

## Sampling Made Easy

What does Nebraska Department of Environmental Quality require villages or city's to report on their Discharge Monitoring Report (DMR)?

When doing all lab tests and sampling you must follow the procedure to the letter. It's kind of like going out on the lake for a day of fishing, the boat is all gassed up, you stop at the marina and pick up bait, the cooler is filled with ice cold beverages, you found the perfect isolated cove and you look around for you pole and remember it is at the campsite. The end result has been changed from fish to hamburger for supper! The same result may happen in testing as well. Something as simple as holding time will change your results.

NDEQ and EPA refer to "Standard Method for the Examination of Water and Wastewater." or what I call the "owner's manual" of water and wastewater for sampling and testing. The following are a few of the parameters some the most common tests a plant might need to implement.

- pH has no holding time. pH samples must be done *on-site*. Make sure the pH meter is calibrated correctly and calibration records kept. If you do not have a pH meter, you may want to think about purchasing one. I would highly recommend purchasing a meter, which has automatic temperature compensation (ATC). This eliminates the need to adjust the temperature of the sample. Ph meters range in cost of \$80 (pencil style) to \$500 for a high-end pH meter.
- Dissolved oxygen (DO) also has no holding time and must be done *on-site*, IF you have this requirement. D.O. can be done chemically (by a Hach kit) or similar and a meter. Make sure you have it on your permit before purchasing.
- Ammonia has a holding ONLY IF it is preserved by sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) to lower the pH to < 2.0. This stabilizes sample at the time of collection. Make sure your ammonia samples are in a separate bottle because of the acid. Ice down or refrigerate sample.
- CBOD make sure sample is "iced down" or refrigerate when sending to laboratory. CBOD' s recommended holding time is 48 hours so make sure it is receive by the lab in that time frame.
- Total Suspended Solids (TSS) has a 7-day recommended holding time and also needs to be refrigerated.

- Fecal Coliform has a holding time of 6 hours. The sample must be in a properly sanitized container and be at the lab in this time frame or the sample is invalid.

Most of you have these parameters on your permit. Use this as a guide, when taking your samples. I would also recommend that villages and cities budget and purchase a pH meter in the near future. I hope this helps when you are sampling your wastewater facility. If you have any questions, as always, give me a call at (402) 443-5216.