



Sampling for Water Well Monitoring

Fact Sheet

- The NRCB routinely adds water well monitoring (WWM) conditions to confined feeding operation (CFO) permits when water wells are located within 100 metres of a CFO or manure storage facility. The monitoring conditions are intended to assess the risk of manure impacts on groundwater supplies by testing for manure indicators in water samples.
- This fact sheet outlines sampling methods and best practices for collecting water samples in a way that ensures sample integrity and promotes effective communication to the NRCB.

Understand your monitoring conditions

- NRCB inspectors send reminders on your annual monitoring requirements approximately three months prior to your submission deadline.
- Monitoring conditions specific to your operation can be found on your approval or monitoring statement that you can access using the NRCB CFO search tool (<https://www.nrcb.ca/confined-feeding-operations/cfo-search>) or by contacting an NRCB inspector.

Prepare for sampling – laboratory and locations

- Alberta has many accredited laboratories that will test your water samples. The NRCB will accept results from any accredited laboratory (private or provincial). You may wish to contact multiple laboratories to compare service fees.
 1. *Obtain Chain of Custody (COC) and sample bottles from the laboratory*
 - A COC is a document that contains important information on the sample identification, sampling date and time, sample integrity, and the analyses requested for the sample.
 - All laboratories should be willing to provide you with the required sample bottles for your given tests at no charge. Using laboratory-supplied

bottles is recommended because they are verified as free from contamination, contain sample preservatives (where required), and ensure optimal sample volumes for the requested analyses. Some labs will also provide coolers, ice packs, and return shipping labels, if drop off is not an option.

2. *Determine your sample identification labels from your NRCB permit and the Alberta Well Identification Database*
 - Your NRCB permit or monitoring statement may contain a common name and/or Alberta Well ID for the groundwater wells you are supposed to monitor.
 - If the permit or monitoring statement does not contain an Alberta Well ID, it is advised that you include this number, in addition to the common name, on your sample label on the COC form (e.g. North Barn Well – 123456). You may find your associated Well ID by using the “Find Water Wells” tab in the search tool here: <https://groundwater.alberta.ca/waterwells/d/>

Sample your water and submit to the laboratory

Prior to sampling

- Fill in your COC completely including sample date and time, sample IDs with common name and Alberta Well ID, and tests to be run.
- Label your sample bottles to match the COC using indelible ink (e.g., Sharpie marker).
- Check with your lab regarding sampling requirements for the supplied bottles. Sample volumes, hold times and preservation methods may vary by test and laboratory. Some laboratories include sampling requirements on their COC forms. If these are not present, ask your lab for guidance on sampling practices.

Sampling for Water Well Monitoring

Sampling from a tap (preferred)

1. Remove any attachments (hoses, filters, aerators, etc.) and ensure the tap and surrounding area is clean.
2. Wash your hands and put on new protective gloves (e.g., nitrile, latex).
3. Run the water for a minimum of two minutes from the cold tap.
4. Remove the cap from the sample bottle and avoid contacting the lip of the bottle and the inside of the cap with any surfaces. It is easiest to hold the cap in one hand and the bottle in the other.
5. Fill each bottle with the designated volume of water (varies by lab and test) and according to the laboratory's procedures (rinse, no rinse, preservative, etc.).
6. Immediately cap the bottles and tighten securely.
7. Place in a cooler with ice packs and transport or courier to the laboratory within 24 hours of sample collection.

Sampling from another source

1. Request a bulk sample bottle from the lab (e.g., one litre).
2. Collect a representative sample of the water source in the bulk sample bottle.
3. To the best of your abilities, follow the steps above using the bulk sample bottle as your "tap source" while minimizing contact of the bulk bottle with sources of contamination when filling.

Notes

- In all cases it is preferable to sample at a location **prior to** any water treatment processes. If this is not possible, please indicate on your COC that the sample is of treated water.
- Water samples should be maintained in refrigerated (i.e., ~4°C) conditions to maintain sample integrity. Use enough ice packs to ensure the sample is cooled. Never freeze your samples.
- If Alberta Well ID is unknown, please include well depth and/or year drilled in your sample comments.

Submit results to the NRCB

- You may include the inspector's email (in addition to your own) on the COC and the lab will send results directly to the NRCB or you may elect to forward the results to the NRCB yourself.

Review your NRCB WWM Report

- The WWM review process for the NRCB focuses on indicators of manure impacts only. Operators are encouraged to review their results for exceedances of other [Canadian Drinking Water Quality Guidelines](#). For example, fluoride and manganese are not manure indicators, but high levels may have impacts on human health.
- The NRCB inspector will provide you with a copy of the NRCB WWM Report, including any recommendations for follow-up actions. Should you have any questions related to your WWM reporting, please contact the inspector and they will provide you with additional information to resolve your issue.

Further information

For more information, please contact:

NRCB field offices:

Morinville 780-939-1212

Red Deer 403-340-5241

Airdrie 403-340-5241

Lethbridge 403-381-5166

Dial 310-0000 to be connected toll free. Fact sheets and other NRCB publications are available at www.nrcb.ca.

For more information on farm water testing:

<https://www.alberta.ca/farm-water>