

BHP Billiton Iron Ore – Western Australia

Port & Rail Operations



Mick Evans – Vice President Port & Rail

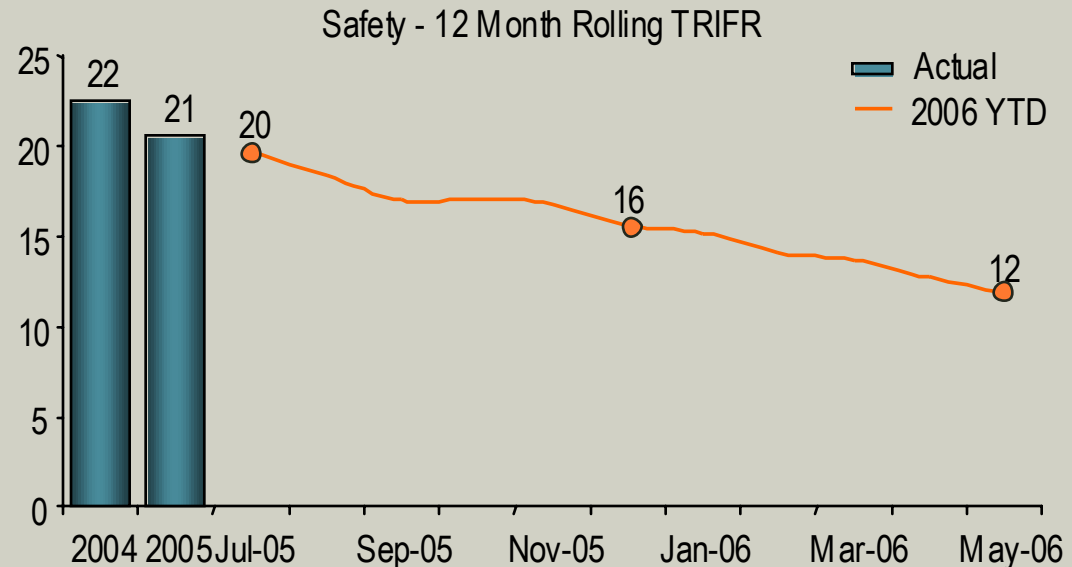
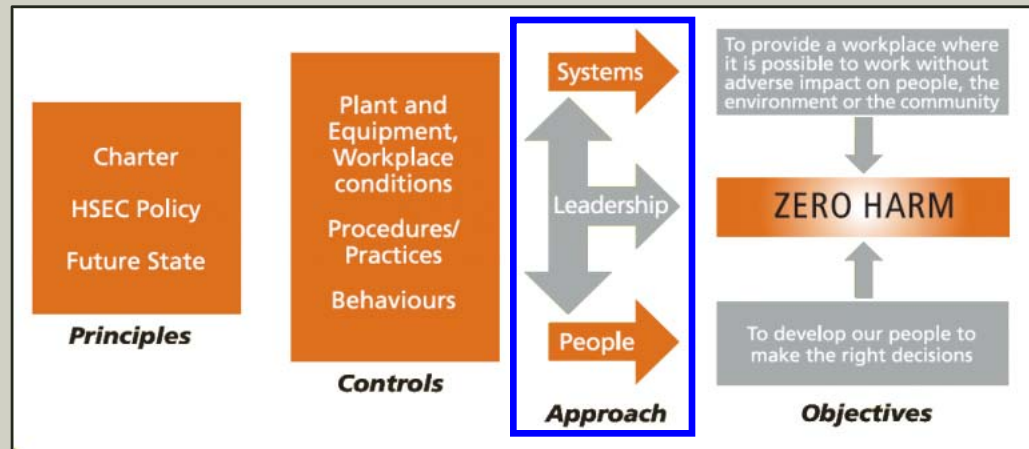
Iron Ore



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Continuous Improvement in Safety Performance

- Continued development of One Business approach to HSEC systems and processes.
- Focus areas:
 - Leadership
 - Behavioural based systems
- Programs & actions:
 - Take 5/JHA's
 - Stop for safety
 - Risk assessments
 - Fit for work/life (fatigue management)
 - 15 HSEC Standards
- 40% reduction in TRIFR during FY06 – last quarter was a record low of 7.9.



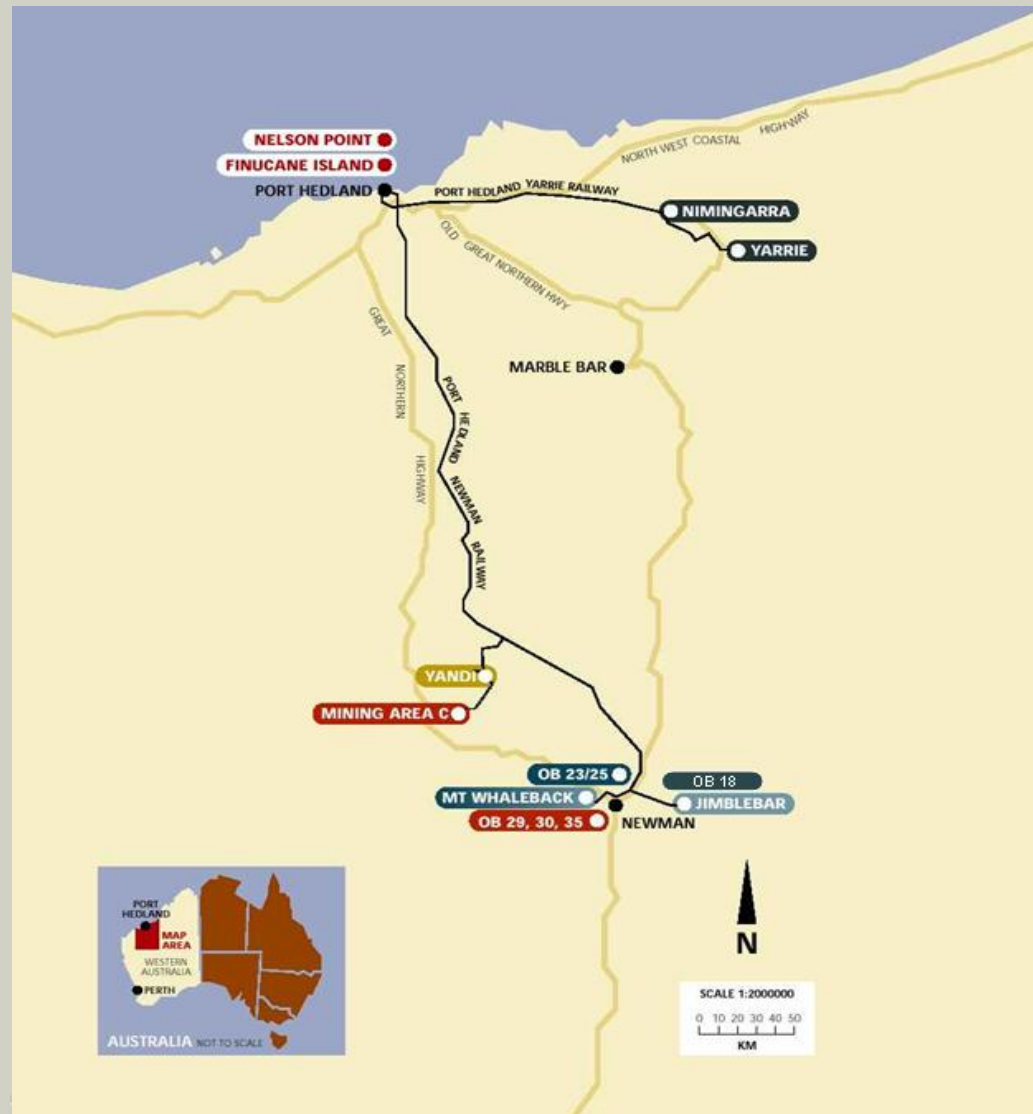
Summary

Port Operations:

- Final stage of production process;
- Crushing, screening & blending to create on-grade products;
- Nelson Point & Finucane Island.

Rail Operations:

- Service nine separate mine/loading facilities;
- Service two separate port facilities;
- Integrated system: mine/rail/port.



Railroad Overview

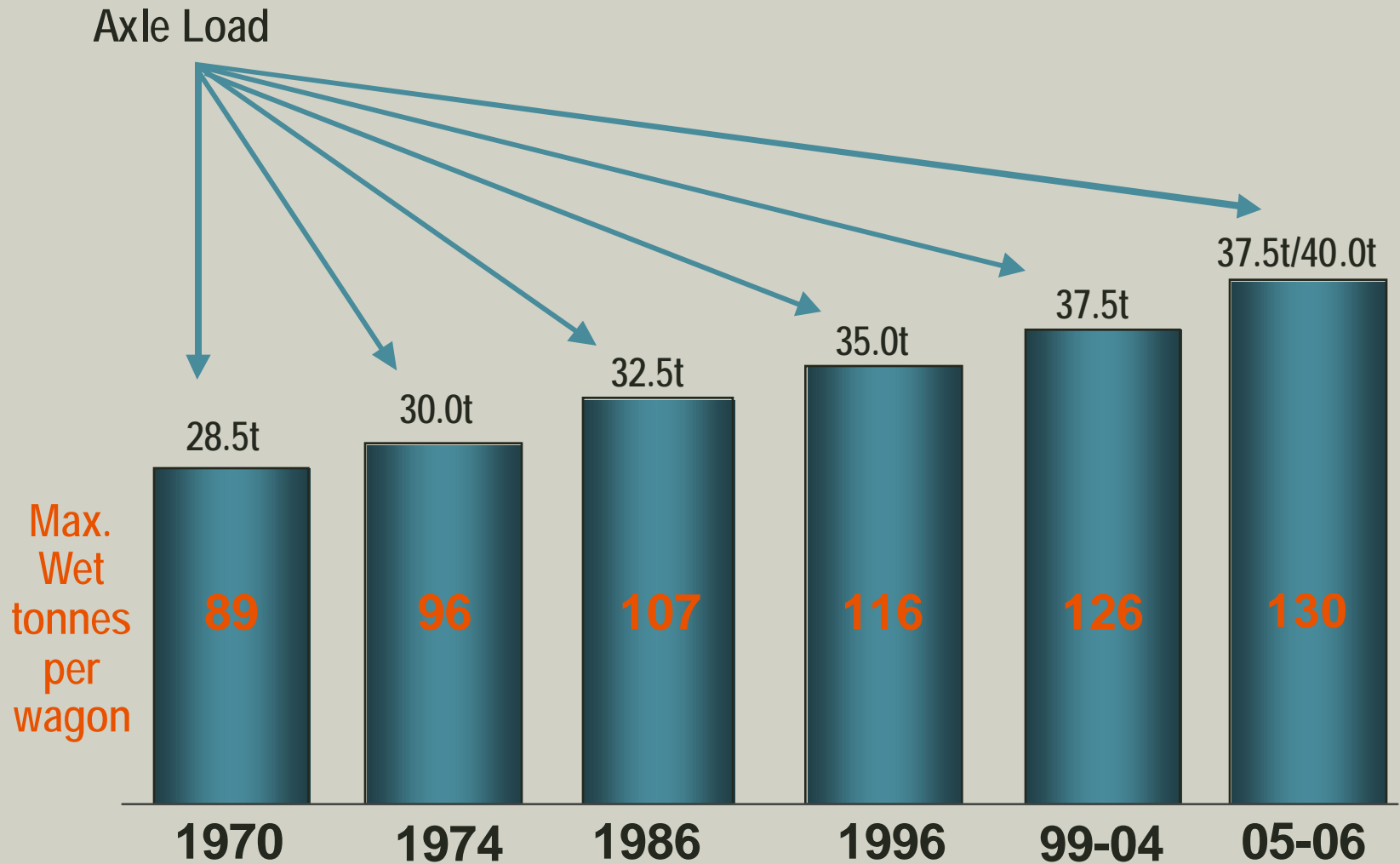


BHP Billiton Iron Ore Railroad

- Safety focused
- Highest axle loads in the world
- Emphasis on research
- History of innovation

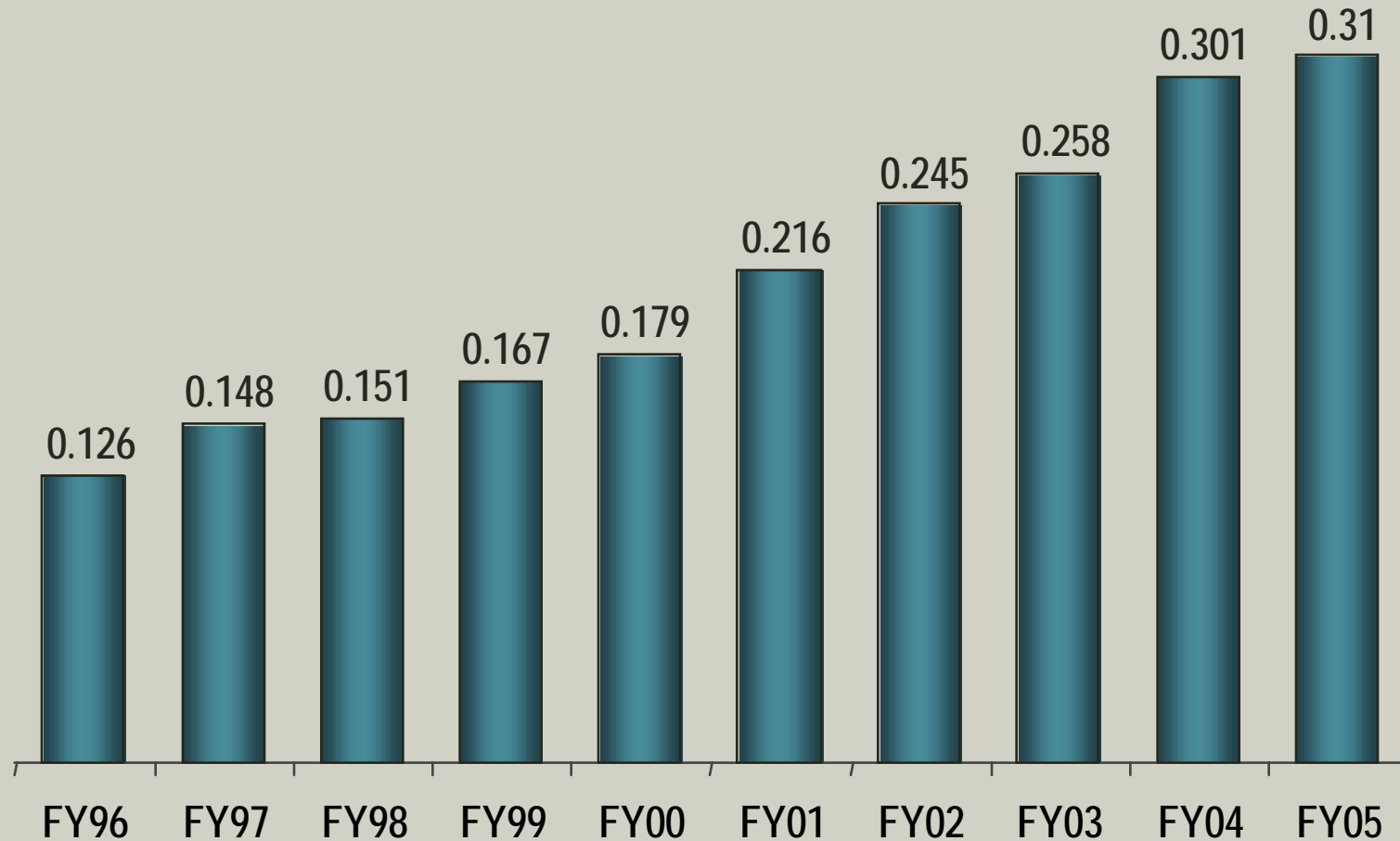


Operating Improvements Have Increased Axle Loads



Employee Productivity Tripled in the Past 10 Years

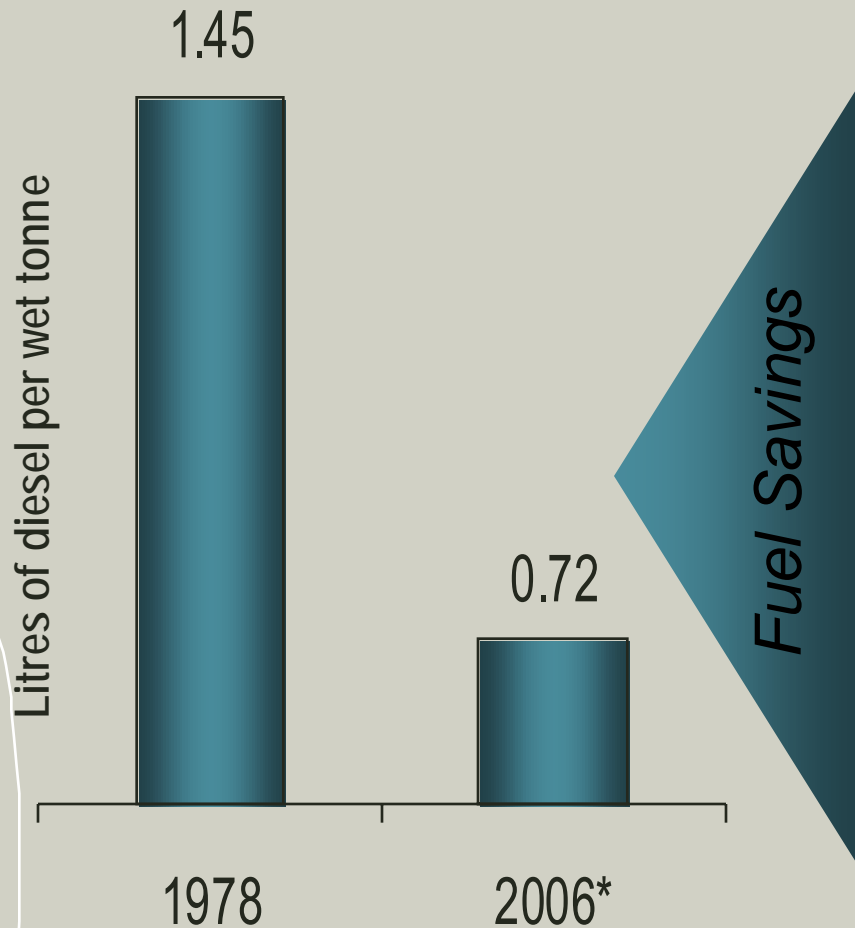
Million Tonnes Railed Per Employee



Increasing Operational Flexibility – Rail Sequencing Project

- Implemented in November 2005
- Sequentially-based dispatching method that allows trains to depart as soon as they are made up after dumping
- The sequence of destinations reflects the required blend ratio for the business (including satellite orebodies)
- Computer modeling indicated sequentially based dispatching increases productivity by around 3.5%
- Improvements have been consistently delivered around this mark

Environment & Efficiency Improvements



* Q3 FY06

Contributing Factors

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

World's Longest and Heaviest Train

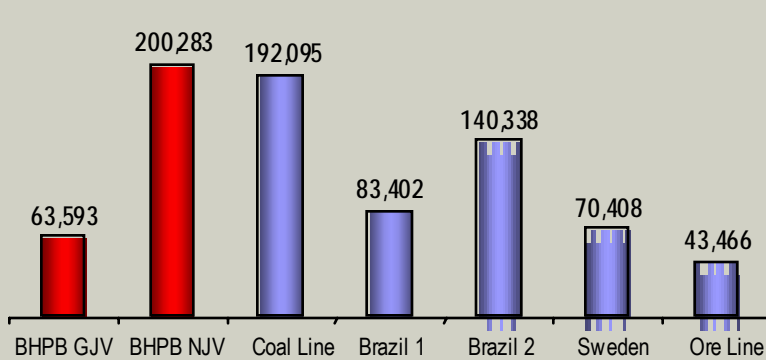
- 682 wagons = 7.353kms
- eight GE AC6000 locomotives
- 99,732 gross tonnes
- 82,262.5 tonnes of iron ore
- distributed power / 5 locations
- single driver



BHP Billiton Rail Lines - Among the Best in the World

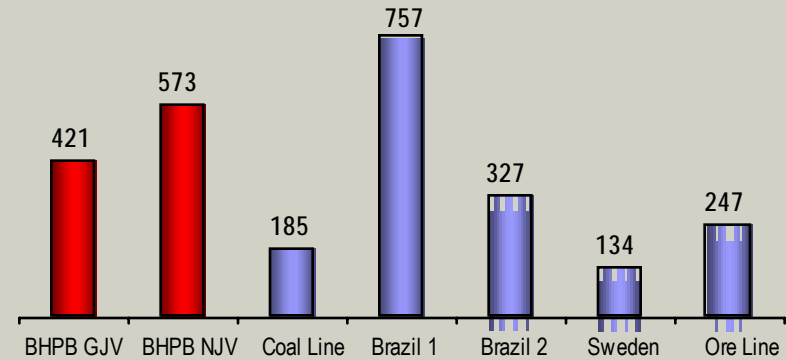
Track Productivity

Gross Tonne Railed per Route Km



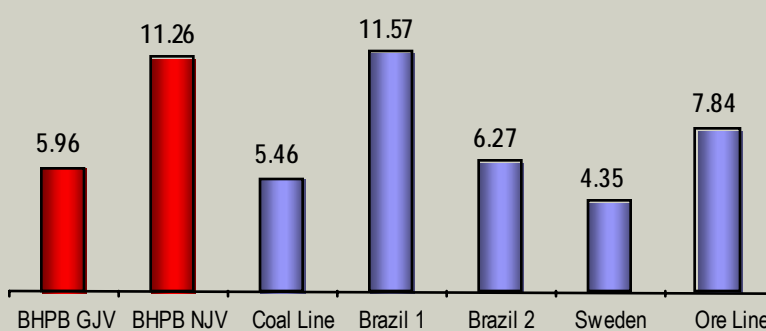
Locomotive Productivity

Million Net Tonne-Kilometres / Loco / Year



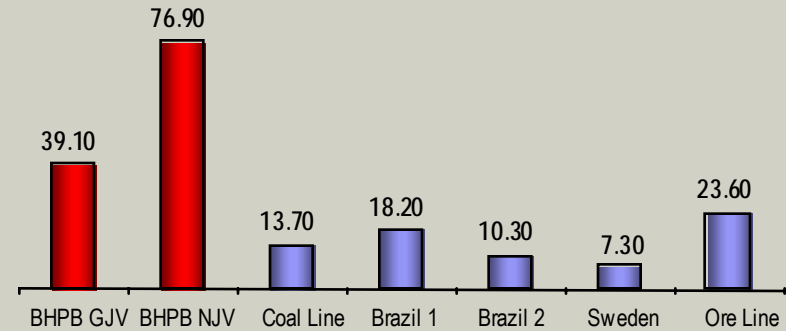
Wagon Productivity

Million Net Tonne-Kilometres / Wagon / Year



Labour Productivity (Including Contractors)

Million Net Tonne-Kilometres / Person / Year



Source: BHP Billiton, P.L. Ross Consultants Ltd

Current Train Operations

Newman Line

- Up to 14 trains per day to port & same back to mines (pass via sidings)
- 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



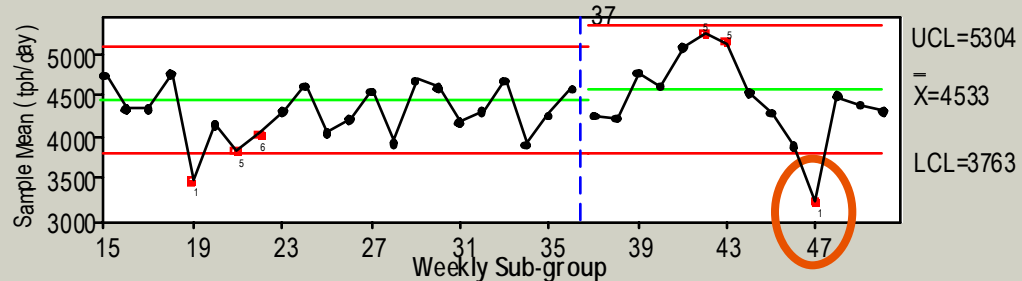
Goldsworthy Line

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

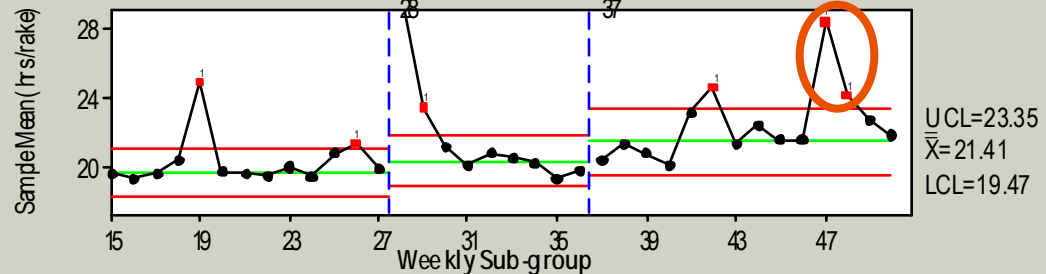
Operational Delays Flow Through Entire System

- Delay at Port Hedland
- Increased rail cycle time
- Less trains arrive at mines
- Full stockpiles
- Lower mine production

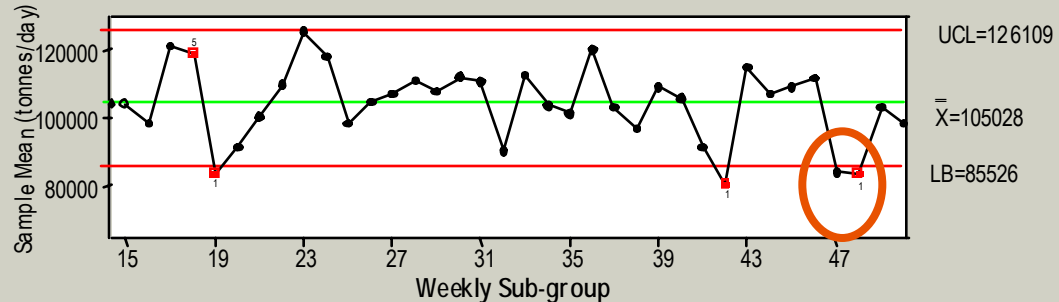
Xbar-R Chart of Dumper Effectiveness by Group



Xbar - R Chart of Rake trip Time by Group



Xbar-R Chart of NJV ROM Production (OFR)



Infrastructure Access – Key Issue for Continued Growth

- The integrity of our rail network is vital to the efficient operation and expansion of one of the country's leading export industries;
- Track access (ie: Part IIIA imposed) is inefficient due to:
 - Loss of operational flexibility
 - Decreased rail & system capacity
 - Delays to future expansions
- And will result in:
 - Very high access charges
 - Subsidies from BHP Billiton
 - Reduced investment incentives
- Better solutions exist (safer & far more efficient):
 - Haulage agreements (ie: State Based RTA)
 - Mine gate sales
- We strongly believe in our position and will continue to vigorously defend it.



Port Hedland

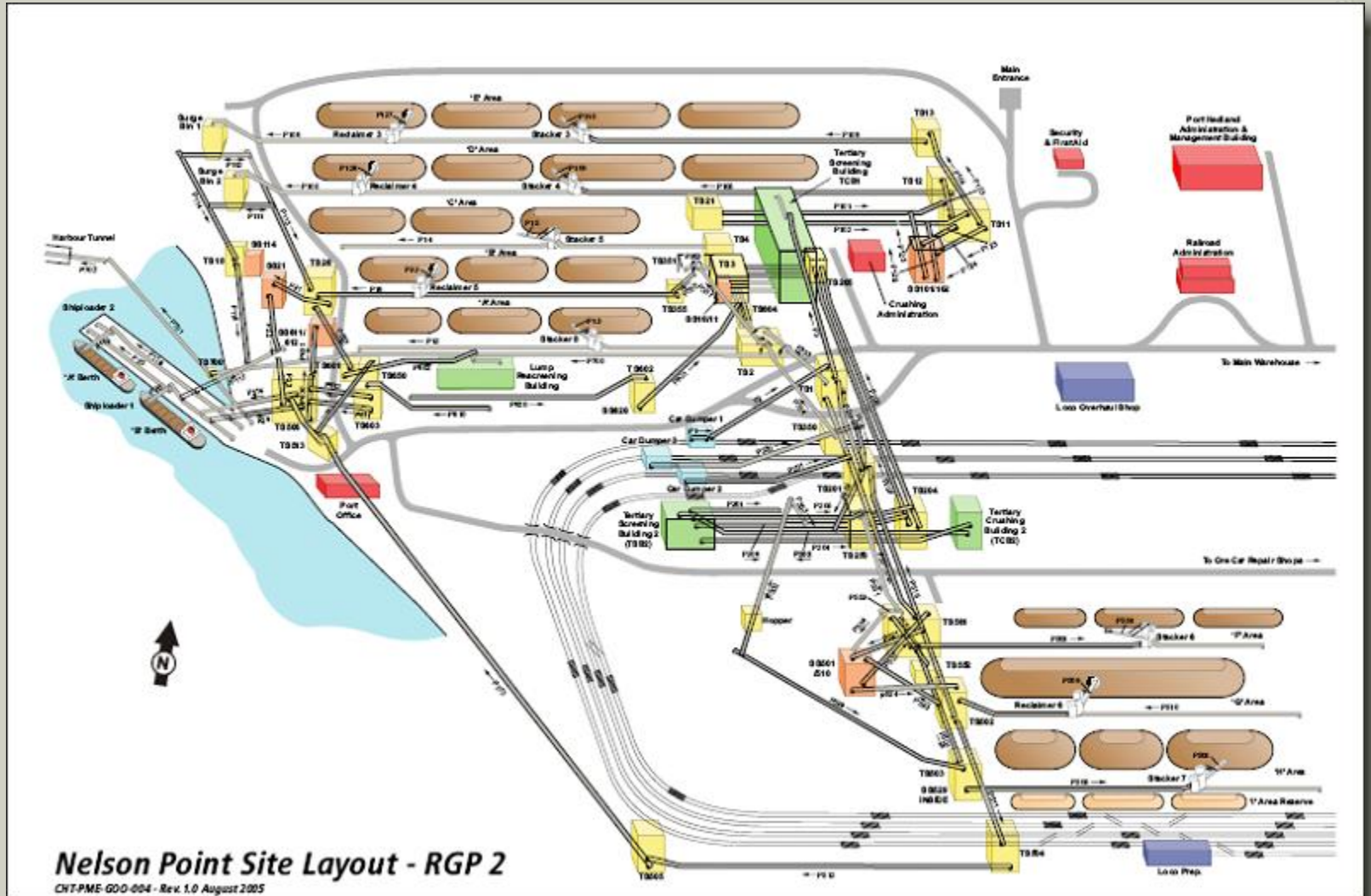


Port Operations Overview

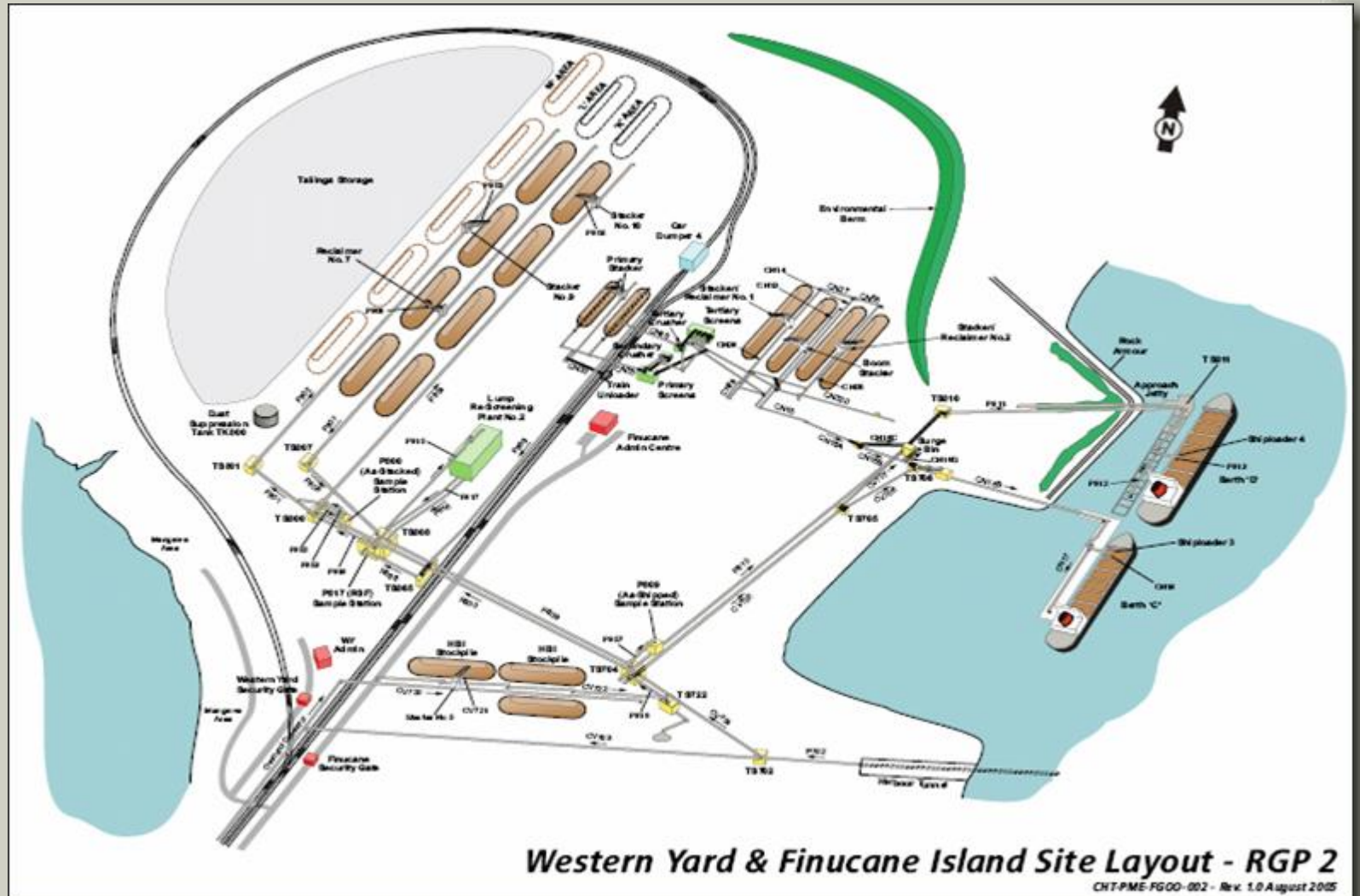
- Nelson Point & Finucane Island
- 365 days per year operation
- Crushing, screening & blending
- Plan is for four ports (2 x Nelson Point and 2 x Finucane Island) with stockyard dedicated to each
- Average maximum sailing draft (MSD) 17.94m
- A dynamic underkeel clearance program (DUKC) is utilised to calculate vessel maximum sailing draughts
- Port is serviced by 7 tugs (5 X 50 tonne & 2 X 65 bollard pull)



Nelson Point Site Layout

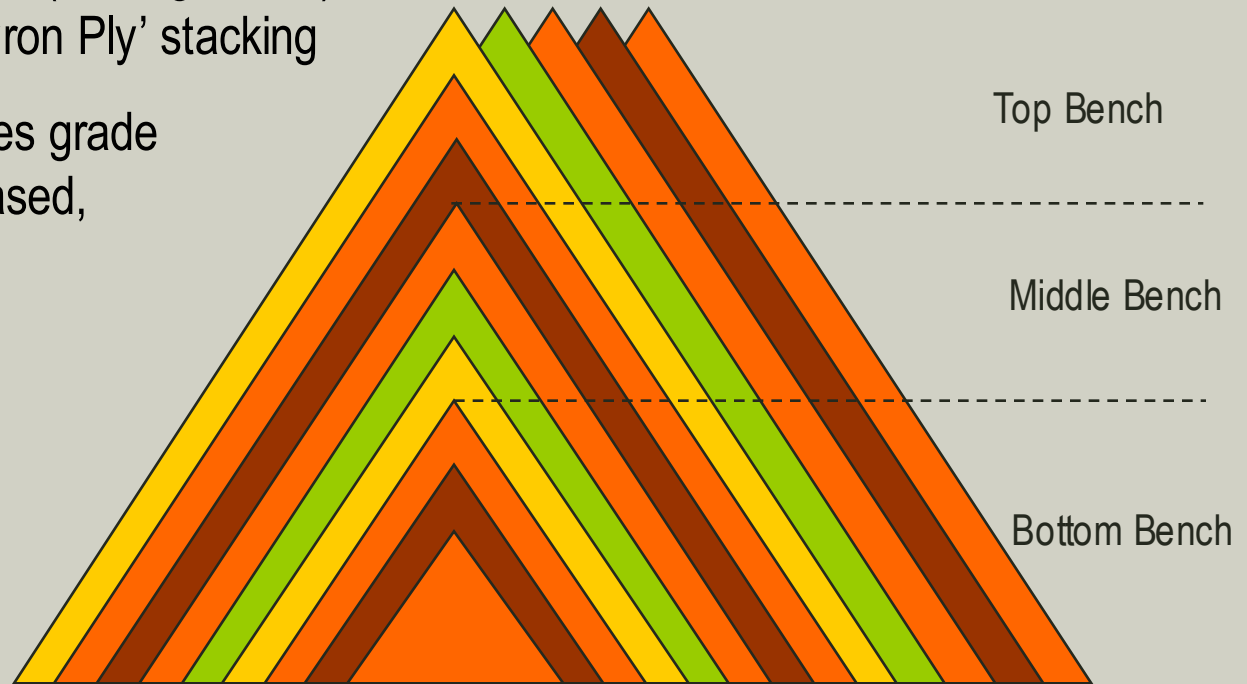


Finucane Island Site Layout



Stockpiling – Key to On-Grade Production

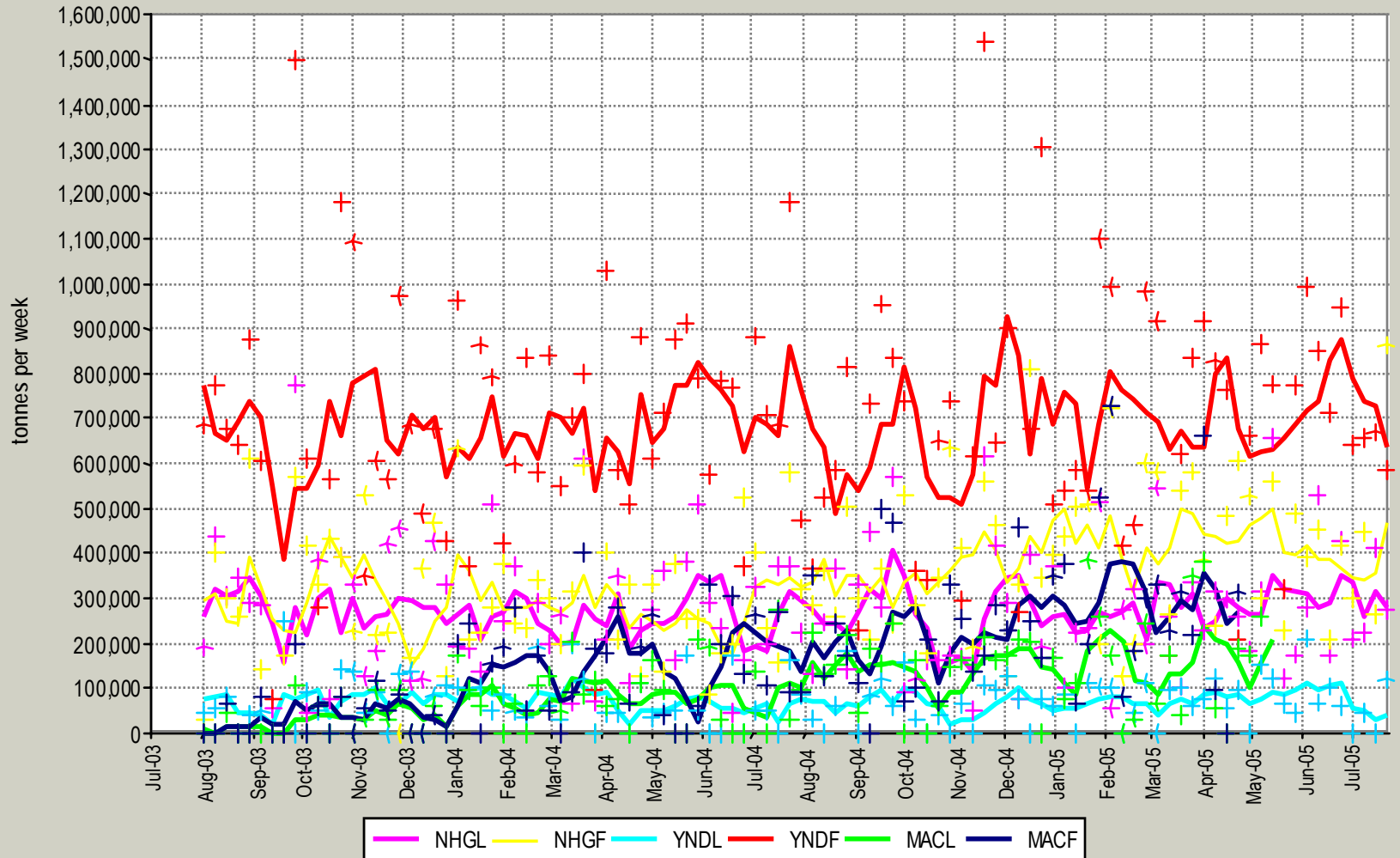
- Stockpiles are blended (homogenised) as they are built – ‘Chevron Ply’ stacking
- Homogenising ensures grade deviations are decreased, compared to original ore stream
- Crucial to producing on-grade products



Typical stockpile cross-section, showing the chevron ply pattern. Taking a cross-section when the stockpile is reclaimed yields a composition that is close to the average for the whole stockpile.

Demand for Products is Dynamic...

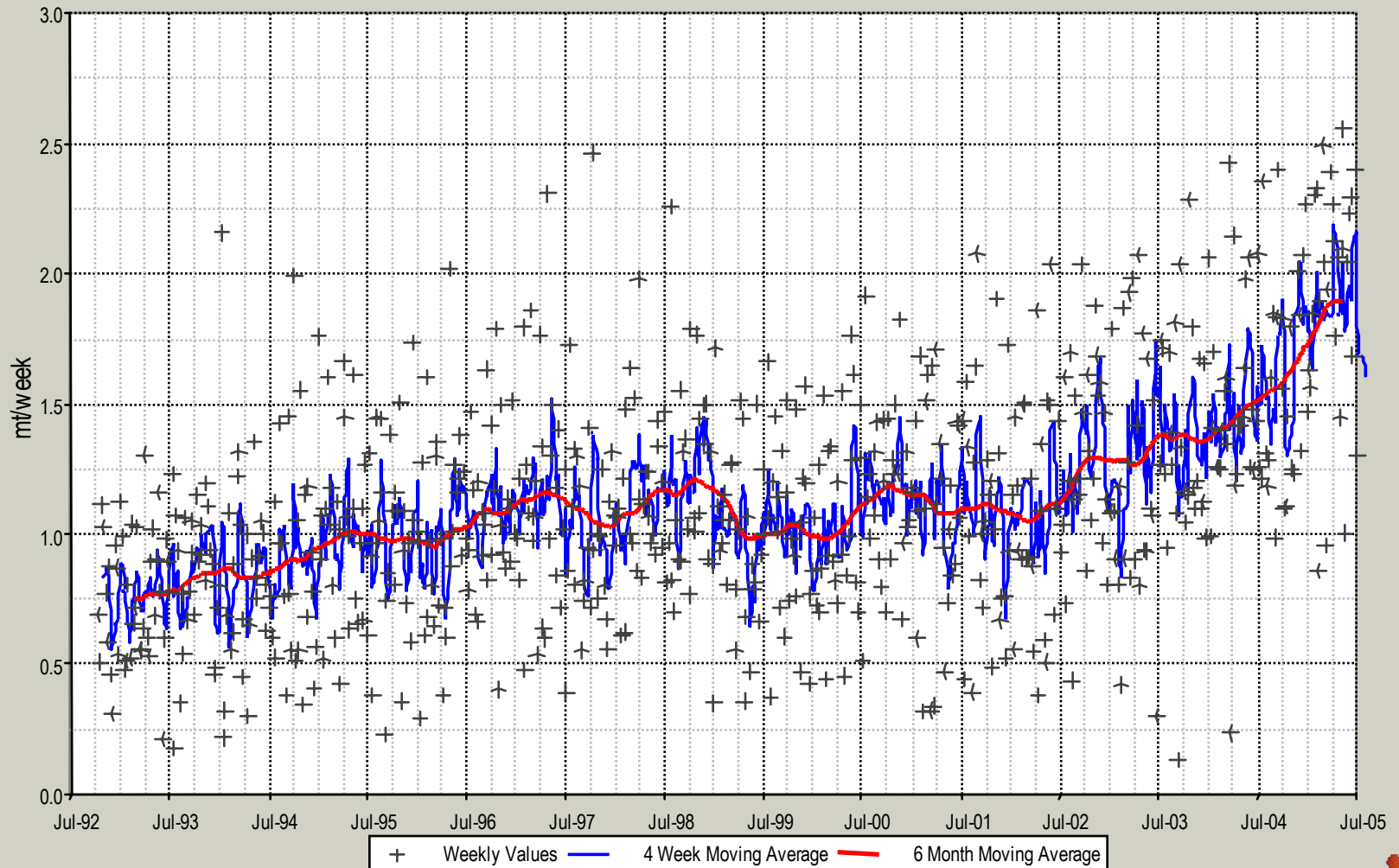
Demand Variability by Product
Weekly values and 4 weekly moving averages of vessel arrivals



...and Has Always Been

Demand Variability

Weekly values, 4 weekly and 6 monthly moving averages of sum of all products on vessel arrivals

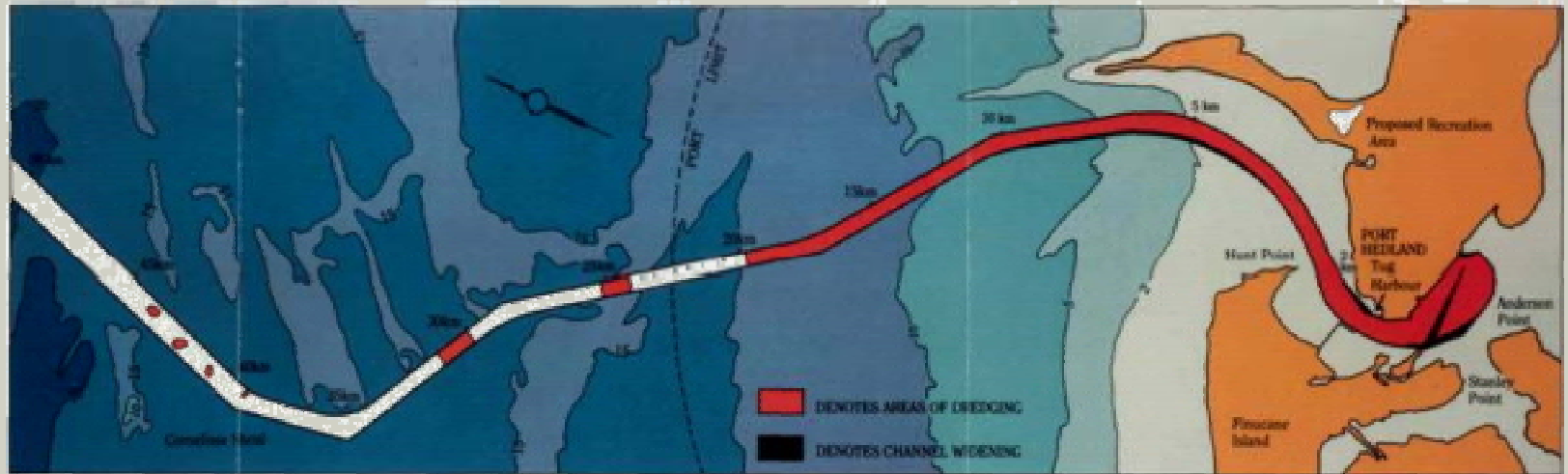


Port Hedland Shipping

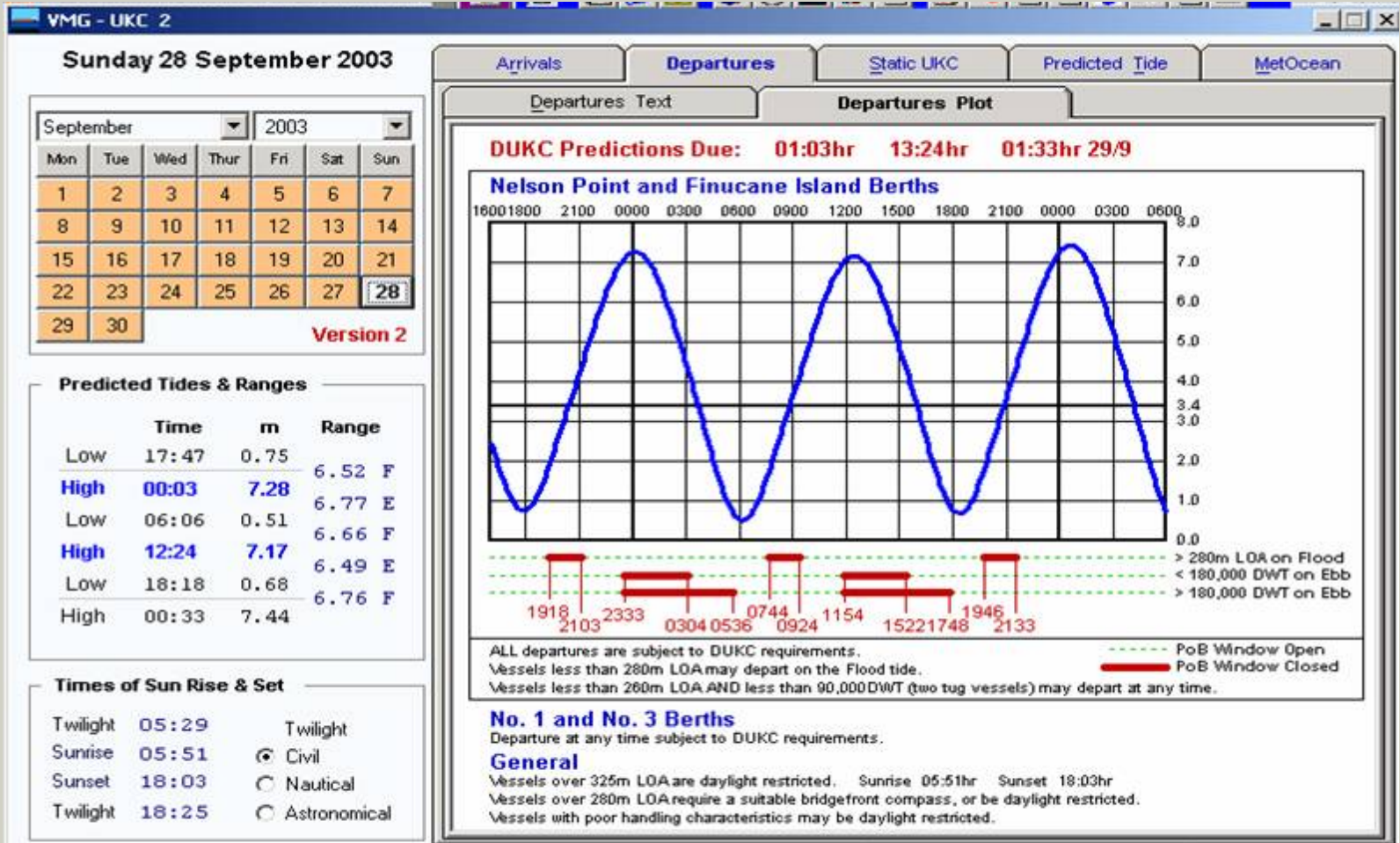
- Entry to port by inwards route located to the East of main channel
- Exit from port by 43kms marked dredged channel
- Parameters affecting vessel movements:
 - Under keel clearance
 - Vessel handling
 - Tides
- Target gross loading rate 5,850 tph
- Target turn around time 85 hours



Port Hedland Channel Overview



Vessel Movements - Limited Windows of Opportunity



Developing Partnerships to Enhance Port Hedland

- Expect to invest more than A\$100 million in the Pilbara over next decade – based on internationally recognised social research
- Service Delivery:
 - Developed MOUs with WA Government to address service issues (>A\$12 million)
- Local Infrastructure:
 - Greening & cultural/tourism developments
 - A\$3 million to improve local infrastructure, ie: playgrounds, parks, footpaths, etc (in addition to A\$4.5 million for coastal upgrades)
- Alternative Economic Development & Capacity Building:
 - Indigenous arts skills program – developing retail businesses and export opportunities
 - Curtin University campus in Port Hedland



The End Product



225,000 tonne ore carrier leaving Port Hedland



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