

TABLE OF CONTENTS

	Page
Introduction	ix
Sample Preservation	1
Acidity (Electrometric Titration, pH 8.3)	5
Alkalinity	
Manual (Electrometric Titration, pH 4.5)	6
Automated (Methyl Orange)	8
Arsenic (Silver Diethyldithiocarbamate)	13
Biochemical Oxygen Demand (Winkler-Azide or DO Probe)	15
Chemical Oxygen Demand	
Routine Levels (Dichromate Reflux-0.25N)	17
Low Level (Dichromate Reflux-0.025N)	19
Saline Waters (Chloride Correction)	24
Chloride	
Manual (Mercuric Nitrate Titration)	29
Automated (Ferricyanide)	31
Chlorine Requirement	36
Color (Platinum-Cobalt Visual)	38
Cyanide (Silver Nitrate Titration or Pyridine-Pyrazalone)	41
Dissolved Oxygen	
Manual (Winkler-Azide)	53
Probe (Ion Selective Electrode)	60
Fluoride	
Manual (SPADNS, with Distillation)	64
Automated (Complexone)	66
Probe (Ion Selective Electrode)	72
Hardness	
Manual (EDTA Titration)	76
Automated (Calmagite)	78
Calculation (Ca + Mg by Atomic Absorption)	83

Metals (Atomic Absorption Methods)

Aluminum	98
Arsenic	99
Cadmium	<u>101</u>
Calcium	102
Chromium	104
Copper	106
Iron	108
Lead	<u>110</u>
Magnesium	112
Manganese	114
Potassium	115
Silver	117
Sodium	118
Zinc	120
Mercury (Flameless AA)	121
Methylene Blue Active Substances (Methylene Blue)	131
Nitrogen	
Ammonia	
Manual (Distillation at pH 9.5-Nesslerization)	134
Automated (Phenolate)	141
Kjeldahl, Total	
Manual (Digestion - Distillation)	149
Automated (Digestion - Phenolate)	157
Nitrate (Brucine Sulfate)	170
Nitrate-Nitrite	
Automated (Cadmium Reduction)	175
Automated (Hydrazine Reduction)	185
Nitrite (Diazotization)	195
Organic + Ammonia (Digestion + Phenolate)	198

TABLE OF CONTENTS (Contd.)

	Page
Nitrilotriacetic Acid (NTA)	
Manual (Zinc-Zincon)	205
Automated (Zinc-Zincon)	209
✓ Oil and Grease (Hexane Soxhlet-Extraction)	217 ✓
Organic Carbon (Instrumental)	221
pH (Electrometric)	230
Phenolics (4-Aminoantipyrine)	232
Phosphorus, All Forms	
Manual (Single Reagent)	235
Automated (Single Reagent)	246
Automated (Stannous Chloride)	259
Selenium (Diaminobenzidine)	271
Silica (Molybdate)	273
Solids	
Filterable (Glass Fiber, 180°C)	275 ✓
Non-Filterable (Glass Fiber, 103-105°C)	278 ✓
Total (Gravimetric, 105°C)	280 ✓
Volatile (Gravimetric, 550°C)	282
Specific Conductance (Wheatstone Bridge)	284
✓ Sulfate	
Manual (Turbidimetric)	286
Automated (Barium Chloranilate)	288
Sulfide (Iodometric)	294
Temperature (Mercury, Dial, or Thermistor)	296
Threshold Odor (Consistent Series)	297
Turbidity (Instrumental)	308