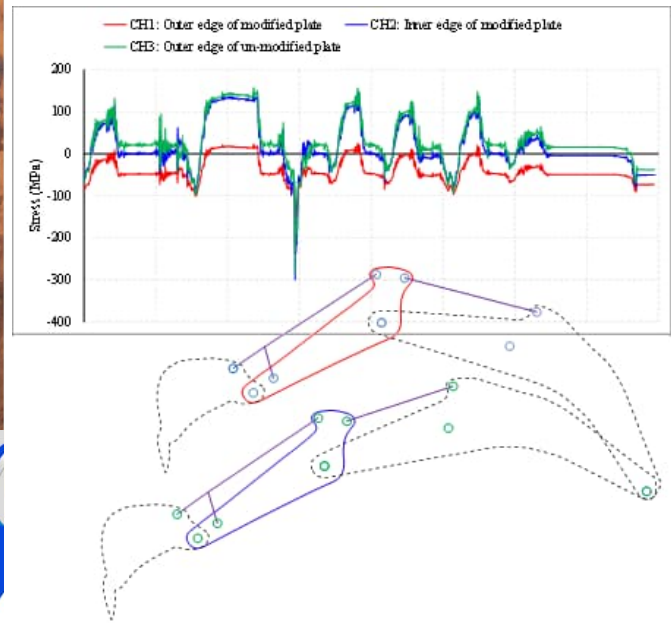
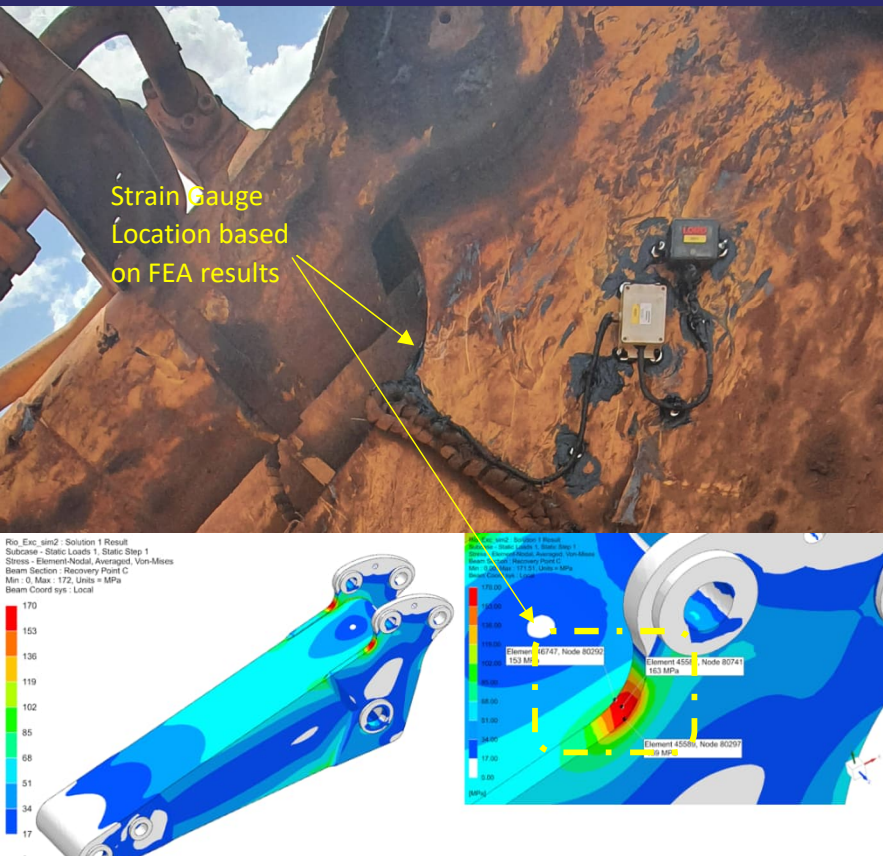


PROJECT OVERVIEW



PC5500 Excavator Fatigue

Western Australia

PROJECT OVERVIEW

Project Scope:

- EDC was engaged to investigate repeated cracking in the stick of a PC5500 excavator.
- Develop and verify a solution using a strain gauge monitoring system during operation.

Challenge:

- Unknown level of forces experienced by the stick during operation.
- Detailed drawings were not available to develop the FEA model of the stick.

Outcome:

- EDC designed a reinforcement for the side plate of the stick.
- EDC determined through the strain gauge measurement the operating stresses in the stick and the peak stresses generated from abnormal loads during service.

Success:

- Through measurement, modelling and analysis, the team was able to:
- Reduce the stress range by 35% after implementing the reinforcement.
 - Verify through measurements an improvement to crease the fatigue life of the excavator stick.

CLIENT: Rio Tinto

SITE: Hope Downs 4

DURATION: November 2021– November 2022

