

17 April 2023I. GUIDELINES ESTABLISHING TEST PROCEDURES FOR THE
ANALYSIS OF POLLUTANTS: NEW METHODS

A. FEDERAL REGISTER NOTICES

1. Proposed Rule.
2. Federal Register Notices Cited in the Proposed Rule.

B. REFERENCES

C. REFERENCE SOURCES

D. PUBLIC COMMENTS

1. Comments received before the April 2, 1996 postmark deadline.
2. Comments received after the April 2, 1996 deadline.

304(h)

New Methods-PRO

I.A1.

A. FEDERAL REGISTER NOTICE

1. U.S. Environmental Protection Agency. Guidelines Establishing Test Procedures for the analysis of Pollutants: New Methods. Proposed Rule. Vol. 60, No. 201. Wednesday, October 18, 1995. pp. 53987-54006.
2. U.S. Environmental Protection Agency. Guidelines Establishing Test Procedures for the analysis of Pollutants: New Methods. Extension of Comment Period. Vol. 61, No. 18. Friday, January 26, 1996. p. 2465.

304(h)

New Methods-PRO

I.A2.

2. Other Federal Register Notices Cited in the Proposal.
 1. Federal Register: Environmental Protection Agency.
National Primary and Secondary Drinking Water
Regulations: Analytical Methods for Regulated Drinking
Water Contaminants; Final Rule, Vol. 59, No. 232.
Monday, December 5, 1994. pp. 62456-62471.

304(h)

New Methods-PRO

I.B.

B. REFERENCES CITED

1. USEPA. Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA-600/R-94/111, May 1994. Includes a one-page errata sheet dated January 17, 1995. 255 pp.
2. USEPA. Methods for the Determination of Inorganic Substances in Environmental Samples. EPA-600/R-93/100, August 1993. 166 pp.
3. Determination of Trace Elements in Water by Inductively Coupled Plasma-Mass Spectrometry: Collaborative Study. Journal of AOAC-International, vol. 77. 1994. pp. 1004-1023. 20 pp.
4. Determination of Inorganic Anions in Water by Ion Chromatography: Collaborative Study. Journal of AOAC-International, vol. 77. 1994. pp. 1253-1263. 11 pp.
5. Determination of Dissolved Hexavalent Chromium in Drinking Water, Ground Water, and Industrial Wastewater Effluents by Ion Chromatography: Collaborative Study. Journal of AOAC-International, vol. 77. 1994. pp. 994-1004. 11 pp.
6. Low-level Chlorine Analysis by Amperometric Titration, Journal of the Water Pollution Control Federation, 51, pp. 2636-2640, 1979. 5 pp.

304(h)

New Methods-PRO

I.C.

C. REFERENCE SOURCES

- * 1. The full text of Methods 601-613, 624, 625, 1624, and 1625 are printed in appendix A of part 136. The full text for determining the method detection limit when using the test procedures is given in appendix B of part 136. Table IC, Note 2; and Table ID, Note 2.
- 2. Microbiological Methods for Monitoring the Environment, Water and Wastes. USEPA. EPA-600/8-78-017, 1978. Available from: ORD Publications, CERL, USEPA, Cincinnati, OH 45268. Table IA. Note 2. See DW, II-D, II-E2b.14.
- 3. Methods for Chemical Analysis of Water and Wastes. USEPA. EPA 600/4-79-020. March 1979. Or Methods for the Chemical Analysis of Water and Wastes. USEPA. EPA-600/4-79-020, revised March 1983. Available from: ORD Publications, CERL, USEPA, Cincinnati, OH 45268. Table IB, Note 15. (NTIS: PB 84-128677) See AM-IX, B.14.
- * 4. Methods for Benzidine, Chlorinated Organic Compounds, Pentachlorophenol and Pesticides in Water and Wastewater. USEPA. 1978. Available from ORD Publications, CERL, USEPA, Cincinnati, OH 45268. Table IC, Note 7; Table D, Note 3.
- 5. Prescribed Procedures for Measurement of Radioactivity in Drinking Water. USEPA. EPA-600/4-80-032, 1980. Available from: ord Publications, CERL, usepa,

Cincinnati, OH 45268. Table IE, Note 1. 147 pp. See DW, III-D, II-C1.15)

- * 6. Standard Methods for the Examination of Water and Wastewater. Joint Editorial Board, American Public Health Association, American Water Works Association, and Water Environment Federation, 18th Edition, 1992. Available from: American Public Health Association, 1015 15th Street NW, Washington, DC 20005. Cost \$160.00. Table IA, IB, IC, ID and IE.
- * 8. IBID, 14th Edition, 1975. Table IB, Note 35.
- * 9. Selected Analytical Methods Approved and Cited by the USEPA Supplement to the 15th Edition of Standard Methods for the Examination of Water and Wastewater, 1981. Available from: American Public Health Association, 1015 15th Street NW, Washington, DC 20036. Table IB, Note 19; Table IC, Note 8; Table ID, Note 6.
- * 10. Annual Book of Standards - Water and Environmental Technology, Section 11, Parts 11.01 Water (I) and 11.02 Water (II), American Society for Testing and Materials, 1994. 1916 Race Street, Philadelphia, PA 19103. Tables IB, IC, ID, and IE.
- 11. Methods for the Collection and Analysis of Aquatic Biological and Microbiological Samples, edited by Britton, L.J. and P.E. Greason, Techniques of Water Resources Investigations of the U.S. Geological Survey, Book 5, Chapter A4 (1989). Available from: USGS, Denver Federal Federal Center, Box 25425, Denver, CO 80225. Current price: \$9.25. Table IA. See 304(h), WET, III-B.7)

* Not available in Water Docket.

Eads Street, Arlington, VA 22202. Current price: \$13.50. Table IE, Note 2.

304(h)

New Methods-PRO

I.C.

C. REFERENCE SOURCES

- * 12. Methods for Determination of Inorganic Substances in Water and Fluvial Sediments, by M.J. Fishman and Linda C. Friedman, Techniques of Water Resources Investigations of the U.S. Geological Survey, Denver Federal Center, Box 25425, Denver CO 80225. Current price: \$108.75. Table IB, Note 2.
- * 14. Methods for the Determination of Organic Substances in Water and Fluvial Sediments by Wershaw, R.L., et al, Techniques of Water Resources Investigations of the U.S. Geological Survey, Denver Federal Center, Box 25425. Denver, CO 80225. Current price: \$0.90. Table IB, Note 34: Table ID, Note 4.
- * 15. Water Temperature-Influential Factors, Field Measurement and Data Presentation, by H.H. Stevens, Jr., J. Ficke, and G.F. Smoot, Techniques of Water Resources Investigations of the U.S. Geological Survey, Denver Federal Center, Box 25425. Denver, CO 80225. Current price: \$1.60. Table IB, Note 37.
- * 16. Selected Methods of the U.S. Geological Survey of Analysis of Wastewaters, by M.J. Fishman and Eugene Brown. USGS Open File Report 76-77 (1976). Available from: USGS, Branch of Distribution, 1200 South

- * 17. Official Methods of Analysis of the Association of AOAC-International, 16th Edition (1995). Price: \$359.00. Available from: AOAC-International, 1970 Chain Bridge Rd., Dept. 0742, McLean, VA 22109-0742. Table IB, Note 3.
- * 18. American National Standard on Photographic Processing Effluents, April 2, 1975. Available from: American National Standards Institute, 1430 Broadway, New York, New York 10018. Table IB, Note 18.
- * 19. An Investigation of Improved Procedures for Measurement of Mill Effluent and Receiving Water Color, NCASI Technical Bulletin No. 253, December 1971. Available from: National Council of the Paper Industry for Air and Stream Improvements, Inc., 260 Madison Avenue, New York, New York 10016. Table IB, Note 24.
- * 20. Ammonia, Automated Electrode Method, Industrial Method Number 379-75WE, Dated February 19, 1976. Technicon Auto Analyzer II. Available from: Technicon Industrial Systems, Tarrytown, New York 10591. Table IB, Note 17.
- * 21. Chemical Oxygen Demand, Method 8000, Hach Handbook of Water Analysis, 1979. Available from: Hach Chemical Company, PO Box 389, Loveland, Colorado 80537. Table IB, Note 20.
- * 22. OIC Chemical Oxygen Demand Method, 1978. Available from: Oceanography International Corporation, 512 West

* Not available in Water Docket.

Loop, PO Box 2980, College Station, TX 77840. Table IB, Note 20.

- * 23. ORION Research Instruction Manual, Residual Chlorine Electrode Model 97-70, 1977. Available from: ORION Research Corporation, 840 Memorial Drive, Cambridge, MA 02138. Table IB, Note 22.

304(h)

New Methods-PRO

I.C.

C. REFERENCE SOURCES

- * 24. Bicinchoninate Method for Copper. Method 8506, Hach Handbook of Water Analysis, 1979. Available from: Hach Chemical Company, PO Box 300, Loveland, CO 80537. Table IB, Note 25.
- * 25. Hydrogen Ion (pH) Automated Electrode Method, Industrial Method Number 378-75WA. October 1976. Bran & Luebbe (Technicon) Auto Analyzer II. Available from: Bran & Luebbe Analyzing Technologies, Inc., Elmsford, NY 10523. Table IB, Note 26.
- * 26. 1,10-Phenanthroline Method using FerroVer Iron Reagent for Water, Hach Method 8008, 1980. Available from: Hach Chemical Company, PO Box 300, Loveland, CO 80537. Table IB, Note 27.
- * 27. Periodate Oxidation Method for Manganese, Method 8034, Hach Handbook for Water Analysis, 1979. Available from: Hach Chemical Company, PO Box 300, Loveland, CO 80537. Table IB, Note 31.

- * 28. Nitrogen, Nitrite-Low Range, Diazotization Method for Water and Wastewater, Hach Method 8507, 1979. Available from: Hach Chemical Company, PO Box 300, Loveland, CO 80537. Table IB, Note 32.
- * 29. Zincon Method for Zinc, Method 8009, Hach Handbook for Water Analysis, 1979. Available from: Hach Chemical Company, PO Box 300, Loveland, CO 80537. Table IB, Note 38.
- * 30. Direct Determination of Elemental Phosphorous by Gas-Liquid Chromatography, by R.F. Addison and R.G. Ackman, Journal of Chromatography, Volume 47, No. 3, pp. 421-426, 1970. Available from: Elsevier/North-Holland, Inc., Journal Information Center, 52 Vanderbilt Avenue, New York, NY 10164. Table IB, Note 36.
- * 31. Cirexct Current Plasma (DCP) Optical Emission Spectrometric Method for Trace Elemental Analysis of Water and Wastes, Method AES 0029, 1986- Revised 1991. Fison Instruments, Inc., 32 Commerce Center, Cherry Hill Drive, Danvers, MA 01293. Table IB, Note 16.
- * 32. Closed Vessel Microwave Digestion of Wastewater Samples for Determination of Metals, CEM Corporation, PO Box 200, Matthews, North Carolina 28106-0200, April 16, 1992. Available from: CEM Corporation. Table IB, Note 6.
- 34. Organochlorine Pesticides and PCB's in Wastewater Using Empore Disk, Test Method 3M 0222, Revised 10/28/94. 3M Center Building 220-9E-10, St. Paul, MN

- * Not available in Water Docket.

55144-1000. Available from 3M Corporation. Tables IC and ID, Note 9. 30 pp. See 304(h), Pest/PCB, B.1.

304(h)

New Methods-PRO

I.C.

C. REFERENCE SOURCES

35. Nitrogen, Total Kjeldahl, Method PAI-DK01 (Block Digestion, Steam Distillation, Titrimetric Detection), revised 12/22/94, Perstop Analytical. Method available from Perstop Analytical Corporation, PO Box 648, Wilsonville, OR 97070. Table IB, Note 28. 15 pp. See 304(h), TKN, I-B.1.
36. Nitrogen, Total Kjeldahl, Method PAI-DK02 (Block Digestion, Steam Distillation, Colorimetric Detection), revised 12/22/94, Perstop Analytical. Method available from Perstop Analytical Corporation, PO Box 648, Wilsonville, OR 97070. Table IB, Note 29. 16 pp. See 304(h), TKN, I-B.1. (Refers to NESSLER'S REAGENT).
37. Nitrogen, Total Kjeldahl, Method PAI-DK03 (Block Digestion, Automated FIA gas Diffusion), revised 12/22/94, Perstop Analytical. Method available from Perstop Analytical Corporation, PO Box 648, Wilsonville, OR 97070. Table IB, Note 30. 17 pp. See 304(h), TKN, I-B.17.

38. Methods for the Determination of Metals in Environmental Samples, Environmental Monitoring Systems Laboratory, Office of Research and Development, USEPA, Cincinnati, OH 45268. EPA 600 R-94/1111, May 1994. Table IB, Notes 1 and 5. See 304(h)/New Methods-PRO, I.B.1 or AM-X, B.10.

39. Methods for the Determination of Inorganic Substances in Environmental Samples, Environmental Monitoring Systems Laboratory, Office of Research and Development, USEPA, Cincinnati, OH 45268. EPA 600 R-93/100, August 1993. Table IB, Note 1. 169 pp. (NTIS: PB94-121811). See 304(h)/New Methods-PRO, I.B.2 or AM-IX, B.23.

40. Method 624.1. Measurement of Purgeable Organic Compounds in Water by Capillary Gas Chromatography/Mass Spectrometry, Environmental Monitoring Systems Laboratory, Office of Research and Development, USEPA, Cincinnati, OH 45268, January 1995. Table IC, Note 5. See 304(h)/New Methods-PRO, I.B.3.

* 41. Standard Methods for the Examination of Water and Wastewater, American Public Health Association, American Water Works Association, Water Environment Federation, 18th Edition Supplement, 1994. Table IB, Note 23.

* Not available in Water Docket.

304(h)
New Methods-PRO
I.D.1

20 1/29/96 1/26/96 Willie R. Taylor U.S. Dpt. of the Interior

D.1 Public Comments Received before April 2, 1996

Log #	Date Rcvd	Date of Letter	Name	Organization Represented	Street Address	City / State	Zip	#Pgs	#Att.
1	11/2/95	10/31/95	James F. Stine	(See I-D1.18,D1.19)	Hunton & Williams o/b/o Utility Water Act Group	500 E. Main St. Ste. 1000	Norfolk, VA	23510	2 0
2	11/20/95	11/14/95	Nancy Palmer		AOAC International	481 N. Frederick Ste. 500	Gaithersburg, MD	20877	2 0
3	12/8/95	12/7/95	Jim Miltimore		Weyerhaeuser	Analytical Chem. Labs, WTC 2F25	Tacoma, WA	98477	4 0
4	12/14/95	12/12/95	Jeff Louch, PhD		NCASI (Nat'l Council of Paper Industry for Air & Stream Improvement, Inc.	PO Box 458	Corvallis, OR	97339	2 0
5	12/14/95	12/12/95	Charles W. Keffer		Monsanto Company	800 N. Lindbergh	St. Louis, MO	63167	2 0
6	12/15/95	12/12/95	Frank Baumann,P.E.		CA Dpt. of Health Services	1449 W.Temple,101	Los Angeles, CA	90026	2 0
7	12/15/95	12/18/95	David Gustafson		HACH Company	P.O. Box 389	Loveland, CO	80539	3 1
8	12/15/95	12/18/95	Michael W. Hight		Research, Environmental & Industrial Consultants	P.O. Box 286	Beaver, WV	25813	2 0
9	12/15/95	12/18/95	Donalea Dinsmore		WI Dept. of Natural Resources	101 S. Webster St., Box 7921	Madison, WI	53707	3 1
10	12/15/95	12/18/95	Jeff Ripp		Silver Coalition	550 Mamaroneck	Harrison, NY	10528	2 0
			Thomas J. Dufficy		c/o Nat'l. Assoc. of Photographic Manufacturers				
11	12/15/95	12/18/95	James M. Gerek		Eastman Kodak Company	1100 Ridgeway Av.	Rochester, NY	14652	7 2
12	12/13/95	12/18/95	Lois B. Jassie		CEM	3100 Smith Farm Road, PO Box 200	Matthews, NC	28106	3 0
13	12/15/95	12/18/95	John J. Urh		CETAC Technologies Inc.	5600 S. 42nd St.	Omaha, NE	68107	2 3
14	12/15/95	12/18/95	Jon M. Loney		Tennessee Valley Authority	400 West Summit Hill Dr.	Knoxville, TN	37902	1 0
15	12/18/95	12/12/95	Harry Gearhart		Conoco Inc.	P.O. Box 1267	Ponca City, OK	74602	3 0
16	12/18/95	12/14/95	George Bowman		WI State Lab. of Hygiene	Univ. of WI 465 Henry Mall	Madison, WI	53706	1 2
17	12/18/95	12/12/95	Zoe A. Grosser		The Perkin-Elmer Corp.	761 Main Ave.	Norwalk, CT	06859	2 6
18	12/18/95	12/18/95	James F. Stine	(See I-D1.1,D1.19)	Hunton & Williams o/b/o Utility Water Act Group	2000 PA Av., NW Ste. 9000	Washington, DC	20006	15 9
19	1/16/96	12/22/95	James F. Stine	(See I-D1.1,D1.18)	Hunton & Williams o/b/o Utility Water Act Group	2000 PA Av., NW Ste. 9000	Washington, DC	20006	2 0

21	2/8/96	2/5/96	William E. Purcell	VA Dpt. Environ. Quality	PO Box 10009	Richmond, VA	23240	1	0
22	2/26/96	2/14/96	James R. Salkowski	ENVIROSCAN	303 W. Military	Rothschild, WI	54474	2	6
23	4/1/96	3/27/96	James A. Thomas	ASTM (see I.D.2.1)	100 Barr Harbor Dr.	W. Conshohocken, PA	19428	3	11
24	4/2/96	3/29/96	John Rowan	King County Envir. Lab	322 W. Ewing St.	Seattle, WA	98119	3	1
25	4/2/96	4/1/96	James F. Stine	Hunton & Williams o/b/o Utility Water Act Group	2000 PA Ave., NW Ste. 9000	Washington, DC	20006	29	10

304(h)
New Methods-PRO
I.D.2

	D.2	Public Comments		Received after April 2, 1996				
Log	Date	Date of						
#	Rcvd	Letter	Name	Organization Represented	Street Address	City / State	Zip	#Pgs#Att.
1	5/31/96	5/28/96	Kathleen Kono		ASTM (see I.D.1.23)	100 Barr Harbor Dr.	W. Conshohocken, PA	19428