Table IB—List of Approved Inorganic Test Procedures

Parameter	Methodology[58]	Reference (method number or page)					
		EPA[35,52]	Standard methods (18th, 19th)	Standard methods (20th)	Standard methods online	ASTM	USGS/AOAC/other
1. Acidity, as CaCO3, mg/L	Electrometric endpoint or phenolphthalein endpoint		2310 B(4a)	2310 B(4a)	2310 B(4a)–97	D1067–92, 02	I–1020–85[2]
2. Alkalinity, as CaCO3, mg/L	Electrometric or Colorimetric titration to pH 4.5, manual, or		2320 B	2320 B	2320 B–97	D1067–92, 02	973.43[3], I–1030–85[2]
	automatic	310.2 (Rev. 1974)[1]					I–2030–85[2]
3. Aluminum—Total,[4]mg/L	Digestion[4]followed by:						
	AA direct aspiration[36]		3111 D		3111 D–99		I–3051–85[2]
	AA furnace		3113 B		3113 B–99		
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–9750
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	Direct Current Plasma (DCP)[36]					D4190–94, 99	See footnote[34]
	Colorimetric (Eriochrome cyanine R)		3500–Al D	3500–Al B	3500–Al B–01		
4. Ammonia (as N), mg/L	Manual, distillation (at pH 9.5)[6]followed by:	350.1, Rev. 2.0 (1993)	4500–NH B3	4500–NH3 B	4500–NH3 B–97		973.49[3]
	Nesslerization		4500–NH3 C (18th only)			D1426–98, 03 (A)	973.49[3], I–3520–85[2]
	Titration		4500–NH3 C	4500–NH3 C	4500–NH3 C–		

			(19th) and 4500–NH3 E (18th)		97		
	Electrode		4500–NH3 D or E (19th) and 4500–NH3 F or G (18th)	4500–NH3 D or E	4500–NH3 D or E–97	D1426–98, 03 (B)	
	Automated phenate, or	350.1[60], Rev. 2.0 (1993)	4500–NH3 G (19th) and 4500–NH3 H (18th)	4500–NH3 G	4500–NH3 G–97		I–4523–85[2]
	Automated electrode						See footnote 7
	Ion Chromatography					D6919–03	
5. Antimony—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration[36]		3111 B		3111 B–99		
	AA furnace		3113 B		3113 B–99		
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
6. Arsenic—Total,[4] mg/L	Digestion[4] followed by	206.5 (Issued 1978)[1]					
	AA gaseous hydride		3114 B 4.d		3114 B 4.d–97	D2972–97, 03 (B)	I–3062–85[2]
	AA furnace		3113 B		3113 B–99	D2972–97, 03 (C)	I–4063–98[49]
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		

	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	Colorimetric (SDDC)		3500–As C	3500–As B	3500–As B–97	D2972–97, 03 (A)	I–3060–85
7. Barium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration[36]		3111 D		3111 D–99		I–3084–85[2]
	AA furnace		3113 B		3113 B–99	D4382–95, 02	
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP[36]						See footnote[34]
8. Beryllium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration		3111 D		3111 D–99	D3645–93 (88), 03 (A)	I–3095–85[2]
	AA furnace		3113 B		3113 B–99	D3645–93 (88), 03 (B)	
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP, or					D4190–94, 99	See footnote[34]
	Colorimetric (aluminon)		3500–Be D				
9. Biochemical oxygen demand (BOD5), mg/L	Dissolved Oxygen Depletion		5210 B	5210 B	5210 B–01		973.44,[3] p. 17.[9], I–1578–78[8]
10. Boron—Total,[37] mg/L	Colorimetric (curcumin)		4500–B B	4500–B B	4500–B B–00		I–3112–85[2]
	ICP/AES, or	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B99		I–4471–97[50]
	DCP					D4190–94, 99	See footnote 34
11. Bromide, mg/L	Titrimetric					D1246–95, 99 (C)	p. S44.[10]

							I–1125–85[2]
	Ion Chromatography	300.0, Rev 2.1 (1993) and 300.1, Rev 1.0 (1997)	4110 B	4110 B	4110 B–00	D4327–97, 03	993.30[3]
	CIE/UV						D6508, Rev. 2[54]
12. Cadmium—Total,[4]mg/L	Digestion[4]followed by:						
	AA direct aspiration[36]		3111 B or C		3111 B or C–99	D3557–95, 02 (A or B)	974.27,[3]p. 37.[9], I–3135–85[2]or I–3136–85[2]
	AA furnace		3113 B		3113 B–99	D3557–95, 02 (D)	I–4138–89[51]
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–1472–85[2]or I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP[36]					D4190–94, 99	See footnote[34]
	Voltametry[11], or					D3557–95, 02 (C)	
	Colorimetric (Dithizone)		3500–Cd D				
13. Calcium—Total,[4]mg/L	Digestion[4]followed by:						
	AA direct aspiration		3111 B		3111 B–99	D511–93, 03(B)	I–3152–85[2]
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	DCP, or						See footnote[34]
	Titrimetric (EDTA)		3500–Ca D	3500–Ca B	3500–Ca B–97	D511–93, 03(A)	
	Ion Chromatography					D6919–03	
14. Carbonaceous biochemical oxygen demand (CBOD5), mg/L[12]	Dissolved Oxygen Depletion with nitrification inhibitor		5210 B	5210 B	5210 B–01		
15. Chemical	Titrimetric	410.3 (Rev.	5220 C	5220 C	5220 C–	D1252–	973.46[3], p. 17[9]I–

oxygen demand (COD), mg/L		1978)[1]			97	95, 00 (A)	3560–85[2]
	Spectrophotometric, manual or automatic	410.4, Rev. 2.0 (1993)	5220 D	5220 D	5220 D–97	D1252–95, 00 (B)	See footnotes[13,14]. I–3561–85[2]
16. Chloride, mg/L	Titrimetric: (silver nitrate) or		4500–Cl–B	4500–Cl–B	4500–Cl–B–97	D512–89(99) (B)	I–1183–85[2]
	(Mercuric nitrate)		4500–Cl–C	4500–Cl–C	4500–Cl–C–97	D512–89 (99) (A)	973.51[3], I–1184–85[2]
	Colorimetric: manual or						I–1187–85[2]
	Automated (Ferricyanide)		4500–Cl–E	4500–Cl–E	4500–Cl–E–97		I–2187–85[2]
	Potentiometric Titration		4500–Cl–D	4500–Cl–D	4500–Cl–D–97		
	Ion Selective Electrode					D512–89(99)(C)	
	Ion Chromatography	300.0, Rev 2.1 (1993) and 300.1, Rev 1.0 (1997)	4110 B	4110 B	4110 B–00	D4327–97, 03	993.30[3]
	CIE/UV						D6508, Rev. 2[54]
17. Chlorine—Total residual, mg/L; Titrimetric	Amperometric direct, or		4500–Cl D	4500–Cl D	4500–Cl D–00	D1253–86 (96), 03	
	Amperometric direct (low level)		4500–Cl E	4500–Cl E	4500–Cl E–00		
	Iodometric direct		4500–Cl B	4500–Cl B	4500–Cl B–00		
	Back titration ether end-point[15]or		4500–Cl C	4500–Cl C	4500–Cl C–00		
	DPD–FAS		4500–Cl F	4500–Cl F	4500–Cl F–00		
	Spectrophotometric, DPD or		4500–Cl G	4500–Cl G	4500–Cl G–00		
	Electrode						See footnote[16]
18. Chromium VI dissolved, mg/L	0.45–micron Filtration followed by:						
	AA chelation-extraction or		3111 C		3111 C–99		I–1232–85
	Ion Chromatography	218.6, Rev.	3500–Cr	3500–Cr	3500–Cr	D5257–	993.23

		3.3 (1994)	E	C	C–01	97	
	Colorimetric (Diphenyl-carbazide)		3500–Cr D	3500–Cr B	3500–Cr B–01	D1687–92, 02 (A)	I–1230–85
19. Chromium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration[36]		3111 B		3111 B–99	D1687–92, 02 (B)	974.27[3], I–3236–85[2]
	AA chelation-extraction		3111 C		3111 C–99		
	AA furnace		3113 B		3113 B–99	D1687–92, 02 (C)	I–3233–93[46]
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP,[36] or					D4190–94, 99	See footnote[34]
	Colorimetric (Diphenyl-carbazide)		3500–Cr D	3500–Cr B	3500–Cr B–01		
20. Cobalt—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration		3111 B or C		3111 B or C–99	D3558–94, 03 (A or B)	p. 37[9], I–3239–85[2]
	AA furnace		3113 B		3113 B–99	D3558–94, 03 (C)	I–4243–89[51]
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP					D4190–94, 99	See footnote[34]
21. Color, platinum cobalt units or dominant wavelength, hue, luminance purity	Colorimetric (ADMI), or		2120 E	2120 E			See footnote[18]

	(Platinum cobalt), or		2120 B	2120 B	2120 B–01		I–1250–85[2]
	Spectrophotometric		2120 C	2120 C			
22. Copper—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration[36]		3111 B or C		3111 B or C–99	D1688–95, 02 (A or B)	974.27[3] p. 37[9] I–3270–85[2] or I–3271–85[2]
	AA furnace		3113 B		3113 B–99	D1688–95, 02 (C)	I–4274–89[51]
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP[36] or					D4190–94, 99	See footnote[34]
	Colorimetric (Neocuproine) or		3500–Cu D	3500–Cu B	3500–Cu B–99		
	(Bicinchoninate)		3500–Cu E	3500–Cu C	3500–Cu C–99		See footnote[19]
23. Cyanide—Total, mg/L	Automated Distillation and Colorimetry, or						Kelada–01[55]
	Manual distillation with MgCl2 followed by:	335.4, Rev. 1.0 (1993)[57]	4500–CN^-C	4500–CN^-C		D2036–98(A)	10–204–00–1–X[56]
	Titrimetric or		4500–CN^-D	4500–CN^-D	4500–CN^-D–99		p. 22[9]
	Spectrophotometric, manual or		4500–CN^-E	4500–CN^-E	4500–CN^-E–99	D2036–98(A)	I–3300–85
	Automated[20] or	335.4, Rev. 1.0 (1993)[57]					10–204–00–1–X[56], I–4302–85[2]
	Ion Selective Electrode		4500–CN^-F	4500–CN^-F	4500–CN^-F–99	D2036–98(A)	
24. Available Cyanide, mg/L	Cyanide Amenable to Chlorination (CATC); Manual distillation with MgCl2 followed by Titrimetric or Spectrophotometric		4500–CN^-G	4500–CN^-G	4500–CN^-G–99	D2036–98(B)	
	Flow injection and ligand exchange,					D6888–04	OIA–1677[44]

	followed by amperometry[61]						
	Automated Distillation and Colorimetry						Kelada–01[55]
25. Fluoride—Total, mg/L	Manual distillation[6] followed by:		4500–F^- B	4500–F^- B	4500–F^- B–97		
	Electrode, manual or		4500–F^- B	4500–F^- B	4500–F^- C–97	D1179–93, 99 (B)	
	Automated						I–4327–85[2]
	Colorimetric, (SPADNS) or		4500–F^- D	4500–F^- D	4500–F^- D–97	D1179–93, 99 (A)	
	Automated complexone		4500–F^- E	4500–F^- E	4500–F^- E–97		
	Ion Chromatography	300.0, Rev 2.1 (1993) and 300.1, Rev 1.0 (1997)	4110 B	4110 B	4110 B–00	D4327–97,03	993.30[3]
	CIE/UV						D6508, Rev. 2[54]
26. Gold—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration, or		3111 B		3111 B–99		
	AA furnace, or	231.2 (Rev. 1978)[1]					
	DCP						See footnote[34]
27. Hardness—Total, as CaCO3, mg/L	Automated colorimetric,	130.1 (Issued 1971)[1]					
	Titrimetric (EDTA) or		2340 B or C	2340 B or C	2340 B or C–97	D1126–86(92), 02	973.5 2B[3], I–1338–85[2]
	Ca plus Mg as their carbonates, by inductively coupled plasma or AA direct aspiration. (See Parameters 13 and 33).	c					
28. Hydrogen ion (pH), pH units	Electrometric measurement or		4500–H^+B	4500–H^+B	4500–H^+B–00	D1293–84 (90), 99 (A or B)	973.41.[3], I–1586–85[2]

	Automated electrode	150.2 (Dec. 1982)[1]					See footnote[21], I–2587–85[2]
29. Iridium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration or		3111 B		3111 B–99		
	AA furnace	235.2 (Issued 1978)[1]					
30. Iron—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration[36]		3111 B or C		3111 B or C–99	D1068–96, 03 (A or B)	974.27[3], I–3381–85[2]
	AA furnace		3113 B		3113 B–99	D1068–96, 03 (C)	
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	DCP[36] or					D4190–94, 99	See footnote[34]
	Colorimetric (Phenanthroline)		3500–Fe D	3500–Fe B	3500–Fe B–97	D1068–96, 03 (D)	See footnote[22]
31. Kjeldahl Nitrogen[5]—Total, (as N), mg/L	Digestion and distillation followed by:[20]		4500–Norg B or C and 4500–NH3 B	4500–Norg B or C and 4500–NH3 B	4500–Norg B or C–97 and 4500–NH3 B–97	D3590–89, 02 (A)	
	Titration or		4500–NH3 C (19th) and 4500–NH3 E (18th)	4500–NH3 C	4500–NH3 C–97	D3590–89, 02 (A)	973.48[3]
	Nesslerization or		4500–NH3 C (18th Only)			D3590–89, 02 (A)	
	Electrode		4500–NH3 F or G (18th) and 4500–	4500–NH3 D or E	4500–NH3 D or E–97		

			NH3 D or E (19th)				
	Automated phenate colorimetric	351.1 (Rev. 1978)[1]					I–4551–78[8]
	Semi-automated block digestor colorimetric	351.2, Rev. 2.0 (1993)				D3590–89, 02 (B)	I–4515–91[45]
	Manual or block digestor potentiometric					D3590–89, 02 (A)	
	Block digester, followed by Auto distillation and Titration, or						See footnote[39]
	Nesslerization, or						See footnote[40]
	Flow injection gas diffusion						See footnote[41]
32. Lead—Total,[4]mg/L	Digestion[4]followed by:						
	AA direct aspiration[36]		3111 B or C		3111 B or C–99	D3559–96, 03 (A or B)	974.27[3], I–3399–85[2]
	AA furnace		3113 B		3113 B–99	D3559–96, 03 (D)	I–4403–89[51]
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP[36]					D4190–94, 99	See footnote[34]
	Voltametry[11]or					D3559–96, 03 (C)	
	Colorimetric (Dithizone)		3500–Pb D	3500–Pb B	3500–Pb B–97		
33. Magnesium—Total,[4]mg/L	Digestion[4]followed by:						
	AA direct aspiration		3111 B		3111 B–99	D511–93, 03(B)	974.27[3], I–3447–85[2]
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]

	DCP or						See footnote[34]
	Gravimetric		3500–Mg D				
	Ion Chromatography					D6919–03	
34. Manganese—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration[36]		3111 B		3111 B–99	D858–95, 02 (A or B)	974.27[3], I–3454–85[2]
	AA furnace		3113 B		3113 B–99	D858–95, 02 (C)	
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP36, or					D4190–94, 99	See footnote[34]
	Colorimetric (Persulfate), or		3500—Mn D	3500–Mn B	3500–Mn B–99		920.203[3]
	(Periodate)						See footnote[23]
35. Mercury—Total[4], mg/L	Cold vapor, manual or	245.1, Rev. 3.0 (1994)	3112 B		3112 B–99	D3223–97, 02	977.22[3], I–3462–85[2]
	Automated	245.2 (Issued 1974)					
	Cold vapor atomic fluorescence spectrometry (CVAFS)	245.7 Rev. 2.0 (2005)[59]					
	Purge and Trap CVAFS	1631E[43]					
36. Molybdenum—Total[4], mg/L	Digestion[4] followed by:						
	AA direct aspiration		3111 D		3111 D–99		I–3490–85[2]
	AA furnace		3113 B		3113 B–99		I–3492–96[47]
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]

	DCP						See footnote[34]
37. Nickel—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration[36]		3111 B or C		3111 B or C–99	D1886–90, 94 (98) (A or B)	I–3499–85[2]
	AA furnace		3113 B		3113 B–99	D1886–90, 94 (98) (C)	I–4503–89[51]
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP[36], or					D4190–94, 99	See footnote[34]
	Colorimetric (heptoxime)		3500–Ni D (17th Edition)				
38. Nitrate (as N), mg/L	Ion Chromatography	300.0, Rev 2.1 (1993) and 300.1, Rev 1.0 (1997)	4110 B	4110 B	4110 B–00	D4327–97, 03	993.30[3]
	CIE/UV						D6508, Rev. 2[54]
	Ion Selective Electrode		4500–NO_3^- D	4500–NO_3^- D	4500–NO_3^- D–00		
	Colorimetric (Brucine sulfate), or	352.1[1]					973.50[3], 419D[1,7], p. 28[9]
	Nitrate-nitrite N minus Nitrite N (See parameters 39 and 40).						
39. Nitrate-nitrite (as N), mg/L	Cadmium reduction, manual or		4500–NO_3^- E	4500–NO_3^- E	4500–NO_3^- E–00	D3867–99(B)	
	Automated, or	353.2, Rev. 2.0 (1993)	4500–NO_3^- F	4500–NO_3^- F	4500–NO_3^- F–00	D3867–99(A)	I–4545–85[2]
	Automated hydrazine		4500–NO_3^- H	4500–NO_3^- H	4500–NO_3^- H–00		
	Ion Chromatography	300.0, Rev 2.1 (1993)	4110 B	4110 B	4110 B–00	D4327–97	993.30[3]

		and 300.1, Rev 1.0 (1997)					
	CIE/UV						D6508, Rev. 2[54]
40. Nitrite (as N), mg/L	Spectrophotometric: Manual or		4500–NO_2^-B	4500–NO_2^-B	4500–NO_2^-B–00		See footnote[25]
	Automated (Diazotization)						I–4540–85[2]
	Automated (*bypass cadmium reduction)	353.2, Rev. 2.0 (1993)	4500–NO_3^-F	4500–NO_3^-F	4500–NO_3^-F–00	D3867–99(A)	I–4545–85[2]
	Manual (*bypass cadmium reduction)		4500–NO_3^-E	4500–NO_3^-E	4500–NO_3^-E–00	D3867–99(B)	
	Ion Chromatography	300.0, Rev 2.1 (1993) and 300.1, Rev 1.0 (1997)	4110 B	4110 B	4110 B–00	D4327–97, 03	993.30[3]
	CIE/UV						D6508, Rev.2[54]
41. Oil and grease—Total recoverable, mg/L	Hexane extractable material (HEM): n–Hexane extraction and gravimetry	1664A[42]		5520 B[38]	5520 B–01[38]		
	Silica gel treated HEM (SGT–HEM): Silica gel treatment and gravimetry.	1664A[42]					
42. Organic carbon—Total (TOC), mg/L	Combustion or oxidation		5310 B, C, or D	5310 B, C, or D	5310 B, C, or D–00	D2579–93 (A or B)	973.47,[3]p. 14[24]
43. Organic nitrogen (as N), mg/L	Total Kjeldahl N (Parameter 31) minus ammonia N (Parameter 4)						
44. Orthophosphate (as P), mg/L	Ascorbic acid method:						
	Automated, or	365.1, Rev. 2.0 (1993)	4500–P F	4500–P F			973.56[3], I–4601–85[2]
	Manual single reagent		4500–P E	4500–P E		D515–88(A)	973.55[3]
	Manual two reagent	365.3 (Issued 1978)[1]					
	Ion Chromatography	300.0, Rev 2.1 (1993)	4110 B	4110 B	4110 B–00	D4327–97, 03	993.30[3]

		and 300.1, Rev 1.0 (1997)					
	CIE/UV						D6508, Rev. 2[54]
45. Osmium—Total[4], mg/L	Digestion[4]followed by:						
	AA direct aspiration, or		3111 D		3111 D–99		
	AA furnace	252.2 (Issued 1978)[1]					
46. Oxygen, dissolved, mg/L	Winkler (Azide modification), or		4500–O C	4500–O C	4500–O C–01	D888–92, 03 (A)	973.4 5B[3], I–1575–78[8]
	Electrode		4500–O G	4500–O G	4500–O G–01	D888–92, 03 (B)	I–1576–78[8]
47. Palladium—Total,[4]mg/L	Digestion[4]followed by:						
	AA direct aspiration, or		3111 B		3111 B–99		p. S27[10]
	AA furnace	253.2[1](Issued 1978)					p. S28[10]
	DCP						See footnote[34]
48. Phenols, mg/L	Manual distillation[26]Followed by:	420.1[1](Rev. 1978)					See footnote[27]
	Colorimetric (4AAP) manual, or	420.1[1](Rev. 1978)					See footnote[27]
	Automated	420.4 Rev. 1.0 (1993)					
49. Phosphorus (elemental), mg/L	Gas-liquid chromatography						See footnote[28]
50. Phosphorus—Total, mg/L	Persulfate digestion followed by:[20]		4500–P B.5	4500–P B.5			973.55[3]
	Manual or	365.3[1](Issued 1978)	4500–P E	4500–P E		D515–88(A)	
	Automated ascorbic acid reduction	365.1 Rev. 2.0 (1993)	4500–P F	4500–P F			973.56[3], I–4600–85[2]
	Semi-automated block digestor	365.4[1](Issued 1974)				D515–88(B)	I–4610–91[48]
51. Platinum—Total,[4]mg/L	Digestion[4]followed by:						
	AA direct aspiration		3111 B		3111 B–99		

	AA furnace	255.2[1]					
	DCP						See footnote[34]
52. Potassium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration		3111 B		3111 B–99		973.53[3], I–3630–85[2]
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		
	Flame photometric, or		3500–K D	3500–K B	3500–K B–97		
	Colorimetric						317 B[17]
	Ion Chromatography					D6919–03	
53. Residue—Total, mg/L	Gravimetric, 103–105°		2540 B	2540 B	2540 B–97		I–3750–85[2]
54. Residue—filterable, mg/L	Gravimetric, 180°		2540 C	2540 C	2540 C–97		I–1750–85[2]
55. Residue—non-filterable (TSS), mg/L	Gravimetric, 103–105 °C post washing of residue		2540 D	2540 D	2540 D–97		I–3765–85[2]
56. Residue—settleable, mg/L	Volumetric, (Imhoff cone), or gravimetric		2540 F	2540 F	2540 F–97		
57. Residue—Volatile, mg/L	Gravimetric, 550 °C	160.4[1]					I–3753–85[2]
58. Rhodium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration, or		3111 B		3111 B–99		
	AA furnace	265.2[1]					
59. Ruthenium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration, or		3111 B		3111 B–99		
	AA furnace	267.2[1]					
60. Selenium—Total,[4] mg/L	Digestion[4] followed by:						
	AA furnace		3113 B		3113 B–99	D3859–98, 03 (B)	I–4668–98[49]
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]

	AA gaseous hydride		3114 B		3114 B–97	D3859–98, 03 (A)	I–3667–85[2]
61. Silica—Dissolved,[37] mg/L	0.45 micron filtration followed by:						
	Colorimetric, Manual or		4500–Si D	4500–SiO2 C	4500–SiO2C–97	D859–94, 00	I–1700–85[2]
	Automated (Molybdosilicate), or						I–2700–85[2]
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
62. Silver—Total,[4, 31] mg/L	Digestion[4, 29] followed by:						
	AA direct aspiration		3111 B or C		3111 B or C–99		974.27[3], p. 37[9], I–3720–85[2]
	AA furnace		3113 B		3113 B–99		I–4724–89[51]
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP						See footnote[34]
63. Sodium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration		3111 B		3111 B–99		973.54[3], I–3735–85[2]
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	DCP, or						See footnote[34]
	Flame photometric		3500–Na D	3500–Na B	3500–Na B–97		
	Ion Chromatography					D 6919–03	
64. Specific conductance, micromhos/cm at 25 °C	Wheatstone bridge	120.1[1] (Rev. 1982)	2510 B	2510 B	2510 B–97	D1125–95 (99) (A)	973.40[3], I–2781–85[2]
65. Sulfate (as SO4), mg/L	Automated colorimetric	375.2, Rev. 2.0 (1993)					
	Gravimetric		4500–$SO4^{2-}$C or D	4500–$SO4^{2-}$C or D			925.54[3]

	Turbidimetric					D516–90, 02	426C[3]0
	Ion Chromatography	300.0, Rev 2.1 (1993) and 300.1, Rev 1.0 (1997)	4110 B	4110 B	4110 B–00	D4327–97, 03	993.30[3]
	CIE/UV						D6508, Rev. 2[54]
66. Sulfide (as S), mg/L	Titrimetric (iodine), or		4500–S^{2-} F (19th) 4500–S^{2-} E (18th)	4500–S^{2-} F	4500–S^{2-} F–00		I–3840–85[2]
	Colorimetric (methylene blue)		4500–S^{2-} D	4500–S^{2-} D	4500–S^{2-} D–00		
	Ion Selective Electrode		4500–S^{2-} G	4500–S^{2-} G	4500–S^{2-} G–00	D4658–03	
67. Sulfite (as SO3), mg/L	Titrimetric (iodine-iodate)		4500–$SO3^{2-}$B	4500–$SO3^{2-}$B	4500–$SO3^{2-}$B–00		
68. Surfactants, mg/L	Colorimetric (methylene blue)		5540 C	5540 C	5540 C–00	D2330–88, 02	
69. Temperature, °C	Thermometric		2550 B	2550 B	2550 B–00		See footnote[32]
70. Thallium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration		3111 B		3111 B–99		
	AA furnace	279.2[1] (Issued 1978)					
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
71. Tin—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration		3111 B		3111 B–99		I–3850–78[8]
	AA furnace, or		3113 B		3113 B–99		
	STGFAA	200.9, Rev. 2.2 (1994)					
	ICP/AES	200.7, Rev. 4.4 (1994)					
72. Titanium—	Digestion[4] followed						

Total,[4] mg/L	by:						
	AA direct aspiration		3111 D		3111 D–99		
	AA furnace	283.2[1] (Issued 1978)					
	DCP						See footnote[34]
73. Turbidity, NTU[53]	Nephelometric	180.1, Rev. 2.0 (1993)	2130 B	2130 B	2130 B–01	D1889–94, 00	I–3860–85[2]
74. Vanadium—Total,[4] mg/L	Digestion[4] followed by:						
	AA direct aspiration		3111 D		3111 D–99		
	AA furnace					D3373–93, 03	
	ICP/AES	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP, or					D4190–94, 99	See footnote[34]
	Colorimetric (Gallic Acid)		3500–V D	3500–V B	3500–V B–97		
75. Zinc –Total[4], mg/L	Digestion[4] followed by:						
	AA direct aspiration[36]		3111 B or C		3111 B or C–99	D1691–95, 02 (A or B)	974.27[3], p. 37[9], I–3900–85[2]
	AA furnace	289.2[1] (Issued 1978)					
	ICP/AES[36]	200.7, Rev. 4.4 (1994)	3120 B	3120 B	3120 B–99[59]		I–4471–97[50]
	ICP/MS	200.8, Rev. 5.4 (1994)				D5673–03	993.14[3]
	DCP,[36] or					D4190–94, 99	See footnote[34]
	Colorimetric (Dithizone) or		3500–Zn E				
	(Zincon)		3500–Zn F	3500–Zn B	3500–Zn B–97		See footnote[33]

Table 1B Notes:

[1] "Methods for Chemical Analysis of Water and Wastes," Environmental Protection Agency, Environmental Monitoring Systems Laboratory–Cincinnati (EMSL–CI), EPA–600/4–79–020 (NTIS PB 84–128677), Revised March 1983 and 1979 where applicable.

[2]Fishman, M. J., *et al.* "Methods for Analysis of Inorganic Substances in Water and Fluvial Sediments," U.S. Department of the Interior, Techniques of Water-Resource Investigations of the U.S. Geological Survey, Denver, CO, Revised 1989, unless otherwise stated.

[3]"Official Methods of Analysis of the Association of Official Analytical Chemists," Methods Manual, Sixteenth Edition, 4th Revision, 1998.

[4]For the determination of total metals (which are equivalent to total recoverable metals) the sample is not filtered before processing. A digestion procedure is required to solubilize analytes in suspended material and to break down organic-metal complexes (to convert the analyte to a detectable form for colorimetric analysis). For non-platform graphite furnace atomic absorption determinations a digestion using nitric acid (as specified in Section 4.1.3 of Methods for the Chemical Analysis of Water and Wastes) is required prior to analysis. The procedure used should subject the sample to gentle, acid refluxing and at no time should the sample be taken to dryness. For direct aspiration flame atomic absorption determinations (FLAA) a combination acid (nitric and hydrochloric acids) digestion is preferred prior to analysis. The approved total recoverable digestion is described as Method 200.2 in Supplement I of "Methods for the Determination of Metals in Environmental Samples" EPA/600R–94/111, May, 1994, and is reproduced in EPA Methods 200.7, 200.8, and 200.9 from the same Supplement. However, when using the gaseous hydride technique or for the determination of certain elements such as antimony, arsenic, selenium, silver, and tin by non–EPA graphite furnace atomic absorption methods, mercury by cold vapor atomic absorption, the noble metals and titanium by FLAA, a specific or modified sample digestion procedure may be required and in all cases the referenced method write-up should be consulted for specific instruction and/or cautions. For analyses using inductively coupled plasma-atomic emission spectrometry (ICP–AES), the direct current plasma (DCP) technique or the EPA spectrochemical techniques (platform furnace AA, ICP–AES, and ICP–MS) use EPA Method 200.2 or an approved alternate procedure (e.g., CEM microwave digestion, which may be used with certain analytes as indicated in Table IB); the total recoverable digestion procedures in EPA Methods 200.7, 200.8, and 200.9 may be used for those respective methods. Regardless of the digestion procedure, the results of the analysis after digestion procedure are reported as "total" metals.

[5]Copper sulfate may be used in place of mercuric sulfate.

[6]Manual distillation is not required if comparability data on representative effluent samples are on file to show that this preliminary distillation step is not necessary: however, manual distillation will be required to resolve any controversies.

[7]Ammonia, Automated Electrode Method, Industrial Method Number 379–75 WE, dated February 19, 1976, Bran & Luebbe (Technicon) Auto Analyzer II, Bran & Luebbe Analyzing Technologies, Inc., Elmsford, NY 10523.

[8]The approved method is that cited in "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments", USGS TWRI, Book 5, Chapter A1 (1979).

[9]American National Standard on Photographic Processing Effluents, April 2, 1975. Available from ANSI, 25 West 43rd st., New York, NY 10036.

[10]"Selected Analytical Methods Approved and Cited by the United States Environmental Protection Agency," Supplement to the Fifteenth Edition of *Standard Methods for the Examination of Water and Wastewater* (1981).

[11]The use of normal and differential pulse voltage ramps to increase sensitivity and resolution is acceptable.

[12]Carbonaceous biochemical oxygen demand (CBOD5) must not be confused with the traditional BOD5 test method which measures "total BOD." The addition of the nitrification inhibitor is not a procedural option, but must be included to report the CBOD5 parameter. A discharger whose permit requires reporting the traditional BOD5 may not

use a nitrification inhibitor in the procedure for reporting the results. Only when a discharger's permit specifically states CBOD5 is required can the permittee report data using a nitrification inhibitor.

[13]OIC Chemical Oxygen Demand Method, Oceanography International Corporation, 1978, 512 West Loop, P.O. Box 2980, College Station, TX 77840.

[14]Chemical Oxygen Demand, Method 8000, Hach Handbook of Water Analysis, 1979, Hach Chemical Company, P.O. Box 389, Loveland, CO 80537.

[15]The back titration method will be used to resolve controversy.

[16]Orion Research Instruction Manual, Residual Chlorine Electrode Model 97–70, 1977, Orion Research Incorporated, 840 Memorial Drive, Cambridge, MA 02138. The calibration graph for the Orion residual chlorine method must be derived using a reagent blank and three standard solutions, containing 0.2, 1.0, and 5.0 mL 0.00281 N potassium iodate/100 mL solution, respectively.

[17]The approved method is that cited in *Standard Methods for the Examination of Water and Wastewater,* 14th Edition, 1976.

[18]National Council of the Paper Industry for Air and Stream Improvement, Inc., Technical Bulletin 253, December 1971.

[19]Copper, Biocinchoinate Method, Method 8506, Hach Handbook of Water Analysis, 1979, Hach Chemical Company, P.O. Box 389, Loveland, CO 80537.

[20]When using a method with block digestion, this treatment is not required.

[21]Hydrogen ion (pH) Automated Electrode Method, Industrial Method Number 378–75WA, October 1976, Bran & Luebbe (Technicon) Autoanalyzer II. Bran & Luebbe Analyzing Technologies, Inc., Elmsford, NY 10523.

[22]Iron, 1,10-Phenanthroline Method, Method 8008, 1980, Hach Chemical Company, P.O. Box 389, Loveland, CO 80537.

[23]Manganese, Periodate Oxidation Method, Method 8034, Hach Handbook of Wastewater Analysis, 1979, pages 2–113 and 2–117, Hach Chemical Company, Loveland, CO 80537.

[24]Wershaw, R. L., *et al.* , "Methods for Analysis of Organic Substances in Water," Techniques of Water-Resources Investigation of the U.S. Geological Survey, Book 5, Chapter A3, (1972 Revised 1987) p. 14.

[25]Nitrogen, Nitrite, Method 8507, Hach Chemical Company, P.O. Box 389, Loveland, CO 80537.

[26]Just prior to distillation, adjust the sulfuric-acid-preserved sample to pH 4 with 1 + 9 NaOH.

[27]The approved method is cited in *Standard Methods for the Examination of Water and Wastewater,* 14th Edition. The colorimetric reaction is conducted at a pH of 10.0±0.2. The approved methods are given on pp 576–81 of the 14th Edition: Method 510A for distillation, Method 510B for the manual colorimetric procedure, or Method 510C for the manual spectrometric procedure.

[28]R.F. Addison and R. G. Ackman, "Direct Determination of Elemental Phosphorus by Gas–Liquid Chromatography," *Journal of Chromatography,* Vol. 47, No.3, pp. 421–426, 1970.

[29]Approved methods for the analysis of silver in industrial wastewaters at concentrations of 1 mg/L and above are inadequate where silver exists as an inorganic halide. Silver halides such as the bromide and chloride are relatively insoluble in reagents such as nitric acid but are readily soluble in an aqueous buffer of sodium thiosulfate and sodium hydroxide to pH of 12. Therefore, for levels of silver above 1 mg/L, 20 mL of sample should be diluted to 100 mL by adding 40 mL each of 2 M $Na_2S_2O_3$ and NaOH. Standards should be prepared in the same manner. For levels of silver below 1 mg/L the approved method is satisfactory.

[30]The approved method is that cited in *Standard Methods for the Examination of Water and Wastewater,* 15th Edition.

[31]For samples known or suspected to contain high levels of silver (e.g., in excess of 4 mg/L), cyanogen iodide should be used to keep the silver in solution for analysis. Prepare a cyanogen iodide solution by adding 4.0 mL of concentrated NH_4OH, 6.5 g of KCN, and 5.0 mL of a 1.0 N solution of I_2 to 50 mL of reagent water in a volumetric flask and dilute to 100.0 mL. After digestion of the sample, adjust the pH of the digestate to >7 to prevent the formation of HCN under acidic conditions. Add 1 mL of the cyanogen iodide solution to the sample digestate and adjust the volume to 100 mL with reagent water (NOT acid). If cyanogen iodide is added to sample digestates, then silver standards must be prepared that contain cyanogen iodide as well. Prepare working standards by diluting a small volume of a silver stock solution with water and adjusting the pH>7 with NH_4OH. Add 1 mL of the cyanogen iodide solution and let stand 1 hour. Transfer to a 100-mL volumetric flask and dilute to volume with water.

[32]Stevens, H.H., Ficke, J. F., and Smoot, G. F., "Water Temperature—Influential Factors, Field Measurement and Data Presentation," Techniques of Water-Resources Investigations of the U.S. Geological Survey, Book 1, Chapter D1, 1975.

[33]Zinc, Zincon Method, Method 8009, Hach Handbook of Water Analysis, 1979, pages 2–231 and 2–333, Hach Chemical Company, Loveland, CO 80537.

[34]"Direct Current Plasma (DCP) Optical Emission Spectrometric Method for Trace Elemental Analysis of Water and Wastes, Method AES0029," 1986—Revised 1991, Thermo Jarrell Ash Corporation, 27 Forge Parkway, Franklin, MA 02038

[35]Precision and recovery statements for the atomic absorption direct aspiration and graphite furnace methods, and for the spectrophotometric SDDC method for arsenic are provided in Appendix D of this part titled, "Precision and Recovery Statements for Methods for Measuring Metals."

[36]Microwave-assisted digestion may be employed for this metal, when analyzed by this methodology. "Closed Vessel Microwave Digestion of Wastewater Samples for Determination of Metals", CEM Corporation, P.O. Box 200, Matthews, NC 28106–0200, April 16, 1992. Available from the CEM Corporation.

[37]When determining boron and silica, only plastic, PTFE, or quartz laboratory ware may be used from start until completion of analysis.

[38]Only use n-hexane extraction solvent when determining Oil and Grease parameters—Hexane Extractable Material (HEM), or Silica Gel Treated HEM (analogous to EPA Method 1664A). Use of other extraction solvents (e.g., those in the 18th and 19th editions) is prohibited.

[39]Nitrogen, Total Kjeldahl, Method PAI-DK01 (Block Digestion, Steam Distillation, Titrimetric Detection), revised 12/22/94, OI Analytical/ALPKEM, P.O. Box 9010, College Station, TX 77842.

[40]Nitrogen, Total Kjeldahl, Method PAI–DK02 (Block Digestion, Steam Distillation, Colorimetric Detection), revised 12/22/94, OI Analytical/ALPKEM, P.O. Box 9010, College Station, TX 77842.

[41]Nitrogen, Total Kjeldahl, Method PAI–DK03 (Block Digestion, Automated FIA Gas Diffusion), revised 12/22/94, OI Analytical/ALPKEM, P.O. Box 9010, College Station, TX 77842.

[42]Method 1664, Revision A " *n* -Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated *n* -Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry" EPA–821–R–98–002, February 1999. Available at NTIS, PB–121949, U.S. Department of Commerce, 5285 Port Royal, Springfield, VA 22161.

[43]USEPA. 2001. Method 1631, Revision E, "Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry" September 2002, Office of Water, U.S. Environmental Protection Agency (EPA–821–R–02–024). The application of clean techniques described in EPA's draft Method 1669: *Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels* (EPA–821–R–96–011) are recommended to preclude contamination at low-level, trace metal determinations.

[44]Available Cyanide, Method OIA–1677, "Available Cyanide by Flow Injection, Ligand Exchange, and Amperometry," ALPKEM, A Division of OI Analytical, P.O. Box 9010, College Station, TX 77842–9010.

[45]"Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Ammonia Plus Organic Nitrogen by a Kjeldahl Digestion Method," Open File Report (OFR) 00–170.

[46]"Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Chromium in Water by Graphite Furnace Atomic Absorption Spectrophotometry," Open File Report (OFR) 93–449.

[47]"Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Molybdenum by Graphite Furnace Atomic Absorption Spectrophotometry," Open File Report (OFR) 97–198.

[48]"Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Total Phosphorus by Kjeldahl Digestion Method and an Automated Colorimetric Finish That Includes Dialysis" Open File Report (OFR) 92–146.

[49]"Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Arsenic and Selenium in Water and Sediment by Graphite Furnace-Atomic Absorption Spectrometry" Open File Report (OFR) 98–639.

[50]"Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Elements in Whole-water Digests Using Inductively Coupled Plasma-Optical Emission Spectrometry and Inductively Coupled Plasma-Mass Spectrometry," Open File Report (OFR) 98-165.

[51]"Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Inorganic and Organic Constituents in Water and Fluvial Sediment," Open File Report (OFR) 93–125.

[52]All EPA methods, excluding EPA Method 300.1, are published in "Methods for the Determination of Metals in Environmental Samples," Supplement I, National Exposure Risk Laboratory-Cincinnati (NERL–CI), EPA/600/R–94/111, May 1994; and "Methods for the Determination of Inorganic Substances in Environmental Samples," NERL–CI, EPA/600/R–93/100, August, 1993. EPA Method 300.1 is available from *http://www.epa.gov/safewater/methods/pdfs/met300.pdf*.

[53]Styrene divinyl benzene beads (e.g., AMCO–AEPA–1 or equivalent) and stabilized formazin (e.g., Hach StablCal^{TM}or equivalent) are acceptable substitutes for formazin.

[54]Method D6508, Rev. 2, “Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices Using Capillary Ion Electrophoresis and Chromate Electrolyte,” available from Waters Corp, 34 Maple St., Milford, MA, 01757, Telephone: 508/482–2131, Fax: 508/482–3625.

[55]Kelada-01, “Kelada Automated Test Methods for Total Cyanide, Acid Dissociable Cyanide, and Thiocyanate,” EPA 821–B–01–009, Revision 1.2, August 2001, National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161 [Order Number PB 2001–108275]. The toll free telephone number is: 800–553–6847. Note: A 450–W UV lamp may be used in this method instead of the 550–W lamp specified if it provides performance within the quality control (QC) acceptance criteria of the method in a given instrument. Similarly, modified flow cell configurations and flow conditions may be used in the method, provided that the QC acceptance criteria are met.

[56]QuikChem Method 10–204–00–1–X, “Digestion and Distillation of Total Cyanide in Drinking and Wastewaters using MICRO DIST and Determination of Cyanide by Flow Injection Analysis” is available from Lachat Instruments 6645 W. Mill Road, Milwaukee, WI 53218, Telephone: 414–358–4200.

[57]When using sulfide removal test procedures described in Method 335.4, reconstitute particulate that is filtered with the sample prior to distillation.

[58]Unless otherwise stated, if the language of this table specifies a sample digestion and/or distillation “followed by” analysis with a method, approved digestion and/or distillation are required prior to analysis.

[59]Method 245.7, Rev. 2.0, “Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry,” February 2005, EPA–821–R–05–001, available from the U.S. EPA Sample Control Center (operated by CSC), 6101 Stevenson Avenue, Alexandria, VA 22304, Telephone: 703–461–2100, Fax: 703–461–8056.

[60]The use of EDTA may decrease method sensitivity in some samples. Analysts may omit EDTA provided that all method specified quality control acceptance criteria are met.

[61]Samples analyzed for available cyanide using Methods OIA–1677 or D6888–04 that contain particulate matter may be filtered only after the ligand exchange reagents have been added to the samples, because the ligand exchange process converts complexes containing available cyanide to free cyanide, which is not removed by filtration. Analysts are further cautioned to limit the time between the addition of the ligand exchange reagents and sample analysis to no more than 30 minutes to preclude settling of materials in samples.