NR 149 Update for Registered "Base 4" Labs – 3.19.21 Presentation – Questions/Answers

Not every answer provided may be applicable to your specific issue or question. So please don't hesitate to contact Lab Cert staff if you have any questions at all!

Question (Q): If I only need one weight to check my balance, which weight would be best?
Answer (A): It is best to use a weight that is close to the masses you measure on your balance the most. For instance, if the pans used for TSS samples weigh ~ 2 g, using a weight in the 1-2 g range is great. We recommend that you use lower masses rather than the higher masses (as a little difference has a larger effect on a low mass).

Q: How do I know if the weights I use to check my analytical balance are acceptable?
A: Weights must be traceable to NIST and be of ASTM class 2 or higher quality.

Q: Is an autoclave ok to use for digestion of total phosphorus?
A: Yes.

Q: If I am using TNT 843 for total phosphorus and I've been digesting at 100°C for an hour, is it ok to use those to be digested at 150°C?
A: Yes, and we require that you do. Most labs are digesting at the required temperature of 150°C per the official Hach EPA method. If you have any safety concerns, you can always take additional precautions.

Q: Do I have to record the digestion temperature for total phosphorus each time I digest samples?
A: Yes. When digesting compliance samples for total phosphorus and using a block digestor, you need to know the temperature met the method requirement. It is a good idea to have a checkbox on the benchsheet that says 150 ±2 ^{o}C, or 148-152 ^{o}C, as a reminder to document it at the time of digestion.

Q: What do I do if my method blank is negative?
A: You don't have to worry about it not passing requirements, but if you see that it's repeatedly more negative than the LOD (e.g., LOD is 0.10 and your blanks are -0.20), there is likely a problem. Reach out to us so we can take a look at the details. Perhaps there is a change in your instrument response near the intercept. If your blanks are negative but less than the LOD (e.g., LOD is 0.10 and your blanks are -0.04), that is not a problem. If you are worried about the sensitivity of the instrument or how that could affect meeting a permit limit, please reach out and ask one of us.

Q: If a CCV fails, would I need to re-analyze the samples that were run before that failed CCV?
A: If an ending CCV is analyzed, then yes. If you run a CCV and it failed, you can immediately re-analyze it (so it's under the same conditions as the sample). If the re-analysis passes, then you do not need to re-analyze the previously run samples.

Q: What exactly is supersaturation in the BOD test?
A: Supersaturation is when the initial DO (IDO) result is above the sample's theoretical oxygen saturation value. If the IDOs are more than a few tenths above the theoretical oxygen saturation point, you need to shake the sample to try to get the IDO closer to the theoretical saturation point. For example, if the room temperature is 22.1°C and the pressure is 735 mmHg, the theoretical saturation point is 8.40. If your IDO is 8.85, it is supersaturated. If supersaturation exists, the sample is to be treated until the IDO is in the proper range. Some samples may take extensive shaking and venting. If samples are analyzed with supersaturation, the BOD results will be biased high. To be in compliance, it should be very rare that the lab runs samples that are supersaturated.

Q: Do I need to qualify sample results if samples were supersaturated?
A: You do not need to qualify the sample results for supersaturation unless your SOP says to do so. With that said, corrective action needs to be taken because the method was not followed. It is recommended to qualify the result as your BOD result may be biased high (i.e., it will look like your BOD is higher than it really is).

Q: If I analyzed two dilutions for BOD and one of the two was supersaturated, can I just use the result from the dilution that wasn't supersaturated?
A: No. You need to use all results that meet depletion (2 mg/L) and residual requirements (1 mg/L). Even though you had a supersaturated dilution, it must be used because the method depletion and residual requirements were met.

Q: I have to add inhibitor to my samples. Are you saying that I don't add it to the GGA?
A: Yes. Do not add inhibitor to the GGA. The GGA limits are based on results without the inhibitor, so that is why you would not add inhibitor to the GGA (or method blank). The method also indicates as much.

Q: For chlorinated BOD samples, how do we test for residual chlorine? Where would we document this and how do I document neutralizing any residual chlorine?
A: This is only needed if your samples are chlorinated. Total residual chlorine test strips that measure to 0.1 mg/L can be used. If you detect residual chlorine greater than 0.1 mg/L then the samples will need to be quenched with a neutralizing agent until a remeasurement indicates the residual chlorine level is less than 0.1 mg/L. All of these steps need to be documented. A good place for this documentation is on the BOD benchsheet – for example, near the pH or sample temperature documentation.

Q: Do I need to qualify my BOD results if the sample had residual chlorine >0.1 mg/L but I dechlorinated it?
A: No. You do not need to qualify the result since you neutralized the sample before analysis.

Q: Code says I have to analyze a GGA after 20 samples. Do multiple dilutions of the same sample count as part of the 20 samples?
A: No. The individual dilutions of a sample and the QC do not count towards the 20; 20 samples mean 20 actual compliance samples (influent and effluent). For example, if you analyze a blank and GGA and 3 dilutions of all 20 compliance samples, then you would have a total of 62 IDO measurements to take before you would need another blank and GGA. This should be an extremely rare situation for registered labs.

Q: When will the checklists on the website be updated to reflect the changes?
A: The program will review the current checklists. If changes are needed, we will try to get that done by 7/1/21.

Q: When will the presentation for commercial labs on the new 149 going to be completed?
A: We hope to get this completed sometime in May.

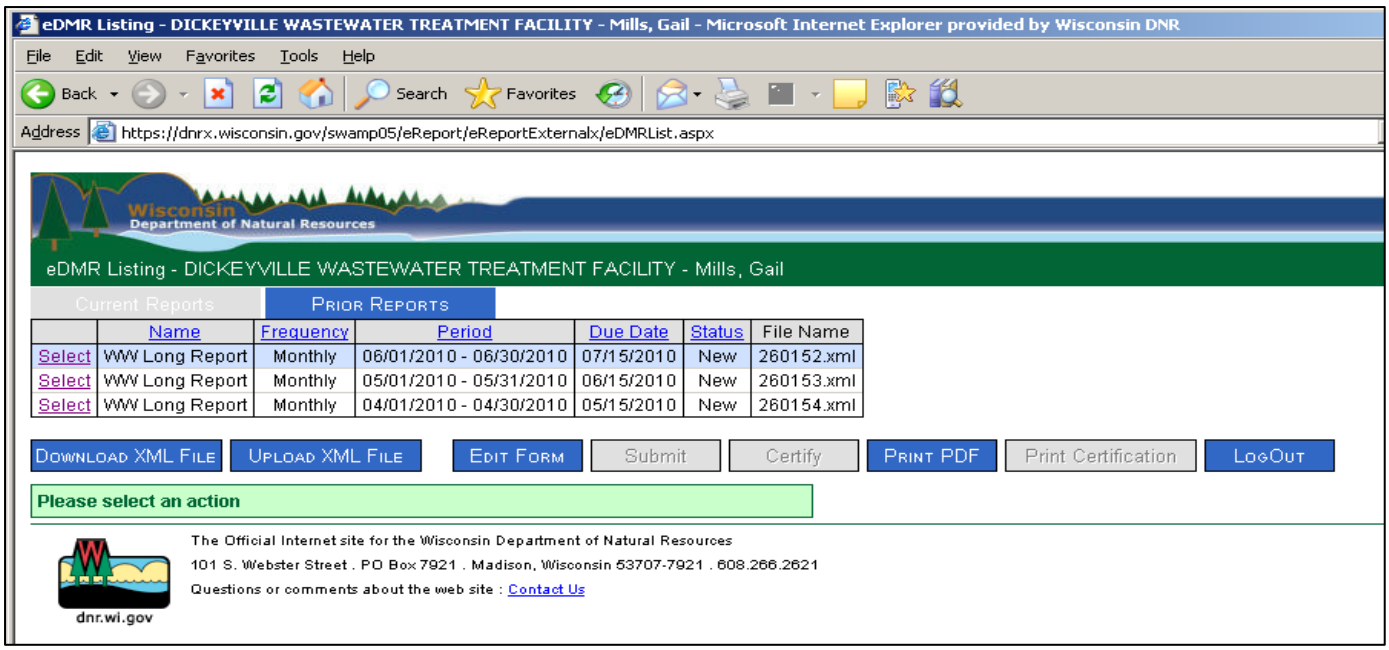
Q: Do I re-calculate my LOD from ongoing data every year?
A: Yes. While the spreadsheet calculates the LOD every time you enter new data, the LOD only needs to be recalculated and verified once each year. Make sure to use 2 years' worth of LOD spike data (no more and no less) when you do the calculation every year. Use no more than 2 years' worth of method blank data. For example, if you did your initial LOD in January 2018, you would recalculate your LOD every January; for recalculating the LOD for 2021, in January 2021 use all your data from January 2019 through January 2021.

Q: What exactly do I need to do for the LOD if I dilute a sample?
A: If the sample is diluted, then the LOD that is reported also needs to be adjusted for the dilution factor. For example, if the sample was diluted by a factor of 2 (one-part reagent water and one-part sample) and the lab's LOD is 0.1, the adjusted LOD will be 0.2 (2 x 0.1) for that diluted sample. Include the diluted sample's LOD of 0.2 in the eDMR.

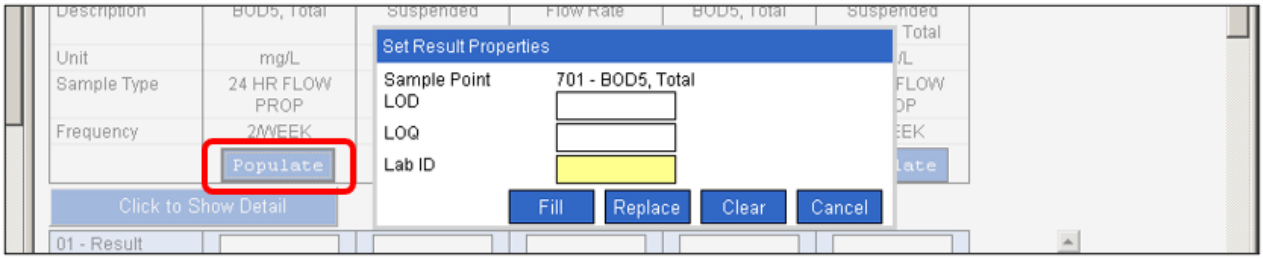
Here are instructions on how to do this in the eDMR:

Screen Shots of New .NET Version of eDMR

The first view (below) is the default view.



Start by entering the normal LOD, LOQ, and Lab ID for each parameter by clicking on the populate button. This will populate the information you entered into the days of the month where you enter sample results.



Click the button “Click to Show Detail” to show more detail. This view allows you to edit the LOD, LOQ, and Lab ID for individual parameters on specific days of the month.