Properties Lab in its Materials Development Branch at Whiteshell Nuclear Research Establishment, beginning in 1967.

In 1981, Dr. Peggs became involved with geosynthetics when he initiated and managed the Polymer Engineering Division of Hanson Materials Engineering (now Acuren), a large materials consulting company in Alberta, Canada. His work there in failure analysis, consulting, specifications development, research and development, and quality assurance for geosynthetic lining systems, plastic pipe, and other polymeric materials led to a joint venture between Hanson Materials Engineering and EBA Engineering. Dr. Peggs then became director of the joint venture, Geosyntech Ltd., which provided specialized geosynthetics consulting and testing services to clients throughout Canada and the United States.

In 1986, Dr. Peggs joined with Joseph E. Fluet, Jr. and J.P. Giroud of GeoServices, Inc. Consulting Engineers (now Geosyntec Consultants) to establish GeoSyntec, Inc., an independent geosynthetics testing laboratory in Boynton Beach, Florida. This laboratory became one of the foremost, and most comprehensive, geosynthetics testing laboratories in the world, with clients throughout North America and in 13 countries around the world.

In 1991, Dr. Peggs formed his own geosynthetic materials performance consulting company, I-CORP INTERNATIONAL, Inc. which performs state-of-the-art international geosynthetics technology development, and teaches others how to perform state-of-practice projects in over 40 countries. The Industry Insight newsletter, with subscribers in 32 countries, was initiated in 1994. The newsletter was superseded by the www.geosynthetica.net technical resource web site sponsored by the geosynthetics industry. The site has been visited by approximately 500,000 visitors each year.

Typical projects that Dr. Peggs has managed include failure analyses of geomembrane liners, geosynthetic clay liners, and plastic pipes; stress cracking and microstructure investigations of geomembrane seams; curing and microstructure investigations of fiberglass laminates; aging and degradation studies of polypropylene geotextiles; leak surveys on geomembranes under soil and waste cover; interface friction and surface texture/profile studies; failures in HDPE sheet liners on concrete walls; developing a manufacturing and fabrication QC program for PP geomembranes; and investigation of rapid crack propagation in HDPE geomembranes and more recently PP liners and floating covers. These projects have been conducted on liners in ponds, vaults, landfills, covers, seams, and filters for a variety of clients that include many utilities, international corporations, engineering consulting firms, hazardous waste firms, geomembrane manufacturers and installers, oil companies, mining companies, metals companies, marine surveyors, contractors, municipalities, insurance companies, and lawyers.

In 1996 Dr. Peggs organized the First US/Germany Geomembrane Workshop in Berlin, and a follow-up mini-workshop in Dallas in 2011.

In a nutshell, Dr. Peggs seeks new technologies applicable to geosynthetics lining systems, provides that technology as a service, teaches others how to use that technology, then looks forward to the next challenge.

AFFILIATIONS AND COMMITTEE WORK

Dr. Peggs has been heavily involved in committee work relating to the geosynthetics industry and organizations committed to education and development of testing standards, such as:

- International Geosynthetics Society
 - GeoAmericas Conferences
 - Geo MidEast Conferences
 - EuroGeo Conferences
 - GeoAfrica Conferences
- North American Geosynthetics Society
 - Geosynthetics Conferences
 - GeoFrontiers Conferences
- International Organization for Standardization
 - Working Group on Durability
- American Society for Testing and Materials
 - Committee D35 on Geosynthetics
 - Symposium on Microstructure and the Performance of Geosynthetics
 - Workshop on Geosynthetics Forensic Analysis & Remediation, 1993
 - Workshop on Textured & Structured Geomembranes, Phoenix, 1995
- National Sanitation Foundation
 - International Standard 54 Flexible Membrane Liners

- International Union of Testing and Research Laboratories for Materials and Structures (RILEM)
- Geosynthetics World magazine
- Geosynthetics magazine
- Society of Plastics Engineers
- NICET Geosynthetic Materials Installation Certification Program
- American College of Forensic Examiners, USA
- International Association of Geosynthetic Installers
- American Water Works Association
- IFAI International Achievement Awards Judge 2001 – 2006.
- Fabricated Geomembrane Institute

PUBLICATIONS AND PRESENTATIONS

In Dr. Peggs' 32 years of experience investigating and testing polymers, primarily geosynthetics, he has acquired a great deal of information concerning materials durability and how that characteristic corresponds to the success or failure of the application of a given material in its environment. Dr. Peggs shares this valuable information in his publications and presentations as listed below.

Books

- 1978 Thermal Expansion: Proceedings of the 6th International Symposium on Thermal Expansion, Ed. Peggs, I.D., Plenum Press, New York, NY, USA, 1978.
- 1991 Geosynthetics: Microstructure and Performance, Ed. Peggs, I.D., ASTM STP1076, Philadelphia, PA USA, 1991.
- 1991 Geomembranes: Identification and Performance Testing (Chapters 12 and 13), Eds. Rollin, A., and Rigo, J.M. Chapman and Hall, London, 1991.
- 1993 Landfilling of Waste: Barriers, Chapter 4.6 - Testing Program to Assure the Durability of Geomembranes, Eds. Christensen, T.H., Cossu, R., Stegmann, R., Chapman & Hall, Boundary Row, London, UK, 1994.32

Papers and Presentations

- 83-1 Peggs, I.D., and Little, D., "Fractography of Polymers", 16th Annual Technical Meeting of the International Metallographic Society, Calgary, Alberta, 1983.
- 85-1 Peggs, I.D., "Why Quality Control? A Graphic Case History", Geotechnical Fabrics Conference '85, Cincinnati, OH, 1985
- 85-2 Peggs, I.D., "Evaluating Geomembrane Performance", Geotechnical News, June, 1985.
- 85-3 Peggs, I.D., "Seams in Synthetic Liners", Seminar on the Engineering of Waste Management Systems, Saskatoon, Saskatchewan, August 1985.
- 85-4 Peggs, I.D., Briggs, R., and Little, D., "Developments in Ultrasonics for Geomembrane Seam Inspection", Proceedings of the 2nd Canadian Symposium on Geotextiles and Geomembranes, Edmonton, Alberta, Sep. 1985, pp. 153-156.
- 85-5 Peggs, I.D., and Little, D., "The Effectiveness of Peel and Shear Tests in Evaluating Geomembrane Seams", Proceedings of the 2nd Canadian Symposium on Geotextiles and Geomembranes, Edmonton, Alberta, September 1985.

- 86-1 Peggs, I.D., "Liquid Waste Impoundment in Surface Ponds -- Synthetic Liner Considerations," presented at the Petroleum Waste Management Conference, Calgary, Alberta, January 1986.
- 86-2 Peggs, I.D., and Little, D., "Development of a Procedure to Evaluate the Fusion Quality of Geomembrane Seams", Alberta Environment Report, RMD L-93, 1986.
- 86-3 Peggs, I.D., "Guidelines for the Quality Assurance of Geomembrane Liners for Environmental Protection", Alberta Environment Report, 1986.
- 87-1 Peggs, I.D., "Evaluating Polyethylene Geomembrane Seams", Geosynthetics '87, IFAI, Roseville, MN, 1987, pp. 505-518.
- 87-2 Peggs, I.D., and Rose, S., "Practical Aspects of Geomembrane Seam Welding", Geotechnical Fabrics Report, Vol. 5, No. 1, IFAI, Roseville, MN, Jan/Feb 1987, pp. 12-16.
- 87-3 Peggs, I.D., "A Testing Program for Geomembranes and other Geosynthetics Used in Lining Systems", Seminar presented at the Spec-Con Southeast Conference, Orlando, FL 1987.
- 87-4 Peggs, I.D., "Peel and Shear Testing Geomembrane Seams", ASTM Workshop on New Developments in Geosynthetics Testing, Cincinnati, OH 1987.
- 87-5 Kimmet, J., Peggs, I.D., and Tisinger, L.G., "Differential Scanning Calorimetry Interpretation of Results Obtained on Polyethylene Geosynthetics", Proceedings of the 10th Annual Madison Waste Conference, Madison, WI, September 1987, pp. 127-145.
- 87-6 Peggs, I.D., "Brittle Fracture of Polyethylene Geomembrane and Pipe", Seminar presented to Union Carbide Polyolefin Specialists Division, 1987.
- 88-1 Peggs, I.D., "Microstructural Studies on Geomembranes and Geomembrane Seams", invited presentation at RILEM meeting, Montreal, Canada, June 1988.
- 88-2 Peggs, I.D., and Carlson, D.S., "Stress Cracking of Polyethylene Geomembranes: Field Experience", Durability and Aging of Geosynthetics (Ed., R.M. Koerner), Elsevier Applied Science, London, 1989, pp. 195-271.
- 89-1 Peggs, I.D., Tisinger, L.G., and Bonaparte, R., "The Durability of a Polypropylene Geotextile in an Unpaved Road Structure, Geosynthetics Geomembranes and Silt Curtains in Transportation Facilities, ISBN 0-309-04968-7 Transportation Research Record 1248, Transportation Research Board, National Research Council, Washington, D.C., 1989, pp. 1-12.
- 89-2 Peggs, I.D., and Carlson, D.S., "Brittle Fracture of Polyethylene Geomembranes", Geosynthetics: Microstructure and Performance, ASTM STP 1076, Philadelphia, PA, 1990, pp. 57-77.
- 89-3 Peggs, I.D., and Charron, R.M., "Microtome Sections for Examining Polyethylene Geosynthetic Microstructure and Carbon Black Dispersion", Geosynthetics '89, IFAI, Roseville, MN, 1989, pp. 421-432.
- 89-4 Peggs, I.D., "Fractography of Polyethylene", Invited presentation at the Workshop on Testing Methods and Fracture Surface Analysis in Polyethylene", Union Carbide, Polyolefin Specialties Division, March, 1989.
- 89-5 Peggs, I.D., "Geomembranes: Opportunities and Problems", Invited presentation at the Inauguration of Drexel University's Student Chapter of North American Geosynthetics Society, March, 1989.
- 89-6 Peggs, I.D., "Stress Cracking in Polyethylene Geomembranes", Austrian Innovation Research Workshop, Linz, Austria, May 1989 (1 of 18 invited participants).
- 89-7 Peggs, I.D., "Evaluating our Tests," Interview section of Geotechnical Fabrics Report, Roseville, MN, May/June, 1989.
- 89-8 Peggs, I.D., and Pearson, D.L., "Leak Detection and Location in Geomembrane Lining Systems", presented at the ASCE Florida Section Annual Meeting, Fort Lauderdale, FL, September 1989.
- 89-9 Peggs, I.D., "Conformance and Performance Testing of Geotextiles and Related Geosynthetics", Proceedings of the International Geotextile Seminar (Ed., Ichizou Yamaoka), Osaka, Japan 1989, pp. 175-221.

- 89-10 Peggs, I.D., "Destructive Testing of Polyethylene Geomembrane Seams: Various Methods to Evaluate Seam Strength", *Seaming of Geosynthetics*, Elsevier Science Publishing Co., Inc., NY, 1989, pp 125-133.
- 90-1 Peggs, I.D., and Carlson, D.S., "The Effects of Seaming on the Durability of Adjacent Polyethylene Geomembrane", *Geosynthetic Testing for Waste Containment*, ASTM STP 1081, Philadelphia, PA, 1990, pp 132-142.
- 90-2 Tisinger, L.G., Peggs, I.D., Dudzik, B.E., Winfree, J.P., and Carraher, C.E., Jr., "Microstructural Analyses of a Polypropylene Geotextile after Long-Term Outdoor Exposure", *Ibid.* pp 335-354.
- 90-3 Peggs, I.D., "Durability Testing of Geosynthetics", *Geosynthetics in Geotechnics*, 1990 Chicago Geotechnical Lecture Series, American Society of Civil Engineers (Geotechnical Division of the Illinois Section) and the Illinois Institute of Technology, Chicago, IL, 1990.
- 90-4 Peggs, I.D., "Durability of Geosynthetics" presented to the Florida Society of Professional Engineers, West Palm Beach, FL, April 19, 1990.
- 90-5 Peggs, I.D., Carlson, D.S., and Peggs, S.J., "Understanding and Preventing 'Shattering' Failures of Polyethylene Geomembranes", *Geotextiles, Geomembranes and Related Products*, Balkema, Rotterdam, 1991, pp 549-554, Vol 2.
- 90-6 Peggs, I.D., and Carlson, D.S., "Examination of the Microstructure of Geomembranes and Seams by Light Transmission Microscopy", *ibid.* pp 590.
- 90-7 Giroud, J.P., Thompson, J., Fluet, J.E., Jr., Peggs, I.D., and Ingold, T., "Geosynthetic Lining Systems", a seminar presented jointly by GeoServices Inc., Consulting Engineers and Jason Consultants S.A. at the 4th International Conference on Geotextiles and Geomembranes, The Hague, The Netherlands, May, 1990.
- 90-8 Giroud, J.P., and Peggs, I.D., "The Geomembrane Waste Age: The Eighties - And Nineties", *Waste Age*, 1990, pp 20, 22, and 130.
- 90-9 Peggs, I.D., "Testing Labs in the Geo-Industry", *Innerview* section of *Geotechnical Fabrics Report*, 1990, Vol. 10, No. 4, Roseville, MN, USA, Jul.-Aug. 1990, p. 44.
- 90-10 Giroud, J.P., and Peggs, I.D., "Geomembrane Construction Quality Assurance", *Waste Containment systems: Construction, Regulation and Performance*, Geotechnical Special Publication No. 26, ASCE, pp. 190-225, 1990.
- 90-11 Peggs, I.D., "Microstructural Examination of Fiberglass Yacht Hulls", presented to Ft. Lauderdale Mariners Club, October 1990.
- 90-12 Peggs, I.D., and Swan, R.S., Jr., "Testing Geosynthetics Used in Landfill Caps", 4th GRI Symposium, Geosynthetic Research Institute, Philadelphia, PA, December 1990.
- 91-1 Peggs, I.D., Winfree, J.P., and Giroud, J.P., "A Shattered Liner Case History: Solution and Remediation," *Geosynthetics '91*, IFAI, Roseville, MN, 1991, pp. 495-505.
- 91-2 Peggs, I.D., "Fingerprinting (How Close is Close?) and Beyond", Workshop on Chemical Fingerprinting of Geosynthetics, USEPA, Cincinnati, OH, August 1991.
- 91-3 Peggs, I.D., "Testing Program to Assure the Durability of Landfill Liners", *Proceedings of the 3rd International Landfill Symposium*, Sardinia, October 1991, CISA, Cagliari, Italy, pp 651-665, Vol. 1.
- 91-4 Peggs, I.D., "PVC and HDPE Geomembranes in Municipal Waste Landfill Liners and Covers: The Facts", presented to Michigan Department of Natural Resources, October 1991. Also presented to environmental regulators in New York, Florida, Pennsylvania, California, Arkansas, and Wisconsin.
- 91-5 Peggs, I.D., THE IAN PEGGS COLUMN, *Geosynthetics World*, Vol. 2, Issue 5, December 1991. Regular column.
- 92-1 Peggs, I.D., "Whither PVC?", "Innerview" section of *Geotechnical Fabrics Report*, Roseville, MN, Jan/Feb 1992, pp 44-48.

- 92-2 Peggs, I.D., "Geomembrane Problems and Their Prevention", A.G. Weeks and Partners Seminar, Maidstone, England, March 1992.
- 92-3 Peggs, I.D., "Geosynthetics CQA: Why and How?", North Carolina Chapter of ASCE, Charlotte, SC, April 1992.
- 92-4 Peggs, I.D., "Geosynthetic Lining Systems: Assuring Performance and Durability", Swedish Geotechnical Institute, Stockholm, Sweden, June 1992.
- 92-5 Kanninen, M.F., Peggs, I.D., and Popelar, C., "Assuring Durability of HDPE Geomembranes." Standardization News, ASTM, Philadelphia, September 1992. pp 2-7.
- 92-6 Peggs, I.D., and Steinle, E.R., Jr., "Geosynthetics Construction Quality Assurance: A Change in Philosophy", IGS News, International Geotextile Society, Vol. 8, No. 3, Easley, SC, November 1992, p 4.
- 93-1 Peggs, I.D., "Why Landfill Liner CQA Is Essential", Journal of the Institute of Waste Management, Northampton, England, March 1993, p 46.
- 93-2 Peggs, I.D., "Practical Geoelectric Leak Surveys with Handheld, Remote, and Water Lance Probes: Concrete Basin and Waste Cell Liners", Proceedings Geosynthetics '93, Industrial Fabrics Association International, Roseville, MN, March 1993 pp 1523-1532.
- 93-3 Peggs, I.D., Lewis, S., and Riegl, P., "Evaluation of a Friction/Drainage Structured Geomembrane", *Ibid.* pp 1053-1064.
- 93-4 Kanninen, M.F., Peggs, I.D., and Popelar, C.H., "A Methodology for Forecasting the Lifetimes of Geomembranes that Fail by Slow Crack Growth", *Ibid.* pp 831-844.
- 93-5 Peggs, I.D., Lewis, D.R., and Dewijn, T., "Geomembranes for the Containment of Pulp Mill Hot Black Liquors: Problems and Remediation", *Ibid.* pp 1357-1372. Nominated for Award of Excellence.
- 93-6 Cadwallader, M., Cranston, M., and Peggs, I.D. "White-Surfaced HDPE Geomembranes: Assessing Their Significance to Liner Design and Installation", *ibid.* pp 1065-1080.
- 93-7 Peggs, I.D., Bowen, R., Rigo, J.M., Hoekstra, S., and Courard, L., "Development of Optimum Seaming Parameters for an FCEA Geomembrane", *ibid.* pp 1013-1026.
- 93-8 Peggs, I.D., "Geosynthetics Materials Failures: An Overview", Antec '93, Society of Plastics Engineers, New Orleans, LA, May 1993, pp 2021-2025, Vol. 2.
- 93-9 Peggs, I.D., and Steinle, E.R., Jr., "Construction Quality Assurance for Landfill Lining System Geomembranes", *ibid.* pp 20188-2020, Vol. 2.
- 93-10 Peggs, I.D., Landfill Liners: Geomembrane Quality Assurance. CQA Seminars Presented for Manstock Geotechnical Consultancy Services, Manchester, and London, UK, April 1993.
- 93-11 Peggs, I.D., "MSW Landfill Liners: Assuring Quality and Durability", Solid Waste & Power, Kansas City, MO, May/June 1993, Vol. VII/No.3, pp 53, 54, 56, 58, 59.
- 93-12 Lewis, D.R., Peggs, I.D., Kilius, D.E., and Dewijn, T., "Geomembrane Liners for Black Liquor: Problems and Remediation". Proceedings Canadian Pulp and Paper Industry Environment Conference, Whistler, British Columbia, Canada, May 1993.
- 93-13 Peggs, I.D., PVC Geomembranes in Municipal Waste Landfill Liners and Covers: The Facts. Land and Water, July/August 1993, pp 36-39.
- 93-14 Peggs, I.D., "Geomembranes for Waste Containment Liners and Cover: Is There a Choice?", Proceedings The 4th International Landfill Symposium, Sardinia, October 1993, pp 121 - 127, Vol 1.
- 93-15 Peggs, I.D., "Advances and New Thinking in Landfill Liner Construction Quality Assurance Practices", Proceedings The 4th International Landfill Symposium, Sardinia, October 1993, pp 325 - 332, Vol 1.

- 93-16 Peggs, I.D., "Geosynthetic Forensic Analysis & Testing", Geotechnical News, BiTech Publishing, Vancouver, B.C., 1993.
- 93-17 Peggs, I.D., "HDPE Geomembrane Seams: Acceptance Criteria and Critical Defects". Proceedings The 7th GRI Conference, Geosynthetic Liner Systems: Innovations, Concerns and Designs, Philadelphia, PA, December 1993, pp 24-31.
- 94-1 Peggs, I.D., "Infrared Thermographic Nondestructive Testing of HDPE Geomembranes Seams: A Feasibility Study", Modern Double Lined Landfill Management Seminar, New York State Department of Environmental Conservation, New York, January 1994.
- 94-2 Peggs, I.D., Kanninen, M. "HDPE Geosynthetics: Premature Failures and their Prediction", Transportation Research Board Annual Meeting, Washington, January 1994.
- 94-3 Peggs, I.D., Interview Geosynthetics World, Linz, Austria, April 1994, pp 7-8, Vol. 4, No. 4.
- 94-4 Peggs, I.D., "Geomembranes for Lining Systems: Materials Performance and Quality Assurance", EXPOMIN '94, Santiago, Chile, May 1994.
- 94-5 Peggs, I.D., Miceli, G.F., McLearn, M.E., "Infrared Thermographic Nondestructive Testing of HDPE Geomembranes Seams: A Feasibility Study", 5th International Conference on Geotextiles, Geomembranes and Related Products, Singapore, September 1994, pp 941 - 944.
- 94-5 Peggs, I.D., Rollin, A.L., "Seam in HDPE Geomembranes: The Quality Target", *ibid.* pp 949 - 952.
- 94-7 Peggs, I.D., Glos, G., Haxo, H.E., "A Geomembrane Liner Failure: Design, Installation, and Communication Lessons Learned", *ibid.* pp 1077 - 1080.
- 94-8 Richardson, G.N., Peggs, I.D., Barton, W., "30 Year Lifetime Landfill Exposed Geomembrane Cover: Performance Criteria, Material Selection, and Design Features", *ibid.* pp 1097 - 1100.
- 94-9 Peggs, I.D., "Classification and Standards Applicable for Geosynthetics", "Basic Construction Techniques: Laying, Cutting, Jointing", "Waste Containment and Pollution Control (including leak detection): Design, Construction QC, and New Developments", "Liner Leak Survey, Failure Analysis & Remediation", "Implementation of an Independent CQA Plan for Waste Containment". Short courses at The Asian Institute of Technology, Bangkok, 1994.
- 94-10 Peggs, I.D., "Performance Characteristics of PVC Geomembranes", PVC Geomembrane Institute videotape, 1994.
- 95-1 Peggs, I.D., "The Meaning of CQA", Geotechnical Fabrics Report, Vol. 13, Number 1, IFAI, Roseville, MN, 1995, pp. 14-15.
- 95-2 Peggs, I.D., "Landfill Liners: Geomembrane Quality Assurance", Manstock Geotechnical Consultancy Services Ltd., Seminars, Manchester and Glasgow, UK, February 1995.
- 95-3 Peggs, I.D., Gloss III, G.H., Haxo, H.E., "Lessons Learned from a Large Pond Geomembrane Failure", Proceedings of Geosynthetics: Lessons Learned from Failures, Geosynthetics '95, IFAI, Roseville, MN, 1995, pp. 255-262.
- 95-4 Peggs, I.D., Kanninen, M.F., "HDPE Geosynthetics: Premature Failures and Their Prediction", Geosynthetics International, Vol. 2, No. 1, pp. 327-339.
- 95-5 Peggs, I.D., "Research on Testing and Welding of PE Geomembranes" Workshop, DSM Polyethylenes, Maastricht, The Netherlands, April 1995.
- 95-6 Peggs, I.D., "Geomembrane Liners: Applications, Selection, and Performance", KAITOS-DAY, Helsinki, Finland, April 1995.
- 95-7 Peggs, I.D., "Assessing Geomembrane Seam Strength - Nondestructively!", Geotechnical Fabrics Report, Vol. 13, Number 5, IFAI, Roseville, MN, 1995, pp. 16-20.

- 95-8 Peggs, I.D., "An Integrated Quality Program for the Specification and Installation of Geomembrane Lining Systems for Solid Waste and Liquid Containment", indesca-plastilago, Venezuela, July 1995.
- 95-9 Peggs, I.D., "Geomembrane Performance" Workshop, Bregenz, Austria, 29 September 1995.
- 95-10 Peggs, I.D., Trauger, R., "A Practical Integrated Quality Testing Program for Geosynthetic Clay Liners", MSW Management, Vol. 4, No. 5, Forester Communications, Santa Barbara, CA, 1995, pp. 42-47.
- 95-11 Peggs, I.D., Glos, G., and Haxo, H.E. Jr., "A Geomembrane Liner Failure: Design, Installation, and Communication Lessons Learned", Geosynthetics: Lessons Learned from Failures, IFAI, Roseville, MN, pp. 255-262.
- 96-1 Peggs, I.D., "Geomembrane Specifications" - Smith, Pachter, McWhorter & D'Ambrosio.
- 96-2 First Germany/USA Geomembrane Workshop, "HDPE Geomembrane Seaming and Testing", Berlin, Geotextiles and Geomembranes, Oxford, UK, Vol. 14 No. 12 December 1996.
- 96-3 Peggs, I.D., "A Reassessment of HDPE Geomembrane Seam Specifications", Proceedings of Geosynthetics: Applications, Design and Construction, 1996, Balkema, Rotterdam, pp 693-696.
- 96-4 Peggs, I.D., "Defect Identification, Leak Location, and Leak Monitoring in Geomembrane Liners", Proceedings of Geosynthetics: Applications, Design and Construction, (EuroGeo1), 1996, Balkema, Rotterdam, pp 611-618.
- 96-5 Calabria, C.R., Peggs, I.D., "Investigation of Geomembrane Seam Failures: Landfill Cover", Proceedings of the 10th GRI Conference, Philadelphia, PA 1996, pp 234-257.
- 97-1 Peggs, I.D., "Polymeric Products used for Waste Containment: Questions of Performance and Durability", Workshop for Institute for Mechanics and Materials, San Diego, CA., 11-14, January 1997.
- 97-2 Peggs, I.D., Denis, R., Berube, D., "Geomembrane Liners: Relative Significance of Material and Final Costs", Proceedings of Geosynthetics '97, IFAI, Roseville, MN, March 1997.
- 97-3 Peggs, I.D., "Stress Cracking in HDPE Geomembranes: What It Is and How To Avoid It", Geosynthetics Asia '97, Asian Society for Environmental Geotechnology, New Delhi, India, November 1997, pp 83-90.
- 97-4 Peggs, I.D., "A Comprehensive Generic CQA Plan for HDPE Geomembranes", *ibid.*, pp V.77-V82.
- 97-5 Peggs, I.D., "Practical Requirements for Geomembranes Used as Hydraulic Barriers" Invited Special Lecture, *ibid.*
- 97-6 Peggs, I.D., "Geomembranes: New Practices" MSW Management, Forester Communications Santa Barbara, CA, March/April 1997, pp 17-20.
- 97-7 Peggs, I.D., "Unearthed – We Need to Reassess HDPE Seam Specifications", Geotechnical Fabrics Report, IFAI, Roseville, MN, June/July 1997, pp. 46-47.
- 98-1 Peggs, I.D., "Chemical Resistance and Related Testing to Select a Geomembrane Liner Material", IGS Special Lecture, Johannesburg, South Africa, January 1998.
- 98-2 Peggs, I.D., "Geosynthetics in Landfills", MSW Management, Forester Communications, Santa Barbara, CA, Jan/Feb 1998, pp 23-27.
- 98-3 Popelar, C., Kuhlman, C., Peggs, I.D., "A Fracture Mechanics Assessment for the Long-Term Durability of HDPE Geomembranes", Proceedings 6th International Conference on Geosynthetics, IFAI, Roseville, MN, March 1998, pp 365-369.
- 98-4 Peggs, I.D. and Thiel, R., "Selecting a Geomembrane Material", *ibid.*, pp 381-388.
- 98-5 Calabria, C.R., Peggs, I.D., "Investigation of Geomembrane Seam Failures: Landfill Cover", Geotextiles and Geomembranes, Ed. N.W.M John, Elsevier, London, UK, Vol. 15, No. 4-6, Dec 97, pp 419-440.
- 98-6 Peggs, I.D., "Overview of Control, Performance, and Monitoring of Synthetic Liners Used for the Prevention of Air and Groundwater Pollution", Warsaw '98.

- 98-7 Peggs, I.D., "New Thinking and Technologies for Synthetic Liner Testing ", Invited Keynote Lecture at International Geosynthetics Seminar, Singapore, October 1998.
- 98-8 Peggs, I.D., Olsta, J.T., "A GCL and Incompatible Soil Case History: A Design Problem", Proceedings of the 12th GRI Conference - Lessons Learned from Geosynthetics Case Histories, Philadelphia, PA, 1998, pp 117-138.
- 99-1 Peggs, I.D., Geosynthetic Stress/Strain Curves: Practical Features and Observations, STP 1379, Grips, Clamps, Clamping Techniques, and Strain Measurements for Testing of Geosynthetics, ASTM January Committee Week, Memphis, Tennessee, January 1999.
- 99-2 Swyka, M., Peggs, I.D., et al. "Overview of Landfill Liner Leak Location Technologies", WasteCon '99, New Orleans, Louisiana, February 1999.
- 99-3 Zarnitz, C. and Peggs, I.D., "Materials & QC Issues for High Density Polyethylene Thermoplastic Tank, Sump, and Trench Lining Installations", Corrosion '99 Conference, NACE, Houston, Texas, April, 1999.
- 99-4 Peggs, I.D., "Mobile Geoelectric Liner Integrity Surveys: Planning Ahead", Geosynthetics 99 Conference – Specifying Geosynthetics and Developing Design Details, Boston, Massachusetts, IFAI, Roseville, MN, April 1999, pp 627 - 634.
- 99-5 Peggs, I.D., "Geomembrane-Liner Testing: The Practical World", MSW Management, Forester Communications, Santa Barbara, CA, Nov/Dec 1999, pp 35 - 40.
- 99-6 Peggs, I.D., "Commodities or Special Products?", Geosintéticos '99, IGS, Rio de Janeiro, Brazil, October 1999, pp 267 - 673.
- 99-7 Peggs, I.D., "The Future of Geosynthetics: Quality Assurance", Proceedings of the 13th GRI Conference – Geosynthetics in the Future: Year 2000 and Beyond", Philadelphia, PA, December 1999, pp 355 - 362.
- 00-1 Peggs, I.D., "Testing Required for the Analysis of Liner Failures", Leeds University (GeoTrac Rapide), Leeds, UK, January '00.
- 00-2 Peggs, I.D., "Geosynthetic Liner Quality Assurance in the New Millennium", UK Chapter IGS and North West Geotechnical Society, Manchester, UK, February 2000.
- 00-3 Peggs, I.D., NSF Geomembrane State-of-Practice Paper and Vision Paper Development Workshop, Auburn University, AL, July 2000.
- 00-4 Peggs, I.D., "Whither Geomembrane Technology?", Wastecon, Cape Town, South Africa, March, '00.
- 00-5 Peggs, I.D., Loeffler, B., "Post-Installation Assessment of the Quality of a Novel Heap Leach Pad Liner", Proceedings of the Second European Geosynthetics Conference, IGS, Bologna, Italy, October 2000, pp 601-605.
- 00-6 Peggs, E.J., Peggs, I.D., "Liner Leaks – Using the Internet to Prevent Them", Ibid., pp 967 – 970.
- 00-7 Phaneuf, R.J., Peggs, I.D., "Landfill Construction Quality - Lessons Learned From Electrical Resistivity Testing", paper presented for TRI course, Albany, NY, November '00.
- 00-8 Peggs, I.D., "Competing Organizations/Conferences", invited paper for the 14th GSI/GRI Conference, Las Vegas, NV, December, 2000.
- 00-9 Peggs, I.D., "The Making of a Cannibal", Geosynthetics Manufacturers Association, IFAI, Roseville, MN.
- 01-1 Peggs, I.D., "Geomembranes for Bioreactors – New Thinking", Municipal Solid Waste, Forester Publications, Santa Barbara, CA.
- 01-2 Peggs, I.D., "Three Challenging Electrical Integrity/Leak Surveys on Uncovered and Deep Waste-Covered Liners", Proceedings of Geosynthetics Conference 2001, IFAI, Roseville, MN, pp 245-262, February 2001.
- 01-3 Peggs, I.D., Zarnitz, C., "Cast-in Liner Manufacturing and Installation: An Economics Case History", ibid., pp

317-335, February 2001.

- 01-4 Phaneuf, R.J., Peggs, I.D., "Landfill Construction Quality – Lessons Learned from Electrical Resistivity Testing of Geomembrane Liners", published in Geotechnical Fabrics Report (GFR), IFAI, Roseville, MN, April 2001, pp 28-35.
- 01-5 Peggs, I.D., Allen S., "Geomembrane Seam Peel Separation: How and Why?", *ibid.*, pp16-18.
- 01-6 Peggs, I.D., "Geomembrane Liners for Resource and Environmental Protection: Ensuring Long Term Performance", Workshop presentation in Seoul, Korea, August 2001.
- 01-7 Peggs, I.D., "Monitoring the Integrity of UST Secondary Containment Geomembrane Liners: A Technical Note", Presented at Technical Symposium: Secondary Containment Testing of Underground Storage Tank (UST) Systems SWRCB, Sacramento, CA, December 2001.
- 01-8 Peggs, I.D., "Inadequate Geosynthetics Specifications: Funny if Not So Serious", Proceedings 15th GRI Conference on Hot Topics in Geosynthetics – II, Philadelphia, PA, USA, pp 290-302.
- 01-9 Peggs, I.D., Stevenson, P., Peggs, E.J., "Geosynthetics – Three Perspectives, One Exciting Future", invited article in Technical Textiles, December 2001, International Newsletters, Witney, UK, pp 20-22.
- 02-1 Peggs, I.D., "Two Leak Location Surveys on Geosynthetic Clay Liners", Proceedings of the International Symposium IS Nuremberg 2002, April 2002, A.A. Balkema Publishers, Lisse, The Netherlands, pp 275-286.
- 02-2 Peggs, I.D., McLaren, S., "Portable Infrared Spectroscopy for the Rapid Monitoring of Leaks in Landfill Caps and Bottom Geomembrane Liners", Proceedings Geosynthetics State of the Art Recent Developments, A.A. Balkema, Rotterdam, Netherlands, pp 775-778.
- 02-3 Peggs, I.D., Novella, P., "Geomembrane Conformance Testing: Two Interrelated Case Histories", *ibid.*, pp 1495-1498.
- 02-4 Peggs, I.D., Lawrence, C., Thomas, R., "The Oxidation and Mechanical Performance of HDPE Geomembranes: A More Practical Durability Parameter", *ibid.*, pp 779-782.
- 02-5 Peggs, I.D., "Continuing Problems and New Developments in Geomembrane Liner Technology", Palm Beach Solid Waste Association Workshop presentation, June 2002.
- 02-6 Peggs, I.D., "Vexing Issues: Specifications", Proceedings of GRI, Philadelphia, PA.
- 02-7 Elton, D.J. and Peggs, I.D., "Geomembrane Research Needs", Geosynthetics International 2002, Vol 9, No. 3, IFAI, Roseville, MN, pp 283-300.
- 02-8 Peggs, I.D., "Review of geosynthetic events 1993 – 1997", one of four invited articles celebrating GFR 20th anniversary, January 2003, IFAI, Roseville, MN.
- 03-1 Peggs, I.D., Giroud, J.P., Calabria, C., Thomas, R., "Forensic Analyses of Geomembrane and GCL Lining Systems", Workshop at Geosynthetics 2003, IFAI, Roseville, MN.
- 03-2 Peggs, I.D., "Call for Greater Standardization in Geosynthetics Industry", Technical Textiles International, Jan/Feb 2003, Witney, Oxford, UK, pp 26-28.
- 03-3 Peggs, I.D., (2003) *Geosynthetics Protecting the Environment*, "Geomembrane Liner Durability: Contributing Factors and the Status Quo", 1st United Kingdom Geosynthetics Symposium, UK Chapter of IGS, Thomas Telford, London, UK, Editors N. Dixon, D. Smith, J.R. Greenwood, D.R.V. Jones, pp 1-31.
- 03-4 Peggs, I.D., "Liner Case Histories – Performance of Geomembrane Materials and Construction Quality Assurance", Korea Workshop, GS ATRA and the Korea Society of Civil Engineers, Busan, Korea, July 2003.
- 03-5 Peggs, I.D., Nosko, V., Razdorov, P., "A Comprehensive Leak Survey and Leak Monitoring Case History for a Double Liner Separated by a Novel Conductive Geotextile", EuroGeo 3, German Geotechnical Society (DGGT), Munich, Germany, 2004 pp 515-518.

- 03-6 Needham, A., Peggs, I.D., Koerner, R.M., Nosko, V., Workshop Geomembrane “The Service Life of Geomembrane Liners”, *ibid.*
- 03-7 Peggs, I.D., “Factors Influencing HDPE Geomembrane Durability”, Proceedings of the 56th Annual Canadian Geotechnical Conference and 4th Joint IAH-CNC and CGS Groundwater Specialty Conference, Winnipeg, Canada, 2003.
- 03-8 Peggs, I.D., “Geomembrane Liners: Where We Are, Where We Are Going, and How We Get There“, *ibid.*
- 03-9 Peggs, I.D., Peggs, E.J., Duhalde, J.P., “Risk Assessment and Insurance for Containment Systems”, GRI-17 Hot Topics in Geosynthetics – IV (MSW Properties; Geotextile Tubes; Challenges & Opportunities, GRI, Folsom, PA, USA, 2003, pp 348-356.
- 04-1 Needham, A., Gallagher, E., Peggs, I.D., Howe, G., Norris, J., 2004, “The Likely Medium to Long Term Generation of Defects in Geomembrane Liners”, R&D Technical Report P1-500/1/TR, Environment Agency Bristol, UK.
- 04-2 Peggs, I.D., “Liners and Leakage: Maximizing the Performance of Waste Containment Liners”, Invited Article in Waste Management World, March-April 2004, pp 31-36.
- 04-3 Peggs, I.D., “Geomembranes and Seams”, GeoAsia 2004 3rd Asian Regional Conference on Geosynthetics, Korean Geosynthetics Society (KGSS), Seoul, Korea, pp 1032-1041.
- 04-4 Peggs, I.D., Peggs, E.J., “The Power of Risk Assessment and Its Impact on the Success and Economy of Containment Systems” Workshop, 24th IRMI Construction Risk Conference, November 2004.
- 04-5 Peggs, I.D., “Proper Specification to Assure HDPE Geomembrane Durability”, International Conference on Geosynthetics Geoenvironmental Engineering in Mumbai, India, December 2004.
- 04-6 Peggs, I.D., “Two Approaches to Performing Electrical Integrity Surveys on Double Geomembrane Liners Separated by a Geonet Drainage Layer”, *ibid.*
- 04-7 Peggs, I.D., Calabria, C.R., “Remediation of a Leaking Geomembrane: A Graphic Case History”, *ibid.*
- 04-8 Peggs, I.D., Interview Feature/Geosynthetics “Geosynthetics Solutions for Civil Engineers, Updates, Trends, and Tools”, *CE News*, April 2004, pp 34-36.
- 05-1 Peggs, I.D., “Factors Influencing the Durability of Polypropylene Geomembranes: Towards an Effective Specification”, proceedings GRI-18, January 2005, GRI, Folsom, PA, USA.
- 05-2 Peggs, I.D., “Separation in Plane: What is it, and is it of Concern?”, *ibid.*
- 05-3 Peggs, I.D., Schmucker, B., Carey, P., “Maximum Allowable Strains in HDPE, LLDPE, and PP Geomembranes”, GeoFrontiers 2005, January 2005, IFAI, Roseville, MN, presented but not published.
[http://ascelibrary.org/doi/abs/10.1061/40789\(168\)23](http://ascelibrary.org/doi/abs/10.1061/40789(168)23)
- 05-4 Peggs, I.D., Hanak, J., Polivka, B., Allen, S., “A Geosynthetic Composite Surface for Large Car Parks”, GeoFrontiers 2005, January 2005, IFAI, Roseville, MN.
- 05-5 Peggs, I.D., Peggs, E.J., Workshop on “Insurance Risk Assessment in Geosynthetic Projects”, GeoFrontiers 2005, January 2005, IFAI, Roseville, MN.
- 05-6 Peggs, I.D., “Infrared Thermography, an interview with Ian D. Peggs, Ph.D., P.E.”, GFR June/July 2005, Roseville, MN, pp 12-15.
- 05-7 Peggs, I.D., “Geosynthetics in Landscaping: Temporary Surfaces for Storage”, invited presentation at IFAI Expo 2005, San Antonio, TX, October 2005.
- 05-8 Peggs I.D., Duhalde J., “Investigation of PVC Liner Leakage in a Very Large Evaporation Pond” North American Geosynthetics Society/GRI19, December 2005, Folsam, PA, USA..
- 05-9 Peggs, I.D., “Lessons Learned from a Geomembrane Liner Failure in a Cold Environment”, *ibid.*

- 06-1 Peggs, I.D., "Portable Methods of Locating Leaks in Liners and Their Integration", presented at 8ICG-Yokohama, Japan, September 2006.
- 06-2 Peggs, I.D., "Investigation of Stress Cracking in a Reinforced Polypropylene Floating Cover", *ibid.*
- 06-3 Peggs, I.D., Tolaymat, T., "Assessing Infrared Thermography for the Nondestructive Evaluation of Geomembrane Seam Bond Strength", Research & Development Report for U.S. Environmental Protection Agency to be completed 2007.
- 06-4 Peggs, I.D., "Geomembrane Liners in Wastewater Treatment Ponds: Whales and Their Prevention", *Land and Water*, July/August 2006, pp 44 – 45.
- 06-5 Peggs, I.D., "Designing for Geoelectrical Liner Integrity and Leak-Location Surveys, what to look for (and to look out for!) when designing lining systems for electrical integrity/leak-location surveys", *Geosynthetics (formerly GFR)*, August/September 2006, pp 44- 45.
- 06-6 Peggs, I.D., Invited paper "Geomembranes: Recent Developments in a Still Developing Barrier Technology", *Geosynthetics in India, Present and Future*, Publication # 298, The Indian Chapter of the IGS and the Central Board of Irrigation & Power, Ed. Prof. G.V. Rao, New Delhi, India, November 2006.
- 06-7 Peggs, I.D., "Testing and Evaluation of Geomembranes", *ibid.*
- 07-1 Peggs, I.D., "Liner Integrity/Leak-Location Survey: The Significance of Boundary Conditions", *Geosynthetics (formerly GFR)*, February/March 2007, pp 34 – 38, IFAI, Roseville, MN, USA.
- 07-2 Peggs, I.D. and Tolaymat, T., "Infrared Thermography: A Nondestructive Technique for Assessing Geomembrane Seam Bond Strength", *Geosynthetics 2007*, IFAI, Roseville, MN, USA.
- 07-3 Peggs, I.D., "Potential Use of Geosynthetics in Airport Engineered Materials Arresting Systems (EMAS)", Proceedings GRI-20, Folsom, PA, USA, January 2007.
- 07-4 Peggs, I.D., "Polypropylene Geomembranes: To Use or Not To Use?" Canadian Environmental Protection, Baum Publications, Vancouver, BC, Canada, Jan/Feb 2007, p17.
- 07-5 Peggs, I.D., "Optimum Use of Geomembrane Materials in Irrigation Canal Lining", invited article. International Commission on Irrigation and Drainage, Newsletter #1, New Delhi, India, March 2007, p4.
- 07-6 Peggs, I.D., "Theory of Geoelectric Integrity/Leak Location Surveys", Saratoga, Federation of NY Waste Associations, presented May 2007.
- 07-7 Elton, D.J., Peggs, I.D., "Geomembrane Liner Testing Technologies – Present and Developing" published in the *Indian Geotechnical Journal*.
- 07-8 Peggs, I.D., Phaneuf, R.J., Sieracke, M.D., "Factors Influencing the Quality of Geoelectric Liner Integrity and Leak Location Surveys", *Wastecon 2007*, SWANA, Silver Spring, MD.
- 07-9 Suits, D., Peggs, I.D., "Evaluating Geosynthetic Installations Using GPR", Ground Penetrating Radar Annual Workshop, Orlando, FL, USA, November 2007.
- 08-1 Peggs, I.D., "Take Precautions to Avoid Liner Failure", *Canadian Environmental Protection*, Jan/Feb 2008, Baum Publications Ltd., Vancouver, BC, Canada.
- 08-2 Peggs, I.D., "Concrete Protection and Loose Liner Performances in Mine SX/EW Mixers and Settlers: The Value of Chemical Resistance Testing", proceedings *GeoAmericas*, March 2008, IFAI, Roseville, MN, USA.
- 08-3 Peggs, I.D., Wallace, R.B., "Challenges and Lessons Learned During Geoelectric Leak Location Surveys on a Complex Triple Lining System", proceedings *GeoAmericas*, March 2008, IFAI, Roseville, MN, USA.
- 08-4 Peggs, I.D., "Causes and Resolution of Whales in Community Waste Water Treatment Plant Lagoons", proceedings *GeoAmericas*, March 2008, IFAI, Roseville, MN, USA.

- 08-5 Peggs, I.D., "Prefabricated Bituminous Geomembrane: A Candidate for Exposed Geomembrane Caps for Landfill Closures", proceedings GeoAmericas, March 2008, IFAI, Roseville, MN, USA.
- 08-6 Peggs, I.D., Glenewinkel, H., "Potential Anchored Geosynthetic Underwater Habitats", GRI21, GRI, Folsam, PA, USA, March 2008.
- 08-7 Peggs, I.D., "Geomembrane Performance, the Influence of Testing or Lack of Testing", June 2008 invited lecture for Inha University, Seoul, South Korea.
- 08-8 Peggs, I.D., "Geomembrane Performance, the Influence of Testing or Lack of Testing", June 2008 invited lecture for the Australasian Chapter of the International Geosynthetics Society and Monash University Geomechanics Department, Melbourne, Australia.
- 08-9 Peggs, I.D., "Geosynthetics in Landfills: a Perspective", published in *TechTex India, BCH Newsletter*, July – September 2008, Vol. 2 Issue 3, pp 43-45, New Delhi, India.
- 08-10 Peggs, I.D., Duhalde, J.P., "What to Do in the Event of a Geosynthetics Failure?: An Action Plan", Proceedings, EuroGeo4, Edinburgh, Scotland, IGS, Easley, SC, USA, paper #265, September 2008.
- 08-11 Peggs, I.D., "Observations and Thoughts on the Performance of Polypropylene Geomembrane Liners and Floating Covers: Towards Improved Specifications", proceedings EuroGeo4, Edinburgh, Scotland, IGS, Easley, SC, USA, Paper #266, September 2008.
- 08-12 Peggs, I.D., Elie, G., "Factors that Affect the Stress Cracking Resistance of HDPE Geomembrane Liners: Part 1 – What We Know and Might Expect", proceedings EuroGeo4, Edinburgh, Scotland, IGS, Easley, SC, USA, Paper #267, September 2008.
- 08-13 Peggs, I.D., "Geomembrane Liners: Successes and Failures" presented at Bucharest Technical University, Bucharest, Romania, September 2008.
- 08-14 Peggs, I.D., "HDPE Geomembranes: Maximizing Reliability and Durability", *India Masterbuilder*, January 2009, Chennai, India.
- 09-1 Peggs, I.D., "Ugly Geomembranes and Related Plastic Surgery", Invited Scholar presentation for Jones Edmunds' Visiting Scholar Lecture Program, January 2009.
- 09-2 Peggs, I.D., "Small Details that Affect Exposed Liner Performance", GRI 22, Folsam, PA, USA, pp 5-14.
- 09-3 Peggs, I.D., Viljoen D., "To Batten or Not and If So – How?", GRI 22, Folsam, PA, USA, pp 43-50.
- 09-4 Peggs, I.D., "HDPE Geomembranes – Reaching 30 years, What's Next: or How Much Longer Will My Liner Last?", proceedings Geo09, IFAI, Roseville, MN, USA, pp 357-364.
- 09-5 Peggs, I.D., "Conditions Required for the Successful Performance of Geoelectric Liner Integrity and Leak Location Surveys" presented at GeoAfrica 09, Cape Town, South Africa, September 2009.
- 09-6 Peggs, I.D., "Geomembrane Liner Action Leakage Rates: What is Practical and What is Not?" published in *Land and Water Magazine*, Fort Dodge, IA, July/August 2009, pp 47-50.
- 09-7 Peggs, I.D., "Determining the Remaining Lifetime of Exposed HDPE Geomembrane Liners" presented at GeoAfrica 09, Cape Town, South Africa, September 2009.
- 09-8 Peggs, I.D., "Thoughts on Determining Time to End-of-Life (EOL) of Installed Exposed HDPE Geomembrane Liners", invited Keynote Lecture presented at Geosynthetics Middle East 2009, Dubai, U.A.E., November 2009, paper #1.
- 09-9 Peggs, I.D., "Exposed Geomembrane Landfill Caps and Solar Collectors for Power Generation" presented at Geosynthetics Middle East 2009, Dubai, U.A.E., November 2009, paper #12.
- 09-10 Peggs, I.D., Workshop "HDPE Geomembrane Liners: Maximum Allowable (Action) Leakage Rates, Locating Responsible Leaks and Their Causes, and Remaining Exposed Liner Lifetime", post Geosynthetics Middle East 2009, Dubai, U.A.E., November 2009.

- 10.1 Peggs, I.D., Workshop “Parametric Transitions for the Determination of Exposed HDPE Geomembrane End of Life (EOL)”, GRI 23, San Antonio, TX, Folsom, PA, USA.
- 10.2 Peggs, I.D., “Forensic Investigation of Geomembrane Liner Cracking: Premature Failure or End-of-Life?” presented at 9th International Conference on Geosynthetics, Brazil, May 2010.
- 10.3 Peggs, I.D., Phillips, J., and Amoah, N., “Designing Geomembrane Capping for Long Term Performance: A Case Study of Closure of Tailings Storage Facility in BHPBilliton Worsley Alumina” presented at 9th International Conference on Geosynthetics, Brazil, May 2010.
- 10.4 Peggs, I.D., “Performing Liner Integrity and Leak Location Surveys”, Training Lecture presented at 9th International Conference on Geosynthetics, Brazil, May 2010.
- 10.5 Peggs, I.D., “Lessons Learned From Leakage Through a Subgrade Slab Geotextile/Bentonite/Geotextile Composite Waterproofing Membrane”, *The Journal of RCI Interface*, July 2010, Vol XXVIII No. 6, pp 4-12.
- 10.6 Peggs, I.D., “The Performance of Concrete Protection Liners in Mine SX/EW Mixers and Settlers: The Need for Chemical Resistance Testing”, published in Geotextiles and Geomembranes Special Mining Issue, official journal of the International Geosynthetics Society, Elsevier Science, NY, NY, USA.
- 10.7 Peggs, I.D., “Conflicting Sealing and Leak Drainage Requirements for GCL-only Liners”, presented at the 3rd International Symposium on Geosynthetic Clay Liners, Würzburg, Germany, 15/16 September 2010.
- 10.8 Peggs I.D., “Geomembrane and GCL Lining Systems: Avoiding Performance Problems”, presented at Geosynthetics Middle East 2010, Waterproofing Systems and Reinforced Structures, November 2010, Abu Dhabi, UAE.
- 10.9 Peggs, I.D., “Selection, Installation, Testing, and Performance of Geomembrane Liners” training session at Mactec, Louisville, November 2010.
- 11.1 Peggs, I.D., “Geomembrane Quality Assurance: Why, How and Things to Think About”, Finnish Geotechnical Institute, Helsinki, Finland, March 2011.
- 11.2 Peggs, I.D., “Geomembrane and GCL Performance Problem Case Histories: The Hard Way to Learn”, Finnish Geotechnical Institute, Helsinki, Finland, March 2011.
- 11.3 Peggs, I.D., “Action Leakage Rates and Liner Testing” Panel Discussion at GeoFrontiers, March 2011, Dallas, TX.
- 11.4 Peggs, I.D., “Thoughts on Unusual Transverse Cracking of Wind-Blown and Wave-Generated HDPE Geomembrane Wrinkles in a Wastewater Irrigation Pond” Geo Middle East 2011 in UAE, October 2011, pp 101-111.
- 11.5 Peggs, I.D., “Overview of HDPE Stress Cracking”, Seminar for Geofabrics, Brisbane, Australia, October 2011.
- 12.1 Peggs, I.D. “HDPE Geomembrane Specifications That Have Been, or Should Be, Retired and What They Should Be Replaced With”, Land and Water, January/February 2012, pp 32-34.
- 12.2 Peggs, I.D., Duhalde, and J.P. “Interaction of Technical Expert and Loss Adjuster During Investigation of Failure of HDPE Liner in Copper Slurry Pipeline” GeoAmericas 2012, Peru.
- 12.3 Peggs, I.D., “Unusual transverse cracking on HDPE Geomembrane Wrinkle/Whale in a Wastewater Irrigation Pond”, GeoAmericas 2012, Peru.
- 12.4 Peggs, I.D., “HDPE Geomembrane Destructive Seam Testing, Cyclic Stress Cracking, and Action Leakage Rates: A View from the Other Side of the Pond”, Eurogeo5, Valencia, Spain, September, 2012.
- 12.5 Peggs, I.D., “How Much Longer Before My Exposed HDPE Liner Dies? Here’s a Plan - Now Let’s Improve It”, Co-Chaired Panel Discussion Session, EuroGeo5, Valencia, Spain, September, 2012.
- 13.1 Ramsey, B., Betke, B., Peggs, I.D., “Storage of Coal Combustion Residuals with a Geosynthetic Liner – 30 Year Forensic Study”, Geosynthetics 2013, Long Beach, California, USA, April 2013.

- 13.2 Peggs, I.D., Beck, A., Allen, S., Shah, A.J., "Development of, and Experiences During, a Program for the Certification of Geoelectric Liner Integrity and Leak Location Surveyors", Geosynthetics 2013, Long Beach, California, USA, April 2013.
- 13.3 Peggs, I.D., "Double Lining Systems: One and One Can Make Three!", Geosynthetics 2013, Long Beach, California, USA, April 2013.
- 13.4 Peggs, I.D., Thomas, R., "What is the Remaining Lifetime of My Exposed Liner? Here's a Plan – The North American View", Panel Discussion Session Moderators, Geosynthetics 2013, Long Beach, California, USA, April 2013.
- 13.5 Peggs, I.D., Beck, A., "Liner Integrity and Leak Location Surveys", Session Chairs, Geosynthetics 2013, Long Beach, California, USA, April 2013.
- 13.6 Peggs, I.D., "How to Specify a Geoelectric Liner Integrity Survey", Panel Discussion Member, Geosynthetics 2013, Long Beach, California, USA, April 2013.
- 13.7 Sieracke, M., Peggs, I.D., "Thermal Seaming of Polyethylene", GRI 25 2013, Long Beach, California, USA, April 2013.
- 13.8 Peggs, I.D., "Specifying a High Durability HDPE Liner That Can Be Geoelectrically Surveyed For Leaks", to be presented at GeoAfrica 13, 2nd African Regional Conference on Geosynthetics, Accra, Ghana, 18-20 November 2013.
- 13.9 Peggs, I.D., "The Necessity for Geomembrane Liner Action Leakage Rates", to be presented at GeoAfrica 13, 2nd African Regional Conference on Geosynthetics, Accra, Ghana, 18-20 November 2013.
- 14.1 Peggs, I.D., "Liner Action Leakage Rates for Large Deep Ponds (LDPs)", to be presented at 10th International Conference on Geosynthetics, Berlin, Germany, 21-25 September 2014.
- 14.2 Peggs, I.D., "Is There a Resurgence of Stress Cracking in Exposed HDPE Liners?", to be presented at 10th International Conference on Geosynthetics, Berlin, Germany, 21-25 September 2014.