

THE DETERMINATION OF BALLAST LIFE FROM THE ACCUMULATION OF FINES IN THE BALLAST STRUCTURE

A series of experiments were undertaken to understand the mechanisms that cause ballast to become clogged with fine material. The work identified the principal sources of fines and developed methods of predicting their effect on the ballast life. These observations were incorporated into a computer model to allow their combined effect to be predicted.

The ballast deterioration model showed that proposed reductions in the depth of clean ballast combined with the introduction of laser technology produced a net increase in ballast life compared with current practice. Further development of the model would enable it to be used to calculate the most economic ballast depth or to provide a specified ballast life for a given route.