



## Aluminum Wagon Cracking Project

### Western Australia

#### PROJECT OVERVIEW

##### Project Scope:

EDC was engaged to investigate and resolve the significant cracking issues on the fleet of CBH aluminium-made wagons, utilising advanced measurements and simulation techniques.

##### Challenge:

- As there were a high number of defects or cracks, it was a challenge to develop a test and measurement methodology that accurately represented the cause of the issue.
- Determine the correlation between the measurement information and the advanced simulations.
- Providing solutions to resolve the cracking issue.

##### Success:

- Development of an extensive testing regime utilizing solar panels as the power source for the instrumentation whilst the wagon was in operation for a period of 3 months.
- Identify the likely main causes of fatigue failures and quantified the loads under normal operations.
- Provided design modifications to reduce the risk of any future cracking.
- Post test data showed a significant improvement and verification of the fatigue life estimation with the recommended improvements implemented.

CLIENT: CBH

DURATION: 2019 - 2020

