7.2.5 TROUBLESHOOTING

The troubleshooting suggestions in table 7.2-3 are not all-inclusive. Refer to the troubleshooting suggestions for DO instruments (table 6.2-4 in NFM 6.2). Remember that faulty batteries can cause erratic readings.

Table 7.2-3. Troubleshooting guide for the five-day biochemical oxygen demand test

[DO, dissolved oxygen; BOD_5, 5-day biochemical oxygen demand; mg/L, milligram per liter; HCl, hydrochloric acid]

Symptom	Possible cause and corrective action
DO readings drift downward	• Weak batteries for stirring unit result in inadequate flow across membrane—replace batteries.
BOD_5 demand in dilution water is greater than the acceptable 0.2 mg/L	• Deionized water contains ammonia or volatile organic compounds—increase purity of dilution water or obtain from another source. Age water for 5-10 days before use. • Deionized water contains semivolatile organic compounds leached from the resin bed—increase purity of dilution water or obtain from another source. Age water for 5-10 days before use. • Bacterial growth in reagents and poorly cleaned glassware—more vigorous cleaning of glassware, including washing followed by a 5- to 10-percent HCl rinse followed by 3-5 rinses with deionized water. Discard reagents properly.
Sample BOD values are unusually small in the diluted sample (BOD_5 dilution water is within the acceptable range)	• Dilution water contains interferences inhibiting the biochemical oxidation process—increase purity of dilution water or obtain from another source. • Use deionized water that has been passed through mixed-bed resin columns. **Never use copper-lined stills.** Distilled water may be contaminated by using copper-lined stills or copper fittings—obtain from another source.