

People. Innovation. Performance.



Applying a human factors lens to vehicle interactions



Forward looking statements



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Additional Information

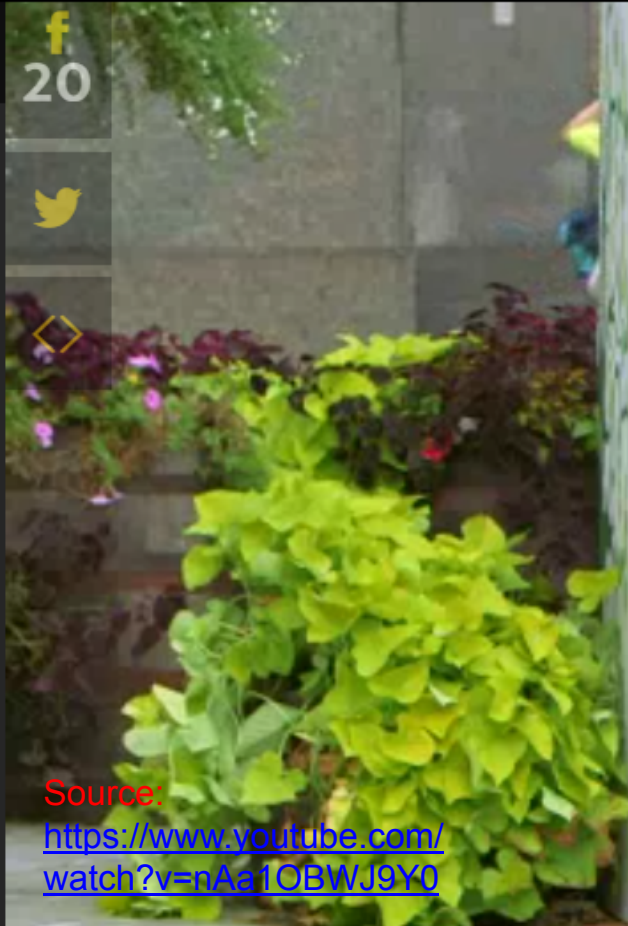
This presentation should be read in conjunction with the Annual Report at 30 June 2016 together with any announcements made by Fortescue in accordance with its continuous disclosure obligations arising under the Corporations Act 2001.

Any references to reserve and resources estimations should be read in conjunction with Fortescue's Ore Reserves and Mineral Resources statement for its Hematite and Magnetite projects at 30 June 2016 as released to the Australian Securities Exchange on 19 August 2016, and ASX releases dated 20 May 2014 and 8 January 2015 as they relate to Hematite Mineral Resources Development Properties. Fortescue confirms in the subsequent public report that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and, in the case of estimates of mineral resources or ore reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

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TAKE THE MONEY... AND RUN?



f
20



Source:
<https://www.youtube.com/watch?v=nAa1OBWJ9Y0>




FREE MONEY!




natgeotv.com

TAKE THE MONEY... AND RUN?

 2

Cloudbreak



Snapshot

40mtpa

Ore tonnes mined

123

Heavy vehicles in the pit

Diversity

21% female, 20% aboriginal
(mining)

1400

Headcount - 550 in mining

20km

Longest haul route



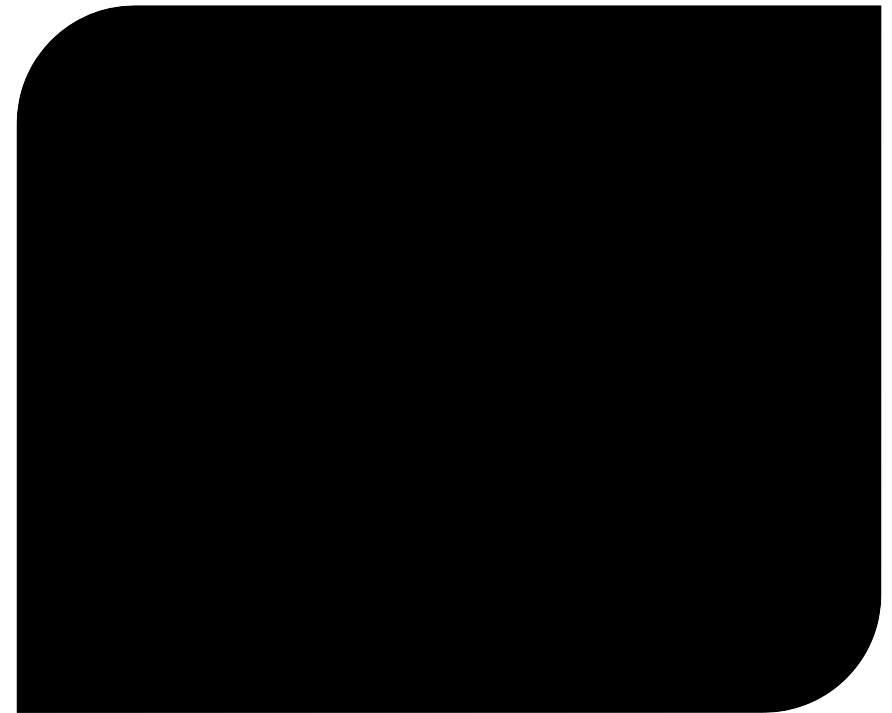
Cloudbreak Mine Site



Hierarchy road rules



- **Priority** levels 1 - 4
- **Reduce** LV – HV **interaction**
- HV **Efficiency** increase
- CME Safety **award finalist**



Video:Hierarchy Road Rules Priority vehicles

Right of way

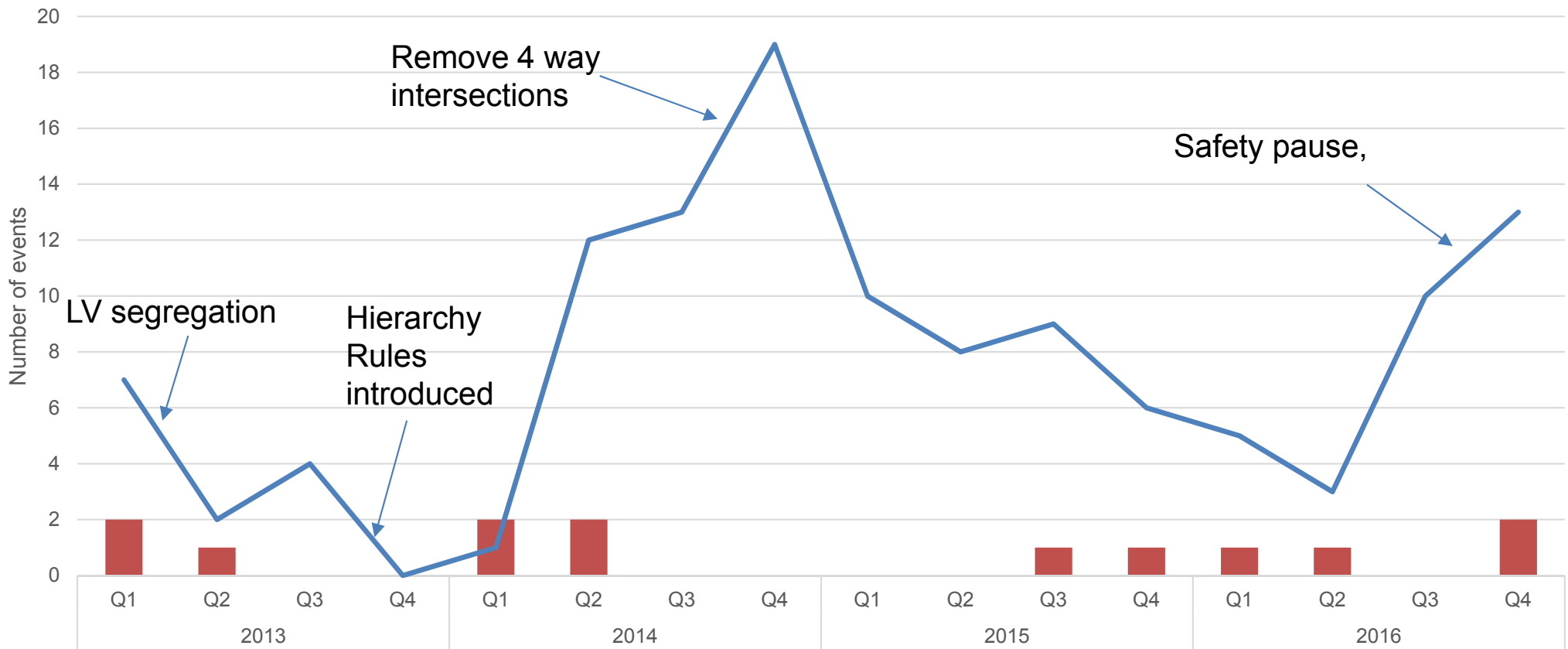
Fundamentally different in hierarchy road rules



Vehicle Interactions Events



Cloudbreak Journey





Safety Pause - intervention

- 7 near misses in a week
- 24hrs: production halted
- Asking the question “*how can we reduce vehicle interactions*”
- 16 working groups – all involved
- 105 items raised = 74 actions
- VIIP – Vehicle interaction Improvement Plan

Safety Pause Themes



Human Factors Lens - 105 ideas, 16 working groups



Safety Culture: Leadership engagement



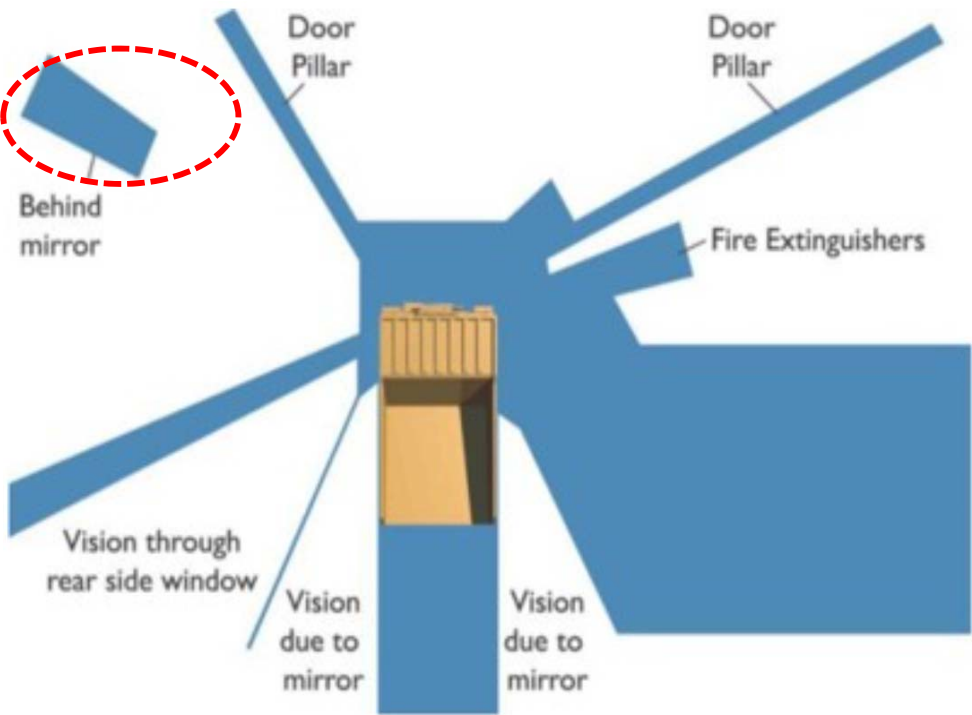
Vehicle Interaction Improvement Plan (VIIP)

- Leaders **spending time** in trucks
- Employee **feedback daily**
- Supervisor pit reviews – interaction focus
- Engaged an operational **Hierarchy champion!**



Designing for people: Reduce blind spots

Extensive trials of mirror positioning for better visibility



Before



After



Training and competence: effective training



Used go-pros to build interactive simulators instead of paper training



Safety critical communication: more 'eyes on road' time



Pre-programmed channels and standardised buttons



Designing for people: increased visibility of DTs at night



Project is evolving in response to feedback



Deep dive analysis of incidents



No trends in:

- Day/night
- Time into shift
- Gender
- Experience

Trends:

- 72% occurred on the one Haulroad with 20% at 2 particular intersections



Human Factors independent review



Formal assessment using an independent expert

- Conducted **causal analysis**
- Mainly **perceptual errors**
 - Ambient **environment**
 - Human Machine **interaction**
 - **Communication** factors
 - **Personal** factors



Opportunity for improvement: Investigations



Situational awareness & performance are shaped by a number of factors

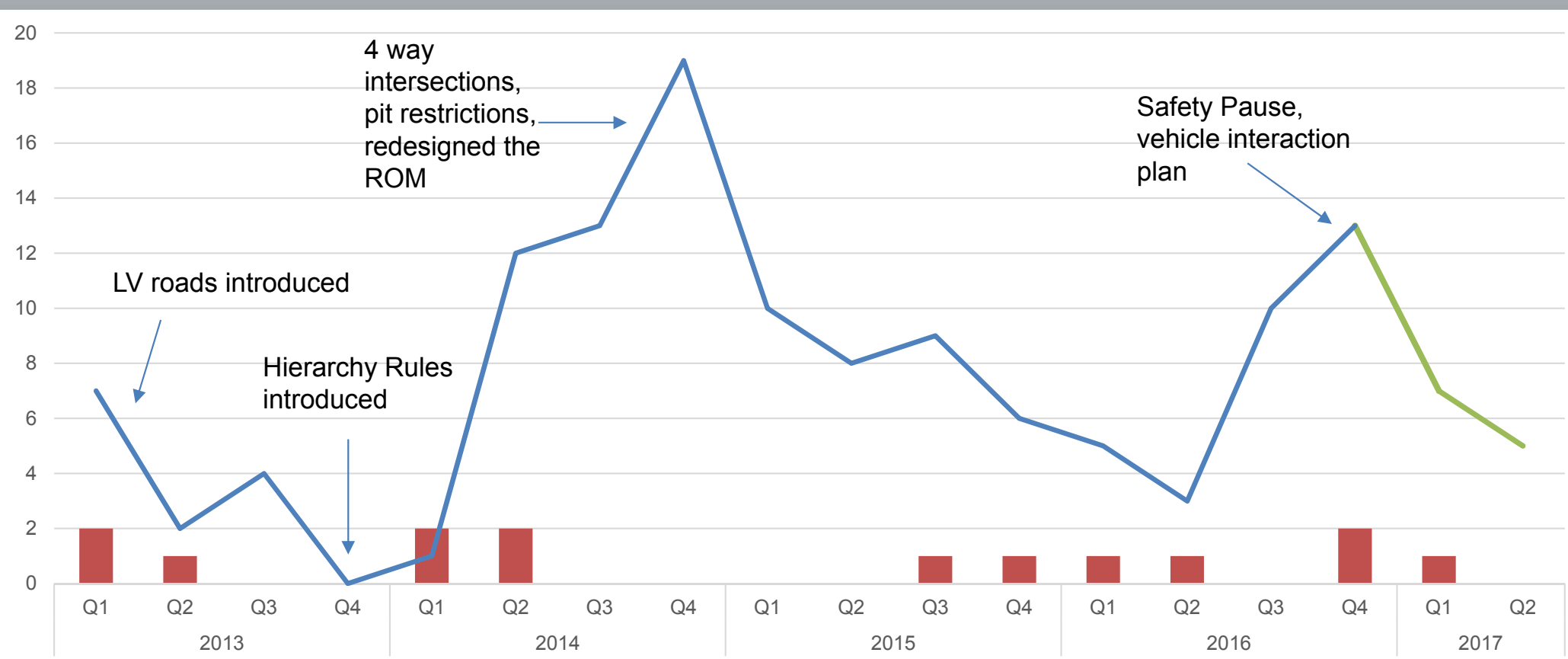


Up+Down+Around

Vehicle Interactions Events



Cloudbreak Journey



Key Learnings

- ✓ Less errors if we change **conditions** rather than **people**
- ✓ Lots of little things (1%ers)
- ✓ Additional Human Factors analysis
- ✓ Upskill leaders in human factors
- ✓ Listen to your people



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Our Vision: The safest, lowest cost, most profitable iron ore producer



Safety



Family



Integrity



Determination



Enthusiasm



**Set yourself
stretch targets**



Empowerment



Generating ideas



Frugality



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