NTEC
Nottingham Transportation Engineering Centre

Performance and Maintenance of Dirty Ballast

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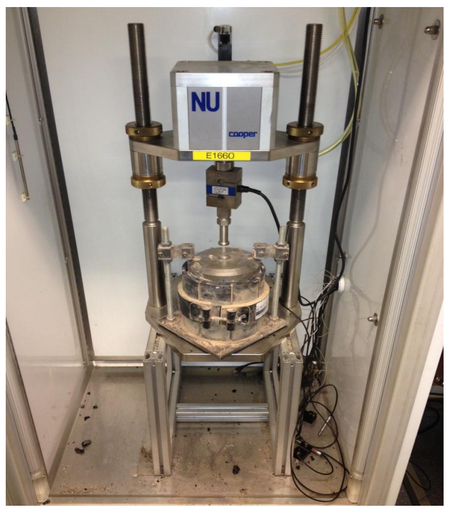
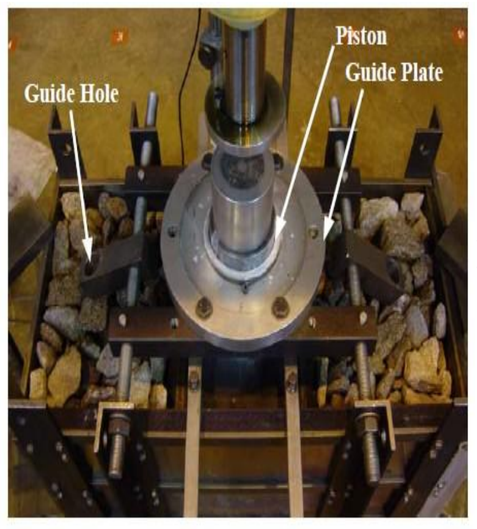
Large scale triaxial test to measure the effect of stress levels on the performance of clean ballast



PUMA tests to measure the effect of fouling and water on the performance of dirty ballast



Box tests to consider the effect of maintenance on the performance of dirty ballast

derive the settlement-vertical load equation

derive the experimental settlement, stiffness-vertical load, fouling degrees and water contents equations

Measure the effect of tamping and stone blowing on ballast samples with different water contents and fouling degrees

Create a computer model using the testing results and experimental equations to simulate the settlement accumulated in real track

the model will be used to predict the long-term settlement occurred in the real ballast track system

The University of Nottingham