

Railroad Ballast Inspection

Using 3-Dimensional Ground Penetrating Radar

The survey example is from a tunnel located between Oslo and Trondheim where the Norwegian National Rail Administration wanted to investigate the depth of the ballast inside the tunnel.

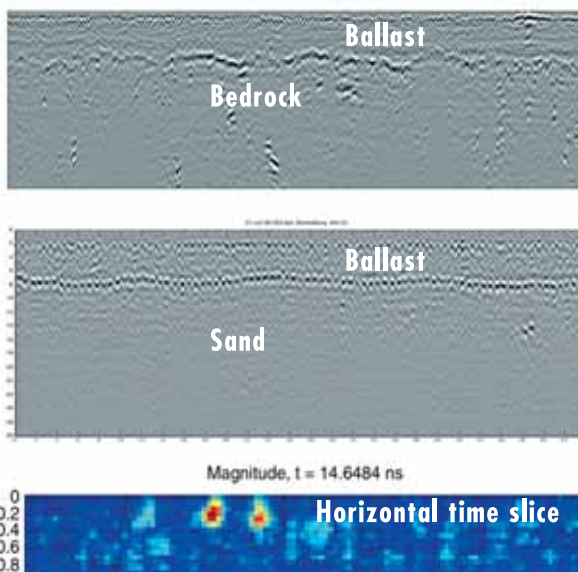
The purpose of this survey was to determine whether it was possible to lower the rails to make room for larger trains to pass through the tunnel.

The radar data show a clear echo between the ballast and the base layers. It is also possible to identify objects in the ground below the ballast.

The 3d GPR is an efficient tool for mapping and quality control of railroad ballast.

Horizontal slices of the ballast show details about subsurface irregularities.

3d GPR surveys allow significant reduction of maintenance cost, higher safety and improved traffic regularity.



Main benefits

- **Collect up to 31 survey lines simultaneously**
 - Get a 3-dimensional view of the ballast thickness
- **Compatible with RailwayDoctor® Software from Roadscanners**
 - Integrated analysis of GPR data and standard railway survey datasets
- **Full 3d-imaging capabilities**
 - Map cables and buried infrastructure under the ballast