

Lab Section: Inorganics - Auto

Alkalinity Auto Titrator

Hold Time (d):	14	Bottle Type:	250 mL square plastic
Reference Method:	SM 2320 B	Preservative:	Cool 4° C
Parameter Name		Reporting Limit	
Alkalinity*			1.0 mg CaCO ₃ /L

Chloride by Lachat

Hold Time (d):	28	Bottle Type:	50 mL Plastic Green Cap
Reference Method:	SM 4500-CL- G	Preservative:	None
Parameter Name		Reporting Limit	
Chloride*			2.0 mg/L

Chloride by SEAL

Hold Time (d):	28	Bottle Type:	50 mL Plastic Green Cap
Reference Method:	SM 4500-Cl- E	Preservative:	None
Parameter Name		Reporting Limit	
Chloride*			2.0 mg/L

Crude Protein

Hold Time (d):	160	Bottle Type:	None
Reference Method:	AOAC 968.06	Preservative:	None
Parameter Name		Reporting Limit	
Crude Protein			%

IC Anions

Hold Time (d):	28	Bottle Type:	50 mL Plastic Green Cap
Reference Method:	EPA 300.0	Preservative:	Cool 4° C
Notes:	Use one 50 mL Plastic Green Cap for all IC Tests		
Parameter Name		Reporting Limit	
Chloride*			0.10 mg/L
Fluoride*			0.10 mg/L
Sulfate*			0.25 mg/L

IC Anions - Nitrate/Nitrite

Hold Time (d):	2	Bottle Type:	50 mL Plastic Green Cap
Reference Method:	EPA 300.0	Preservative:	Cool 4° C
Notes:	Use one 50 mL Plastic Green Cap for all IC Tests		
Parameter Name		Reporting Limit	
Nitrate*			0.020 mg-N/L
Nitrite*			0.050 mg-N/L

IC Anions - Sulfate

Hold Time (d):	28	Bottle Type:	50 mL Plastic Green Cap
Reference Method:	EPA 300.0	Preservative:	Cool 4° C
Notes:	Use one 50 mL Plastic Green Cap for all IC Tests		
Parameter Name		Reporting Limit	
Sulfate*			0.25 mg/L

Inorganic Carbon Dissolved

Hold Time (d):	28	Bottle Type:	125 ml Amber Bottles
Reference Method:	SM 5310 B TOC	Preservative:	Cool 4° C; Filter 0.45 µm
Parameter Name		Reporting Limit	
Dissolved Inorganic Carbon			1.0 mg/L

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Inorganic Carbon Total

Hold Time (d):	28	Bottle Type:	125 ml Amber Bottles
Reference Method:	SM 5310 B TOC	Preservative:	Cool 4° C
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Total Inorganic Carbon			1.0 mg/L

Meat Fat

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 960.39	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Fat			%

Meat Protein

Hold Time (d):	160	Bottle Type:	None
Reference Method:	AOAC 968.06	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Protein			%

Nitrogen Ammonia

Hold Time (d):	28	Bottle Type:	50 mL Plastic Blue Cap
Reference Method:	SM 4500-NH3 H	Preservative:	H2SO4 to pH < 2; Cool 4 °C
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Ammonia*			0.050 mg-N/l

Nitrogen Dissolved

Hold Time (d):	28	Bottle Type:	50 mL Plastic Blue Cap
Reference Method:	VAEL SOP SM 4500-N C	Preservative:	H2SO4 to pH < 2; Filter 0.45 µ
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Dissolved Nitrogen*			0.10 mg-N/L

Nitrogen NOX

Hold Time (d):	28	Bottle Type:	50 mL Plastic Blue Cap
Reference Method:	SM 4500-NO3 I	Preservative:	H2SO4 to pH < 2; Cool 4°C
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Nitrogen NOX*			0.050 mg-N/l

Nitrogen Total

Hold Time (d):	28	Bottle Type:	50 mL Plastic Blue Cap
Reference Method:	VAEL SOP SM 4500-N C	Preservative:	H2SO4 to pH < 2; Cool 4 °C
Ref. Prep Method:	VAEL SOP SM 4500-N C		
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Total Nitrogen*			0.10 mg-N/L

NPOC

Hold Time (d):	28	Bottle Type:	125 ml Amber Bottles
Reference Method:	SM 5310 B NPOC	Preservative:	Cool 4° C
Notes:	Organic Carbon		
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Organic Carbon			1.0 mg/L

NPOC Dissolved

Hold Time (d):	28	Bottle Type:	125 ml Amber Bottles
Reference Method:	SM 5310 B NPOC	Preservative:	Cool 4° C; Filter 0.45 µm
Notes:	Organic Carbon run on filtered samples		
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Dissolved Organic Carbon			1.0 mg/L

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Organic Carbon Dissolved

Hold Time (d):	28	Bottle Type:	125 ml Amber Bottles
Reference Method:	SM 5310 B TOC	Preservative:	Cool 4° C; Filter 0.45 µm
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Dissolved Organic Carbon			1.0 mg/L
Dissolved Inorganic Carbon			1.0 mg/L

Organic Carbon Total

Hold Time (d):	28	Bottle Type:	125 ml Amber Bottles
Reference Method:	SM 5310 B TOC	Preservative:	Cool 4° C
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Total Organic Carbon			1.0 mg/L
Total Inorganic Carbon			1.0 mg/L

Phosphorus Dissolved

Hold Time (d):	22	Bottle Type:	60 mL Glass Vial
Reference Method:	VAEL SOP SM 4500-P H	Preservative:	Filter 0.45 µm
Ref. Prep Method:	SM 4500-P B		
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Dissolved Phosphorus*			5.0 µg P/L

Phosphorus Ortho

Hold Time (d):	2	Bottle Type:	60 mL Glass Vial
Reference Method:	SM 4500-P G	Preservative:	Cool 4° C
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Ortho Phosphorus*			5.0 µg P/L

Phosphorus Total

Hold Time (d):	22	Bottle Type:	60 mL Glass Vial
Reference Method:	VAEL SOP SM 4500-P H	Preservative:	None
Ref. Prep Method:	SM 4500-P B		
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Total Phosphorus*			5.0 µg P/L

Silica

Hold Time (d):	28	Bottle Type:	50 mL Plastic Green Cap
Reference Method:	SM 4500-SIO2 F	Preservative:	Cool 4° C
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Silica*			0.20 mg/L

Silica by SEAL

Hold Time (d):	28	Bottle Type:	50 mL Plastic Green Cap
Reference Method:	SM 4500-SiO2 D	Preservative:	Cool 4° C
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Silica			0.20 mg/L

Lab Section: Inorganics - Metals

Feed Calcium

Hold Time (d):	180	Bottle Type:	None
Reference Method:	SW 7000B	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Calcium			%

Feed Copper

Hold Time (d):	180	Bottle Type:	None
Reference Method:	SW 7000B	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Copper			ppm

Feed Magnesium

Hold Time (d):	180	Bottle Type:	None
Reference Method:	SW 7000B	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Magnesium			%

Feed Phosphorus

Hold Time (d):	180	Bottle Type:	None
Reference Method:	SW 7000B	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Phosphorus			%

Feed Potassium

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 985.01	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Potassium			%

Feed Salt

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 930.15	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Salt			%
Sodium			%

Feed Selenium

Hold Time (d):	180	Bottle Type:	None
Reference Method:		Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Selenium			ppm

Feed Sodium

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 985.01	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Sodium			%

Feed Zinc

Hold Time (d):	180	Bottle Type:	None
Reference Method:	SW 7000B	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Zinc			ppm

Lab Section: Inorganics - Metals

Maple Syrup Lead

Hold Time (d):	180	Bottle Type:	60 mL glass vial
Reference Method:	EPA 6020B	Preservative:	Freeze
Ref. Prep Method:	SW 3015 A		

<u>Parameter Name</u>	<u>Reporting Limit</u>
Lead	0.050 mg/kg ww

Mercury by Cold Vapor

Hold Time (d):	28	Bottle Type:	125 mL Rd Plastic
Reference Method:	EPA 245.1	Preservative:	HNO ₃ to pH < 2
Ref. Prep Method:	EPA 245.1		

<u>Parameter Name</u>	<u>Reporting Limit</u>
Mercury*	0.50 µg/L

Mercury by Cold Vapor Dissolved

Hold Time (d):	28	Bottle Type:	125 mL Rd Plastic
Reference Method:	EPA 245.1	Preservative:	HNO ₃ to pH < 2; Filter 0.45 µm
Ref. Prep Method:	EPA 245.1		

<u>Parameter Name</u>	<u>Reporting Limit</u>
Dissolved Mercury*	0.50 µg/L

Mercury by Cold Vapor Solid

Hold Time (d):	28	Bottle Type:	125 mL Rd Plastic
Reference Method:	7471B	Preservative:	Cool 4° C

<u>Parameter Name</u>	<u>Reporting Limit</u>
Mercury	0.10 µg/L

Mercury by ICP MS

Hold Time (d):	28	Bottle Type:	125 mL Rd Plastic
Reference Method:	SW 6020B	Preservative:	HNO ₃ to pH < 2
Ref. Prep Method:	SW 3005A		

<u>Parameter Name</u>	<u>Reporting Limit</u>
Mercury	0.10 µg/L

Mercury By ICP MS Dissolved

Hold Time (d):	28	Bottle Type:	125 mL Rd Plastic
Reference Method:	EPA 6020B	Preservative:	HNO ₃ to pH < 2; Filter 0.45 µm
Ref. Prep Method:	3005A		

<u>Parameter Name</u>	<u>Reporting Limit</u>
Dissolved Mercury	0.10 µg/L

Mercury by ICP MS Solid

Hold Time (d):	28	Bottle Type:	125 mL Rd Plastic
Reference Method:	6020B	Preservative:	Cool 4° C

<u>Parameter Name</u>	<u>Reporting Limit</u>
Mercury	mg/kg dw

Metals Acid Rain

Hold Time (d):	180	Bottle Type:	125 mL Rd Plastic
Reference Method:	SW-846 6020B	Preservative:	HNO ₃ to pH < 2

<u>Parameter Name</u>	<u>Reporting Limit</u>
Dissolved Sodium*	0.050 mg/L
Dissolved Magnesium*	0.010 mg/L
Dissolved Aluminum*	10 µg/L
Dissolved Potassium*	0.050 mg/L
Dissolved Calcium*	0.050 mg/L
Dissolved Calculated Hardness	0.17 mg CaCO ₃ /L

Lab Section: Inorganics - Metals

Metals Acid Rain Organic Aluminum

Hold Time (d):	180	Bottle Type:	125 mL Rd Plastic
Reference Method:	SW 6020B	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Organic Aluminum			10 µg/L
Total Aluminum			10 µg/L

Metals Copper Flame

Hold Time (d):	180	Bottle Type:	125 mL Rd Plastic
Reference Method:	SW 7000B	Preservative:	HNO3 to pH < 2
Ref. Prep Method:	SW 3010		
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Copper			0.50 mg/kg ww

Metals Dissolved

Hold Time (d):	180	Bottle Type:	125 mL Rd Plastic
Reference Method:	SW-846 6020B	Preservative:	HNO3 to pH < 2; Filter 0.45 µm
Ref. Prep Method:	SW 3020A		
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Dissolved Beryllium*			1.0 µg/L
Dissolved Sodium*			0.10 mg/L
Dissolved Magnesium*			0.020 mg/L
Dissolved Aluminum*			20 µg/L
Dissolved Potassium*			0.10 mg/L
Dissolved Calcium*			0.50 mg/L
Dissolved Vanadium*			1.0 µg/L
Dissolved Chromium*			1.0 µg/L
Dissolved Manganese*			5.0 µg/L
Dissolved Iron*			50.0 µg/L
Dissolved Cobalt*			1.0 µg/L
Dissolved Nickel*			1.0 µg/L
Dissolved Copper*			5.0 µg/L
Dissolved Zinc*			10.0 µg/L
Dissolved Arsenic*			1.0 µg/L
Dissolved Selenium*			1.0 µg/L
Dissolved Strontium*			5.0 µg/L
Dissolved Molybdenum*			5.0 µg/L
Dissolved Silver*			1.0 µg/L
Dissolved Cadmium*			1.0 µg/L
Dissolved Antimony*			5.0 µg/L
Dissolved Barium*			1.0 µg/L
Dissolved Thallium*			1.0 µg/L
Dissolved Lead*			1.0 µg/L
Dissolved Uranium*			1.0 µg/L
Dissolved Calculated Hardness			1.33 mg CaCO3/L

Lab Section: Inorganics - Metals

Metals Earth

Hold Time (d):	180	Bottle Type:	125 mL Rd Plastic
Reference Method:	SW-846 6020B	Preservative:	HNO3 to pH < 2
Ref. Prep Method:	SW 3020A		

<u>Parameter Name</u>	<u>Reporting Limit</u>
Sodium*	0.10 mg/L
Magnesium*	0.020 mg/L
Aluminum*	20 µg/L
Potassium*	0.10 mg/L
Calcium*	0.50 mg/L
Manganese*	5.0 µg/L
Iron*	50.0 µg/L
Total Calculated Hardness	1.33 mg CaCO3/L

Metals Landfill

Hold Time (d):	180	Bottle Type:	125 mL Rd Plastic
Reference Method:	SW-846 6020B	Preservative:	HNO3 to pH < 2
Ref. Prep Method:	SW-846 3020A		

<u>Parameter Name</u>	<u>Reporting Limit</u>
Sodium*	0.10 mg/L
Chromium*	1.0 µg/L
Manganese*	5.0 µg/L
Iron*	50.0 µg/L
Nickel*	1.0 µg/L
Zinc*	10.0 µg/L
Arsenic*	1.0 µg/L
Cadmium*	1.0 µg/L
Barium*	1.0 µg/L
Lead*	1.0 µg/L
Calcium*	0.50 mg/L
Magnesium*	0.020 mg/L
Total Calculated Hardness	1.33 mg CaCO3/L

Metals Landfill Dissolved

Hold Time (d):	180	Bottle Type:	125 ml Rd Plastic
Reference Method:	SW-846 6020B	Preservative:	HNO3 to pH < 2; Filter 0.45 µm
Ref. Prep Method:	SW-846 3020A		

<u>Parameter Name</u>	<u>Reporting Limit</u>
Dissolved Sodium*	0.10 mg/L
Dissolved Chromium*	1.0 µg/L
Dissolved Manganese*	5.0 µg/L
Dissolved Iron*	50.0 µg/L
Dissolved Nickel*	1.0 µg/L
Dissolved Copper*	5.0 µg/L
Dissolved Zinc*	10.0 µg/L
Dissolved Arsenic*	1.0 µg/L
Dissolved Cadmium*	1.0 µg/L
Dissolved Barium*	1.0 µg/L
Dissolved Lead*	1.0 µg/L
Dissolved Calcium*	0.50 mg/L
Dissolved Magnesium*	0.020 mg/L
Total Calculated Hardness	1.33 mg CaCO3/L

Lab Section: Inorganics - Metals

Metals Organic Aluminum

Hold Time (d):	180	Bottle Type:	125 mL Rd Plastic
Reference Method:	SW 6020B	Preservative:	None
Parameter Name		Reporting Limit	
Organic Aluminum			20 µg/L

Metals Total

Hold Time (d):	180	Bottle Type:	125 mL Rd Plastic
Reference Method:	SW-846 6020B	Preservative:	HNO3 to pH < 2
Ref. Prep Method:	SW 3020A		
Parameter Name		Reporting Limit	
Beryllium*			1.0 µg/L
Sodium*			0.10 mg/L
Magnesium*			0.020 mg/L
Aluminum*			20 µg/L
Potassium*			0.10 mg/L
Calcium*			0.50 mg/L
Vanadium*			1.0 µg/L
Chromium*			1.0 µg/L
Manganese*			5.0 µg/L
Iron*			50.0 µg/L
Cobalt*			1.0 µg/L
Nickel*			1.0 µg/L
Copper*			5.0 µg/L
Zinc*			10.0 µg/L
Arsenic*			1.0 µg/L
Selenium*			1.0 µg/L
Strontium*			5.0 µg/L
Molybdenum*			5.0 µg/L
Silver*			1.0 µg/L
Cadmium*			1.0 µg/L
Antimony*			5.0 µg/L
Barium*			1.0 µg/L
Thallium*			1.0 µg/L
Lead*			1.0 µg/L
Uranium*			1.0 µg/L
Total Calculated Hardness			1.33 mg CaCO3/L

Lab Section: Inorganics - NonAuto

Ash

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 942.05	Preservative:	None
Parameter Name		Reporting Limit	
Ash			%

Chlorophyll-a

Hold Time (d):	21	Bottle Type:	None
Reference Method:	EPA 445.0	Preservative:	freeze
Ref. Prep Method:	EPA 445.0		
Parameter Name		Reporting Limit	
Chlorophyll-a			0.50 µg/L

COD

Hold Time (d):	28	Bottle Type:	50 mL Plastic Blue Cap
Reference Method:	Hach 8000	Preservative:	H2SO4 to pH < 2; Cool 4 °C
Parameter Name		Reporting Limit	
COD*			15.0 mg/L

Conductivity

Hold Time (d):	28	Bottle Type:	125 mL Rd Plastic
Reference Method:	SM 2510 B	Preservative:	Cool 4° C
Parameter Name		Reporting Limit	
Conductivity*			2.00 umhos/cm

Crude Fat

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOCS Am 5-04	Preservative:	None
Parameter Name		Reporting Limit	
Crude Fat			%

Crude Fiber

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 962.09	Preservative:	None
Parameter Name		Reporting Limit	
Crude Fiber			1.00 %

Dissolved Oxygen

Hold Time (d):	0.33	Bottle Type:	300 mL DO bottle
Reference Method:	SM 4500-O C	Preservative:	Filter 0.45 µm
Parameter Name		Reporting Limit	
Dissolved Oxygen			0.050 mg/L

Feed Salt by Titration

Hold Time (d):	180	Bottle Type:	None
Reference Method:		Preservative:	None
Parameter Name		Reporting Limit	
Salt			%

Meat Moisture

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 950.46	Preservative:	None
Parameter Name		Reporting Limit	
Moisture			%

Lab Section: Inorganics - NonAuto

Meat Salt

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 935.47	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Salt			%

Moisture Dry Food

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 930.15	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Moisture			%

Moisture Wet Food

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 950.46	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Moisture			%

Mojonnier Fat

Hold Time (d):	180	Bottle Type:	None
Reference Method:	AOAC 922.06	Preservative:	None
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Crude Fat			%

Total Dissolved Solids

Hold Time (d):	7	Bottle Type:	250 mL square plastic
Reference Method:	SM 2540C	Preservative:	Cool 4° C; Filter 0.45 µm
Ref. Prep Method:	SM 2540C		
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Total Dissolved Solids			25 mg/L

Total Suspended Solids

Hold Time (d):	7	Bottle Type:	1 Liter Plastic
Reference Method:	SM 2540 D	Preservative:	Cool 4° C
Ref. Prep Method:	SM 2540 D		
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Total Suspended Solids*			2.5 mg/L

Turbidity

Hold Time (d):	2	Bottle Type:	250 mL square plastic
Reference Method:	SM 2130 B	Preservative:	Cool 4° C
<u>Parameter Name</u>		<u>Reporting Limit</u>	
Turbidity*			0.2 NTU

Lab Section: Microbiology

Coliform, E. coli, Presence/Absence

Hold Time (d):	1.25	Bottle Type:	IDEXX, 120 mL
Reference Method:	SM 9223B	Preservative:	Cool 4° C
Parameter Name		Reporting Limit	
Coliform, E.coli			per 100 ml

Coliform, E.coli MPN

Hold Time (d):	0.333	Bottle Type:	IDEXX, 120 mL
Reference Method:	SM 9223B	Preservative:	Cool 4° C
Parameter Name		Reporting Limit	
Coliform, E.coli			1 mpn/100ml

Coliform, Presence/Absence

Hold Time (d):	1.25	Bottle Type:	IDEXX, 120 mL
Reference Method:	SM 9223B	Preservative:	Cool 4° C
Parameter Name		Reporting Limit	
Coliform, E.coli			per 100 mL
Total Coliform			per 100 mL

Coliform, Total MPN

Hold Time (d):	1.25	Bottle Type:	IDEXX, 120 mL
Reference Method:	SM 9223B	Preservative:	Cool 4° C
Parameter Name		Reporting Limit	
Total Coliform			1 mpn/100ml

Coliform, Total Presence/Absence

Hold Time (d):	1.25	Bottle Type:	IDEXX, 120 mL
Reference Method:	SM 9223B	Preservative:	Cool 4° C
Parameter Name		Reporting Limit	
Total Coliform			per 100 ml
