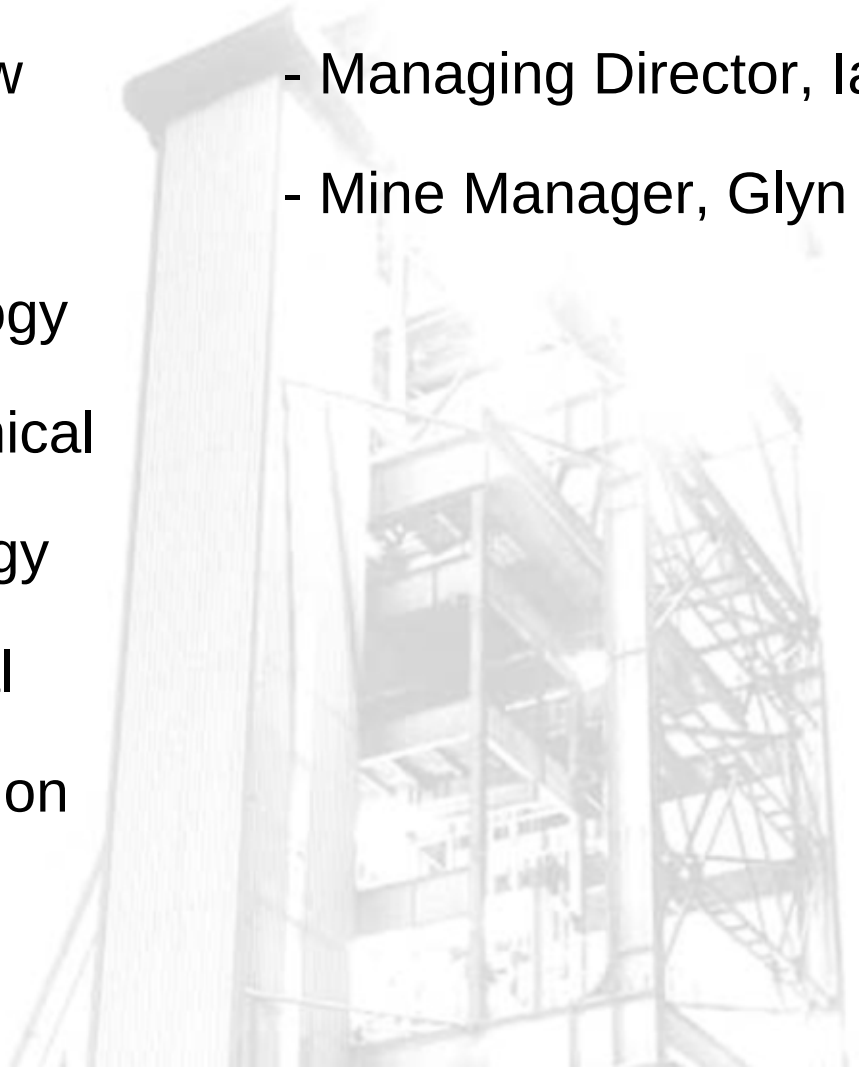
NORTHAM

Welcome to Northam

- Overview - Managing Director, Ian Watson
- Mining: - Mine Manager, Glyn Lewis
  - geology
  - technical
- Metallurgy
- Financial
- Conclusion



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Where do we come from?

- Feb 1981 - Prospect drilling started
- Jun 1986 - Shaft sinking commenced
- Jan 1993 - Official opening of mine and sale of first PGMs
- Feb 1999 - First dividend paid
- Feb 2000 - Acquisition of ground from Anglo Plats
- Aug 2000 - Mvelaphanda BEE deal
- Dec 2000 - UG2 plant commissioned
- Aug 2001 - Strike

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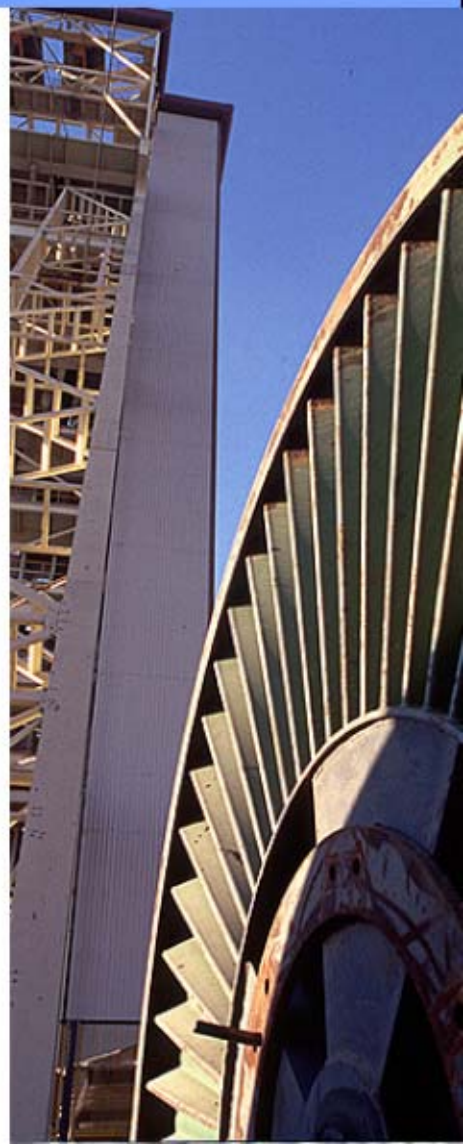
After the strike

- 2 year wage agreement
- Progress in joint forums
- Relationship building
- AIDS policy
- Housing policy



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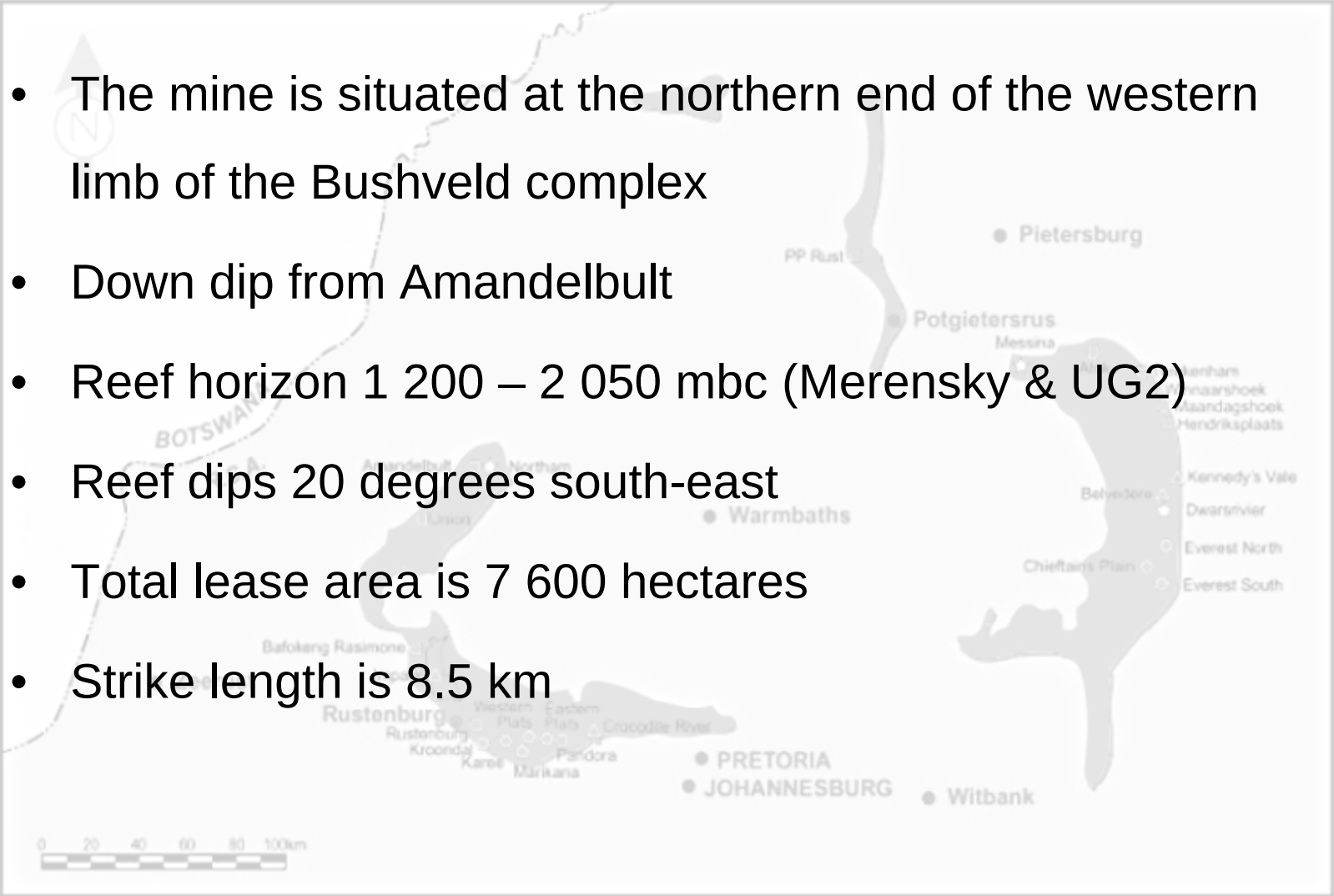
Mining location

- The mine is situated at the northern end of the western limb of the Bushveld complex
- Down dip from Amandelbult
- Reef horizon 1 200 – 2 050 mbc (Merensky & UG2)
- Reef dips 20 degrees south-east
- Total lease area is 7 600 hectares
- Strike length is 8.5 km



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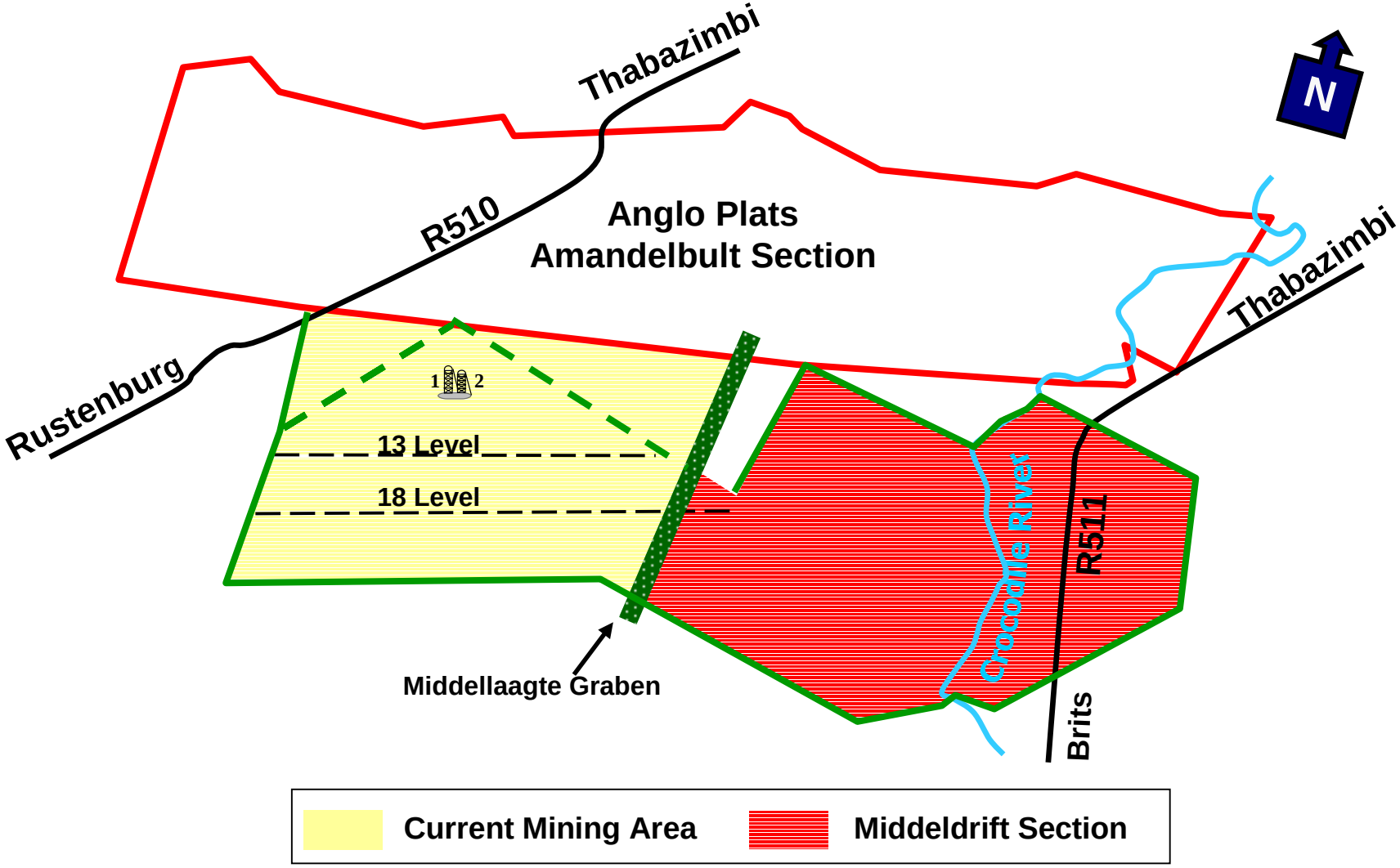
Mining authorisation area



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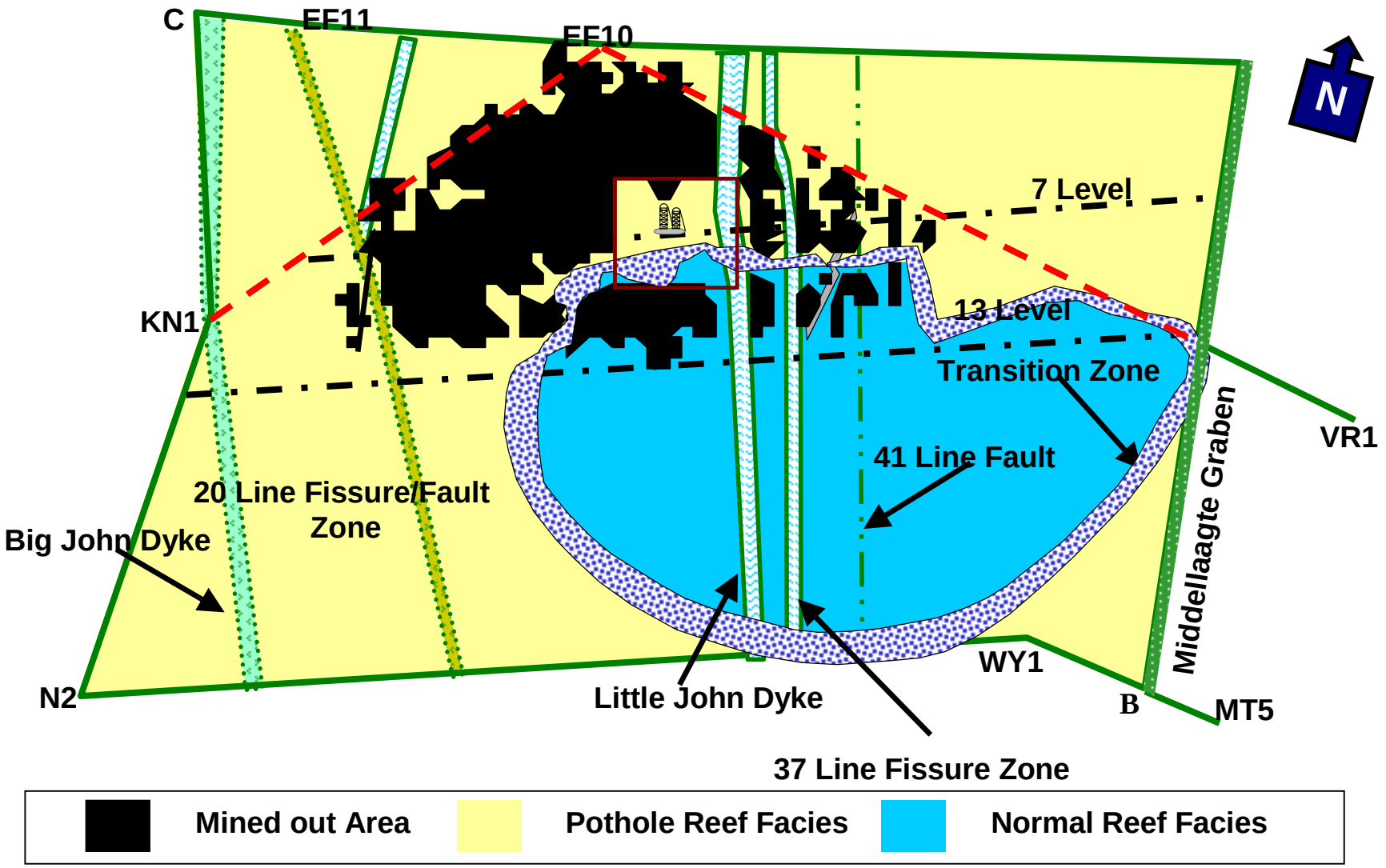
Regional geology



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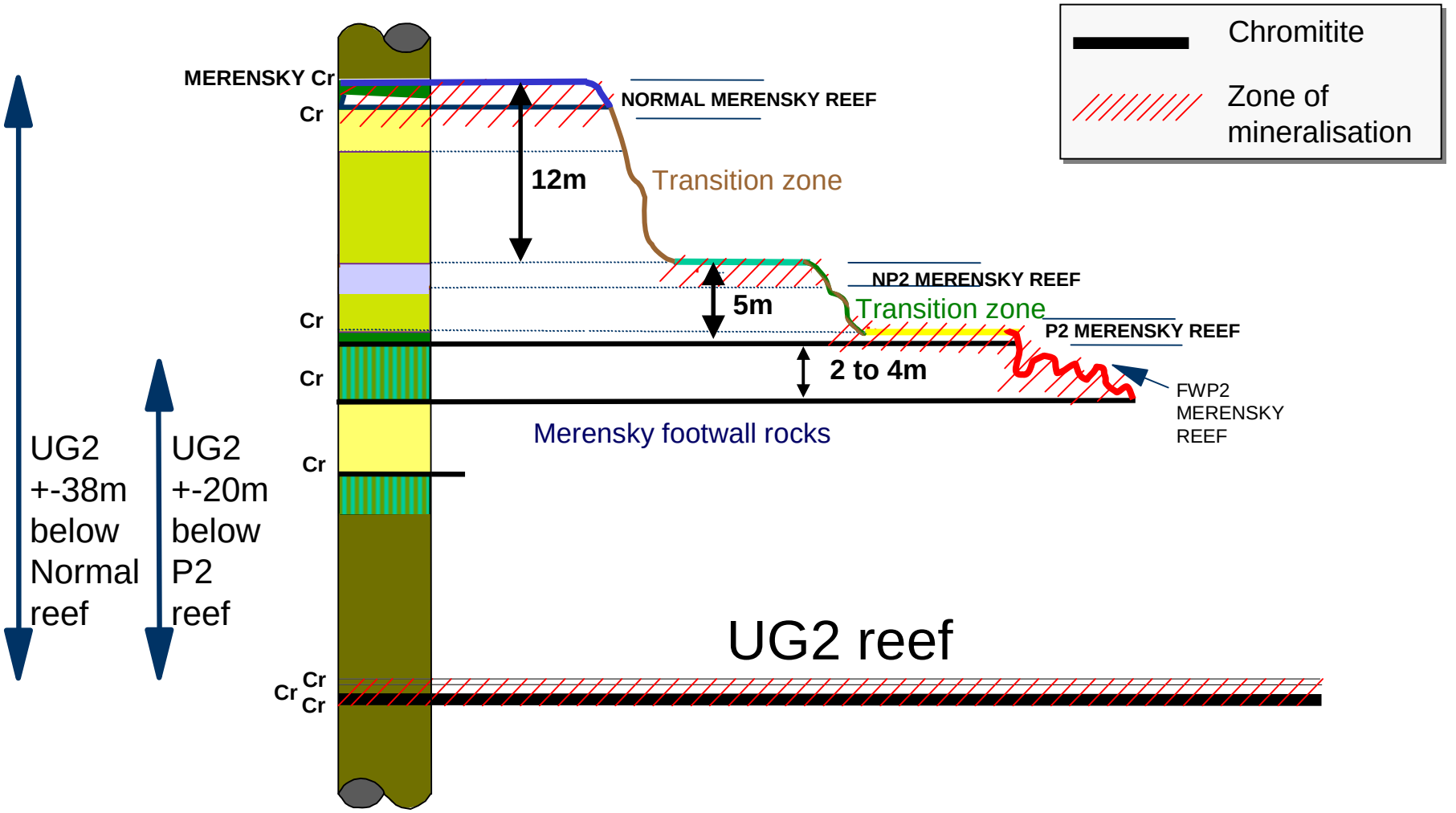
Geological section



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Merensky reef

Two main facies types:

	Current mining ratio	Comment
1. Normal reef	28%	Intermediate grade
2. Regional pothole:		
NP2 reef type	22%	Lowest grade reef
P2 reef type	41%	Highest grade reef
FWP2 reef type	4%	Generally unmineable

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UG2 reef

3 chromitite layers separated by pyroxenite

- Main member approx 80cm thick
- Leaders approx 20 cm thick separated by 15cm pyroxenite

Grade distribution

- Highest in the main members
- Lesser in the leaders
- Minor in the intermediate pyroxenite

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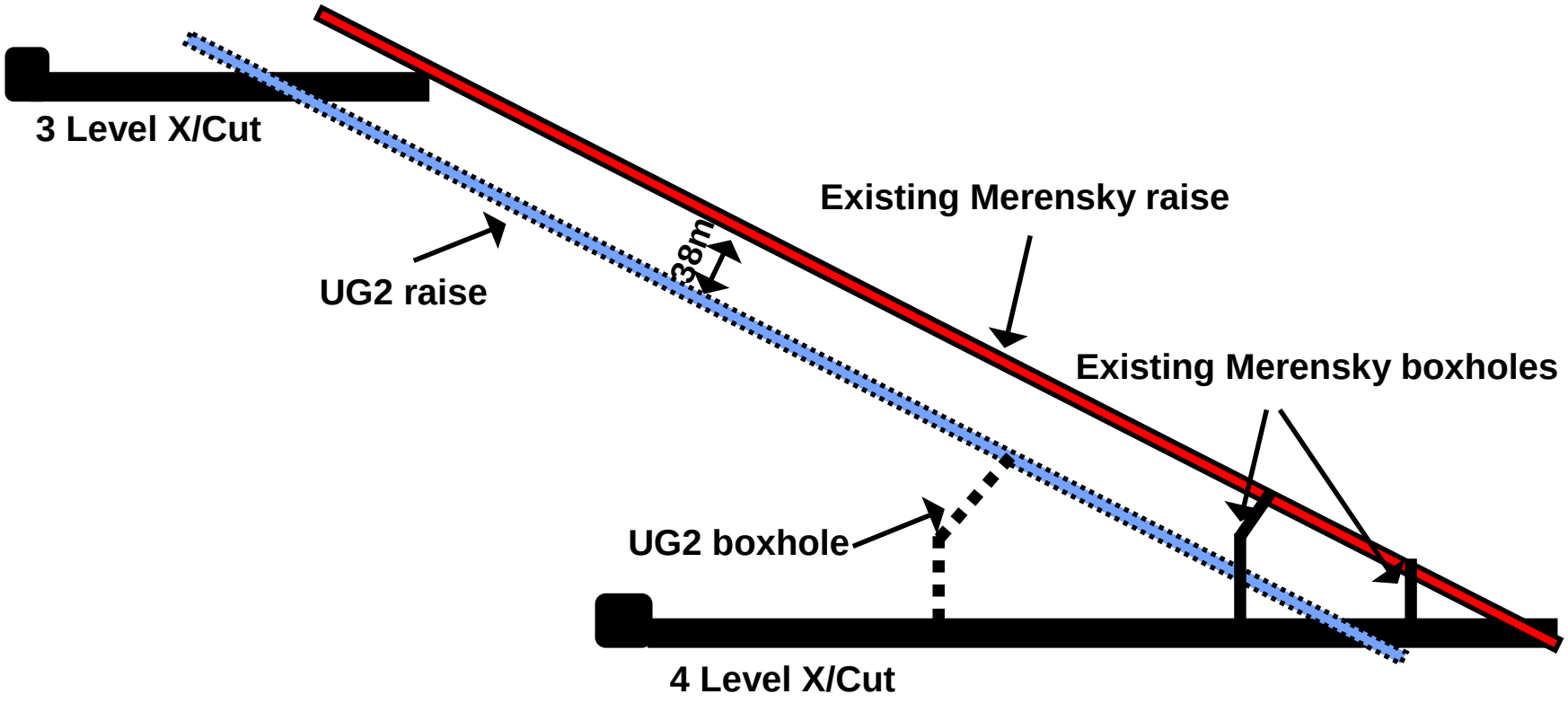
UG2 development requirements



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Typical extraction rates

Merensky

- 13% geological losses (dykes, faults)
- 73% extraction of balance (potholing)
- = 63 % total extraction

UG2

- 13% geological losses
- 68% extraction of the balance
- = 59% total extraction

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Resources and reserves

Merensky Reef

Mineral Reserves	Tonnes Mt	MHG g/t	Metal koz	Mineral Resources	Tonnes Mt	MHG g/t	Metal koz
Proved	1.6	5.8	298	*Measured*	1.4	7.6	330
Probable	36.5	5.7	6 639	*Indicated*	54.2	7.3	12 735
Total	38.1	5.7	6 937	*Total*	55.6	7.3	13 065

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Ore flow – Merensky reef

Face Tons	78 %	7.6 g/t
Transition Mining	6 %	0.0 g/t
Other Sources	4 %	1.2 g/t
On Reef Development	4 %	4.1 g/t
Tonnage Discrepancy	8 %	0.0 g/t
Total Reef Hoisted	**100 %**	**6.2 g/t**
Mine Call Factor	93 %	
Mill Head Grade		**5.8 g/t**

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Resources and reserves

UG2 Reef

Mineral Reserves	Tonnes Mt	MHG g/t	Metal koz	Mineral Resources	Tonnes Mt	MHG g/t	Metal koz
Proved	2.0	3.8	242	*Measured*	1.7	4.7	255
Probable	19.8	3.8	2 446	*Indicated*	69.3	4.7	10 548
Total	21.8	3.8	2 668	*Total*	71.0	4.7	10 803

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Ore flow – UG2 reef

Face Tons	84 %	4.7 g/t
Transition Mining	1 %	0.0 g/t
Other Sources	4 %	0.0 g/t
On Reef Development	4 %	3.3 g/t
Tonnage Discrepancy	7 %	0.0 g/t
Total Reef Hoisted	**100 %**	**4.1 g/t**
Mine Call Factor	93 %	
Mill Head Grade		**3.8 g/t**

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Geothermal gradient

- Average mining depth is 1600 mbc
- High VRT – 45˚C to 67˚C
- High ventilation requirements
  - Downcast air 770 m³/sec
  - Bulk air cooler – air in at 25˚C, out at 10˚C
  - Chilled water plant – water in at 15˚C, out at 5˚C
  - In-stope coolers

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Hydropower

- Only mine in the industry using hydropower exclusively
- Extensive R&D to develop underground equipment:
  - Rock drills
  - Drill rigs
  - Loaders
  - Roof bolters
- Benefits:
  - cooling
  - reduced noise levels
  - improved drilling efficiencies

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Rock mechanics

Deepest platinum mine in the world :

- Major faults and dykes
- Sympathetic faulting requiring bracket pillars to prevent ingress of water
- Major joint sets
- Dome fractures in hanging wall associated with reef type changes
- Distinct bed separation

Safety implications

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Support systems

Support systems include:

- Stoping
  - backfill
  - pre-stressed elongates
  - roof bolts (UG2)
  - seismic system
- Development
  - roof bolts
  - long anchors
  - wire mesh and lacing
  - wetcrete

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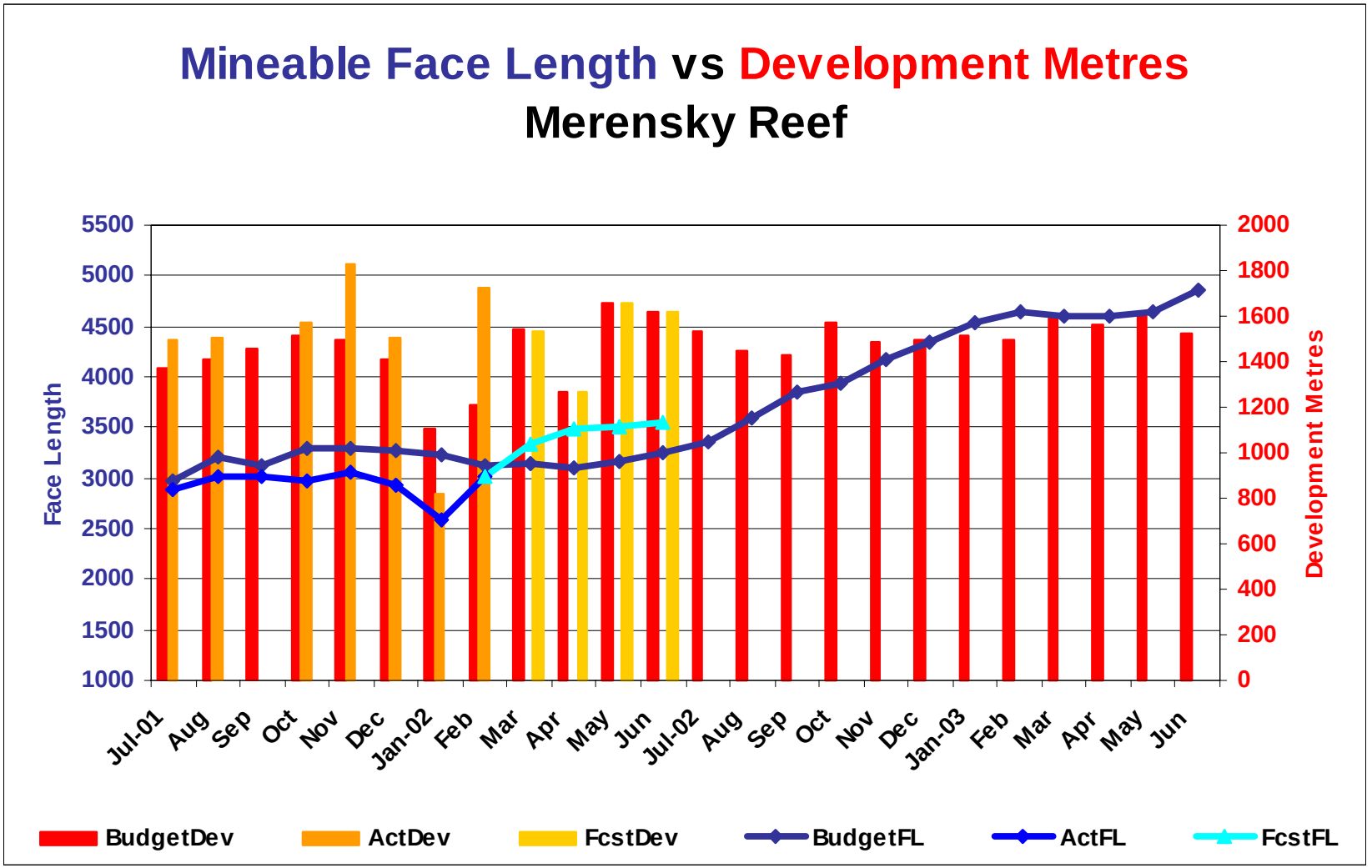
Development



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Productivity

Total Mine In Stope	Previous year	Current	% Improvement
M²/man	19.9	22.4	12.5
Tons/man	90.7	107.3	18.2
Advance per Org Unit	9.8	10.5	7.1
Normal Reef Mining			
M²/man	23.2	26.6	14.7
Tons/man	108.0	124.2	15.0
Advance per Org Unit	10.3	11.8	14.6

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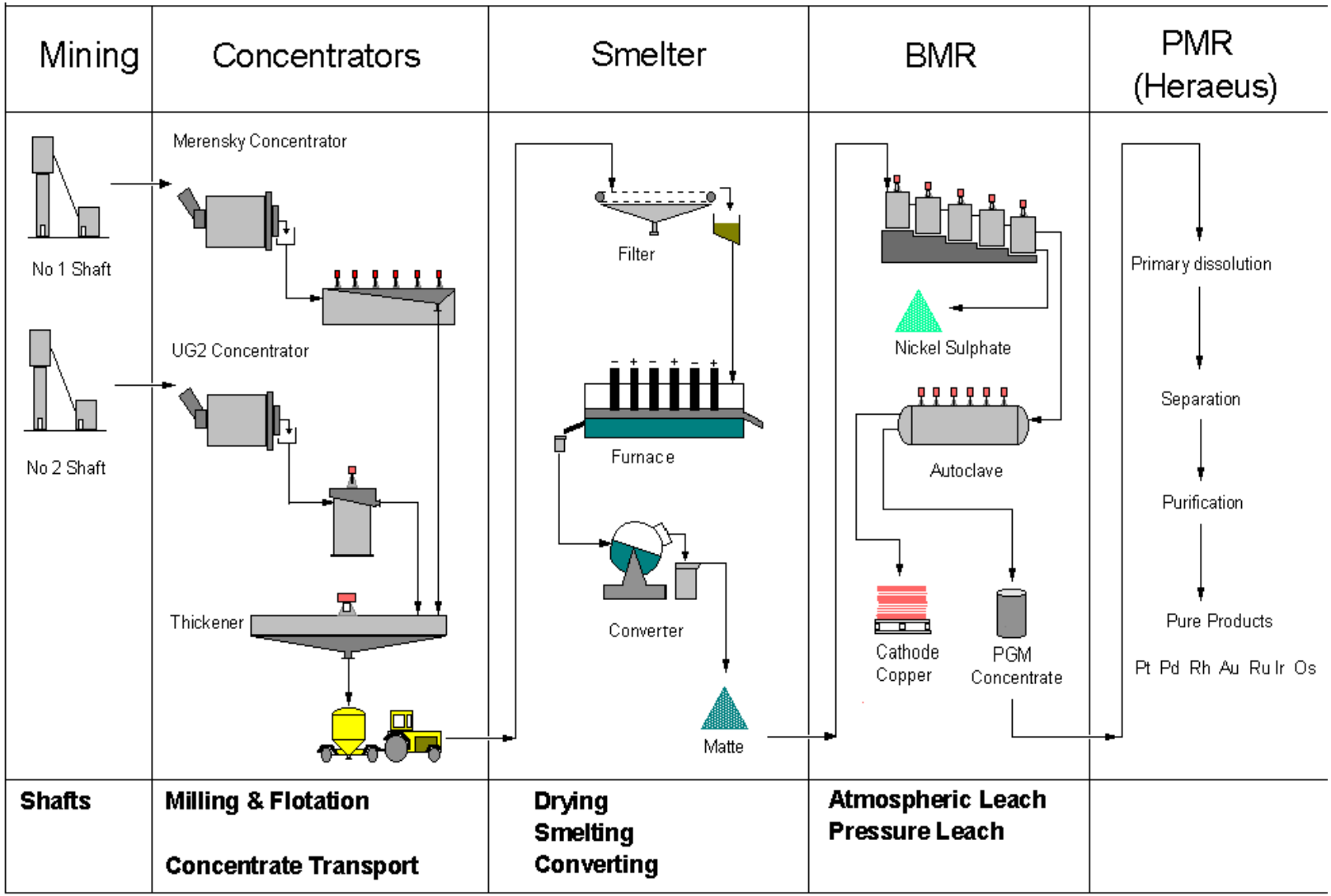
Metallurgy



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First half results summary

	6 months Ended 31 Dec 2001	6 months Ended 31 Dec 2000
Metals produced kg(3PGE+Au)	**3 867**	4 249
Sales kg (3PGE+Au)	**4 192**	4 233
Sales revenue (R000's)	**669 411**	741 579
Cost of sales (R000's)	**476 712**	390 747
Operating profit (R000's)	**192 699**	350 832

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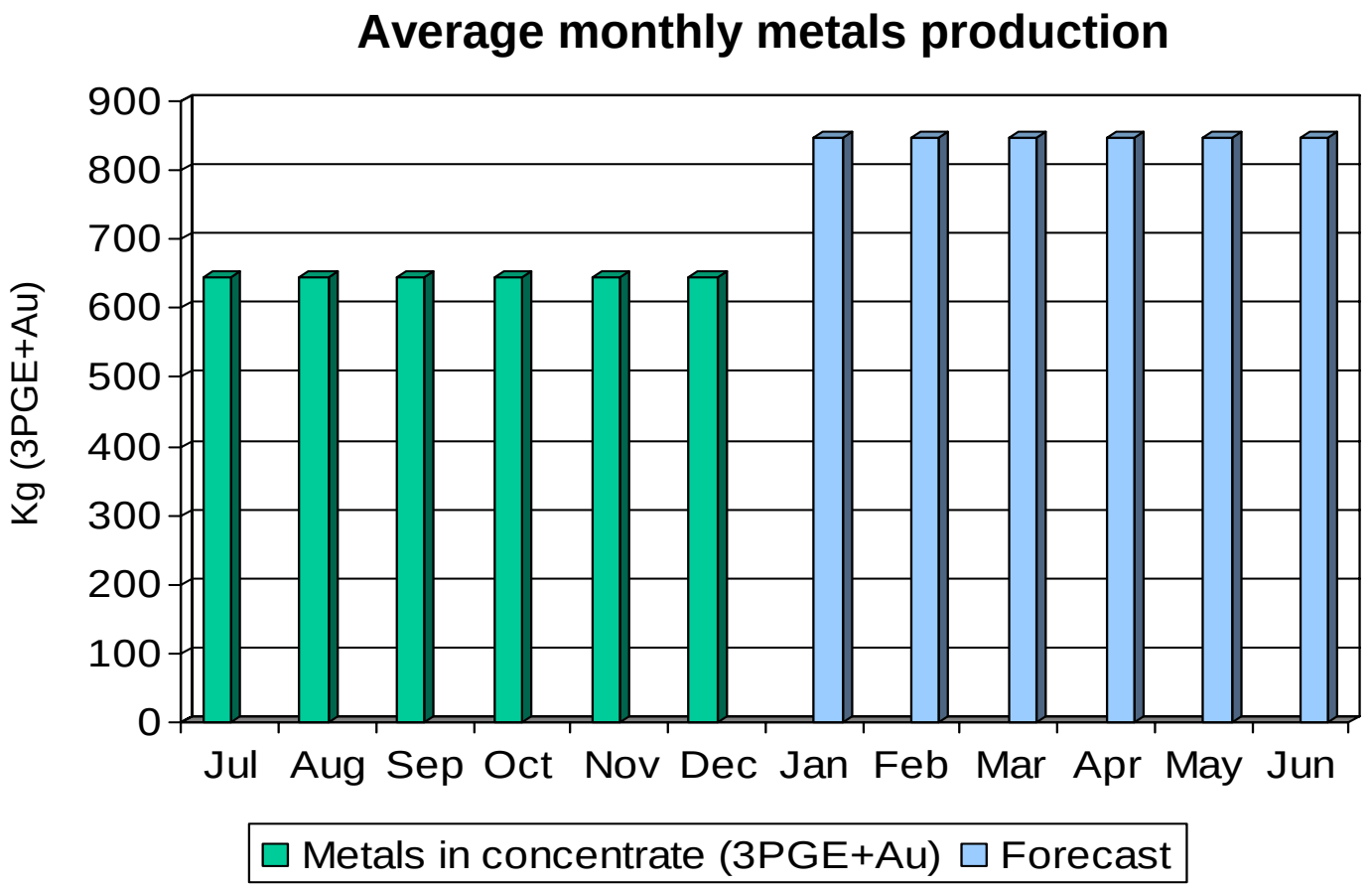
Metals production F2002



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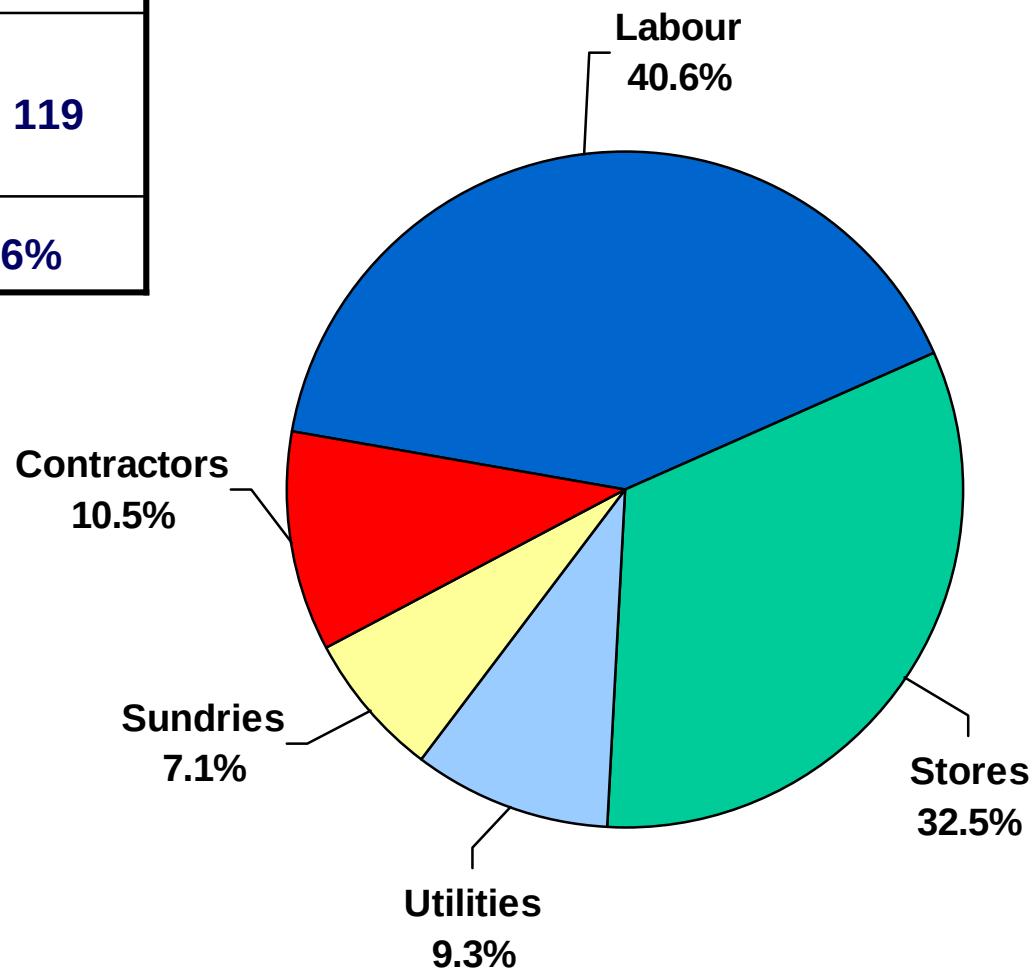
Costs

	First half	Forecast
Cash costs R/kg (3PGE+Au)	96 733	87 119
Operating margin	29%	36%

Cash cost distribution



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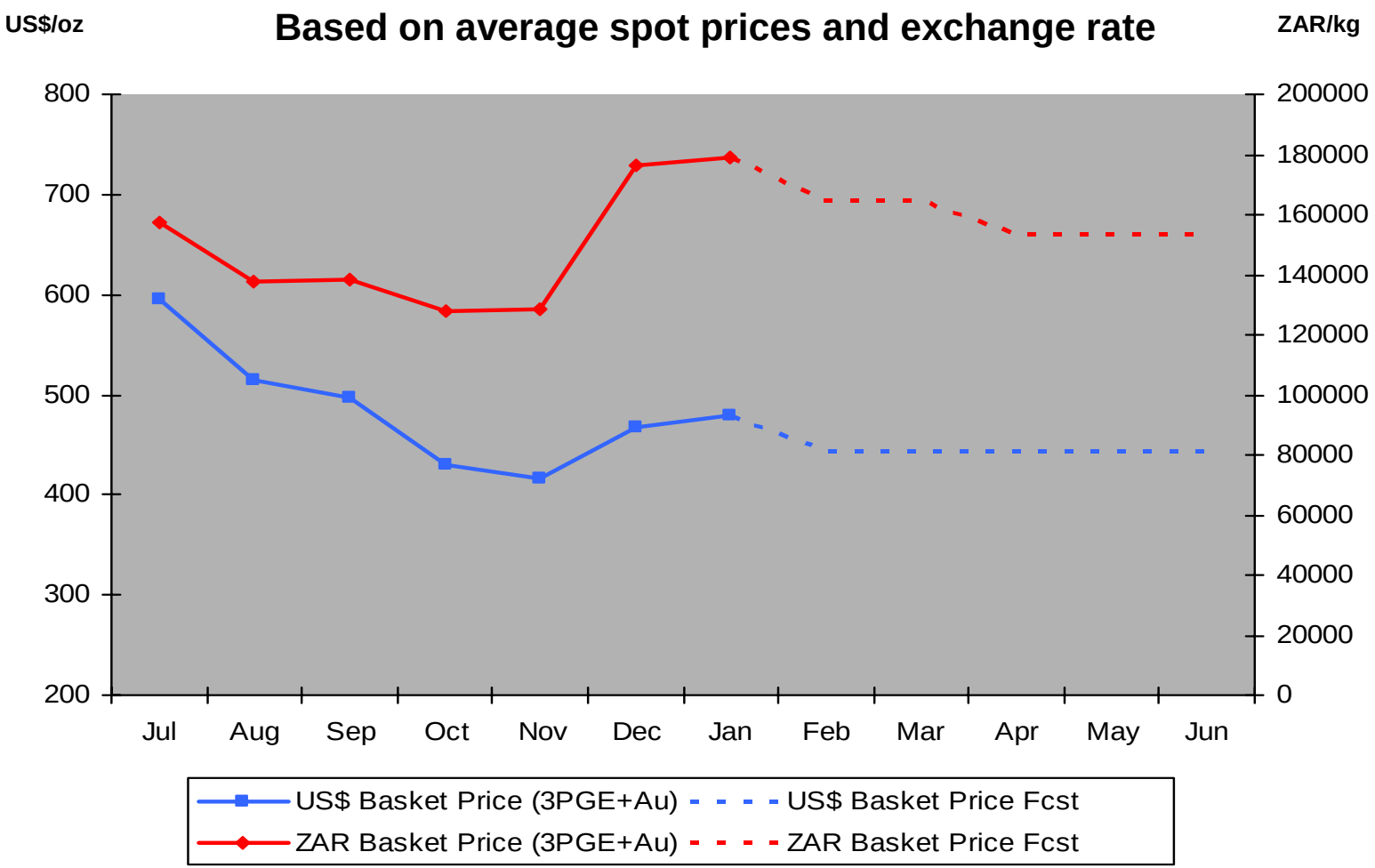
Basket prices F2002



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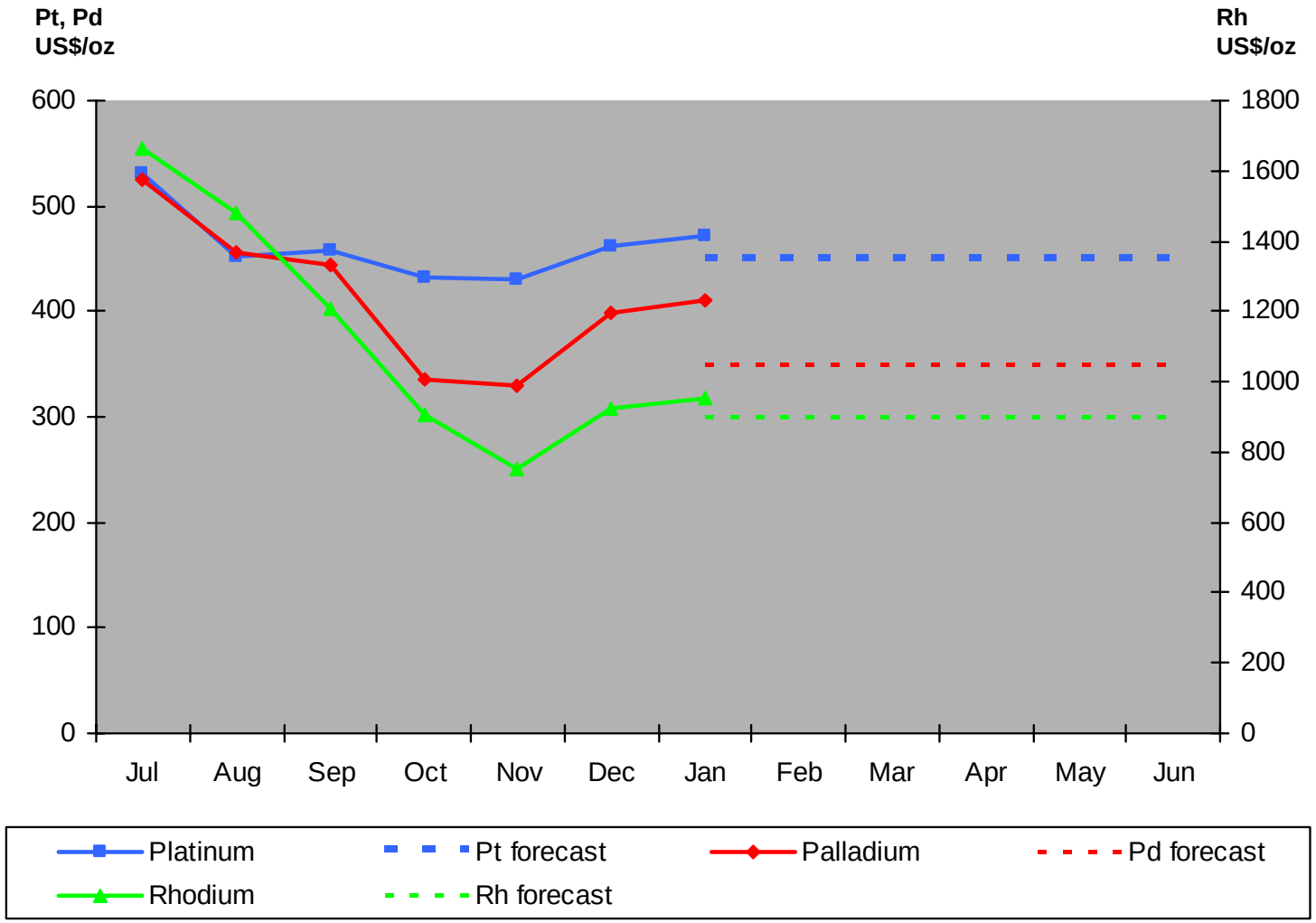
Metals prices F2002



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Outlook

- Metal production at normal levels
- Improved profitability
- Improved earnings per share