

MAGRUDER METHOD CODES (ver 082520)

Method codes to select from and use when entering data through the Lab Portal are presented in the table below. The text that appears in a drop down box for selection on the data reporting web site is shown in the column entitled "Method Description". The column entitled "Further Method Description" describes more details on the method if available. If a single AOAC reference is available describing the method from preparation to detection, the reference is provided in the "AOAC reference" column. Hybrid methods with preparation by one method and detection by another method are provided in "Further Method Description" column.

IT IS VERY IMPORTANT you report the appropriate method CODE and UNIT that describes the method you used. This will ensure accurate data collection for comparing results from various methods for an analyte.

Method Code	Analyte	Method Description	Unit	Reference	Further Method Description
001.10	Ammoniacal Nitrogen	Magnesium Oxide Method	%	920.03	
001.99	Ammoniacal Nitrogen	Other	%		
002.10	Nitrate Nitrogen	Robertson	%	930.01	
002.20	Nitrate Nitrogen	Jones Modified	%	930.02	
002.99	Nitrate Nitrogen	Other	%		
003.10	Water Insoluble Nitrogen	Method I	%	945.01	
003.20	Water Insoluble Nitrogen	Method II (Katz)	%	970.04	
003.99	Water Insoluble Nitrogen	Other	%		
004.00	Nitrogen Activity Index	Urea-Formaldehyde Compounds	%	955.05	
005.00	Urea Nitrogen	Urease (as N)	%	959.03	
005.10	Urea Nitrogen	HPLC (as N), H2O mobile phase	%	AOAC 983.01	
005.20	Urea Nitrogen	HPLC (as N), 85% acetonitrile mobile phase	%	AOAC 2003.14 / ISO 19746	https://www.iso.org/standard/66223.html
005.99	Urea Nitrogen	Other	%		
006.00	Biuret Nitrogen	AA (as N)	%	976.01	
006.10	Biuret Nitrogen	Spectrophotometric (as N)	%	960.04	
006.99	Biuret Nitrogen	Other	%		
007.00	Urea	Urease (as Urea)	%	959.03	
007.10	Urea	HPLC, H2O mobile phase	%	AOAC 983.01	
007.20	Urea	HPLC, 85% acetonitrile mobile phase	%	AOAC 2003.14 / ISO 19746	https://www.iso.org/standard/66223.html
007.99	Urea	Other	%		
008.00	Biuret	AA (as Biuret)	%	976.01	
008.10	Biuret	Spectrophotometric (as Biuret)	%	960.04	
008.99	Biuret	Other	%		
009.10	Ammoniacal Plus Nitrate Nitrogen	Devarda	%	892.01	
009.99	Ammoniacal Plus Nitrate Nitrogen	Other	%		
010.10	Total Nitrogen	Reduced Iron	%		
010.11	Total Nitrogen	Modified Comprehensive	%	978.02	
010.12	Total Nitrogen	Salicylic	%	955.04D	
010.16	Total Nitrogen	Raney	%	970.03	
010.17	Total Nitrogen	Comprehensive	%	970.02	
010.60	Total Nitrogen	Combustion	%	993.13	
010.99	Total Nitrogen	Other	%		
020.10	Total Phosphorus as P2O5	Gravimetric Quinolinium MolybdoP	%	962.02	Prep as 957.02
020.20	Total Phosphorus as P2O5	Spectrophotometric MolybdovanadoP	%	958.01	Prep as 957.02
020.30	Total Phosphorus as P2O5	Alkalimetric Quinolinium MolybdoP	%	969.02	Prep as 957.02
020.40	Total Phosphorus as P2O5	Automated	%	978.01	Prep as 957.02
020.50	Total Phosphorus as P2O5	ICP	%		
020.60	Total Phosphorus as P2O5	AFPC No.3B	%		Grav Quin MolybdoP detection, test portion- 4:1 HNO ₃ (1:1 HNO ₃ :DI water) : HCl
020.99	Total Phosphorus as P2O5	Other	%		

030.10	Citrate Insoluble Phosphorus as P2O5	Gravimetric Quinolinium MolybdoP	%	963.03	Detect as 963.03C(a)
030.20	Citrate Insoluble Phosphorus as P2O5	Spectrophotometric MolybdoVanadoP	%	963.03	Detect as 963.03C(b)
030.30	Citrate Insoluble Phosphorus as P2O5	Alkalimetric Quinolinium MolybdoP	%	963.03	Detect as 963.03C(c)
030.40	Citrate Insoluble Phosphorus as P2O5	Automated, test portion 963.03 A-B	%	978.01	
030.50	Citrate Insoluble Phosphorus as P2O5	ICP, test portion 963.03 A-B	%		
030.99	Citrate Insoluble Phosphorus as P2O5	Other	%		
040.10	Indirect Available Phosphorus as P2O5	Gravimetric Quinolinium	%	960.02	
040.20	Indirect Available Phosphorus as P2O5	Spectrophotometric	%	960.02	
040.30	Indirect Available Phosphorus as P2O5	Alkalimetric Quinolinium MolybdoP	%	960.02	
040.40	Indirect Available Phosphorus as P2O5	Automated	%	960.02	
040.50	Indirect Available Phosphorus as P2O5	ICP	%		
040.99	Indirect Available Phosphorus as P2O5	Other	%		
041.10	Direct Available Phosphorus as P2O5	Gravimetric Quinolinium	%	960.03	Prep as 960.03B, Detect as 960.03E
041.11	Direct Available Phosphorus as P2O5	Gravimetric Quinolinium, Citrate-EDTA Ext.	%	993.31	Prep as 993.31C, Detect as 962.02C
041.20	Direct Available Phosphorus as P2O5	Spectrophotometric	%	960.03	Prep as 960.03B, Detect as 960.03D
041.21	Direct Available Phosphorus as P2O5	Spectrophotometric, Citrate-EDTA Ext.	%	993.31	Prep as 993.31C, Detect as 960.03D
041.30	Direct Available Phosphorus as P2O5	Alkalimetric Quinolinium MolybdoP	%	960.03	Prep as 960.03B, Detect as 960.03C
041.31	Direct Available Phosphorus as P2O5	Alkalimetric Quinolinium MolybdoP, Citrate-EDTA Ext.	%		Prep as 993.31C, Detect as 960.03C
041.40	Direct Available Phosphorus as P2O5	Automated	%	978.01	
041.50	Direct Available Phosphorus as P2O5	ICP	%		
041.51	Direct Available Phosphorus as P2O5	ICP, Citrate-EDTA Ext.	%	2015.18	
041.99	Direct Available Phosphorus as P2O5	Other	%		
042.10	Water Soluble OrthoP as P2O5	Spectrophotometric	%	970.01	
042.99	Water Soluble OrthoP as P2O5	Other	%		
043.99	Polyphosphate	Other	%		
048.10	Water Soluble Phosphorus as P2O5	Gravimetric Quinolinium	%	962.03	
048.20	Water Soluble Phosphorus as P2O5	Spectrophotometric	%	970.01	
048.30	Water Soluble Phosphorus as P2O5	Alkalimetric Quinolinium MolybdoP	%	962.04	
048.40	Water Soluble Phosphorus as P2O5	Automated	%		
048.50	Water Soluble Phosphorus as P2O5	ICP	%		
048.99	Water Soluble Phosphorus as P2O5	Other	%		
050.00	Soluble Potassium as K2O	STPB Oxalate	%	958.02	
050.10	Soluble Potassium as K2O	STPB Citrate	%	969.04	
050.30	Soluble Potassium as K2O	AA (Oxalate)	%		Prep as 958.02, Detect w/AA
050.31	Soluble Potassium as K2O	AA (Citrate)	%		Prep as 960.03B, Detect w/AA
050.32	Soluble Potassium as K2O	AA (Citrate-EDTA)	%		Prep as 993.31, Detect w/AA
050.50	Soluble Potassium as K2O	ICP (Oxalate)	%		Prep as 958.02, Detect w/ICP
050.51	Soluble Potassium as K2O	ICP (Citrate)	%		Prep as 960.03B, Detect w/ICP
050.52	Soluble Potassium as K2O	ICP (Citrate-EDTA)	%	2015.18	
050.60	Soluble Potassium as K2O	Flame Photometric (Oxalate)	%	983.02	Prep as 983.02B(a)
050.61	Soluble Potassium as K2O	Flame Photometric (Citrate)	%	983.02	Prep as 983.02B(b)
050.62	Soluble Potassium as K2O	Flame Photometric (Citrate-EDTA)	%	983.02	Prep as 983.02B(c)
050.99	Soluble Potassium as K2O	Other	%		
060.00	Water (Free)	Vacuum Oven	%	965.08B	
060.10	Water (Free)	Vacuum Desiccation	%	965.08A	
060.20	Water (Free)	Karl Fischer	%	972.01	
060.30	Water (Free)	AFPC No. 2B (105°C oven for 2 hours, 5g sample)	%		
060.99	Water (Free)	Other	%		
101.00	Acid Soluble Calcium	AA, inorganic 965.09	%	965.09	Prep as 965.09C(a)
101.01	Acid Soluble Calcium	AA, organic 965.09	%	965.09	Prep as 965.09C(b)
101.02	Acid Soluble Calcium	AA, 965.09, test portion 2006.03A-C	%		Prep as 2006.03, Detect as 965.09D
101.03	Acid Soluble Calcium	AA, 965.09, test portion 2006.03A-C w/dual acid	%		Prep as 2006.03 w/9:3 HNO3:HCl, Detect as 965.09D
101.30	Acid Soluble Calcium	ICP, test portion inorganic 965.09	%		inorganic, Prep as 965.09C(a), Detect w/ICP
101.31	Acid Soluble Calcium	ICP, test portion organic 965.09	%		organic, Prep as 965.09C(b), Detect w/ICP
101.32	Acid Soluble Calcium	ICP, test portion 2006.03A-C	%		Prep as 2006.03, Detect w/ICP
101.33	Acid Soluble Calcium	ICP, 2017.02	%	2017.02	
101.70	Acid Soluble Calcium	Titrimetric	%	945.03	

101.99	Acid Soluble Calcium	Other	%		
121.00	Acid Soluble Magnesium	AA, inorganic 965.09	%	965.09	Prep as 965.09C(a)
121.01	Acid Soluble Magnesium	AA, organic 965.09	%	965.09	Prep as 965.09C(b)
121.02	Acid Soluble Magnesium	AA, 965.09, test portion 2006.03A-C	%		Prep as 2006.03, Detect as 965.09D
121.03	Acid Soluble Magnesium	AA, 965.09, test portion 2006.03A-C w/dual acid	%		Prep as 2006.03 w/9:3 HNO3:HCl, Detect as 965.09D
121.30	Acid Soluble Magnesium	ICP, test portion inorganic 965.09	%		inorganic, Prep as 965.09C(a), Detect w/ICP
121.31	Acid Soluble Magnesium	ICP, test portion organic 965.09	%		organic, Prep as 965.09C(b), Detect w/ICP
121.32	Acid Soluble Magnesium	ICP, test portion 2006.03A-C	%		Prep as 2006.03, Detect w/ICP
121.33	Acid Soluble Magnesium	ICP, 2017.02	%	2017.02	
121.70	Acid Soluble Magnesium	Titrimetric (EDTA)	%	964.01	Titrimetric
121.99	Acid Soluble Magnesium	Other	%		
131.00	Water Soluble Magnesium	AA	%	965.09	AA
131.30	Water Soluble Magnesium	ICP	%		ICP
131.70	Water Soluble Magnesium	Titrimetric (EDTA)	%	937.02	Titrimetric
131.99	Water Soluble Magnesium	Other	%		
143.00	Elemental Sulfur	Gravimetric Sulfur - carbon disulfide soluble sulfur	%		Prep and Detect in 980.02a only elemental S
143.99	Elemental Sulfur	Other	%		
145.00	Sulfate Sulfur, HCl soluble	Gravimetric Sulfur - sulfate form	%		Prep and Detect in 980.02a only sulfate
145.99	Sulfate Sulfur, HCl soluble	Other	%		
146.00	Total Sulfur in Liquid	Gravimetric - sulfate, sulfite, thiosulfate, and elemental	%	980.02b	
146.99	Total Sulfur in Liquid	Other	%		
147.00	Total Sulfur in Urea/Formulations	Gravimetric	%	980.02c	Total S in sulfur-coated urea and S formulations
147.99	Total Sulfur in Urea/Formulations	Other (Identify)	%		
148.00	Total Sulfur	Combustion	%	2017.08	
148.01	Total Sulfur	Gravimetric - sulfate and elemental	%	980.02a	
148.02	Total Sulfur	Turbidimetric, w/Br digestion, modification of JAOAC 63.845	%	JAOAC 63.845	Prep with bromine digestion, Detect as JAOAC 63.845
148.03	Total Sulfur	Spectrometric, w/Br digestion	%		
148.04	Total Sulfur	ICP, w/Br digestion	%		
148.05	Total Sulfur	Thermotitration, w/Br digestion	%		
148.06	Total Sulfur	Ion Exchange, w/Br digestion	%		
148.07	Total Sulfur	ICP, test portion as in 2017.02	%		Prep as 2017.02, Detect w/ICP
148.99	Total Sulfur	Other	%		
149.02	Sulfur - HNO3 soluble	Turbidimetric, modification of JAOAC 63.845	%		
149.03	Sulfur - HNO3 soluble	Spectrometric	%		
149.04	Sulfur - HNO3 soluble	ICP	%		
149.05	Sulfur - HNO3 soluble	Thermotitration	%		
149.06	Sulfur - HNO3 soluble	Ion Exchange	%		
149.99	Sulfur - HNO3 soluble	Other	%		
151.00	Acid Soluble Arsenic	AA, test portion 2006.03 modified w/dual acid	ppm		Prep as in 2006.03 mod w/9:3 HNO3:HCl, Detect w/AA
151.30	Acid Soluble Arsenic	ICP	ppm		
151.32	Acid Soluble Arsenic	ICP, 2006.03	ppm	2006.03	
151.33	Acid Soluble Arsenic	ICP, 2017.02	ppm	2017.02	
151.34	Acid Soluble Arsenic	ICP, EPA 3050B/6010C	ppm		Prep as EPA 3050B, Detect as 6010C
151.99	Acid Soluble Arsenic	Other	ppm		
165.00	Acid Soluble Boron	Spectrophotometric	%	982.01	Spectrophotometric
165.30	Acid Soluble Boron	ICP, test portion in 982.01	%		Prep as in 982.01, Detect w/ICP
165.70	Acid Soluble Boron	Titrimetric	%	949.02	Titrimetric
165.99	Acid Soluble Boron	Other	%		
171.00	Water Soluble Boron	AA, JAOAC 52.950	%	JAOAC 52.950	
171.10	Water Soluble Boron	Spectrophotometric	%	982.01	
171.70	Water Soluble Boron	Titrimetric	%	949.03	
171.99	Water Soluble Boron	Other	%		
181.00	Acid Soluble Cadmium	AA, test portion 2006.03 modified w/dual acid	ppm		Prep as in 2006.03 mod w/9:3 HNO3:HCl, Detect w/AA
181.30	Acid Soluble Cadmium	ICP	ppm		
181.32	Acid Soluble Cadmium	ICP, 2006.03	ppm	2006.03	

181.33	Acid Soluble Cadmium	ICP, 2017.02	ppm	2017.02	
181.34	Acid Soluble Cadmium	ICP, EPA 3050B/6010C	ppm		Prep as EPA 3050B, Detect as 6010C
181.99	Acid Soluble Cadmium	Other	ppm		
190.00	Water Soluble Chlorine	Titrimetric	%	928.02	Titrimetric
190.99	Water Soluble Chlorine		%		
191.00	Acid Soluble Chromium	AA, test portion 2006.03 modified w/dual acid	ppm		Prep as in 2006.03 mod w/9:3 HNO3:HCl, Detect w/AA
191.30	Acid Soluble Chromium	ICP	ppm		
191.32	Acid Soluble Chromium	ICP, 2006.03	ppm	2006.03	
191.33	Acid Soluble Chromium	ICP, 2017.02	ppm	2017.02	
191.34	Acid Soluble Chromium	ICP, EPA 3050B/6010C	ppm		Prep as EPA 3050B, Detect as 6010C
191.99	Acid Soluble Chromium	Other	ppm		
202.00	Acid Soluble Cobalt	AA, test portion 2006.03 modified w/dual acid	ppm		Prep as in 2006.03 mod w/9:3 HNO3:HCl, Detect w/AA
202.20	Acid Soluble Cobalt	Colorimetric	ppm	965.11	Colorimetric
202.30	Acid Soluble Cobalt	ICP	ppm		
202.32	Acid Soluble Cobalt	ICP, 2006.03	ppm	2006.03	
202.33	Acid Soluble Cobalt	ICP, 2017.02	ppm	2017.02	
202.34	Acid Soluble Cobalt	ICP, EPA 3050B/6010C	ppm		Prep as EPA 3050B, Detect as 6010C
202.99	Acid Soluble Cobalt	Other	ppm		
221.00	Acid Soluble Copper	AA, inorganic 965.09	%	965.09	Prep as 965.09C(a)
221.01	Acid Soluble Copper	AA, organic 965.09	%	965.09	Prep as 965.09C(b)
221.02	Acid Soluble Copper	AA, 965.09, test portion 2006.03A-C	%		Prep as 2006.03, Detect as 965.09D
221.03	Acid Soluble Copper	AA, 965.09, test portion 2006.03A-C w/dual acid	%		Prep as 2006.03 w/9:3 HNO3:HCl, Detect as 965.09D
221.10	Acid Soluble Copper	Titrimetric	%	942.01	Colorimetric
221.30	Acid Soluble Copper	ICP, test portion inorganic 965.09	%		inorganic, Prep as 965.09C(a), Detect w/ICP
221.31	Acid Soluble Copper	ICP, test portion organic 965.09	%		organic, Prep as 965.09C(b), Detect w/ICP
221.32	Acid Soluble Copper	ICP, test portion 2006.03A-C	%		Prep as 2006.03, Detect w/ICP
221.33	Acid Soluble Copper	ICP, 2017.02	%	2017.02	
221.99	Acid Soluble Copper	Other	%		
241.00	Acid Soluble Iron	AA, inorganic 965.09	%	965.09	Prep as 965.09C(a)
241.01	Acid Soluble Iron	AA, organic 965.09	%	965.09	Prep as 965.09C(b)
241.02	Acid Soluble Iron	AA, 965.09, test portion 2006.03A-C	%		Prep as 2006.03, Detect as 965.09D
241.03	Acid Soluble Iron	AA, 965.09, test portion 2006.03A-C w/dual acid	%		Prep as 2006.03 w/9:3 HNO3:HCl, Detect as 965.09D
241.20	Acid Soluble Iron	Colorimetric	%		Colorimetric
241.30	Acid Soluble Iron	ICP, test portion inorganic 965.09	%		inorganic, Prep as 965.09C(a), Detect w/ICP
241.31	Acid Soluble Iron	ICP, test portion organic 965.09	%		organic, Prep as 965.09C(b), Detect w/ICP
241.32	Acid Soluble Iron	ICP, test portion 2006.03A-C	%		Prep as 2006.03, Detect w/ICP
241.33	Acid Soluble Iron	ICP, 2017.02	%	2017.02	
241.70	Acid Soluble Iron	Titrimetric	%	967.01	Titrimetric
241.99	Acid Soluble Iron	Other	%		
251.00	Acid Soluble Lead	AA, test portion 2006.03 modified w/dual acid	ppm		Prep as in 2006.03 mod w/9:3 HNO3:HCl, Detect w/AA
251.30	Acid Soluble Lead	ICP	ppm		
251.32	Acid Soluble Lead	ICP, 2006.03	ppm	2006.03	
251.33	Acid Soluble Lead	ICP, 2017.02	ppm	2017.02	
251.34	Acid Soluble Lead	ICP, EPA 3050B/6010C	ppm		Prep as EPA 3050B, Detect as 6010C
251.99	Acid Soluble Lead	Other	ppm		
261.00	Acid Soluble Manganese	AA, Mn2+ only	%	972.02a	Mn2+ only
261.11	Acid Soluble Manganese	AA, total Mn	%	972.02b	total Mn
261.12	Acid Soluble Manganese	AA, inorganic 965.09	%	965.09	Prep as 965.09C(a)
261.13	Acid Soluble Manganese	AA, organic 965.09	%	965.09	Prep as 965.09C(b)
261.14	Acid Soluble Manganese	AA, 965.09, test portion 2006.03A-C	%		Prep as 2006.03, Detect as 965.09D
261.15	Acid Soluble Manganese	AA, 965.09, test portion 2006.03A-C w/dual acid	%		Prep as 2006.03 w/9:3 HNO3:HCl, Detect as 965.09D
261.30	Acid Soluble Manganese	ICP, test portion 972.02a	%		Prep as 972.02a for Mn2+ only, Detect w/ICP
261.31	Acid Soluble Manganese	ICP, test portion 972.02b	%		Prep as 972.02b for total Mn, Detect w/ICP
261.32	Acid Soluble Manganese	ICP, test portion inorganic 965.09	%		inorganic, Prep as 965.09C(a), Detect w/ICP

261.33	Acid Soluble Manganese	ICP, test portion organic 965.09	%		organic, Prep as 965.09C(b), Detect w/ICP
261.34	Acid Soluble Manganese	ICP, test portion 2006.03A-C	%		Prep as 2006.03, Detect w/ICP
261.35	Acid Soluble Manganese	ICP, 2017.02	%	2017.02	
261.40	Acid Soluble Manganese	Bismuthate	%		Bismuthate
261.50	Acid Soluble Manganese	Spectrometric	%	940.02	Spectrometric
261.99	Acid Soluble Manganese	Other	%		
271.00	Water Soluble Manganese	AA	%	972.03	AA
271.30	Water Soluble Manganese	ICP, Ext. 972.03	%		Prep as 972.03, Detect w/ICP
271.99	Water Soluble Manganese	Other	%		
281.00	Acid Soluble Mercury	AA	ppm		AA
281.30	Acid Soluble Mercury	ICP	ppm		ICP
281.99	Acid Soluble Mercury	Other	ppm		
289.00	Acid Soluble Molybdenum	AA, test portion 2006.03 modified w/dual acid	ppm		Prep as in 2006.03 mod w/9:3 HNO3:HCl, Detect w/AA
289.30	Acid Soluble Molybdenum	ICP	ppm		
289.32	Acid Soluble Molybdenum	ICP, 2006.03	ppm	2006.03	
289.33	Acid Soluble Molybdenum	ICP, 2017.02	ppm	2017.02	
289.34	Acid Soluble Molybdenum	ICP, EPA 3050B/6010C	ppm		Prep as EPA 3050B, Detect as 6010C
289.99	Acid Soluble Molybdenum	Other	ppm		
291.00	Acid Soluble Nickel	AA, test portion 2006.03 modified w/dual acid	ppm		Prep as in 2006.03 mod w/9:3 HNO3:HCl, Detect w/AA
291.30	Acid Soluble Nickel	ICP	ppm		
291.32	Acid Soluble Nickel	ICP, 2006.03	ppm	2006.03	
291.33	Acid Soluble Nickel	ICP, 2017.02	ppm	2017.02	
291.34	Acid Soluble Nickel	ICP, EPA 3050B/6010C	ppm		Prep as EPA 3050B, Detect as 6010C
291.99	Acid Soluble Nickel	Other	ppm		
301.00	Acid Soluble Selenium	AA, test portion 2006.03 modified w/dual acid	ppm		Prep as in 2006.03 mod w/9:3 HNO3:HCl, Detect w/AA
301.30	Acid Soluble Selenium	ICP	ppm		
301.32	Acid Soluble Selenium	ICP, 2006.03	ppm	2006.03	
301.33	Acid Soluble Selenium	ICP, 2017.02	ppm	2017.02	
301.34	Acid Soluble Selenium	ICP, EPA 3050B/6010C	ppm		Prep as EPA 3050B, Detect as 6010C
301.99	Acid Soluble Selenium	Other	ppm		
311.00	Sodium	AA	%	983.04	
311.30	Sodium	Flame Photometric	%	974.01	
311.32	Sodium	ICP, 2006.03 test portion	%		Prep as 2006.03, Detect w/ICP
311.33	Sodium	ICP, test portion as in 2017.02	%		Prep as 2017.02, Detect w/ICP
311.99	Sodium	Other	%		
321.00	Acid Soluble Zinc	AA, inorganic 965.09	%	965.09	Prep as 965.09C(a)
321.01	Acid Soluble Zinc	AA, organic 965.09	%	965.09	Prep as 965.09C(b)
321.02	Acid Soluble Zinc	AA, 965.09, test portion 2006.03A-C	%		Prep as 2006.03, Detect as 965.09D
321.03	Acid Soluble Zinc	AA, 965.09, test portion 2006.03A-C w/dual acid	%		Prep as 2006.03 w/9:3 HNO3:HCl, Detect as 965.09D
321.10	Acid Soluble Zinc	Gravimetric	%	942.02	
321.20	Acid Soluble Zinc	Zincon Ion Exchange	%	973.01	
321.30	Acid Soluble Zinc	ICP, test portion inorganic 965.09	%		inorganic, Prep as 965.09C(a), Detect w/ICP
321.31	Acid Soluble Zinc	ICP, test portion organic 965.09	%		organic, Prep as 965.09C(b), Detect w/ICP
321.32	Acid Soluble Zinc	ICP, test portion 2006.03A-C	%		Prep as 2006.03, Detect w/ICP
321.33	Acid Soluble Zinc	ICP, 2017.02	%	2017.02	
321.99	Acid Soluble Zinc	Other	%		
325.00	Water Soluble Zinc	AA	%		
325.10	Water Soluble Zinc	Gravimetric	%		
325.30	Water Soluble Zinc	ICP	%		
325.99	Water Soluble Zinc	Other	%		
431.10	Soluble Si in nonliquids	Na2CO3-NH4NO3 extraction, spectrophotometry	%	JAOAC 96(2):251-259	aoac.publisher.ingentaconnect.com/contentone/aoac/iaoc/2013/0000096/0000002/art00007#
431.99	Soluble Si in nonliquids	Other	%		
441.00	Humic Acids	Gravimetry, Ash-free material dissolved in alkali and precipitated in acid	%	ISO 19822:2018	https://www.iso.org/standard/66271.html

441.10	Humic Acids	Gravimetry, Dissolved in alkali and precipitated in acid	%	California Dept. of Agric.	https://www.cdfa.ca.gov/is/cac/pdfs/HumicAcidAnalysis.pdf
441.99	Humic Acids	Other	%		
451.00	Hydrophobic Fulvic Acids	Gravimetry, Material dissolved in acid that binds to hydrophobic resin	%	ISO 19822:2018	https://www.iso.org/standard/66271.html
451.99	Hydrophobic Fulvic Acids	Other	%		

Changes made:

8/19/2019 made 041.60 obsolete. Let labs know to use 041.11, 041.21, 041.31, 041.51 instead. Do this after Aug 15 to begin with sample 190811 and 190812

9/16/2019 added soluble Si (431.XX)

12/17/2019 added urea N and urea methods (005.10, 005.20, 007.10, 007.20). Added humic acids and hydrophobic fulvic acids methods (441.00, 441.99, 451.00, 451.99).

8/25/2020 added California Dept. of Agric.'s method for humic acids