



and concentrations of salts in samples can make the use of a membrane probe difficult.

- 4.3 Reactive compounds can interfere with the output or the performance of dissolved oxygen probes.
    - 4.3.1 Reactive gases which pass through the membrane probes may interfere. For example, chlorine will depolarize the cathode and cause a high probe-output. Long-term exposures to chlorine will coat the anode with the chloride of the anode metal and eventually desensitize the probe. Alkaline samples in which free chlorine does not exist will not interfere. Hydrogen sulfide will interfere with membrane probes if the applied potential is greater than the half-wave potential of the sulfide ion. If the applied potential is less than the half-wave potential, an interfering reaction will not occur, but coating of the anode with the sulfide of the anode metal can take place.
  - 4.4 Dissolved oxygen probes are temperature sensitive, and temperature compensation is normally provided by the manufacturer. Membrane probes have a temperature coefficient of 4 to 6 percent/°C dependent upon the membrane employed.
- 5.0 Apparatus
- 5.1 No specific probe or accessory is especially recommended as superior. However, probes which have been evaluated or are in use and found to be reliable are the Weston & Stack DO Analyzer Model 30, the Yellow Springs Instrument (YSI) Model 54, and the Beckman Fieldlab Oxygen Analyzer.
- 6.0 Calibration: Follow manufacturer instructions.
- 7.0 Procedure: Follow manufacturer instructions.
- 8.0 Calculation Follow manufacturer instructions.
- 9.0 Precision and Accuracy: Manufacturer's specification claim 0.1 mg/L repeatability with  $\pm 1\%$  accuracy.

### **Bibliography**

- 1. Standard Methods for the Examination of Water and Wastewater, 14th Edition, p 450, Method 422F (1975).