

Curriculum Vitae of E. LYNN SHIREY, II

Failure Analyst/Chemist, Bell Evaluation Laboratory

E. Lynn Shirey has been a Failure Analyst/Chemist with the firm of Bell Evaluation Laboratory since 1993. Bell Evaluation Laboratory, a failure analysis laboratory in its present location since 1980, uses a multi-disciplinary approach to determine the various roles that design, manufacture, material, specification and/or procedures may play in the cause of a failure or an unexpected event. Failure analyses performed at Bell Evaluation Laboratory may include testing and event reconstruction when feasible.

Education

Master of Science in Analytical Chemistry

Texas A&M University, College Station, TX, 1993

Bachelor of Science degree in Chemistry

Angelo State University, San Angelo, TX, 1989

Advanced Studies

International Coatings Expo Technology Conference Short Course - "Polymer Chemistry for the Coatings Formulator", 1997

University of Southern Mississippi Short Course - "The Physical Principles of Formulation", 1996

University of Southern Mississippi Short Course - "Modern Coatings Technology", 1996

American Chemical Society Short Course - "Thermal Analysis in Polymer Characterization", 1995

Professional Society Memberships & Certifications

American Chemical Society (ACS)

Federation of Societies for Coatings Technology (FSCT)

Associate Member, National Association of Corrosion Engineers (NACE)

Work Experience

Analytical Chemist

Bell Evaluation Laboratory, Houston, Texas, 1993-Present

As a Failure Analyst/Chemist, Mr. Shirey routinely conducts investigations to determine the cause(s) of failures in the fields of chemistry and polymer science. Mr. Shirey also conducts chemical testing as a consultant for the coatings, construction, manufacturing, and electronics industries.

Mr. Shirey has experience in the analysis of many different material types: polymer coatings, thermoset and thermoplastic polymers, elastomers (rubber), synthetic and petroleum hydraulic and lubricating oils, bituminous materials, solvents, ceramics, glass, and concrete. Analytical work is performed in connection with product matching, evaluating defects and service conditions for the purpose of evaluating failures and chemical problem solving.

Field investigations are conducted for sample gathering, site documentation, and failure evaluation. Extensive technical reports are prepared for presentation of data and in connection with client-conflict resolution.

Areas of chemical problem-solving include: chemical phenomenon, plastic and coating manufacturing concerns, deformation of products, chemical-exposure related failures, oxidation phenomenon, additive/volatile concerns, analytical chemical data evaluation, and paint failure modes.

In-house testing experience includes the following: Thermal Desorption (Pyrolysis/Thermal Extraction)/Gas Chromatography/ Mass Spectrometry, and Fourier Transform Infrared Spectroscopy (FTIR). In addition to experience with these techniques, Mr. Shirey has routinely utilized data from outside sources from the following analytical techniques: Energy Dispersive (X-ray) Spectroscopy, X-ray Photoelectron Spectroscopy, Ion Chromatography, Inductively Coupled Plasma/Mass Spectrometry, Atomic Absorption Spectroscopy, Differential Scanning Calorimetry, and Thermal Gravimetric Analysis. Mr. Shirey is called upon to offer expert testimony regarding analytical chemistry and polymer science.

Publications

G. Mills, Robert T. Bell, E. L. Shirey, "Characterizing Coatings: TE/GC/FTIR/MS", European Coatings Journal, p. 37, 1995.

Presented paper for the National Association of Corrosion Engineers on the use of Pyrolysis GC/MS for the analysis of coating polymers March, 1994.

R. L. Betts, M. A. Park, E. L. Shirey and E. A. Schweikert, "Fragment Ion Formation from n-Alkanes and Cycloalkanes by Plasma Desorption", Org. Mass Spec., Vol 29, p. 679, 1994. M.

A. Park, E. L. Shirey, and E. A. Schweikert, "Coincidence Counting Studies of Plasma Desorption of Frozen Gasses", J. Trace and Microprobe Tech., Vol. 11 No. 4, p. 285, 1993.

Contact Information

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