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C.O.A.L. Sample Collection & Handling Guide

Please use this guide as a quick reference to assist you in the collection, handling and transportation of your drinking water samples. Please contact the laboratory at 705-326-8285 or email coal@on.aibn.com if you have any questions or concerns.

To view the Ministry of Environment (MOE) collection guidelines – Practices for the Collection and Handling of Drinking Water Samples, please visit:

<http://www.ontario.ca/environment-and-energy/ministry-environment-practices-collection-and-handling-drinking-water-samples>

Sampling for Bacteriological Analysis

1. Remove any aerators, tap screens, hoses, or filters and use bleach to clean mouth of tap prior to collecting sample. Please do not flame the tap.
2. Let water run cold for at least two minutes prior to collecting sample.
3. When opening sample bottle, do not touch the lip, or rim, of the bottle. Do not touch the inside of cap. If you must set the cap down, place it open-side-up on counter.
4. Use a sterile plastic bottle from COAL. Sample bottle can contain a preservative.
5. Collect at least 250mL of sample, leaving air space. Do not allow water to overflow.
6. Samples and completed chain of custody forms must be received at the laboratory within 48 hours of collection.

Sampling for Nitrate/Nitrite Analysis

1. Use a preservative-free glass or plastic (PET) sample bottle from COAL to collect sample.
2. If a preservative-free sample bottle is not available, thoroughly rinse the bottle prior to collection.
3. Collect at least 75mL of sample.
4. Samples and completed chain of custody form must be received at the laboratory within 7 days of collection, following the nitrate/nitrite analysis schedule.

Sampling for Microcystin Analysis

1. Use amber glass bottle from COAL to collect sample containing sodium thiosulfate to neutralize chlorine.
2. Collect at least 1L of sample.
3. Samples and completed chain of custody form must be received at the laboratory within 5 days of collection, following the microcystin analysis schedule.

Sampling for Alkalinity or pH Analysis

1. Use a preservative-free plastic (PET) sample bottle from COAL to collect sample.
2. If a preservative-free sample bottle is not available, thoroughly rinse the bottle prior to collection.
3. Collect at least 100mL of sample
4. For Alkalinity samples, fill sample bottle completely and cap tightly. Prevent excessive agitation or prolonged exposure to air
5. Samples and completed chain of custody form should be delivered to laboratory within 14 days of collection; however it is recommended that analysis be performed as soon as possible after collection for best accuracy.

Sampling for Turbidity Analysis

1. Use a preservative-free glass or plastic sample (PET) bottle from COAL to collect sample.
2. If a preservative-free sample bottle is not available, thoroughly rinse the bottle prior to collection.
3. Samples and completed chain of custody form must be received at the laboratory within 2 days of collection; however it is recommended that analysis be performed as soon as possible after collection for best accuracy.

Sampling for Sodium, Total Hardness, Magnesium or Calcium Analysis

1. Use a preservative-free plastic (PET) sample bottle from COAL to collect sample.
2. If a preservative-free sample bottle is not available, thoroughly rinse the bottle prior to collection.
3. Collect at least 50mL of sample.
4. Calcium samples should be filled completely to no air remains after container is sealed.
5. Samples and completed chain of custody form should be delivered to laboratory within 30 days of collection

Sampling for Iron or Manganese Analysis

1. Use a preservative-free plastic (PET) sample bottle from COAL to collect sample
2. If a preservative-free sample bottle is not available, thoroughly rinse the bottle prior to collection.
3. Collect at least 100mL of sample.
4. Samples must be preserved at laboratory as soon as possible after collection. Please do not preserve the sample yourself.
5. Samples and completed chain of custody form should be delivered to laboratory within 14 days of collection

Sampling for Conductivity or Total Dissolved Solids (TDS)

1. Use a preservative-free plastic (PET) or glass sample from COAL to collect sample.
2. If a preservative-free sample bottle is not available, thoroughly rinse the bottle prior to collection.
3. Collect at least 500mL of sample.
4. Samples should be analyzed as soon as possible after collection for best accuracy.
5. Samples and completed chain of custody form should be delivered to laboratory within 14 days of collection.

Sampling for Lead Analysis

1. Use a preservative free plastic (PET) sample bottle from COAL to collect sample.
2. If a preservative-free sample bottles is not available, thoroughly rinse the bottle prior to collection.
3. Collect at least 1L of sample.
4. Samples must be preserved at laboratory as soon as possible after collection. Please do not preserve the sample yourself.
5. Samples and completed chain of custody form should be delivered to laboratory within 14 days of collection.

Tips for Transporting Samples

- Transport samples to the laboratory using a COAL specified Depot Location, in person, or an expedited courier service
- Samples should be taken to the laboratory as soon as possible after collection is completed
- Samples should be kept cool, but not frozen, until arrival at the lab. Ideal storage condition is less than 10°C
- Do not pack bottles with loose ice as this could contaminate the sample. Samples should be packed with a frozen ice pack or frozen water bottle (labeled as such)
- Completed chain of custody forms should be sent with the collected sample and enclosed in waterproof packaging (sealable plastic bag) to ensure it is not ruined by melting ice and/or condensation

Parameter/Test Group	Sample Container	Minimum Volume	Preservative	Maximum Holding Time	Storage/Transport Conditions
Total Coliforms (TC), <i>Escherichia coli</i> (<i>E. coli</i> ; EC), Heterotrophic plate count (HPC), Background (BKG)	Plastic, sterile	250 mL	30mg Sodium thiosulphate	48 hours	4°C ± 3°C Transport chilled, not frozen
Nitrate, Nitrite, Nitrate + Nitrite	Glass or plastic (PET)	75 mL	None	7 Days	5°C ± 3°C Transport chilled, not frozen

Parameter/Test Group	Sample Container	Minimum Volume	Preservative	Maximum Holding Time	Storage/Transport Conditions
Microcystin-LR	Amber Glass Bottle	1 L	Sodium Thiosulfate, to be preserved at time of sample collection	5 Days	5°C ± 3°C Transport chilled, not frozen, dark
Alkalinity, pH	Plastic (PET)	100 mL	None Alkalinity sample bottles should be filled completely, avoid excessive agitation and exposure to air	14 days, Analysis should be performed as soon as possible after collection	5°C ± 3°C Transport chilled, avoid freezing
Turbidity	Glass or plastic (PET)	100 mL	None	2 Days, Analysis should be performed as soon as possible after collection	5°C ± 3°C Transport chilled, avoid freezing, dark
Sodium, Total Hardness, Magnesium, Calcium	Plastic (PET)	50 mL	None Calcium sample bottles should be filled completely so no air remains after container is sealed	30 Days	5°C ± 3°C
Iron, Manganese	Plastic (PET)	100 mL	Nitric acid to pH < 2 done immediately upon collection or as soon as possible. Samples may be preserved at the laboratory up to 14 days after collection. ***Do not add acid to the container prior to sample collection*** ***Please do not preserve the sample yourself***	14 Days, 60 Days after preservation Samples preserved at laboratory must be held for 24 hours before analysis begins	Room temperature for preserved samples

Parameter/Test Group	Sample Container	Minimum Volume	Preservative	Maximum Holding Time	Storage/Transport Conditions
Total Dissolved Solids (TDS), Conductivity	Plastic (PET) or glass	500 mL	None	14 Days Analysis should be performed as soon as possible	5°C ± 3°C
Lead	Plastic (PET)	1 L	Nitric acid to pH < 2 done immediately upon collection or as soon as possible. Samples may be preserved at the laboratory up to 14 days after collection. ***Do not add acid to the container prior to sample collection*** ***Please do not preserve the sample yourself***	14 Days, 60 Days after preservation	Room temperature for preserved samples