BOD_5/$CBOD_5$ Quality Control Failure Flagging Policy
(NC WW/GW LCB 08/06/2021)

Anytime any of the following quality control failures occur, the data must be flagged.

1. No sample dilutions deplete at least 2.0 mg/L DO and have a residual of at least 1.0 mg/L DO (unless 100% sample is analyzed).

2. All dilutions result in a residual DO <1.0 mg/L.

3. The average DO depletion of dilution water blanks is greater than 0.2 mg/L.

4. The average of the three Glucose - Glutamic Acid (GGA) check standards falls outside the acceptance limits [i.e., 198 mg/L ± 30.5 mg/L (167.5 – 228.5 mg/L) or as determined by control chart prescribed in Footnote 85 of Table IB in 40 CFR Part 136.3, July 19, 2021]

5. Duplicate dilutions of the same sample vary more than the laboratory established acceptance limit.

6. Valid high and low (i.e., from different dilutions) calculated values of the same sample vary by more than 30%.

7. No seed control dilutions deplete at least 2.0 mg/L DO and have a residual of at least 1.0 mg/L DO.

The qualifying statement on the laboratory report form and/or the DMR must state:

1. All QC requirements were not met, and;

2. What QC failures were involved. For example, “blank average value was >0.2 mg/L”, “GGA was less than 167.5 mg/L”, “duplicates exceeded the acceptance criterion due to low BOD concentration”, etc.

It is recommended that the laboratory supervisor include a statement indicating whether the data is considered “valid”, “questionable”, or “invalid”. This is a subjective decision based upon the severity of the QC failure and its impact on the value reported.

Data must always be reported. Accompanying documentation may be attached to justify any data believed to be questionable or invalid.