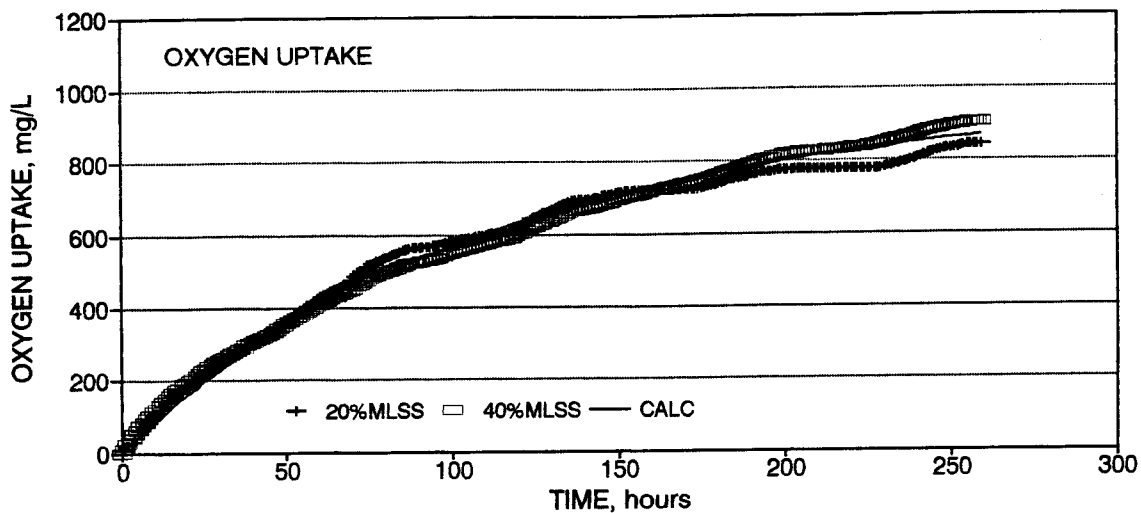
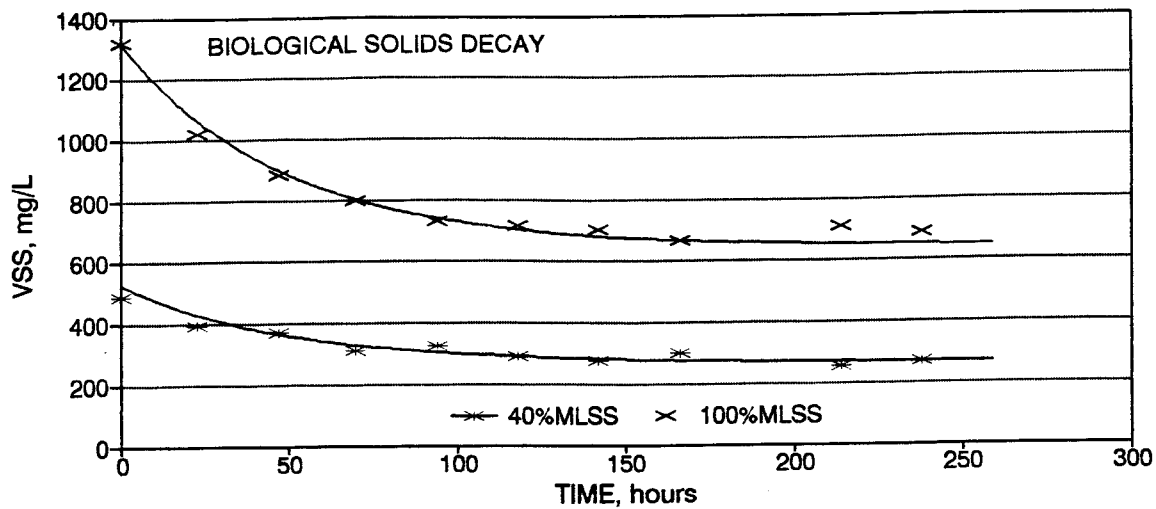


APPLICATION: MONITORING THE ACTIVITY OF MIXED-LIQUOR SOLIDS



Sample Type: Mixed liquor solids from an activated sludge process
MVLSS = 1320 mg/L

Objective: To determine the oxygen uptake characteristics of mixed liquor solids and to determine the fraction represented by active biomass.

Test Setup: Mixed liquor was placed in two 500 mL respirometer flasks at 20 and 40% of full strength. TCMP was added to inhibit nitrification. Oxygen uptake was measured using a CHALLENGE AER-200 respirometer system. Two other reaction vessels containing 40 and 100% mixed liquor solids were used to monitor the change in VSS with time.

Analysis: The oxygen uptake of active biomass typically is 1.42 mg O₂/mg VSS. Therefore, these tests indicated that 675 mg/L, or 51%, of the solids were active. The rate of change in VSS concentration correlated well with the change in oxygen uptake. The resulting decay rate was 0.216 mg O₂/mg VSS -d at 25°C