

## **RESUME OF DANIEL H. POPE, Ph.D.**

**October 6, 2008**

Dr. Daniel H. Pope,  
President Bioindustrial Technologies, Inc. and  
Principal Scientist/Managing Partner BTI Products L.P.

*May through October:*  
320 Pine River Ranch Circle  
Bayfield, Colorado 81122  
970-884-7217  
970-759-4817  
services@bti-labs.com

*November through April:*  
P.O. Box 40200  
South Padre Island, TX 78597  
970-759-4817  
services@bti-labs.com

Date of Birth: August 20, 1941

Married with five children (one deceased)

### **Educational Preparation**

- B.S. Microbiology, California State University, Long Beach, CA, 1966
- M.S. Microbiology (Marine and Industrial), California State University Long Beach, CA, 1969
- Ph.D. Microbiology, University of Hawaii, Honolulu, Hawaii, 1973

### **Non-Degree Preparation**

- One year training in clinical laboratory technology, Memorial Hospital of Long Beach, California. 1966-67. ASCP registered and California licensed.

### **Professional Experience**

- Medical Laboratory Technologist, ASCP registered and California Licensed, 1966-1968
- Employed as Curator of Departmental Stock Culture Collection, Department of Microbiology, California State University Long Beach, California, 1969-1971
- Graduate Student and Research Assistant in the laboratory of Dr. Leslie R. Berger, Professor of Microbiology, University of Hawaii, Honolulu, Hawaii, 1969-1971
- Graduate Student and Teaching Assistant in the Department of Microbiology, University of Hawaii, Honolulu, Hawaii, 1971-1973
- Postdoctoral Associate with Professor J. V. Landau, Chairman, Department of Biology, Rensselaer Polytechnic Institute, Troy, New York, 1973-1974
- Assistant Professor, Department of Biology, Rensselaer Polytechnic Institute, Troy, New York, 1974-1978
- Visiting Scientist Ca. Savannah River Laboratory, Aiken, SC, 1975-1981
- Associate Professor, Department of Biology, Rensselaer Polytechnic Institute, Troy, New York, 1978-1989
- Director, Special Animal Facility, Rensselaer Polytechnic Institute, Troy, New York, 1980-1984

- Director, Fresh Water Institute, Rensselaer Polytechnic Institute, Troy, New York, July 1981-June 1984
- Owner and President Biotest, Inc. (1984-1986) and then Bioindustrial Technologies, Inc. (1986 to present)
- Visiting Scientist, Argonne National Laboratory, Argonne, IL, 1985-2002
- Research Professor, Department of Biology, Rensselaer Polytechnic Institute, Troy, New York, 1989-1991

### **Professional Societies (Memberships, Past or Present)**

- American Association for the Advancement of Science
- American Society for Industrial Microbiology
- American Society for Limnology and Oceanography
- American Society for Microbiology
- American Society of Clinical Pathologists
- Cooling Tower Institute
- National Association of Corrosion Engineers
  - (Served as Chairman of several subcommittees and T3-J Symposium Committee)
- National Fire Protection Association, member of NFPA 13 subcommittee on MIC
- Sigma Xi (Honorary Scientific Society)

### **Community and Public Service**

- Chairman, Corrosion 89 Symposium on MIC 1989, National Association Corrosion Engineers.
- Chairman, T3J2 Chairman Microbial Corrosion Committee, National Association Corrosion Engineers.
- Chairman, Research & Development Committee, National Registry for Microbiologists.
- American Academy of Microbiology, Member of Board of Registry.
- National Fire Protection Association, Member of NFPA 13 Subcommittee on MIC.

### **Publications**

#### *Books/monographs*

Pope, D.H., D.J. Duquette, P. Wayner, and A.H. Johannes. *Microbiologically Influenced Corrosion: A State of the Art Review*. Columbus, OH: Materials Technology Institute of the Chemical Process Industries, 1984.

Pope, D.H. *Microbiologically Influenced Corrosion in the Nuclear Power Industry*. Palo Alto, CA: Electric Power Research Institute, May 1986.

Pope, D.H. *Microbiologically Influenced Corrosion in Fossil Fueled Power Plants*. Electric Power Industry, 1987.

Pope, D.H., D.M. Dziwulski, T.P. Zintel, and O. Siebert. *Guide to the Investigation of Microbial Corrosion in Gas Industry Facilities*. Chicago, IL: Gas Research Institute, 1988.

Pope, D.H. *Topical Report: State-of-the-Art Report on Monitoring, Prevention and Mitigation of Microbiologically Influenced Corrosion in the Natural Gas Industry*. Chicago, IL: Gas Research Institute, 1992.

Pope, D.H., O. Siebert, and D. Jackson. *GRI Field Guide 1990, Microbiologically Influenced Corrosion (MIC): Methods of Detection in the Field*. Chicago, IL: Gas Research Institute, 1990.

Pope, D.H. *GRI Field Guide 1992, Microbiologically Influenced Corrosion (MIC) II: Investigation of Internal MIC and Testing Mitigation Measures*. Chicago, IL: Gas Research Institute, 1992.

Pope, D.H. and E.A. Morris. *GRI Field Guide 1994, Microbiologically Influenced Souring (MIS): Assessment of MIS in Natural Gas Storage Fields*. Chicago, IL: Gas Research Institute, 1994.

Pope, D.H. *Diagnosis and Treatment of Microbiologically Influenced Corrosion in Natural Gas Industry Facilities*. Chicago, IL: Gas Research Institute, 1999.

Bioindustrial Technologies, Inc., *Practical Guide to Diagnosis, Treatment, and Prevention of Microbiologically Influenced Corrosion in Fire Protection Systems*, Second Edition. Colorado: Bioindustrial Technologies, Inc., 2001.

Bioindustrial Technologies, Inc., *Practical Guide to Diagnosis and Mitigation of Microbiologically Influenced Corrosion (MIC) in Fire Protection Systems*. Colorado: Bioindustrial Technologies, Inc., 2005.

### *Scientific Articles*

Pope, D.H. and Berger, L.R. 1973. Algal Photosynthesis at Increased Hydrostatic Pressure and Constant  $pO_2$ . *Arch. Mikrobiol.* 89: 321-325.

Pope, D.H. and Berger, L.R. 1973. An Apparatus to Measure the Rate of Oxygen Evolution While Maintaining  $pO_2$  Constant During Photosynthetic Growth in Closed Culture Vessels Capable of Operation at Increased Hydrostatic Pressures. *Biotechnology and Bioengineering* 15: 505-518.

Pope, D.H. and Berger, L.R. 1973. Inhibition of Metabolism by Hydrostatic Pressure: What Limits Microbial Growth? *Archiv. Mikrobiol.* 93: 367-370

Pope, D.H. 1974. Heterotrophic Potential of Phormidium and Other Blue-Green Algae. *Can. J. Bot.* 52: 2369-2374.

Pope, D.H. and Berger, L.R. 1974. Effect of Temperature and Hydrostatic Pressure on Algal Respiration. *Can. J. Bot.* 52: 2375-2379

- Pope, D.H. 1975. Effects of Light Intensity, Oxygen Concentration, and Carbon Dioxide Concentration on Photosynthesis in Algae. *Microbial Ecology* 2: 1-16.
- Pope, D.H., Smith, W.P., Swartz, R.W., and Landau, J.V. 1975. Role of the Bacterial Ribosomes in Barotolerance. *J. Bacteriol.* Vol 121, No 2: 664-669.
- Pope, D.H., Connors, N.T., and Landau, J.V. 1975. Stability of *Escherichia coli* Polysomes at High Hydrostatic Pressure. *J. Bacteriol.* Vol 121, No 3: 753- 758.
- Smith, W., Pope, D., and Landau, J.V. 1975. Role of Bacterial Ribosome Subunits in Barotolerance. *J. Bacteriol.* Vol 124, No 1: 582-584
- Pope, D.H., Smith, W., Orgrinc, M., and Landau, J.V. 1976. Protein Synthesis at 680 atm: Is It Related to Environmental Origin, Physiological Type, or Taxonomic Group? *Appl. Envir. Microbiol.* Vol 31, No 6: 1001-1002.
- Smith, W., Landau, J.V., and Pope, D.H. 1976. Specific Ion Concentration as a Factor in Barotolerant Protein Synthesis in Bacteria. *J. Bacteriol.* Vol 126, No 2: 654-660.
- Landau, J.V., Smith, W., and Pope, D.H. 1977. Role of the 30S Ribosomal Subunit, Initiation Factors, and Specific Ion Concentration in Barotolerant Protein Synthesis in *Pseudomonas bathycetes*. *J. Bacteriol.* Vol 130, No 1: 154-159.
- Roy, H., Valeri, A., Pope, D.H., Rueckert, L., and Costa, K.A. 1978. Small Subunit Contacts in Ribulose-1,5-bisphosphate Carboxylase. *Biochemistry* 17: 665-668.
- Broeze, R.J., Solomon, C., and Pope, D.H. 1978. Effects of Low Temperature on In vivo and In vitro Protein Synthesis in *Escherichia coli* and *Pseudomonas fluorescens*. *J. Bacteriol.* Vol 134, No 3: 861- 874.
- Tison, D.L. and Pope, D.H. 1980. Effect of Temperature on Mineralization by Heterotrophic Bacteria. *Appl. Envir. Microbiol.* Vol 39, No 3: 584-587.
- Tison, D.L., Pope, D.H., Cherry, W., and Fliermans, C.B. 1980. Growth of *Legionella pneumophila* in Association with Blue-Green Algae (Cyanobacteria). *Appl. Environ. Microbiol.* Vol 39, No2: 456-459.
- Tison, D.L., Pope, D.H., and Boylen, C.W. 1980. Influence of Seasonal Temperature on the Temperature Optima of Bacteria in Sediments of Lake George, New York. *Appl. Environ. Microbiol.* Vol 39, No 3: 675-677.
- Fliermans, C.B., Cherry, W.B., Orrison, L.H., Tison, D. L., Smith, R.B., and Pope, D.H. 1981. Ecological Distribution of *Legionella pneumophila*. *Appl. Environ. Microbiol.* 41: 9-16.
- Tison, D., Wilde, E., and Pope, D.H. 1981. Biovolume and Primary Production Rates for Various Phytoplanktonic Size Fraction from Freshwater Aquatic Habitats. *Appl. Environ. Microbiol.* 41: 1055-1059.

- Tison, D.L., Wilde, E.W., Pope, D.H., and Fliermans, C.B. 1981. Productivity and Species Composition of Algal Mat Communities Exposed to a Fluctuating Thermal Regime. *Mic. Ecology*. 7: 151-165.
- Fliermans, C. B., Soracco, R.J., and Pope, D.H. 1981. Measurement of *Legionella pneumophila* Activity In Situ. *Curr. Microbiol.* 6: 89-94.
- Pope, D. H., Soracco, R.J., Gill, H. K. and Fliermans, C.B. 1982. Growth of *Legionella pneumophila* in Two-Membered Cultures with Green Algae and Cyanobacteria. *Current Micro.* 7: 319-322.
- Pope, D.H., Soracco, R.J., and Wilde, E.W. 1982. Studies on Biologically Induced Corrosion in Heat Exchanger Systems at the Savannah River Plant, Aiken, SC. *Materials Performance*. 21: 43-50.
- Pope, D.H., Soracco, R.J., and Wilde, E.W. 1982. Methods of Detecting, Enumerating and Determining Viability of Microorganisms Involved in Biologically Induced Corrosion. *Corrosion/82*, National Association of Corrosion Engineers Int'l, Paper No. 23.
- Hanson, R.B., Lowery, H.K., Shafer, D., Soracco, R.J. and Pope, D.H. 1983. Microbes in antarctic waters of the Drake Passage: vertical patterns of substrate uptake, productivity and biomass in January 1980. *Polar Biol.* 2:179-188.
- Pope, D.H. 1983. Microbial Fouling and Corrosion of Metals. *McGraw-Hill Yearbook of Science and Technology for 1983*.
- Soracco, R.J., and Pope, D.H. 1983. Bacteriostatic and Bactericidal Modes of Action of Bis(tributyltin)oxide on *Legionella pneumophila*. *Appl. Environ. Microbiol.* Vol 45, No 1:48-57.
- Soracco, R.J., Gill, H.K., Fliermans, C.B. and Pope, D.H. 1983. Susceptibility of Algae and *Legionella pneumophila* to Cooling Tower Biocides. *Appl. Environ. Microbiol.* 45:1254-1260.
- Hanson, R.B., Shafer, D., Ryan, T., Pope, D.H., and Lowery, H.K. 1983. Bacterioplankton in Antarctic Ocean Waters During Late Austral Winter: Abundance, Frequency of Dividing Cells, and Estimates of Production. *Appl. and Environ. Microbiol.* Vol 45, No 5:1622-1632
- Pope, D.H., Duquette, D.J. Johannes, A.H. , and Wayner, P.C. 1983. Microbiologically Influenced Corrosion of Industrial Alloys. *Corrosion/83*, Paper No. 247. Anaheim, CA
- Howland, E.B., and Pope, D.H. 1984. Distribution and Seasonality of *Legionella pneumophila* in Cooling Towers. *Current Microbiol.* 9:319-324.
- Mayack, L.A., Soracco, R.J., Wilde, E.W., and Pope, D.H. 1984. Comparative Effectiveness of Chlorine and Chlorine Dioxide Biocide Regimes for Biofouling Control. *Water Res.* Vol 18, No 5:593-599.

Pope, D.H., Eichler L.W., Coates T.F., Kramer J.F. and Soracco R.J. 1984. The Effect of Ozone on *Legionella pneumophila* and Other Bacterial Populations in Cooling Towers. *Current Microbiology*. 10:89-94.

Soracco, R.J., Berger, L.R., Berger, J., Mayack, L.A., Pope, D.H. and Wilde, E.W. 1984. Microbiologically Mediated Reduction in the Pitting of Mild Steel Overlaid with plywood. *Corrosion/84*, National Association of Corrosion Engineers Int'l, Paper No. 98.

Pope, D.H. 1984. Microbiological Influenced Corrosion: Conclusions of A State of The Art Review. Seminar on Microbiol. Corrosion: Annual Meeting Amer. Soc. Microbiology.

Soracco, R.J., Wilde, E.W., Mayack, L.A. and Pope, D.H. 1984. Comparative Effectiveness of Antifouling Treatment Regimes using Chlorine or a Slow Releasing Bromine Biocide. *Water Res.* Vol 19, No 6: 763-766.

Ryan, T. and Pope, D.H. 1985. Susceptibility of *Pseudomonas aeruginosa* to Various Biocides Using In Vitro Test Methods. *Appl. Environ. Microbiol.*

Soracco, R.J., Wilde, E.W., Mayack, L.A. and Pope, D.H. 1984. A Model System for Studying Fouling and Corrosion in Shell-Side Cooling Water Heat Exchangers. *Materials Performance* Vol 23, No 11:35-39.

Pope, D.H., O'Brien, L., Eichler, L. and Soracco, R.J. 1985. Biocidal Control of Microorganisms Including *Legionella* in Cooling Towers and in Deposits on Metal Surfaces Responsible for Microbiologically Influenced Corrosion. 2nd Conference on Chemical Disinfection, State University of New York.

Pope, D.H. 1985. Microbiologically Influenced Corrosion: Detection, Prevention and Control Proceedings: 6th Int'l Biodeterioration Symposium. Published by National Association of Corrosion Engineers Int'l.

Pope, D.H. 1985. Microbiologically Influenced Corrosion: in U.S. Industries: Detection and Prevention. Conicet-N.S.F., U.S.-Argentine Workshop on Biodeterioration. March 1985. Published as Proceedings Volume. 1986.

Pope, D.H. 1985. Microbiologically Influenced Corrosion: Detection, Treatment and Prevention. Electric Power Research Institute, Condenser Biofouling Control Symposium. May, 1985. Published as a Proceedings Volume. 1986.

O'Keefe, P.W., Hilker, D.R., Smith, R.M., Aldous, M., Donnelly, R.J., Long, D. and Pope, D.H. 1986. Nonaccumulation of Chlorinated Dioxins and Furans by Goldfish Exposed to Contaminated Sediment and Flyash. *Bull. Environ. Contam. Toxicol.* 36:452-459.

Stoecker, J.G. and Pope, D.H. 1986. Study of Biological Corrosion in High Temperature Demineralized Water. *Materials Performance*, Vol 25, No 6:51-56.

Kramer, J.F., Pope, D.H. and Salerno, J.C. September, 1986. Purification and characterization of low potential c cytochromes from *Desulfovibrio desulfuricans* membranes. *FEBS LETTERS* 4055, Vol 206, No 1:157-161.

Pope, D.H. April 1986. Industrial Experiences Using a Variety of Biocides. Proceedings III Conference on Progress in Chemical Disinfection.

Eichler, L. and Pope, D.H. April 1986. Effectiveness of Various Biocide Formulations on Performed Biofilms. Proceedings III Conference on Progress in Chemical Disinfection.

Kramer, J.F., Pope, D.H. and Salerno, J.C. 1987. Pathways of Electron Transfer in *Desulfovibrio*. In: Proceedings of the Symposium on Membrane Biochemistry and Bioenergetics (Rensselaerville, NY 1986).

Hayner, G.O., Pope, D.H. and Clary, M.D. 1987. Microbiologically Influenced Corrosion in the Condenser Water Boxes at Crystal River-3. Proceedings of the Third International Symposium on Environmental Degradation of Materials in Nuclear Power Systems-Water Reactors.

Pope, D.H. 1987. Microbiologically Influenced Corrosion in Fossil Fueled Electric Generating Plants and a Practical Guide for the Investigation, Treatment and Prevention of MIC in Such Facilities. Electric Power Research Institute, Palo Alto, California, 44 pages.

Pope, D.H. 1987. Fundamentals of Microbiologically Influenced Corrosion. Proceedings of Materials Property Council. October, 1987.

Pope, D. H. 1987. Microbiologically Influenced Corrosion in Nuclear Generating Facilities. Proceedings of Symposium on Nuclear Power Plant Chemistry. Traverse City, Mich. July, 1987.

Pope, D.H., Siebert, O., Hennon, J. and Zintel, T. Guide to the Investigation of Microbial Corrosion in Gas Industry Facilities. Published by Gas Research Institute 1988.

Pope, D.H. and Zintel T. 1988. Methods for the investigation of under-deposit microbiologically influenced corrosion. Corrosion/88, paper No. 249.

Pope, D.H., Zintel T., Kuruvilla A. K. and Siebert, O.W. 1988. Organic Acid Corrosion of Carbon Steel: A Mechanism of Microbiologically Influenced Corrosion. Corrosion/88, paper No. 79.

Soracco, R.J., Pope, D.H., Eggers, J. and Effinger T. 1988. Microbiologically Influenced Corrosion Investigations in Electric Power Generating Stations. Corrosion/88, paper No. 83.

Pope, D.H., Dziejulski, D.M. and Kramer, J. F. 1989. Microbiological Aspects of Microbiologically Influenced Corrosion. In G. Licina (ed.), Microbial Corrosion: 1988 Workshop Proceedings, ER-6345, Research Project 8000-26, Electric Power Research Institute, Palo Alto, CA.; EPRI Workshop on Microbial Induced Corrosion. October, 1988, Charlotte, NC.

Pope, D.G., Dziejulski, D.M., Zintel, T.P., Aldrich, H., Frank, J.R. 1989. Microbiologically Influenced Corrosion and Hydrogen Sulfide Production in Gas Industry Facilities. AGA Transmission and Distribution Symposium, Los Angeles, CA. 1989.

Pope, D.H., Cookingham, B., Day, R., Pogemiller, G. 1989. Mitigation Strategies for Microbiologically Influenced Corrosion in Gas Industry Facilities. National Association of Corrosion Engineers Int'l, Corrosion/89, Paper No. 192, New Orleans, LA.

Dziewulski, D.M., Pope, D.H., Blacklock, S.A., Hahnemann, R.G. 1989. Bacterial Contamination and Mitigation with Hydrogen Peroxide in Nuclear Power Plants. Presented at Service Water System Reliability Improvement Seminar, EPRI, Charlotte, N.C., November 6-8, 1989.

Pope, D.H., Zintel, T., Aldrich, H., Duquette, D., 1990 Laboratory and Field Tests of Efficacy of Biocides and Corrosion Inhibitors in the Control of Microbiologically Influenced Corrosion. National Association of Corrosion Engineers Int'l, Corrosion/90, Paper No. 34, Las Vegas, NV.

Pope, D.H., Zintel, T., Dziewulski D., Siebert, O. 1990. Microbiologically Influenced Corrosion in Gas Industry Facilities. 1st Annual Review of Program. Gas Research Institute, Chicago, Illinois.

Pope, D.H., White, D.C., Aldrich, H.C., Jackson, D.R., Boone, D.R. 1990. Microbiologically Influenced Corrosion in the Natural Gas Industry. Annual Report. Gas Research Institute, Chicago, Illinois.

Pope, D.H., Dziewulski, D.M., and Frank, J.R. 1990. Recent Advances in Understanding Microbiologically Influenced Corrosion in the Gas Industry and New Approaches to Mitigation. American Gas Association 1990 Distribution/Transmission Conference, May, Los Angeles, CA.

Dziewulski, D.M., Fraleigh, S., Pope, D.H., Thomas, S., Puente, P., Annexstad, G. 1990. Microbial Production of Hydrogen Sulfide in Gas Storage and Production Fields: Field Studies, Preliminary Modeling and Control. National Association of Corrosion Engineers Int'l, Corrosion/90, Paper No. 35, Las Vegas, NV.

Pope, D.H. 1990. Mechanisms of Microbiologically Influenced Corrosion of Carbon Steels. Proceedings of IGT's 3rd International Conference on Gas, Oil, Coal & Environmental Biotechnology. December, 1990. New Orleans, LA.

Dziewulski, D.M., Pope, D.H. 1991. Gradient Film Reactor Studies of the Effects of Nutrient Conditions on the Ecology and Physiology of MIC Communities and the Severity of MIC. National Association of Corrosion Engineers Int'l, Corrosion/91, Paper No. 282, March, 1991. Cincinnati, OH.

Pope, D.H., Dziewulski, D.M. 1991. A Model for Microbiologically Influenced Corrosion of Carbon Steels. American Nuclear Society. November, 1991. San Francisco, CA.

Pope, D.H. 1991. Microbiologically Influenced Corrosion in the Natural Gas Industry. Annual Report. Gas Research Institute, Chicago, Illinois.

Pope, D.H., Dziewulski, D.M., Werner, D.P., Frank, J.R. 1992. Microbiologically Influenced Souring and Microbiologically Influenced Corrosion in Gas Production and Storage Facilities. AIChE Spring Meeting. March, 1992. New Orleans, LA.

Pope, D.H., Dziewulski, D.M., Lockwood, S.F., Werner, D.P., Frank, J.R. 1992. Microbiological Corrosion Concerns for Pipelines and Tanks. API Pipeline Conference. April, 1992. Houston, TX.

Pope, D.H., Dziewulski, D.M., Lockwood, S.F., Werner, D.P., Frank, J.R. 1992. Microbiologically Influenced Corrosion of Gas Transmission Pipelines. AGA Distribution and Transmission Conference. May, 1992. Kansas City, MO.

Pope, D.H., Dziewulski, D.M. 1992. Efficacy of Biocides in Controlling Microbial Populations, Including *Legionella*, in Cooling Systems. ASHRAE. June, 1992. Baltimore, MD.

Pope, D.H., Dziewulski, D.M., Frank, J.R. 1992. Case Histories of Microbiologically Influenced Corrosion in the Gas Industry: Detection, System Analyses and Targeted Treatment. 1992.

Paakkonen, S.T., Lockwood, S.F., Pope, D.H., Horner, V.G., Morris, E.A., and Werner, D.P. 1993. The Role of Coatings and Cathodic Protection in Microbiologically Influenced Corrosion. National Association of Corrosion Engineers Int'l Corrosion/93, Paper No. 293. New Orleans, LA

Pope, D.H., Dziewulski, D.M., Morris, E.A., and Paakkonen, S.T. 1993. Microbiologically Influenced Souring in Gas Industry Facilities. SPE/EPA Exploration and Production Environmental Conference, Paper No. 26014. March, San Antonio, TX.

Pope, D.H., Lockwood, S.F., Lee, A., Skultety, R., and Keas, K. 1994. Mitigation of Microbiologically Influenced Corrosion in Natural Gas Storage Facilities. Corrosion/94, Paper No. 269. Baltimore, MD

Morris, E.A., and Pope, D.H. 1994. Field and Laboratory Investigations into the Persistence of Glutaraldehyde and Acrolein in Natural Gas Storage Operations. Corrosion/94, Paper No. 270. Baltimore, MD

Morris, E.A., Dziewulski, D.M., Pope, D.H., and Paakkonen, S.T. 1994. Field and Laboratory Studies into the Detection and Treatment of Microbiologically Influenced Souring (MIS) in Natural Gas Storage Facilities. Corrosion/94, Paper No. 271. Baltimore, MD

Morris, E.A., Derr, R.M., and Pope, D.H., Mitigation of Downhole Microbiologically Influenced Souring (MIS) Using Glutaraldehyde. IGT's 7th Gas, Oil, and Environmental Biotechnology Conference, December 12-14, 1994, Colorado Springs, Colorado. IGT, Chicago, Illinois.

Derr, R.M., Morris, E.A., and Pope, D.H., Fate and Persistence of Glutaraldehyde in a Natural Gas Storage Facility. IGT's 7th Gas, Oil, and Environmental Biotechnology Conference, December 12-14, 1994, Colorado Springs, Colorado. IGT, Chicago, Illinois

Morris, E.A. and Pope, D.H., Prevention of Downhole Microbiologically Influenced Souring (MIS) in Subsurface Natural Gas Reservoirs. IGT's Hazardous Waste and Environmental Management in the Gas Industry Conference, January 24-26, 1995, Albuquerque, New Mexico. IGT, Chicago, Illinois.

Morris, E.A., Derr, R.M., Kenney, T.M., and Pope, D.H., Field and Laboratory Tests on Nitrate Treatment for Potential Use in Natural Gas Operations. SPE/EPA Exploration & Production Environmental Conference, Paper #029738, March 27-29, 1995, Houston, Texas. SPE, Richardson, Texas.

Derr, R.M., Morris, E.A., and Pope, D.H., Fate and Persistence of Glutaraldehyde in a Natural Gas Storage Facility. 1995 International Conference on Microbially Influenced Corrosion, Paper #17, May 8-10, 1995, New Orleans, Louisiana. National Association of Corrosion Engineers Int'l, Houston, Texas.

Morris, E.A., Pope, D.H., Fillo, J.P., Brandon, D.M., Fetsko, M.E., and Fulton, J.W., Current and Future Trends in Biocide and Corrosion Inhibitor Usage in the Natural Gas Industry: Efficacy and Potential Environmental Impact. 1995 International Conference on Microbially Influenced Corrosion, Paper #51, May 8-10, 1995, New Orleans, Louisiana. National Association of Corrosion Engineers Int'l, Houston, Texas.

Morris, E.A., Pope, D.H., and Derr, R.M., Treatment of a Microbiologically Sour Natural Gas Storage Reservoir Using Glutaraldehyde: Effectiveness and Considerations for Waste Disposal. 1995 International Conference on Microbially Influenced Corrosion, Paper #52, May 8-10, 1995, New Orleans, Louisiana. National Association of Corrosion Engineers Int'l, Houston, Texas.

Pope, D.H. and Skultety, R., Microbiologically Influenced Corrosion in Natural Gas Storage Fields: Diagnosis, Monitoring and Control. 1995 International Conference on Microbially Influenced Corrosion, Paper #57, May 8-10, 1995, New Orleans, Louisiana. National Association of Corrosion Engineers Int'l, Houston, Texas.

Kenney, T.M. and Pope, D.H., Microbiological Considerations in Electric Power Generating Stations: Monitoring Technologies and Case Histories. 1995 International Conference on Microbially Influenced Corrosion, Paper #33, May 8-10, 1995, New Orleans, Louisiana. National Association of Corrosion Engineers Int'l, Houston, Texas.

Pope, D. H., Testing For and Treating MIC. 1997. Sprinkler Age. 18: 12, p. 22.

Pope, D.H., and R.M. Pope. 1998. Microbiologically Influenced Corrosion (MIC). Fire Protection Contractor. 21:9, 24-26.

Pope, D. H. and R.M. Pope. 1999. Diagnosis, Treatment and Monitoring of Microbiologically Influenced Corrosion in the Natural Gas Industry. 175 pages. Published as a Topical Report by the Gas Research Institute.

Pope, D. H. and R.M. Pope. 200\_. Diagnosis, Treatment and Monitoring of Microbiologically Influenced Productivity in the Natural Gas Storage Facilities. Ca. 50 pages. To be published as a Topical Report by the Gas Research Institute.

Lin, Y., J. Frank, E. St. Martin, and D. H. Pope. 1999. Electrochemical Noise Measurements of Sustained Microbially Influenced Pitting Corrosion in a Laboratory Flow Loop System. 1999. International Association of Corrosion Engineers Annual Meeting. Paper No. 99198.

Pope, D. H. and R.M. Pope. 1999. Microbiologically Influenced Corrosion in Fire Protection Sprinkler Systems. Presented at International Association of Corrosion Engineers Annual Meeting. Committee T7-G.

Pope, D. H. and R.M. Pope. 2000. Microbiologically Influenced Corrosion in Fire Protection Sprinkler Systems. Presented at International Association of Corrosion Engineers Annual Meeting. 2000.

Pope, D. H. 2000. Microbiologically Influenced Corrosion in the Twentieth Century and Where Do We Go From Here? Presented at International Association of Corrosion Engineers Annual Association Meeting. 2000.

Pope, D. H. and R.M. Pope. 2000. Microbiologically Influenced Corrosion in FPS: Mechanisms, Detection and Treatment. National Fire Protection Association Meeting 2000. Paper No. T28.

Pope, D. H. and R.M. Pope. 2001. Microbiologically Influenced Corrosion in Fire Protection Sprinkler Systems. A Practical Manual on Microbiologically Influenced Corrosion, Vol 2. Edited by John G. Stoecker II. Houston, TX: National Association of Corrosion Engineers.

Pope, D.H. 2001. Microbiologically Influenced Corrosion of Internal Aspects of Natural Gas Industry Pipelines and Associated Equipment: Mechanisms, Diagnosis and Mitigation. A Practical Manual on Microbiologically Influenced Corrosion, Vol 2. Edited by John G. Stoecker II. Houston, TX: National Association of Corrosion Engineers.

Pope, D.H. 2002. Microbiologically Influenced Corrosion in Barges in Brown Water Environments. Presented to National Association of Marine Surveyors. San Francisco, CA. September, 2002.

Pope, D.H. 2003. MIC (Microbiologically Influenced Corrosion): What it is, How it Destroys Fire Protection Systems, and What Can We Do About It. Presented to Society of Fire Protection Engineers. January, 2003.

Pope, D.H. 2003. Coatings, Corrosion, and Microbiologically Influenced Corrosion in Barges in Brown Water Environments. Presented to National Association of Marine Surveyors. Chicago, IL. April, 2003.

## **Presentations**

Dr. Pope has given a large number of presentations. The more recent include:

D.H. Pope, "Microbiologically Influenced Corrosion (MIC) in Fire Protection Systems," NFPA-25 Meeting; February 25, 1999, Phoenix, Arizona.

D.H. Pope, "Microbiologically Influenced Corrosion (MIC) in Fire Protection Systems," National Association of Corrosion Engineers T-7K Committee Meeting at NACE Corrosion '99 Convention; April 29, 1999, San Antonio, Texas.

D.H. Pope, "Microbiologically Influenced Corrosion (MIC) in Fire Protection Systems," AFSA Meeting Southern California Chapter; August 11, 1999, Anaheim, California.

Pope, D. H. and R.M. Pope. "Microbiologically Influenced Corrosion in Fire Protection Sprinkler Systems." Presented at International Association of Corrosion Engineers Annual Meeting, Committee T7-G; 1999.

Pope, D. H. and R.M. Pope. "Microbiologically Influenced Corrosion in Fire Protection Sprinkler Systems." Presented at International Association of Corrosion Engineers Annual Meeting, Committee T7-G; 2000.

Pope, D. H. "Microbiologically Influenced Corrosion in the Twentieth Century and Where Do We Go From Here?" Presented at International Association of Corrosion Engineers Annual Meeting, Committee T3-J; 2000.

Pope, D. H. and R.M. Pope. "Microbiologically Influenced Corrosion in FPS: Mechanisms, Detection and Treatment." National Fire Protection Association Meeting. Paper No. T28.; 2000.

Pope, D.H. "Microbiologically Influenced Corrosion in Barges in Brown Water Environments." Presented to National Association of Marine Surveyors; September 2002, San Francisco, CA.

Pope, D.H. "MIC (Microbiologically Influenced Corrosion): What it is, How it Destroys Fire Protection Systems, and What Can We Do About It." Presented to Society of Fire Protection Engineers; January, 2003.

Pope, D.H. "Coatings, Corrosion, and Microbiologically Influenced Corrosion in Barges in Brown Water Environments." Presented to National Association of Marine Surveyors; April, 2003, Chicago, IL.

## **Legal Work**

Dr. Pope has served as an expert in many legal cases. These have involved issues related to:

- Legionnaire's Disease
- Installation and operation of cooling systems and associated iron and steel piping
- Water treatment and microbiologically influenced corrosion (MIC) of system components
- MIC of fire sprinkler systems
- Water well contamination
- MIC in oil and gas industry facilities
- MIC in heating oil tanks

- MIC in nuclear generating facilities

Dr. Pope has been deposed many times and has testified in mediations and trials.

\*Dr. Pope's expertise is in diagnosis, prevention, and treatment of problems associated with microbes in all types of industrial systems.

### **Client References**

Dr. Pope or his companies, Bioindustrial Technologies, Inc. (BTI) and BTI Products, LP, have assisted well over 1,000 global clients—representing diverse industries, agencies, and companies—in solving microbial and corrosion problems in reliable, cost-effective, and easy-to-implement ways. In some cases, new and innovative technologies and methods were developed to meet the unique needs of clients.

For specific client references in your field of expertise or geographic location, please contact Dr. Pope.