



WILLIAM O. GILLUM, PH.D.

Project Manager

QUALIFICATIONS SUMMARY

Hazardous Material and Waste Evaluation and Management
Manufacturing Process Evaluation and Optimization
Environmental Compliance
Data Management
Project Management

EXPERIENCE

Dr. Gillum was a Member of Technical Staff with Bell Laboratories for 23 years. As a development chemist he focused creating new and modifying deficient manufacturing processes including the environmental consequences of those processes. During his career, he enabled AT&T to comply with increasingly strict government environmental mandates by eliminating ozone-depleting substances from manufacturing while maintaining high quality cleaning processes. Recent projects include an independent assessment of all waste streams for a manufacturing company.

As part of the Environmentally Sound Manufacturing Process initiative within AT&T Dr. Gillum researched cleaning technologies with unique goal of eliminating ozone-depleting substances from AT&T manufacturing. Those efforts enabled compliance one year ahead of U.S. phase-out deadlines, avoiding multi-million dollar environmental penalties. Dr. Gillum was a primary consultant to all AT&T locations on cleaning alternatives and environmentally sensitive material reclamation for more than 10 years, developing personal relationships with equipment, process and material vendors as well as factory engineering and management.

- Conducted pilot studies and implemented alternative cleaning systems (including process, material and equipment) at eight locations across all business lines.
- Managed projects to assess alternative cleaning methods that included setting work directions, coaching and monitoring activities of seven staff members.
- Designed water recovery and reuse process at Atlanta and Allentown works locations using recirculation and in-house contamination removal, saving of millions of dollars in water usage.
- Identified oxidation mechanism in the presence of metals for EC-7R flux cleaner, elimination of which would extend bath life and improve cleaning process.
- Additional AT&T environmental experience:
- Developed novel photopolymer development process using an in-house proprietary solvent that avoided use of standard chlorocarbons for a large scale manufacturing process.
- Designed and implemented process for regenerating Chromium III to Chromium IV to avoid excessive dumping of a highly toxic pollutant.

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Frank@ces-ehs.com ▪ www.ces-ehs.com

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- Designed and implemented process for concentrating and reuse of nickel plating wastes.
- Designed in-house system for labeling, tracking and disposing of laboratory chemicals.

Independent assessment of the waste streams for multiple manufacturing environments in both chemical blending and durable product manufacturing including waste stream management.

- Coordinated data gathering with environmental and process staff.
- Reviewed waste data and hazardous characteristics.
- Reconciled DOT and RCRA codes
- Evaluated waste stream constituents.
- Coordinated and reviewed constituent database management
- Developed electronic process flow documentation.
- Proposed waste consolidation scheme.

EDUCATION

NIH Postdoctoral Scholar, Stanford University
 PhD, Inorganic Chemistry, Massachusetts Institute of Technology
 MS, Inorganic Chemistry, Indiana University
 BS, Chemistry, Washington State University

AFFILIATIONS

American Chemical Society (Trenton and Princeton Sections)

PUBLICATIONS AND PRESENTATIONS

Twenty peer reviewed and in-house technical publications and fifteen presentations on environmental topics. Highlights following:

- Invited by the International Cooperative for Ozone-Layer Protection as an industry expert to present, "Aqueous and Semi-Aqueous Cleaning," at workshop in Beijing, China (1994). Goal of conference was to transfer technology to developing countries and promote cross-cultural environmental awareness.
- Co-authored definitive AT&T position paper on the use of perfluorocarbons as environmentally friendly cleaning solvents and their long-term environmental effects with D.A. Dickinson and T.E. Graedel (1992).
- Co-authored "Reactions of High Lead Solders with BIOACT®EC-7R™ Semi-Aqueous Cleaning Reagents, IEEE Transactions on Components, Packaging and Manufacturing Technology---Part C, Vol. 19, No. 2, April 1996. This paper received the Outstanding Paper Award at the 45th Proceedings of the ECTC.
- Planned, conducted and presented papers at six AT&T wide symposia on yield and reliability for cleaning technology.