



## Mechanised Mining in South African Gold and Platinum Mines

# Talking points

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Vision and strategy

Tactics

Implementation

History

Gold Mines today

JCI

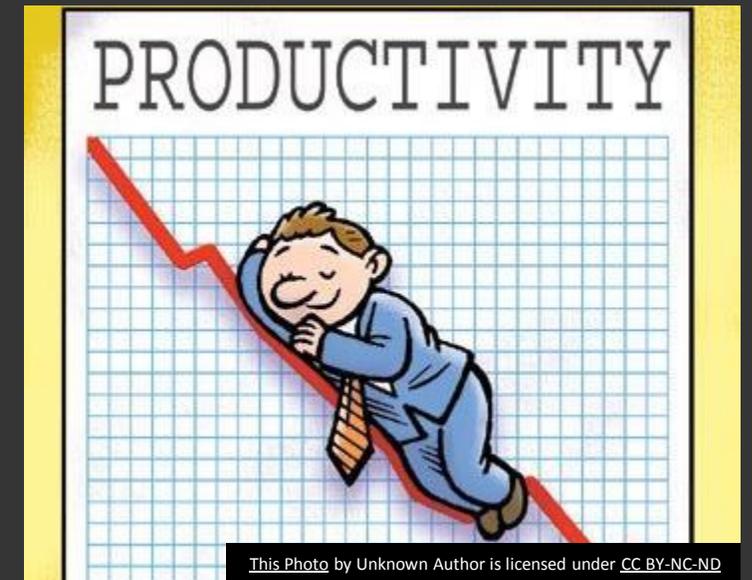
Anglovaal

Lonmin

Zimplats

# Vision and strategy

- Safety
- Productivity
- Rock Drill Operators
- Cost curve



# Tactics

- Orebody dependent
- Observe best practice
- Re-design infrastructure
- Re-design organisation
- Involve everybody
- Pick the right team!



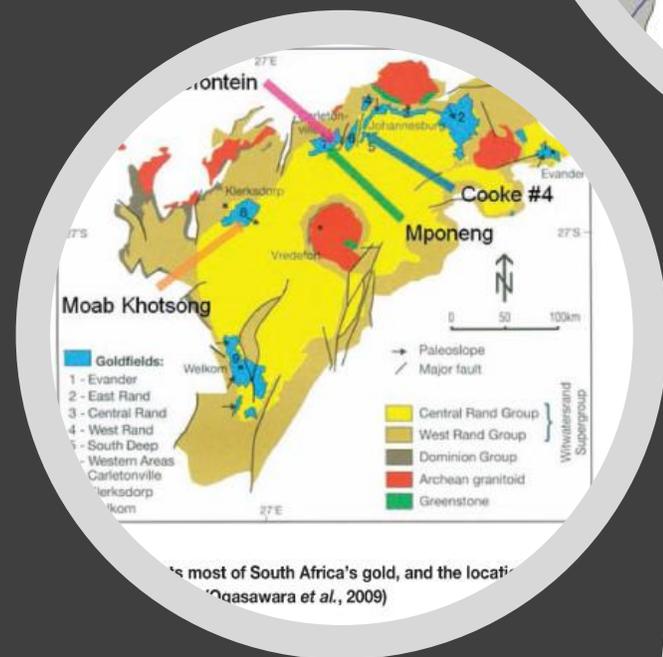
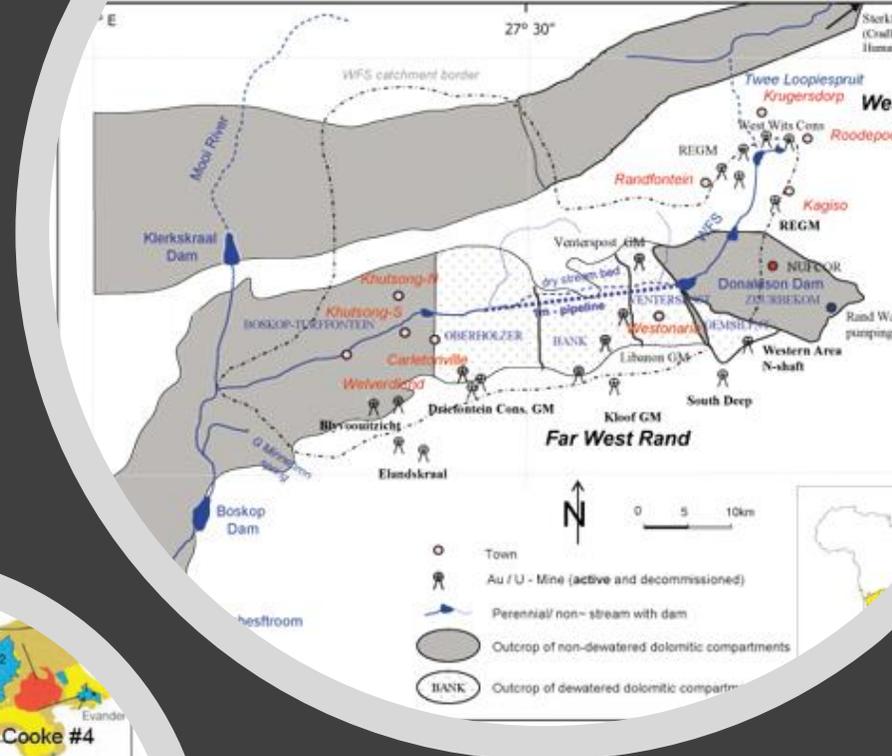
# Implementation

- Resolve
- Whole team on board
- Adaptable to change
- Right incentives



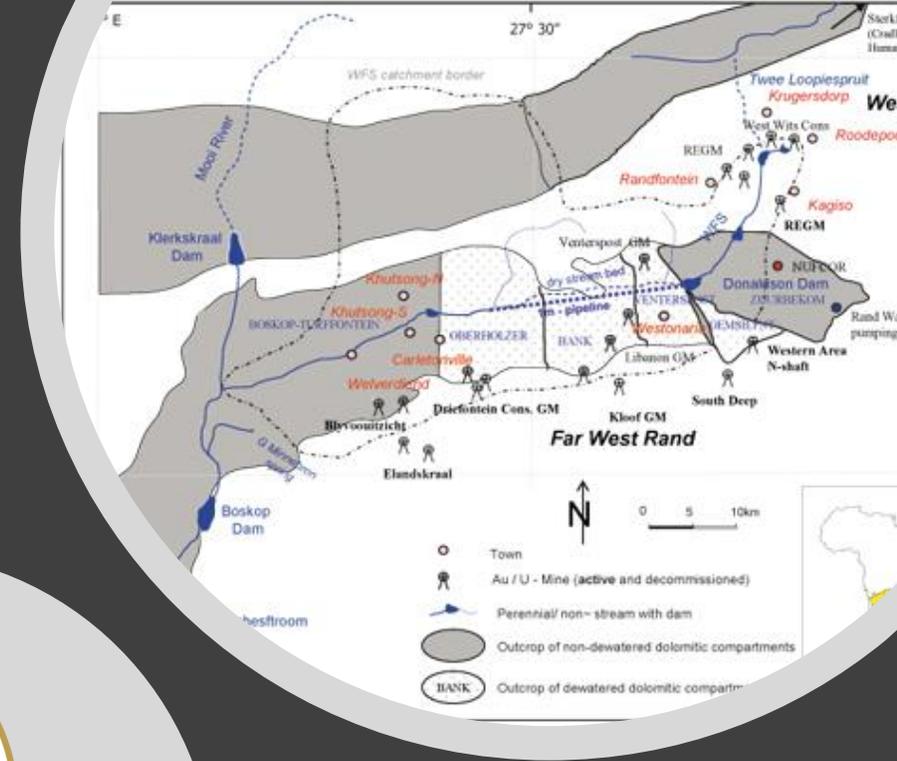
# JCI

- Western Areas
- Randfontein estates
- HJ Joel
- South Deep



# JCI

- Mandate from the top
- Adapted to existing Infrastructure
- No organizational restructure
- Picked the wrong team!





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ANGLOVAAL MINING  
**AMM**

### PRECIOUS METALS - Target

- Life of mine increased to 18 years
- Learning curve over last 12 months:
  - Size of massive stopes reduced
  - Configuration of excavation roofs changed
  - Draw-points spaced further apart – stability of pillars
  - New 'slots' outside abutment stresses established
- Exceeding plans

# Anglovaal Avmin

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- Vision Gerry Robbertze
- Observed best practice
- Redesigned infrastructure
- Re-designed organisation
- Changed the mind set
- Applied the right incentives
- Resolve!

# Lonmin

- Brad Mills had the vision
- Re designed infrastructure
- Observed best practice
- Spent money on research
  
- No Alignment



the UK regulations, which now prohibit a higher offer.  
Froneman is adamant the deal is attractive for Lonmin, which he contends is not a going concern on a stand-alone basis, even at the current improved platinum prices. This is a chilling thought for shareholders who have looked on helplessly for almost two decades as successive leadership teams have destroyed the value of their investment.

The proposed deal values Lonmin at a paltry 60p a share, almost a rounding error compared with the equivalent £2,500 at which it peaked in the pre-rights issue days of 2007.

There is little in Lonmin's recent history to encourage hope of anything better. Back in the early 2000s, there was the ill-conceived multibillion-rand attempt, in defiance of geological reality, to mechanise the mine and then the high-profile ongoing failure to meet its social and community obligations, which overlapped with the appalling events of August 2012 when 34 striking miners were shot dead by police.

Throughout its history, it has been a London-based



# Zimplats

- Re-design infrastructure
- Stuck to  $< 9$  degrees
- Whole team on-board
- Seen the failure at Hartley/BHP
- Resolve
- Right team



“The definition of insanity is doing the same thing over and over again, but expecting different results.”

– Albert Einstein

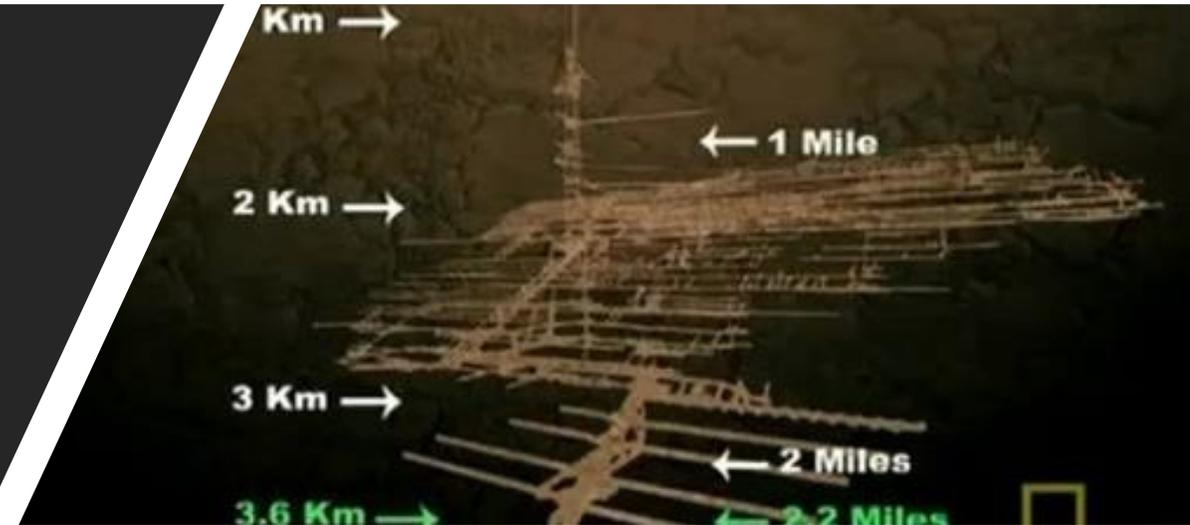
@sabguthrie

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Deep Level Gold Mines  
in South Africa

# Gold Mines today

- Increasing depth
- Increased temperature
- Reduced extraction
- Long travelling times
- Compliance creep
- High rate of absenteeism
- Increase in power costs
- No investment
- Out of design!!



## Gold Mines Today

- Productivity down wages up
- Downhill since 1999
- Zero investment

Productivity (units produced/labour)

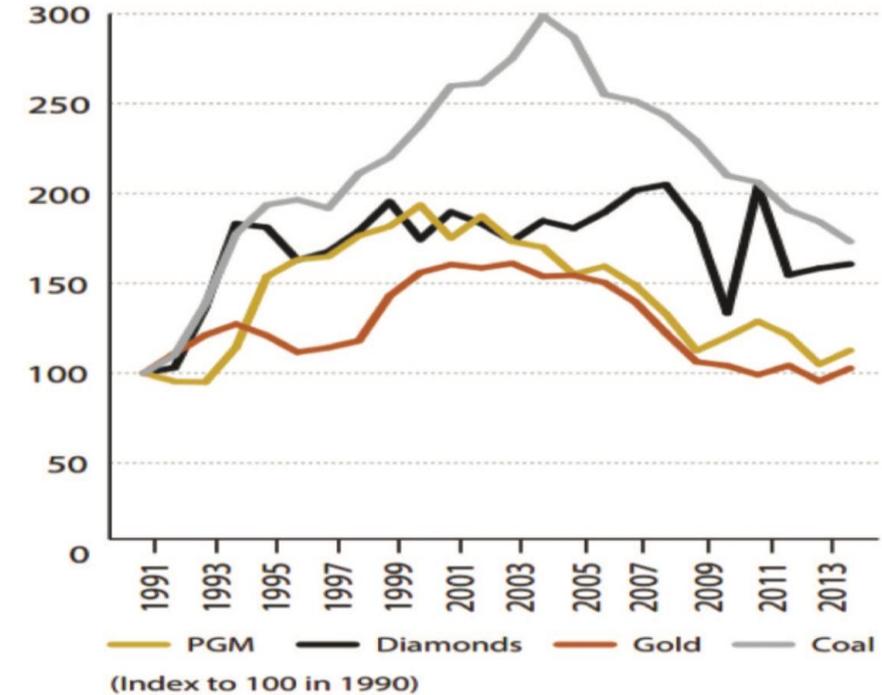


Figure 10—Labour productivity in the South African mining industry (COMSA, 2014)

Fig

producers are making profits, largely thanks to the high palladium and rhodium prices, but prices for platinum, which generally makes up 60% of production, remain stubbornly stuck at about \$800/oz.

Coupled with electricity prices rising 30% in the next three years after a 523% increase for mining companies since 2006, and a dearth of

PLEASE TURN OFF  
LIGHTS WHEN  
LEAVING

Thank You

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# So what now?

So what now??

Realisation by all stakeholders;

Shared responsibility