

# Contents

overview

## AIR AND GROUND WATER MONITORING

- Comparison of TOX and **GC/MS** Data for RCRA Groundwater Monitoring Well Samples—STEVEN PRUSKIN, LEONARD VOO, ROBERT M MASON, AND DANIEL LILLIAN 3
- Procedures Used to Measure the Amount of 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (**2,3,7,8-TCDD**) in the Ambient Air Near a Superfund Site Clean-Up Operation—BILLY FAIRLESS, DALE I. BATES, JODY HUDSON, ROBERT D. KLEOPFER, THOMAS T. HOLLOWAY, DEBRA A. MOREY, AND TONY BABB 15
- Review of Studies Concerning Effects of **Well** Casing Materials on Trace Measurements of Organic Compounds—RICHARD DOWD 31
- Canister-Based Samplers for Volatile Organics—WILLIAM MCCLENNY AND JOACHIM D. PLEIL 43
- Profile of Volatile **Organic** Chemicals in Nassau County **Groundwater**—SUNG MOON, JAMES M. ADAMSKI, AND ANDREW LICHTMAN 50
- Direct** Determination of Part-per-Billion Levels of Volatile Organics in Water and Soil Samplers Using Glow Discharge Mass Spectrometry—MARCUS WISE AND MICHAEL R. GUERIN 64
- Utility of **Immunoassay** for Trace Analysis of Environmental **Contaminants**—JEANETTE M. VAN EMON 78

## BIOLOGICAL TEST METHODS

- Assessment of the **Microscreen** Phage-Induction Assay for Screening Hazardous Wastes—VIRGINIA HOUK AND DAVID M. DEMARINI 89
- Toxicological** Assessment of Hazardous Waste Samples Extracted with Deionized Water or Sodium Acetate (TCLP) Leaching Media—S. A. PETERSON, J. C. GREENE, AND W. E. MILLER 107

Application of a <b>Simple</b> Short-Term Bioassay for the <b>Identification</b> of <b>Genotoxins</b> <b>from</b> Hazardous Wastes—SHAHBEG S. SANDHU AND GREGORIA N. ACEDO	130
Statistical Approaches to Screening Hazardous Waste Sites for <b>Toxicity</b> — JOHN M. THOMAS, LESLIE A. <b>ATHEY</b> , AND JOHN R. SKALSKI	140
Utility of In Situ Assays for Detecting Environmental <b>Pollutants</b> — WILLIAM R. LOWER, <b>SHAHBEG S.</b> SANDHU, AND MARK W. THOMAS	163
Evaluation and Validation of Protocols for Measurement of the Mutagenicity of Environmental Samples— <b>YI Y.</b> WANG, PAUL J. <b>MARSDEN</b> , C. PETER <b>FLESSEL</b> , AND LLEWELLYN R. WILLIAMS	176

#### LEACHING AND PHYSICAL METHODS

Performance of the Toxicity Characteristic Leaching <b>Procedure</b> — LYNN R. NEWCOMER, W. BURTON BLACKBURN, AND GAIL A. <b>HANSEN</b>	199
The Impact of Particle <b>Size</b> on TCLP Extraction of Cement-Stabilized Metallic <b>Wastes</b> —NEIL E. PRANGE AND WILLIAM F. GARVEY	217
Mobilization of Volatile Toxic Components <b>from</b> Petroleum Product-Contaminated Soils by <b>TCLP</b> —ANDRÉS A. ROMEU, CAROLEE KING, DANIEL J. BLEVINS, AND NANCY J. SOUTOR	228

#### MATERIALS AND MISCELLANEOUS ANALYTES

Evaluation of SW-846 Cold-Vapor Mercury Methods 7470 and <b>7471</b> — WERNER F. BECKERT, JERRY D. <b>MESSMAN</b> , MARK E. CHURCHWELL, ROBERT L. LIVINGSTON, DONALD L. SGONTZ, AND GORDON F. WALLACE	247
Validation of Methods for Determining Elements in Solid Waste by <b>Microwave</b> Digestion—DAVID <b>BINSTOCK</b> , PETER M. GROHSE, ALVIA <b>GASKILL, JR.</b> , KATE K. LUK, PERCY L. SWIFT, HOWARD M. KINGSTON, AND CHARLES SELLERS	259
Development and Evaluation of Analytical Techniques for Total Chlorine in Used <b>Oils and Oil</b> Fuels—ALVIA <b>GASKILL, JR.</b> , EVA D. ESTES, DAVID L. HARDISON, AND PAUL H. <b>FRIEDMAN</b>	271
Results of an Interlaboratory Study of Interlaboratory Study of ICP-AES Method 6010 with Digestion Method <b>3050</b> —THOMAS A. HINNERS, CLIFTON L. JONES, VERNON F. HODGE, DONALD M. SCHOEGOLD, J. HOMIGOL BIESIADA, THOMAS A. STARKS, AND JOSEPH CAMPANA	282
Determination of Extractable Organic Halides in Soils and <b>Oily</b> Wastes by <b>Pyrolysis/Microcoulometric</b> Titration—VAN. LIEU AND VAN H. WOO	298
Sample Preparation for the Analysis of Cyanides in Solid Wastes—C. JOHN RITZERT	307

Evaluation of <b>Microwave</b> Techniques to Prepare Solid and Hazardous Waste for Elemental Analysis— DAVID A. BINSTOCK, PETER M. GROHSE, PERCY L. SWIFT, ALVIA GASKILL, JR., THOMAS R. COPELAND, AND PAUL H. FRIEDMAN	312
---	-----

### ORGANIC ANALYTES

Determination of Formaldehyde in Samples of Environmental <b>Origin</b> — MERLIN K. L. BICKING, W. MARCUS COOKE, FRED K. KAWAHARA, AND JAMES E. LONGBOTTOM	323
Comparison of Capillary and Packed Analysis for Volatile Organics by <b>GCMS</b> — ROBERT R. CLARK AND JULIE A. ZALIKOWSKI	333
Preparation of Radioactive <b>“Mixed”</b> Waste Samples for Measurement of RCRA Organic Compounds—BRUCE. TOMKINS AND JOHN E. CATON	351
Portable Test Method for the Detection of Halides in Used <b>Oil</b> — DEBORAH A. MINUCCI AND STEPHEN R. FINCH	365
A Comparison Between Thermospray and Particle Beam <b>LC/MS</b> for Environmental <b>Applications</b> —ALEX APFFEL AND PAUL C. GOODLEY	370
Development of an <b>Environmental</b> Monitoring Technique Using Synchronous Excitation (SE) Fluorescence Spectroscopy—DENNIS STAINKEN AND UWE FRANK	381

### QUALITY ASSURANCE

Establishing an Analytical Manual for Petroleum and Gasoline Products for New Jersey's Environmental <b>Programs</b> —DENNIS M. STAINKEN AND MICHAEL W. MILLER	403
Automation of Regional Data <b>Validation</b> —CARLA R. SHUMANN, RAMON A. OLIVERO, MICHAEL T. HOMSHER, AND JIMMIE D. PETTY	421
Preparation of Natural Matrix <b>Type</b> Samples for Performance Evaluation of Resource <b>Conservation</b> and Recovery Act (RCRA) Contract <b>Laboratories</b> — HAROLD A. CLEMENTS, RAYMOND E. LOEBKER, AND DONARD L. KLOSTERMAN	434

### LABORATORY INFORMATION MANAGEMENT

Data Consolidation and Reporting for the Analytical Laboratory—NORMAN	441
<b>Index</b>	455