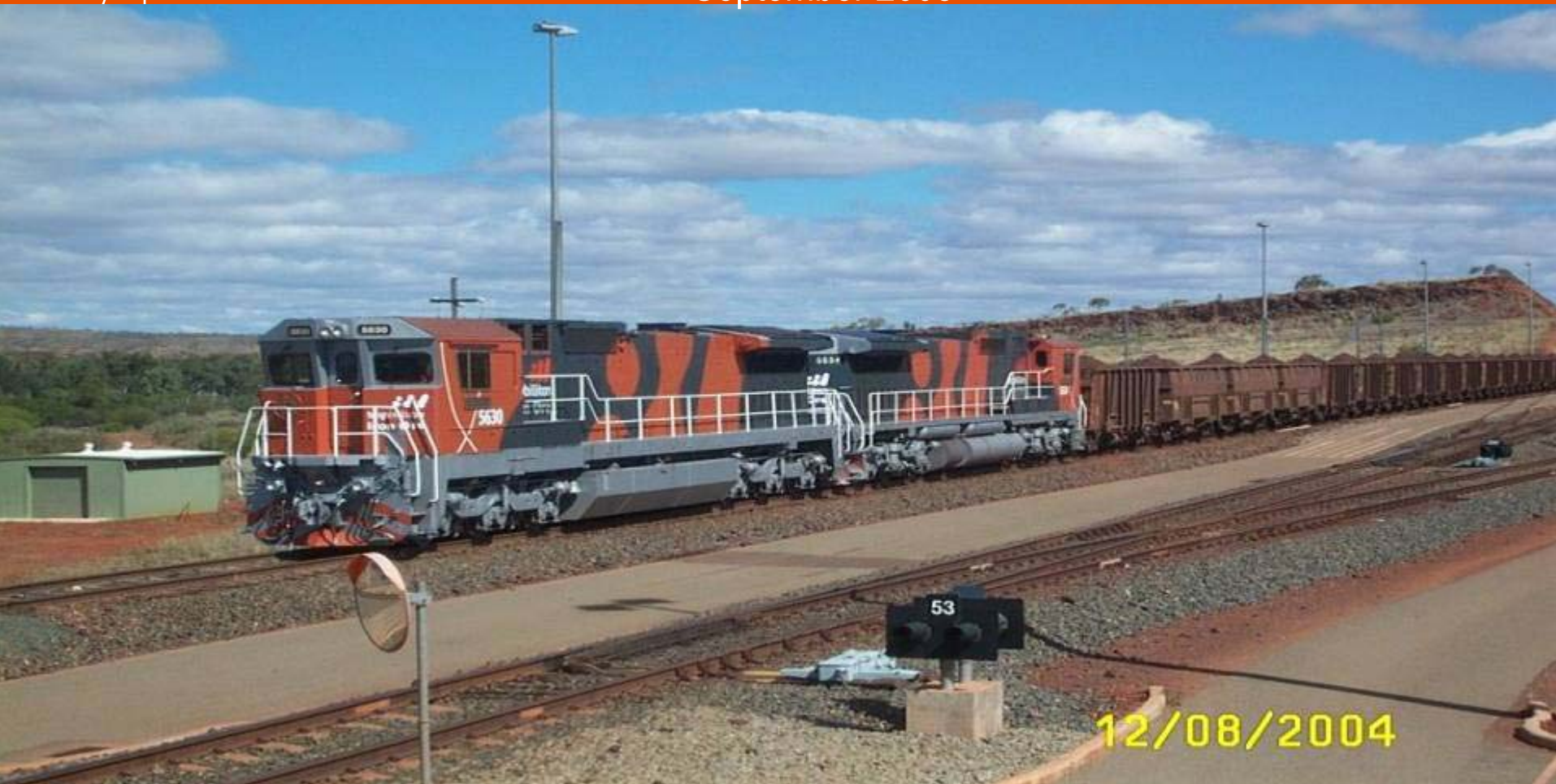


BHP Iron Ore Railroad Overview

September 2003



World Class Heavy Haul Railway

- ✓ Best Practice
- ✓ Innovation
- ✓ High Technology
- ✓ Cost Minimisation



Operational Excellence

Safety

“Good Safety is Good Business”

Behavioural Focused

People

motivated and “can do”

majority of staff AWA

Technology

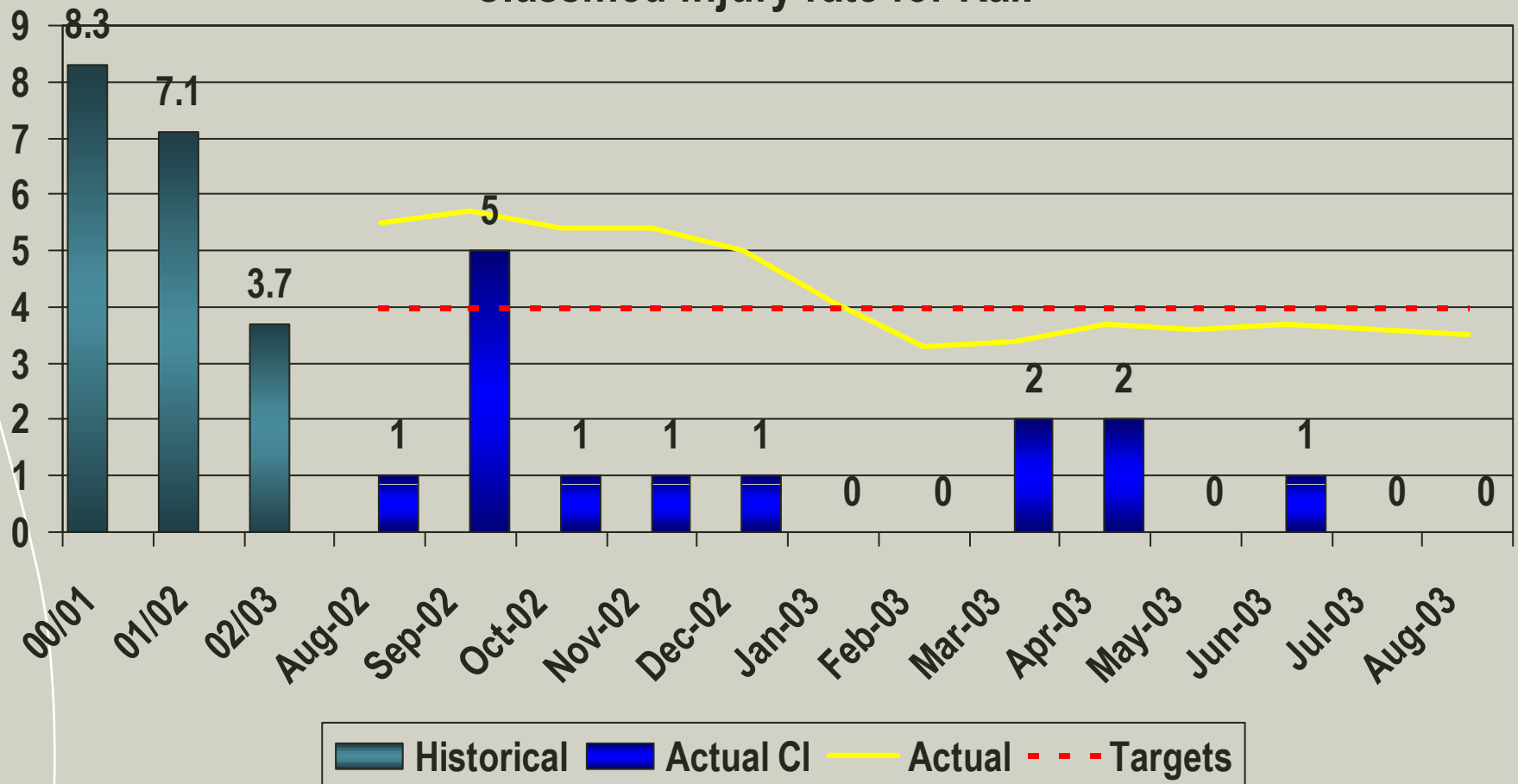
leading edge

drives efficiency



Rail Classified Injuries

Classified injury rate for Rail



Three Rake Trains (312-336 Cars)

- Long trains ran for July is a record of 156,

Number of Train Runs

January 03

1000

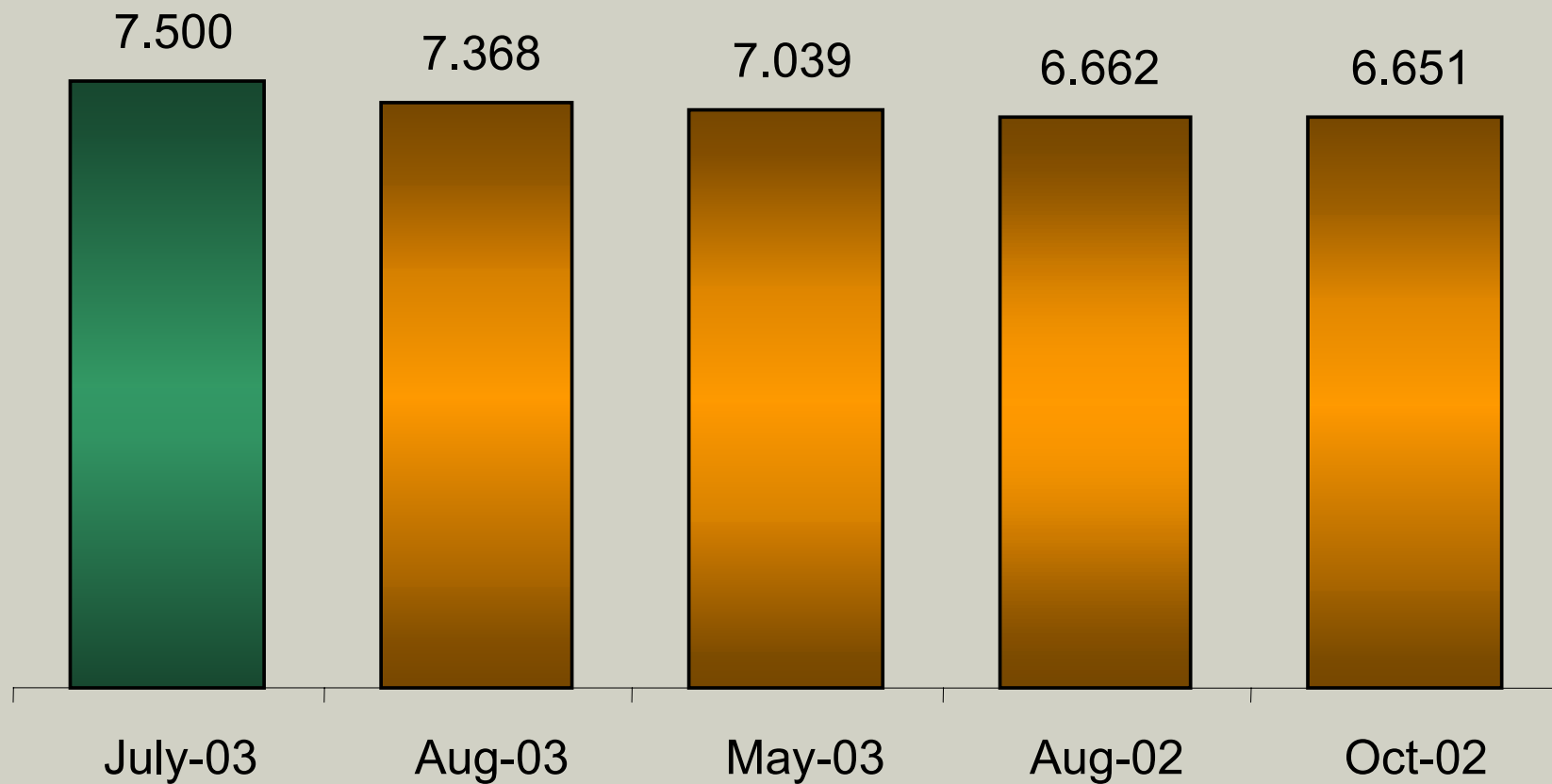
Long Trains

■ Yandi

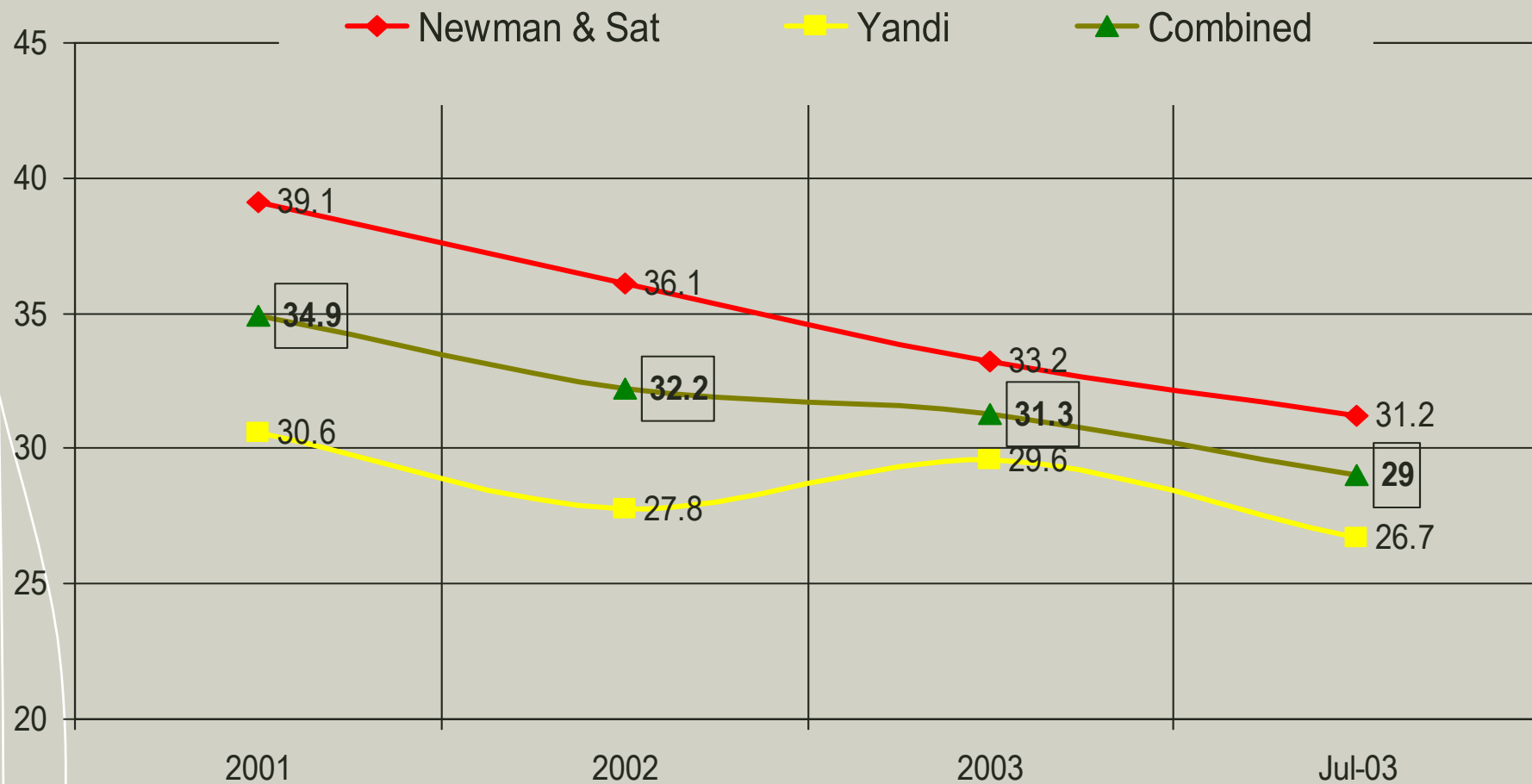
■ Newman



Top 5 Railing Months

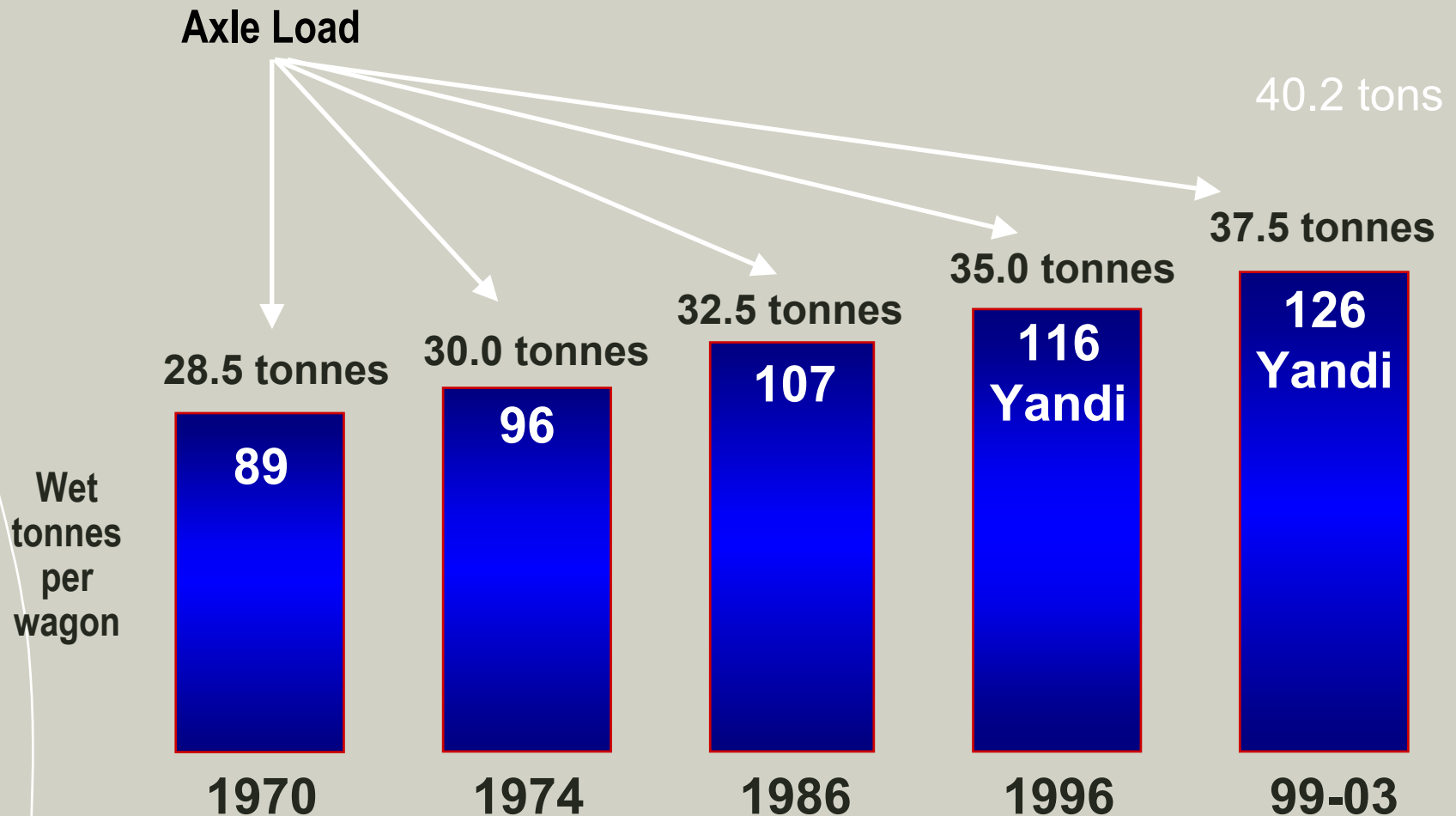


Train Cycle Time Improvement



Higher Axle Load

Operating Improvements



In Track Flash Butt Welder



Instrumented Ore Car

1- Onboard GPS & Cell Phone

- Track Location & Train Speed

2- Instrumented Couplers

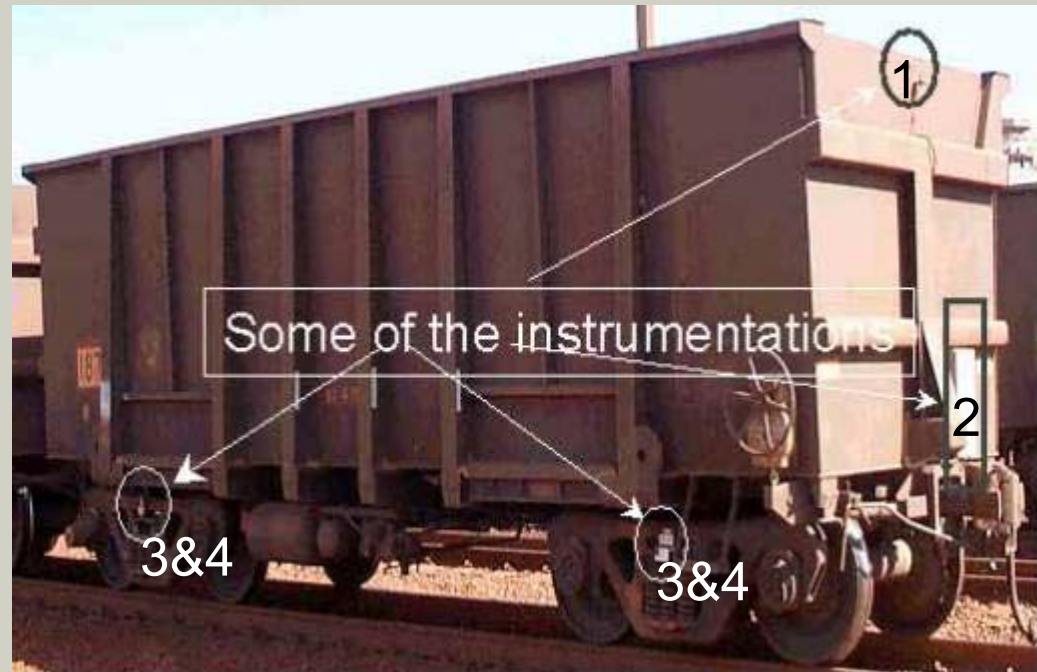
- In-train Forces

3- Side Frame Accelerometer

- Car Body Acceleration Levels
- Indication of Rail Impact Load (Wheel-rail Interaction)

4- Spring Nests Instrument

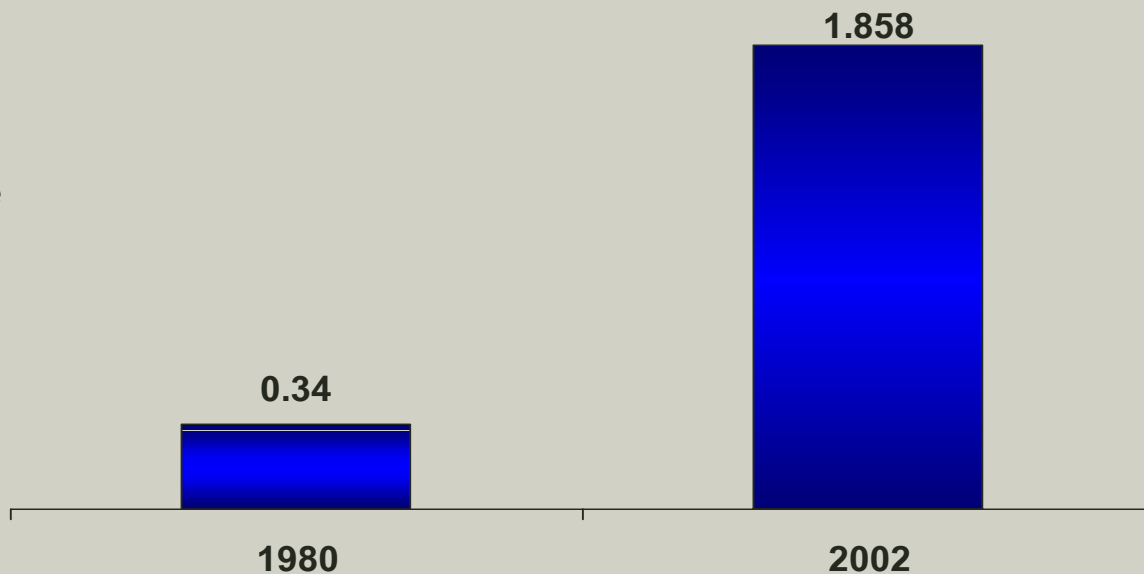
- Spring Nests Deflection (Vehicle- Track Interaction)



Rail / Wheel Interface

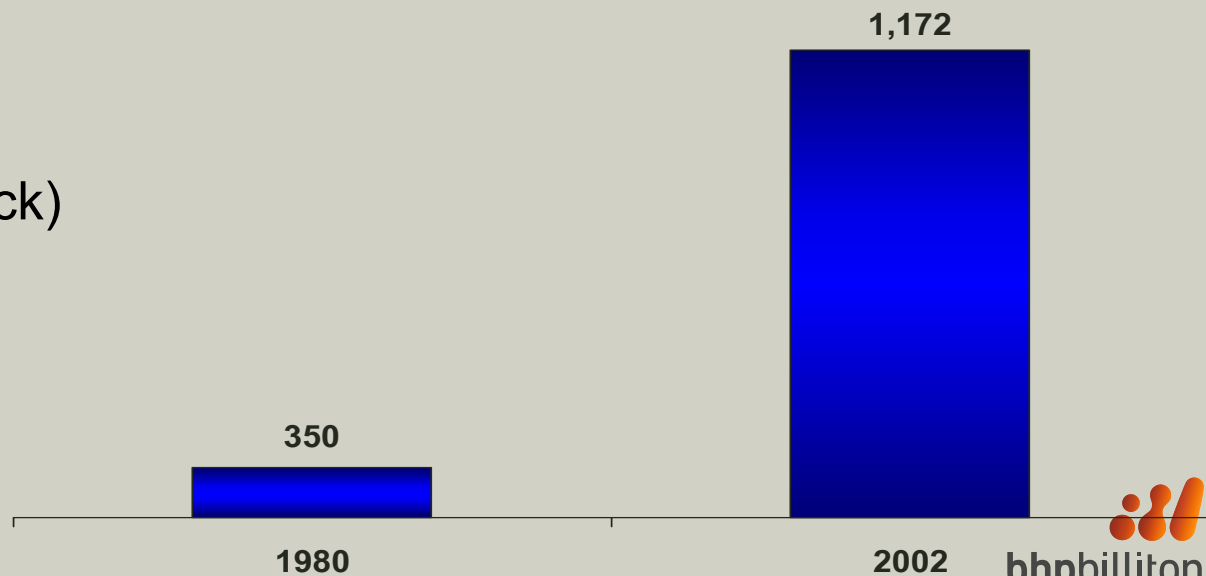
Ore Car Wheel Life

Million Tonne Kms



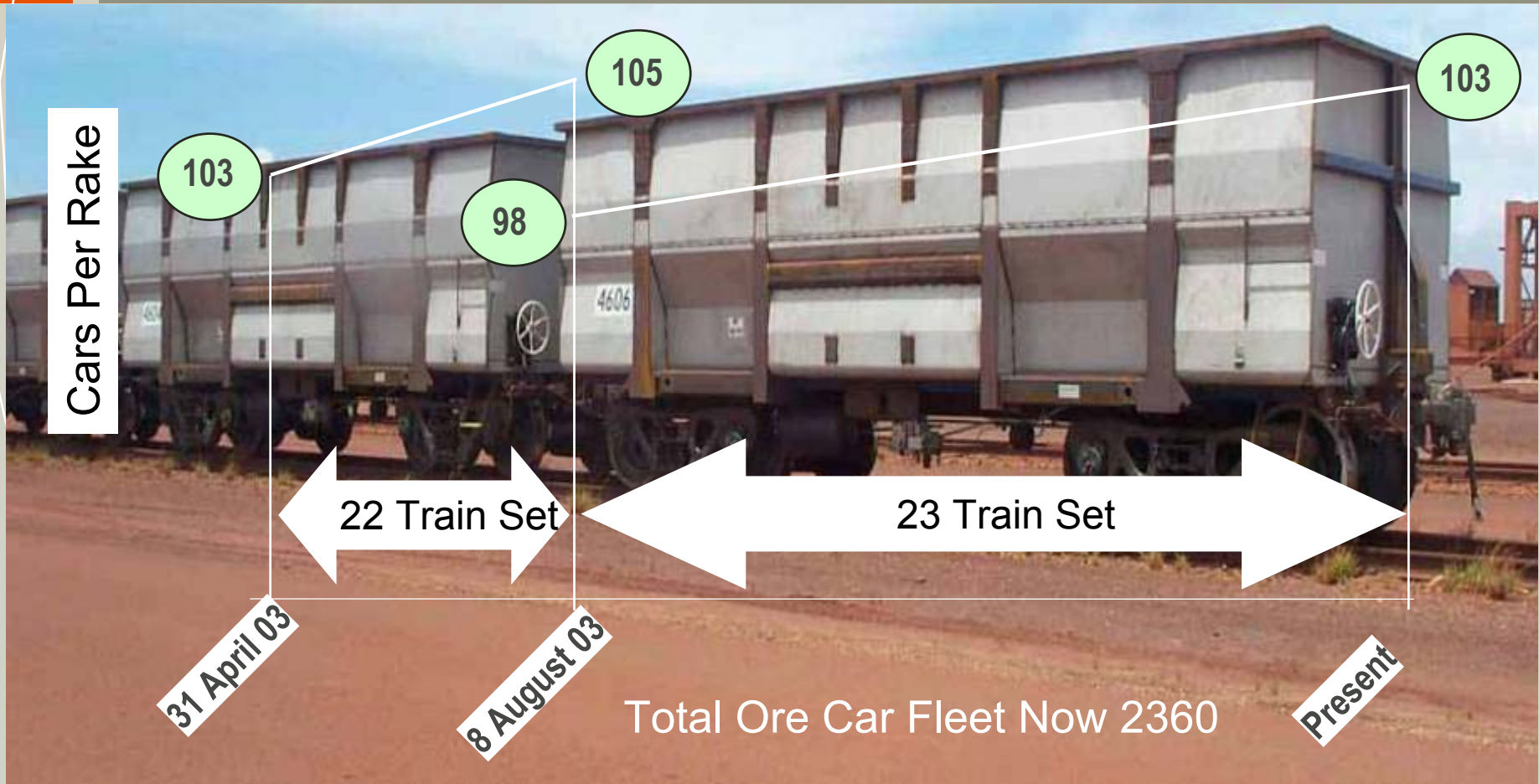
Rail Life (Tangent Track)

Million Gross Tonnes



bhpbilliton

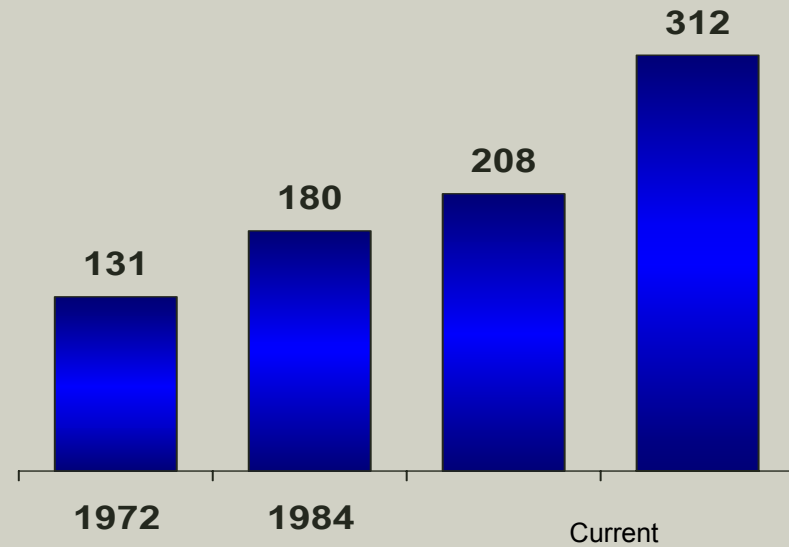
Ore Car Fleet



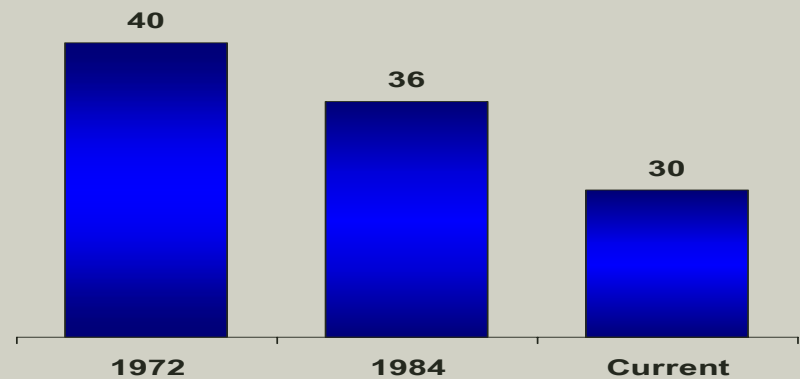
- Second Set of 120 Cars to be added by November 03
- Third Set of 120 cars ordered

Train Lengths / Cycle Time

Train Lengths
Cars per Train



Train Cycle Time
Hours



Current Train Operations

Newman Line

- 9 ore trains per day
- Flexibility of One / Two / Three Rake Trains
- Train configuration:
 - 1 rake = 104 ore cars = 12,480 tonnes of ore
 - 2 rakes = 208 ore cars = 24,960 tonnes of ore
 - 3 rakes = 312 ore cars = 37,440 tonnes of ore

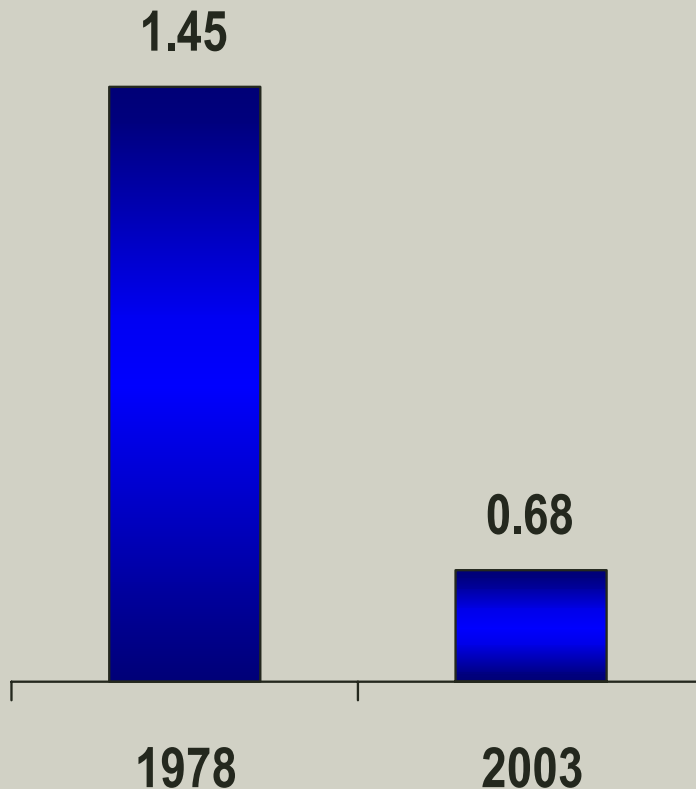
Goldsworthy Line

- 4 ore trains per day
- Train configuration:
 - 90 ore cars = 7,650 tonne of ore

Environmental & Efficiency

Locomotive Fuel Consumption

Litres per Wet tonne



Contributing Factors

- Rail / Wheel profile
- Aerodynamic Ore Cars
- Efficient Locomotives
- Distributed Power
- Higher Axle Load
- Longer Trains

Fuel Savings

Motive Power Requirements

Short Term

Purchased 8 used SD-40 locomotives

Medium Term Term

Tendering for 10 – 30 additional locomotives

Long Term

Fleet Replacement beyond



What's in the Future

- Continued Safety Focus
- Human Resource Efficiency
- Higher Axle Loads
- Moving to Automated Trains (software nearing completion)
 - Driver assist
 - Meet Pass Planning
 - “Cruise Control”
 - Full Automation
- Increased Tonnage Customer Demand