Contents

Introduction

GENERAL TOPICS

What is Quality Assurance?—J. K. TAYLOR	
The U.S. Environmental Protection Agency's Quality Assurance Program—T. W. STANLEY AND S. S. VERNER	12
DATA QUALITY ASSESSMENT	
Statistical Aspects of Designs for Studying Sources of Contamination—W. S. LIGGETT	22
Determination of Measurement Data Quality and Establishment of Achievable Goals for Environmental Measurements— W. J. MITCHELL. F. F. MCELROY. AND R. C. RHODES	4 1
Quality Assurance Project Plans: A Key to Effective Cooperative Monitoring Programs—M. W. BROSSMAN, T. J. HOOGHEEM, AND R. C. SPLINTER	53
Ambient Air Measurements	
Quality Assurance Aspects of Environmental (Aerometric) Data Management—R. C. BEEBE, A. S. MCDANIEL, AND D. W. CLEMENT	65
An Evaluation of Results from Collocated Ambient High-Volume Samplers—T. W. FRITTS AND M. R. HANSON	76
Internal Consistency Checks as Part of a Data Validation Process for Chemical Constituents in Ambient Particulate Samples— S. H. CADLE	80
Ambient Water Measurements	
Certification of Local Laboratories Analyzing Drinking Water in Nonprimacy States—I I HILLMAN	103

Quality Assurance of U.S. Geological Survey Water-Quality Field Measurements—D. E. ERDMANN AND J. D. THOMAS	10
An Analytical Method and Quality Control Program for Studies of Currently Used Pesticides in Surface Waters—J. W. KRAMER	
AND D. B. BAKER	16
Quality Assurance for Microbiological Analyses of Water— R. H. BORDNER	133
Source Measurements	
Steps to Valid Particle Size Data from Emissions Sources— J. D. McCain, L. G. Felix, and W. E. Farthing	147
Quality Assurance Practices for the Collaborative Testing of Method 6B—F. E. BUTLER, J. E. KNOLL, M. R. MIDGETT, AND T. WAGNER	
An Industry View of Quality Assurance for Manual Source Sampling—V. J. BRISINI	169
Establishing Destruction Efficiency for Hazardous Waste Incinerators—B. N. COLBY AND J. E. PICKER	173
DISCHARGE MONITORING	
Overview of the National Discharge Monitoring Report (DMR) Quality Assurance (QA) Program—G. R. POLVI, Y. S. TO, AND E. C. LIM	189
Quality Assurance as an Element of Wisconsin's NPDES Program—M. J. KOPECKY AND L. VOGEN	
Development of Statistics and Limits for DMR-QA Studies, and Summary of Experience in DMR-QA Study 2—P. W. BRITTON	206
Pulp and Paper Industry Experience with NPDES Quality Assurance Requirements—R. P. FISHER	216
Monsanto Analytical Testing Program for NPDES Discharge Self- Monitoring—T. J. HOOGHEEM AND L. A. WOODS	237

Discharge Monitoring Report Quality Assurance Results and Follow-Up by Region VIII U.S. Environmental Protection Agency—C. L. CAMPBELL AND J. J. HILLMAN	242
SPECIAL TOPICS	
Quality Assurance of Meteorological Measurements—T. J. LOCKHART	
Quality Assurance Considerations in Conducting the Ames Test— L. R. WILLIAMS	
Quality Assurance in Acid Precipitation Measurements— S. CAMPBELL AND H. SCOTT	272
Quality Assurance for Personal Exposure Monitoring—R. W. HANDY, H. L. CRIST, AND T. W. STANLEY	
Quality Assurance for Human Exposure Studies—L. T. HACKWORTH, R. C. JORDAN, D. H. SMITH, AND J. N. HOWARD	297
New Biological Reference Materials—In Vivo Incorporated Toxic Metals in Water Hyacinth Tissues—J. R. AUSTIN, S. J. SIMON, I. R. WILLIAMS. AND W. F. BECKERT	305
Reference Materials	
The Use of Natural Waters as U.S. Geological Survey Reference Samples—V. J. JANZER	319
The Marine Analytical Chemistry Standards Program of the National Research Council of Canada—s. s. s. berman, i. w. mclaren, and w. d. jamieson	334
The Role of NBS Standard Reference Materials in Quality Assurance of Environmental Measurements—R. ALVAREZ	346
Reference Materials and Intercomparison Samples Available from the Environmental Monitoring Systems Laboratory – Las Vegas—E. J. KANTOR AND P. R. LASKA	360
Development and Distribution of Reference Materials for Ambient Air Measurements—W. J. MITCHELL AND J. C. PUZAK	370

Reference Samples for Water-Related Programs in the U.S.	
Environmental Protection Agency—J. A. WINTER	378
QUALITY ASSURANCE MANAGEMENT	
Establishing an Environmental Quality Assurance Program—	
L. M. EGGENBERGER	391
Interlaboratory Quality Assurance Aspects of the International Joint Commission's Great Lakes Monitoring Programs—	
K. I. ASPILA, R. E. WHITE, AND J. L. CLARK	407
Summary	
Summary	425
Author Index	435
Subject Index	437