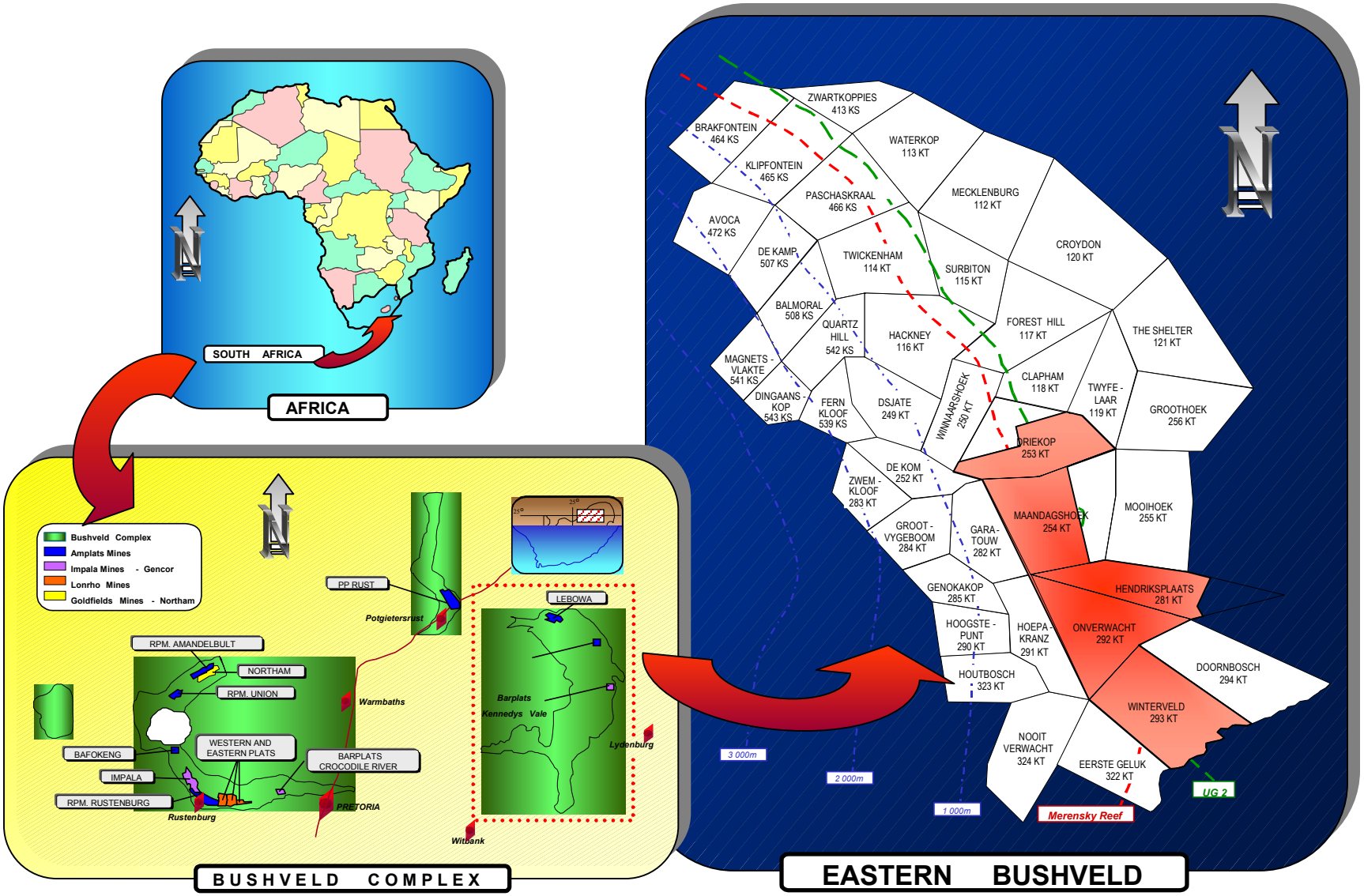
Facility visit

11 October 2005

Agenda

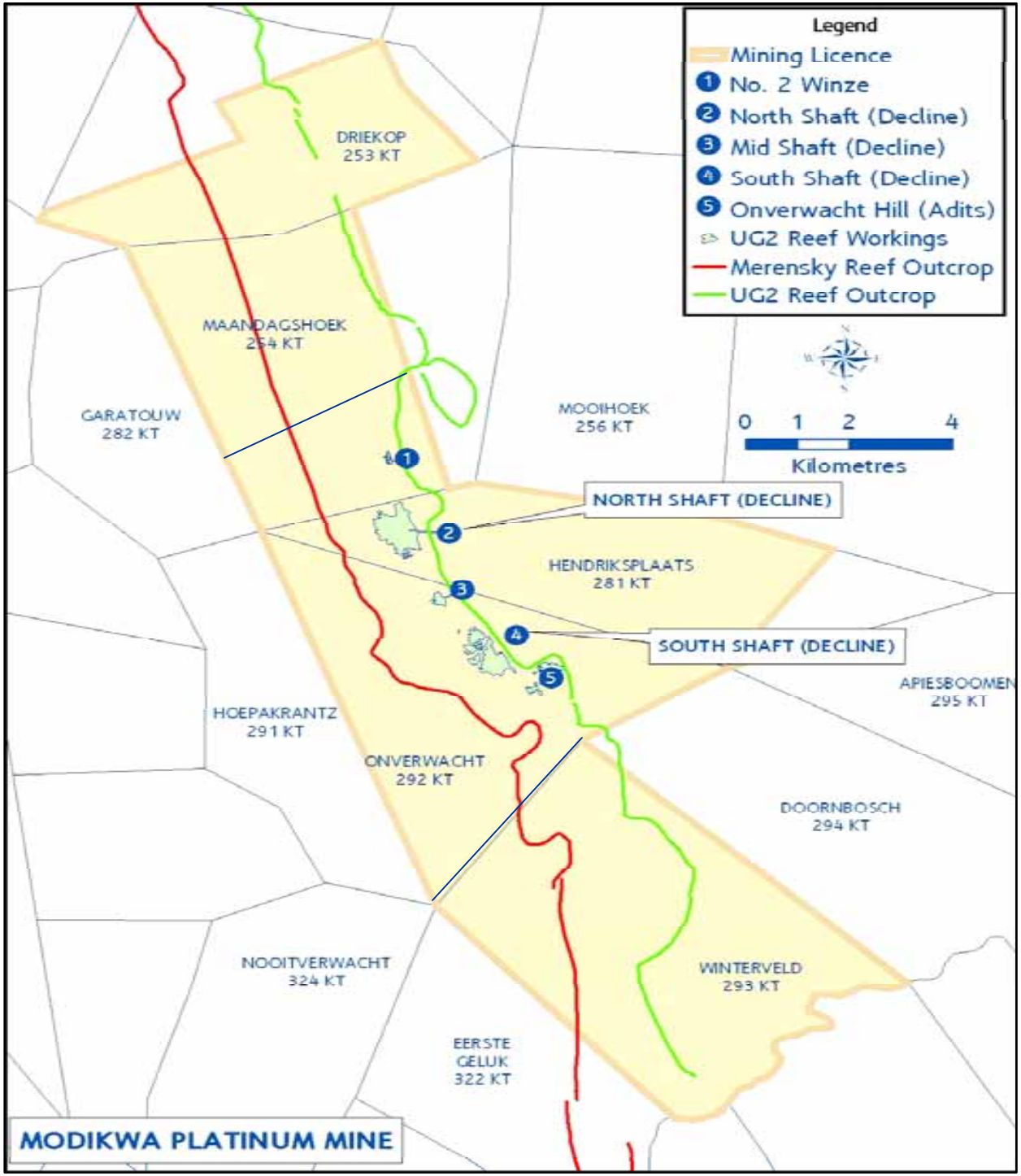
- Safety
- Ore body
- Mining methods
- Production
- Operating costs
- Capital expenditure
- Human resources
- Key business issues

Locality – Modikwa Platinum Mine



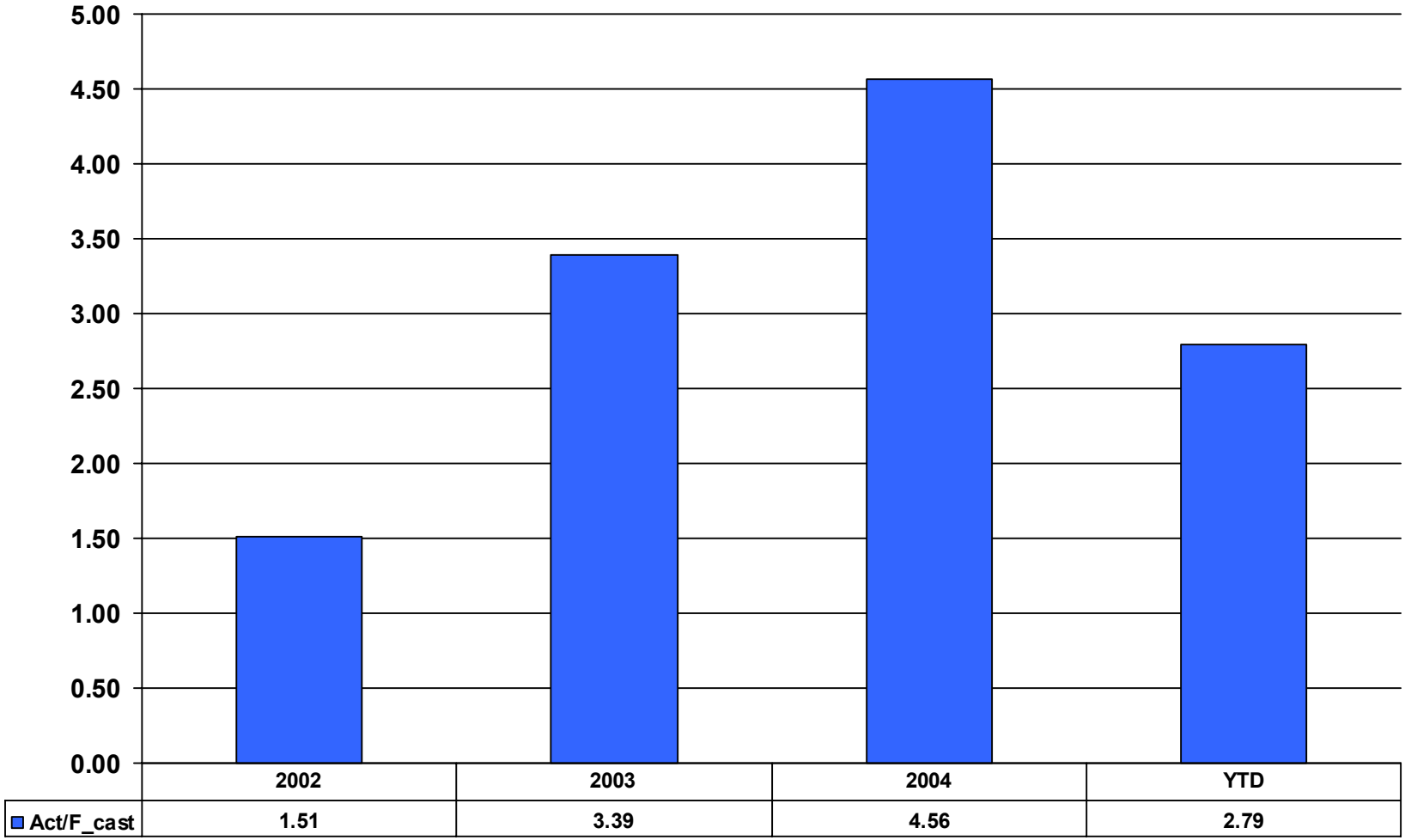
Location

JV area

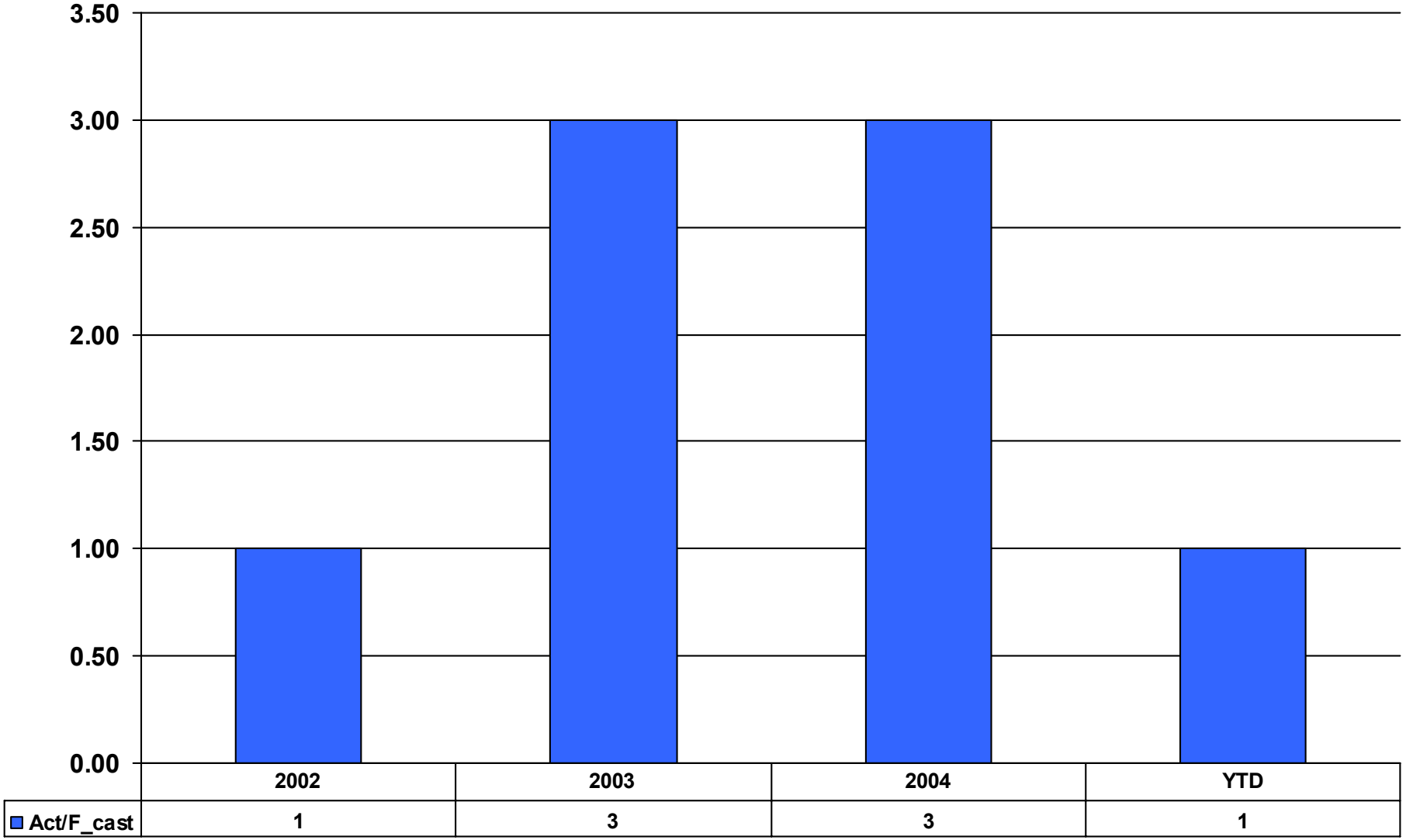


Safety

Lost time injury frequency rate

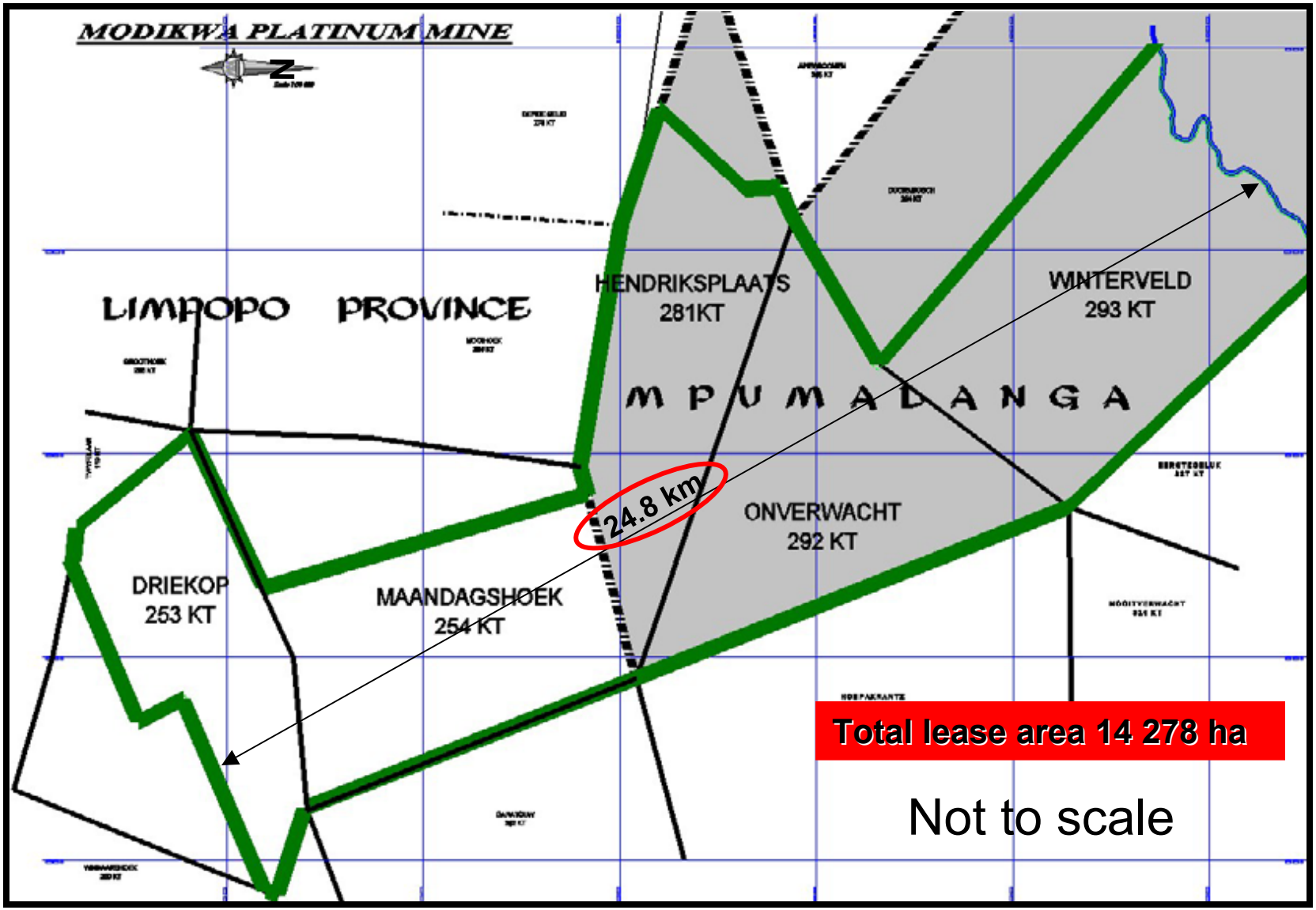


Fatalities


3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
2002
2003
2004
YTD
Act/F_cast
1
3
3
1

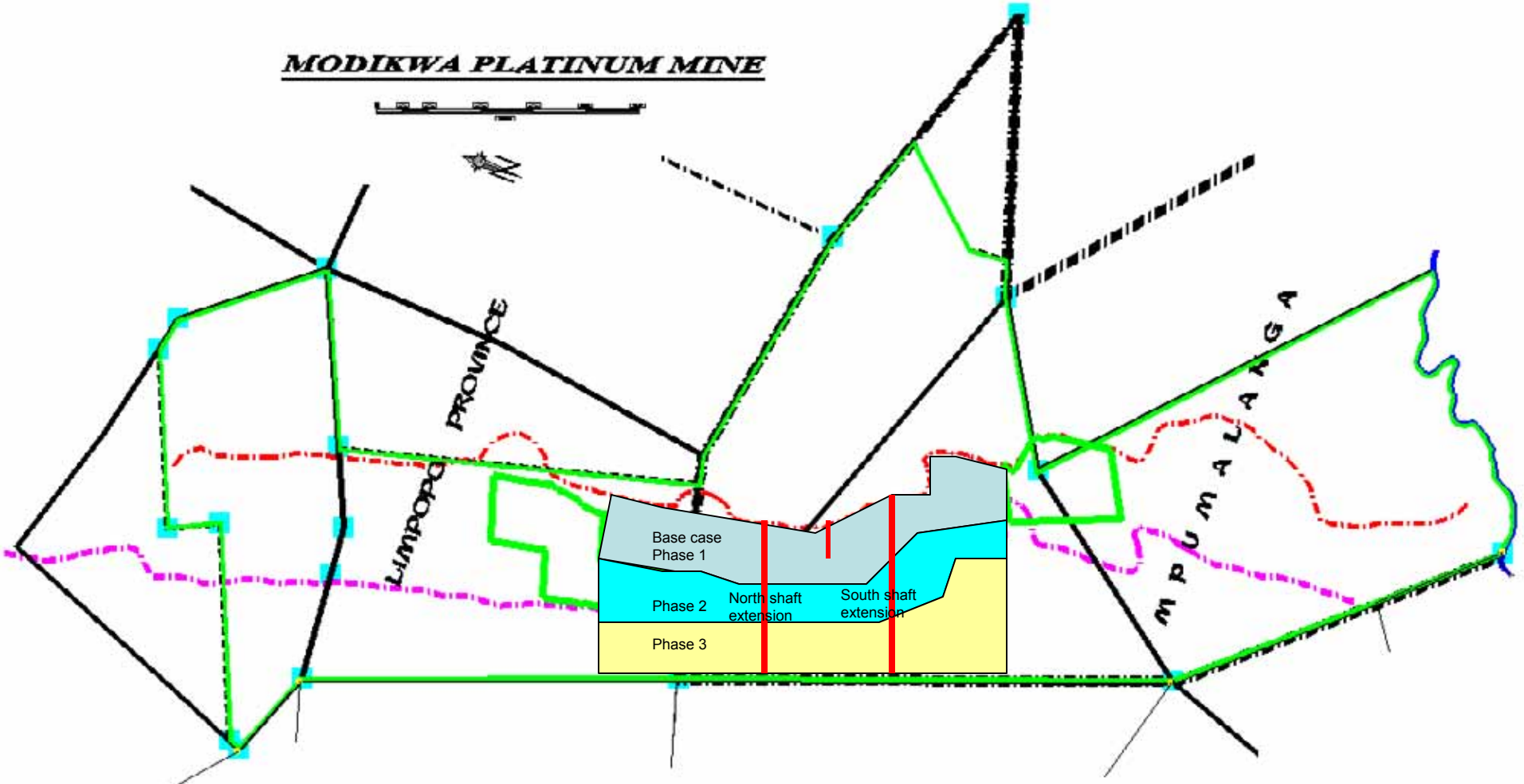
Geology
Resources/reserves

Modikwa Platinum Mine – lease area



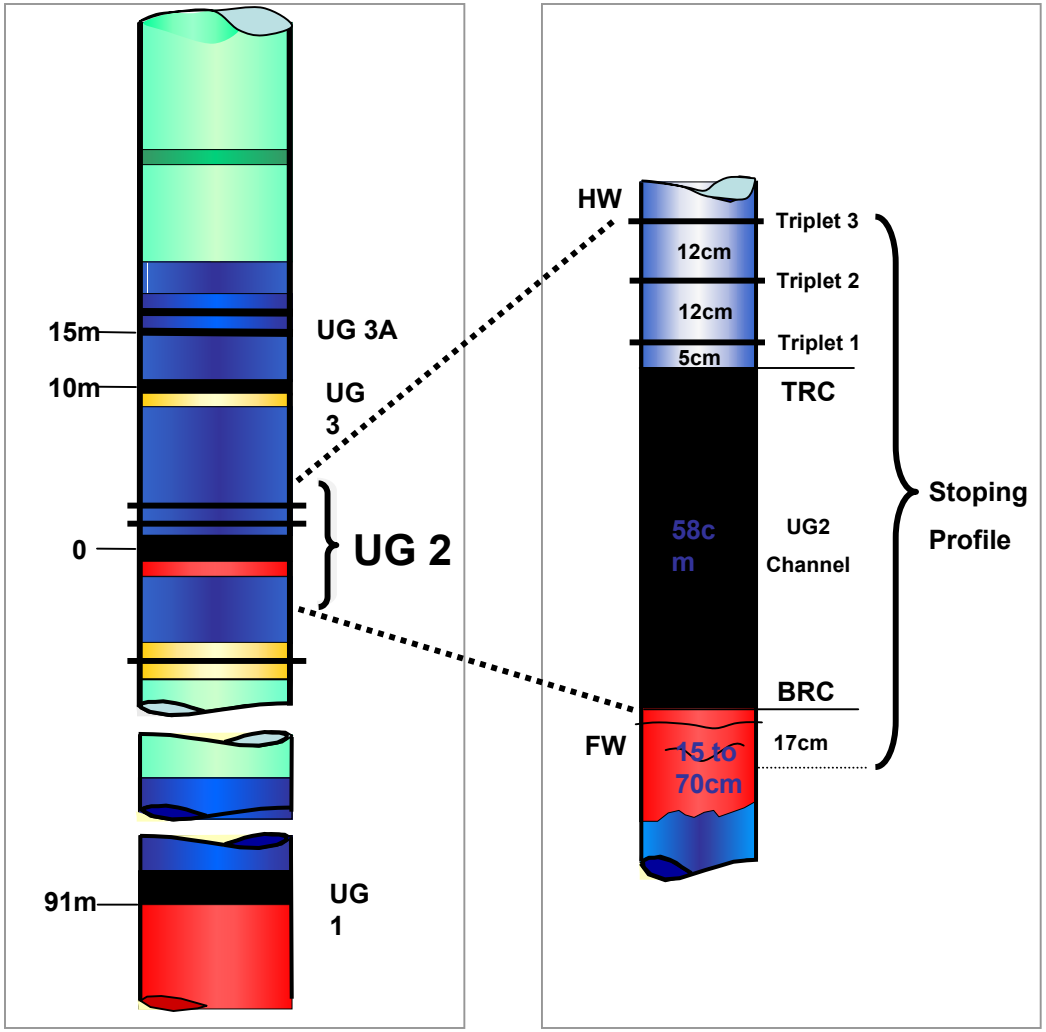
Mpumalanga Province

Modikwa Platinum Mine – mining area

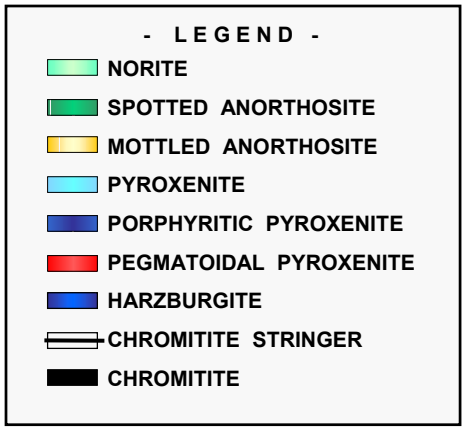


- **Deepening of North shaft declines by 1 level commenced in 2005.**

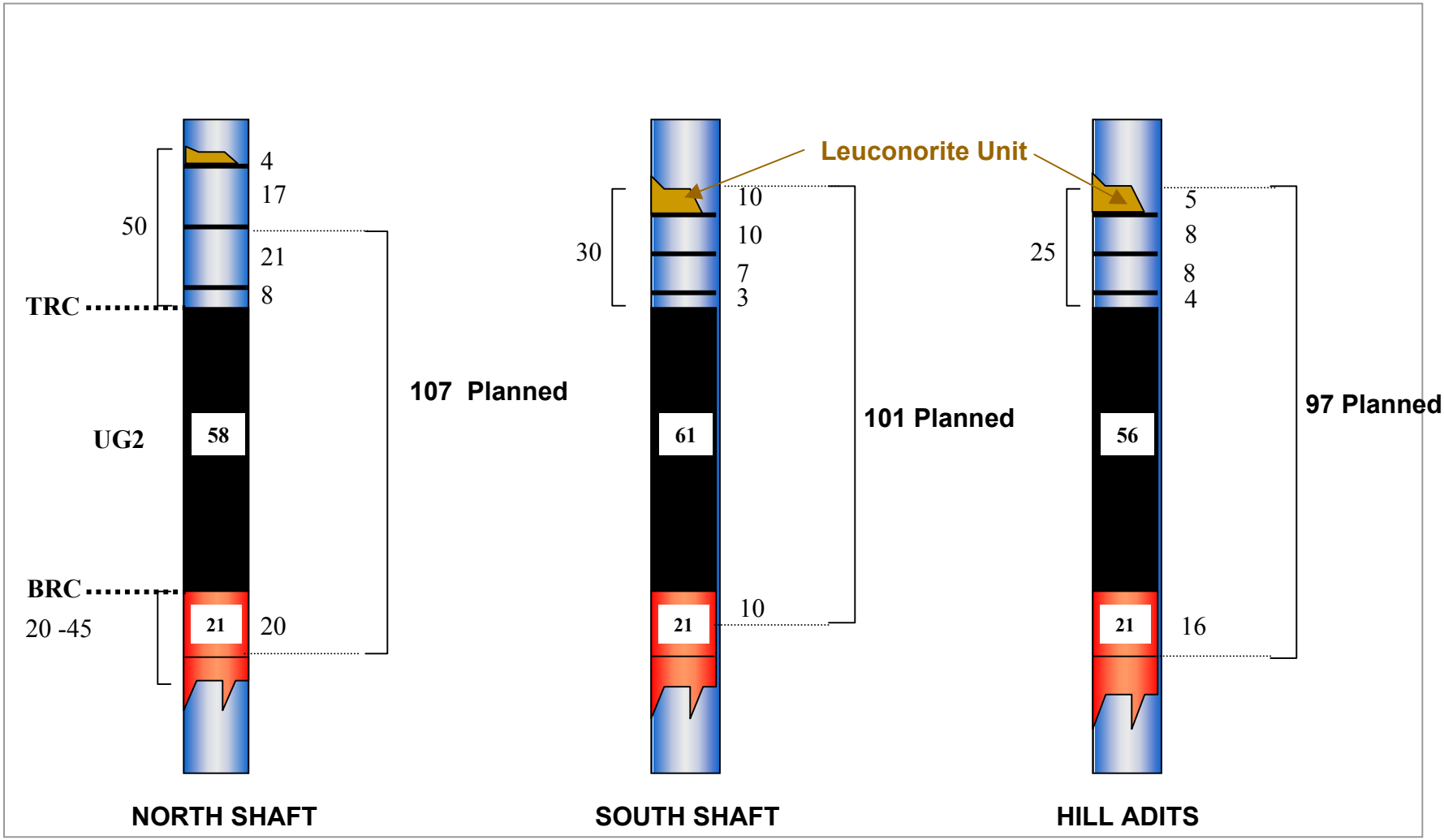
Stratigraphic column in proximity of UG2



- Outcropping Merensky & UG2 , Westerly Dip ~11°
- Merensky to UG2 separation approximately 260m
- Variable middling of triplets and Leuconorite Parting Plane (LPP) to Top Reef Contact (TRC) on UG2
- Norite-Fsp Pyroxenite contact 40-60 cm above MR

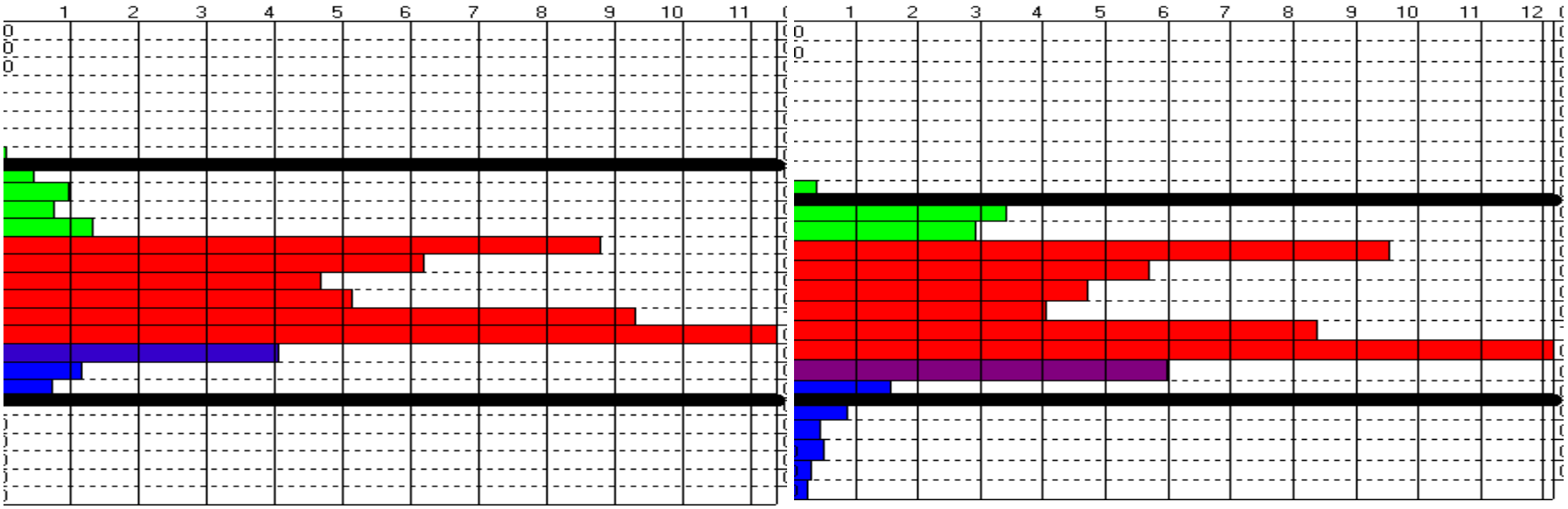


Optimal Stoping Cut
(per shaft area)



- **Mine average planned at 102 cm – Currently 105cm**

Vertical grade distribution in UG2



North Shaft

South Shaft

Average g/t 4E: **North 5.65** **South 5.99** **Total 5.81**

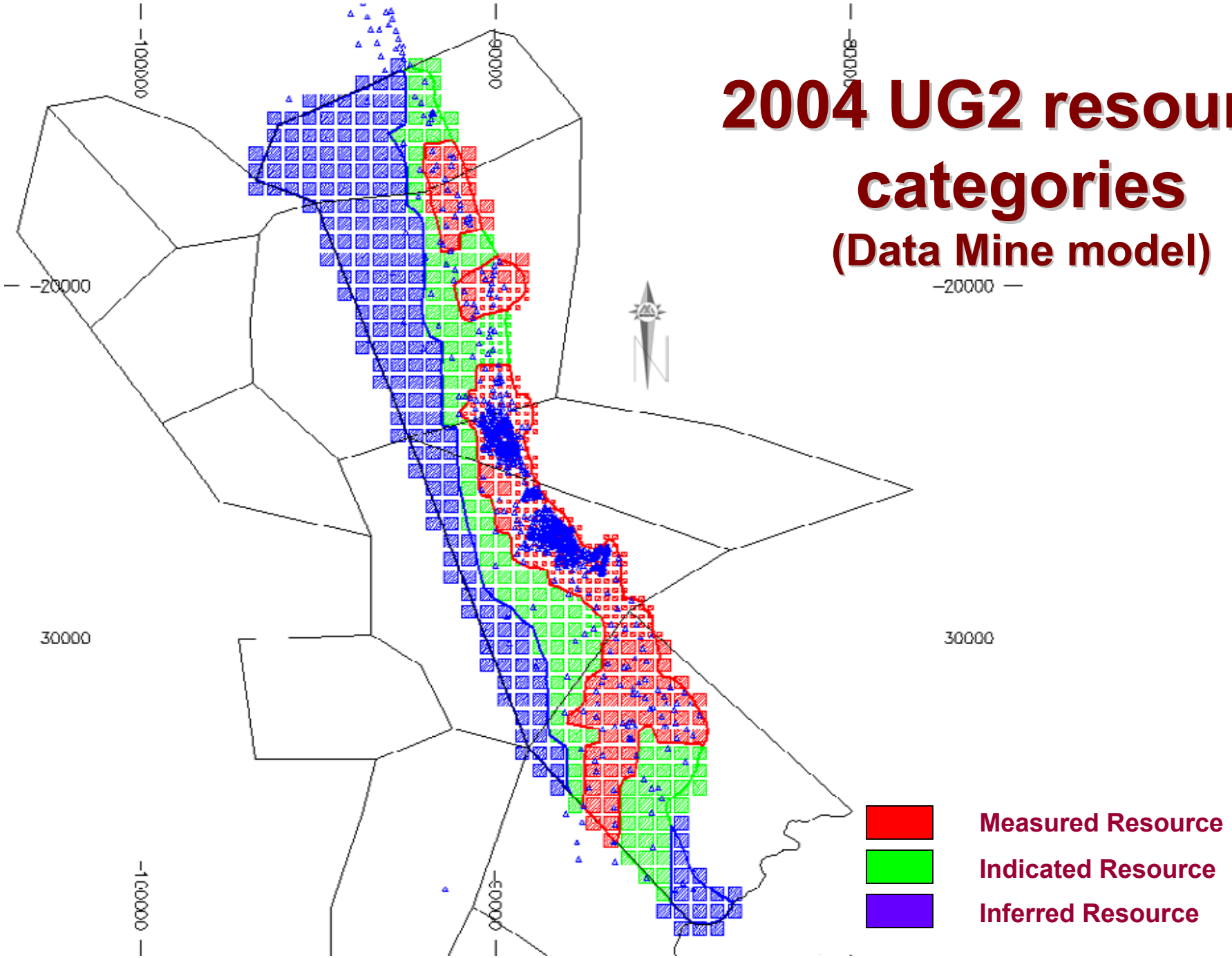
Reef channel

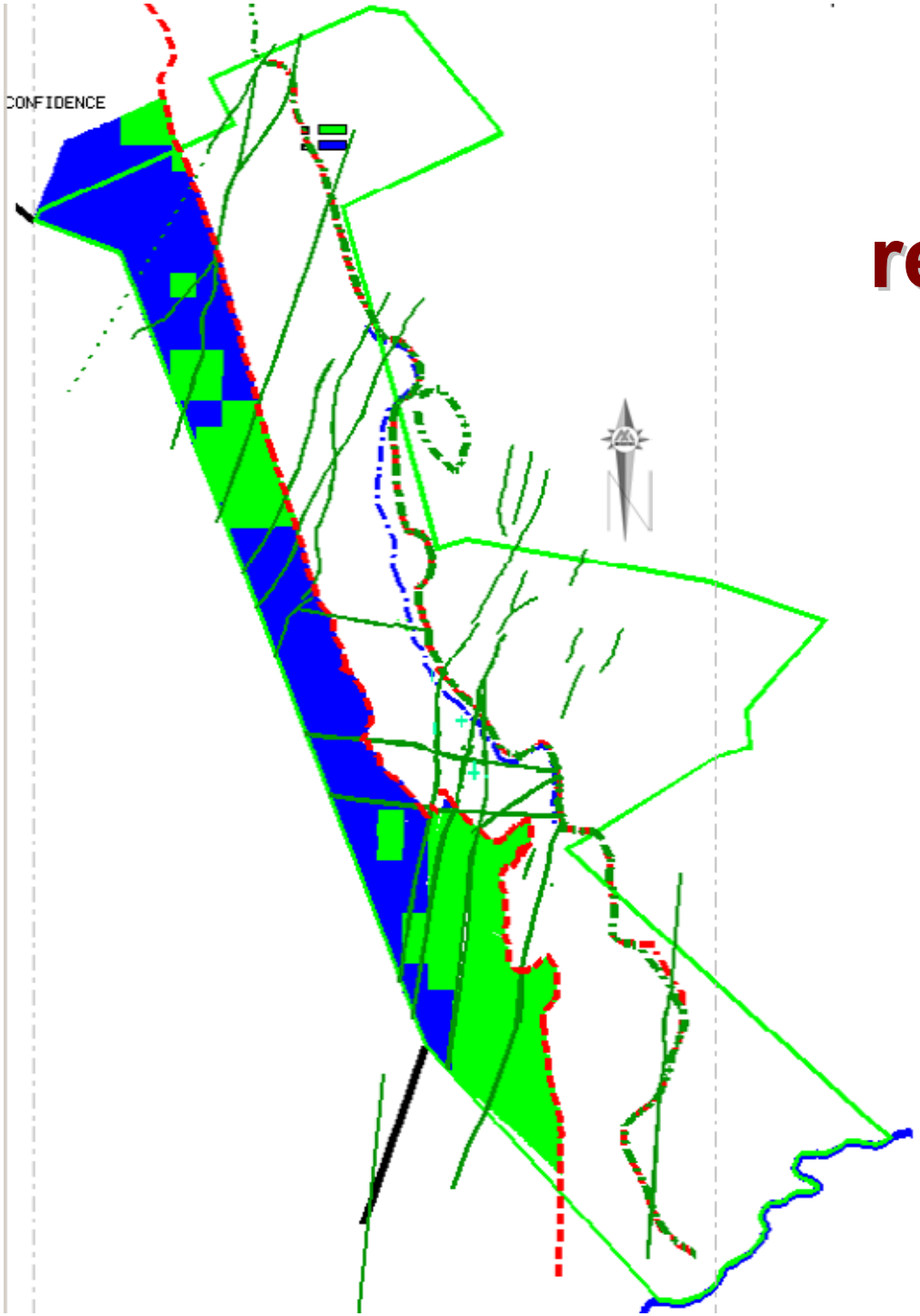
Hanging wall

Foot wall

2004 UG2 resource categories

(Data Mine model)





2004 Merensky resource categories

(Data Mine model)

117 boreholes

Indicated Resource

Inferred Resource

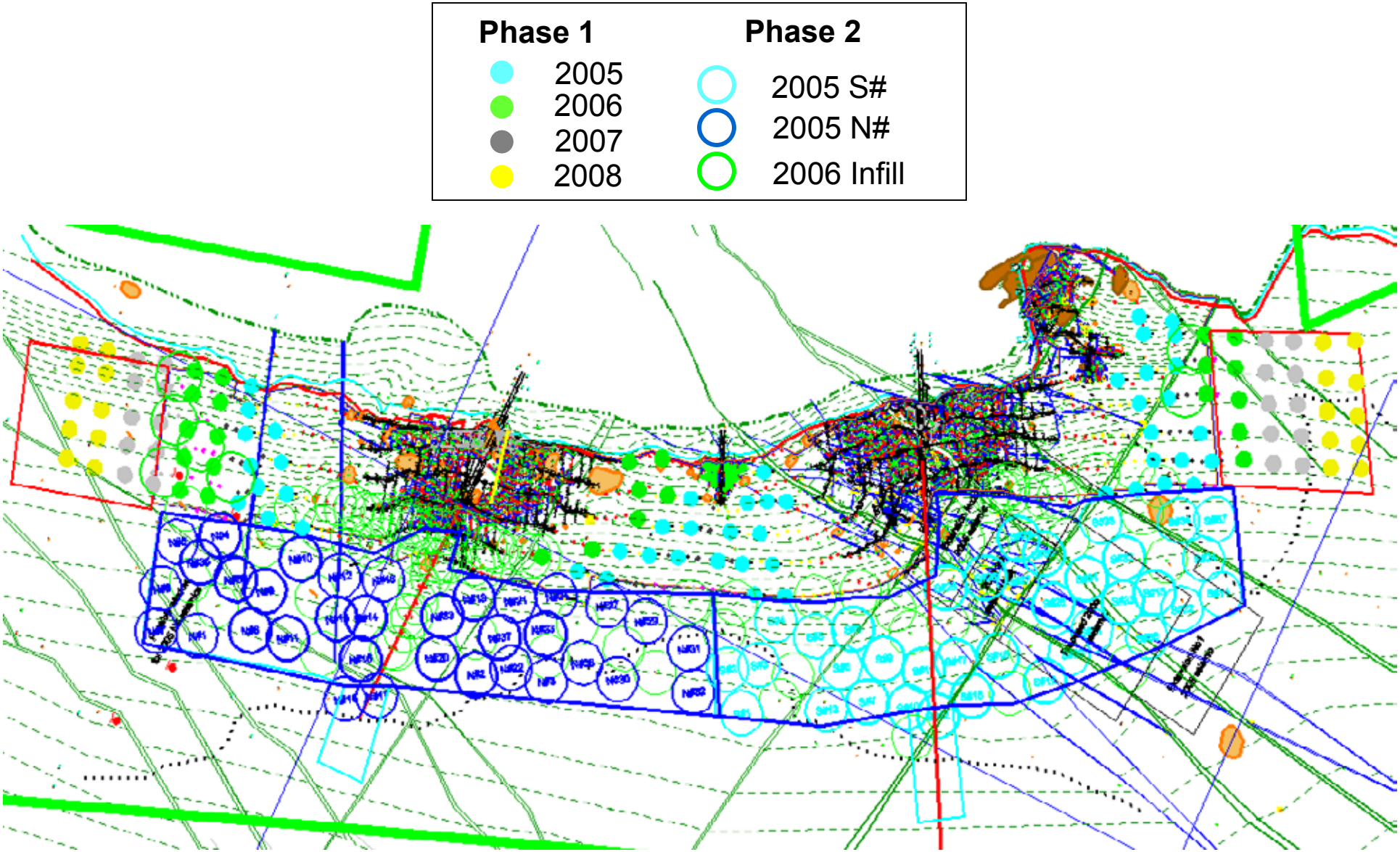
Resource & reserve statement - 2004

UG2		
Mineral Resource Statement Modikwa Global Resource Discounted Excluding Reserves		
Category	**Tonnage**	**Grade**
	(kt)	**(g/t)**
Measured	50,369	5.48
Indicated	88,738	5.45
Inferred	115,777	5.63
Total	**254,884**	**5.54**
Mineral Reserve Statement		
Category	**Tonnage**	**Grade**
	(kt)	**(g/t)**
Proved	7,291	5.27
Probable	9,889	4.64
Inferred	0	0.00
Total	**17,180**	**4.91**

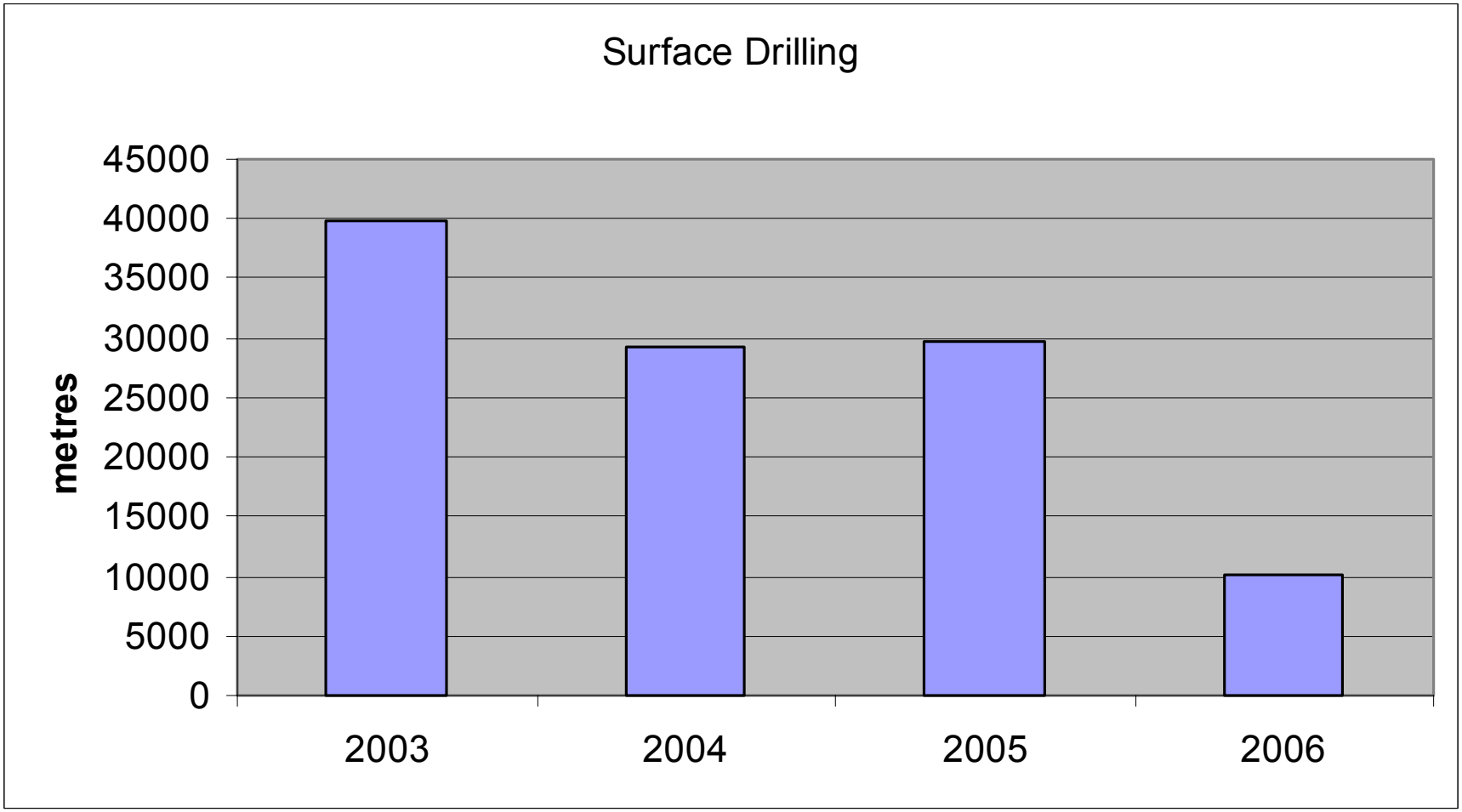
Exploration status

- Phase 1 footprint complete by end 2006
- Phase 2 drilling commenced in line with current exploration programme
- 3D seismic will be conducted in 2006 over a target area on North and South Shafts
- Merensky Exploration continuing – trial mining to commence in 2006

Drilling programme 2005-2008



On-mine - Exploration drilling



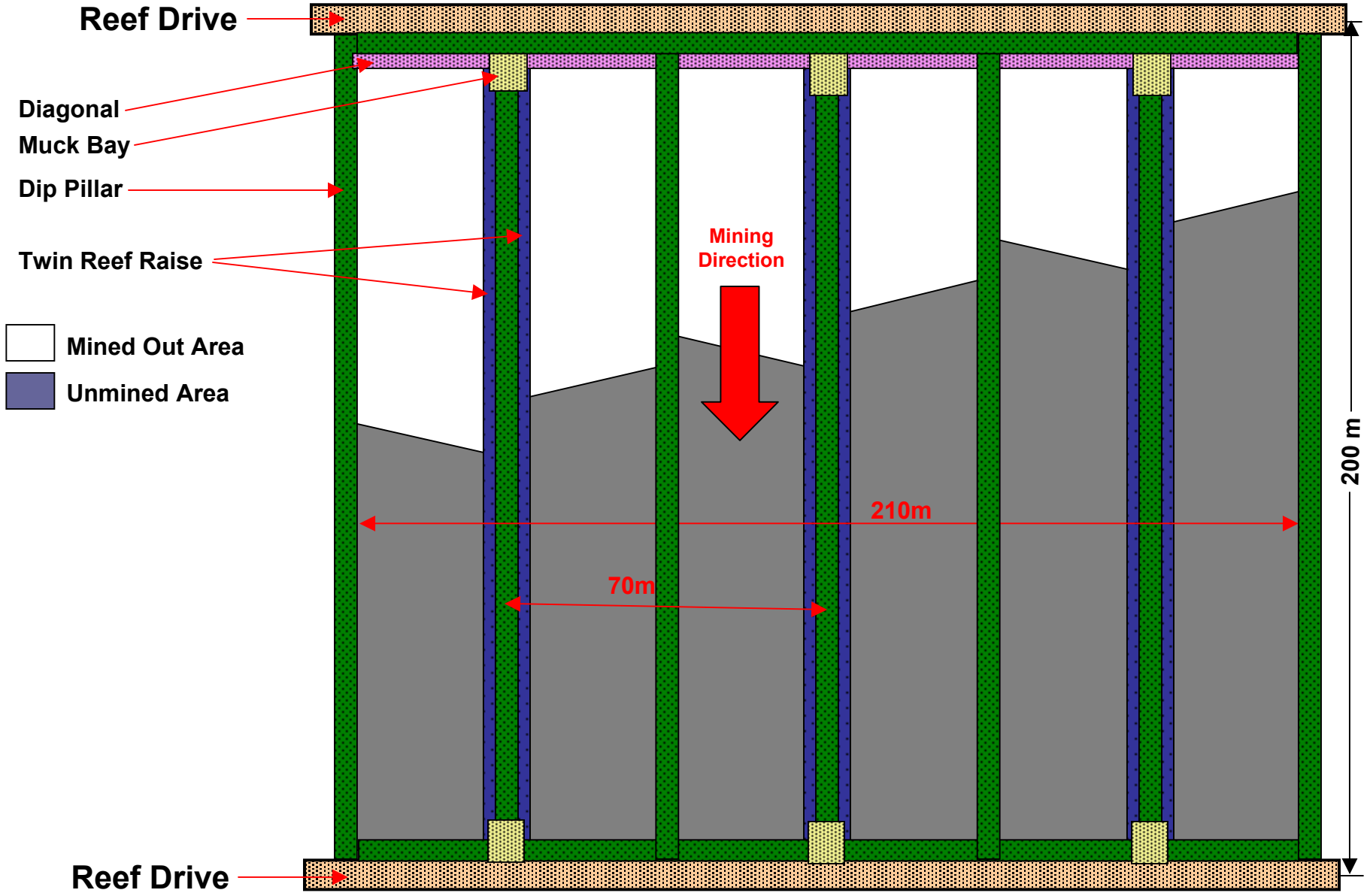
Mining methods

Original design

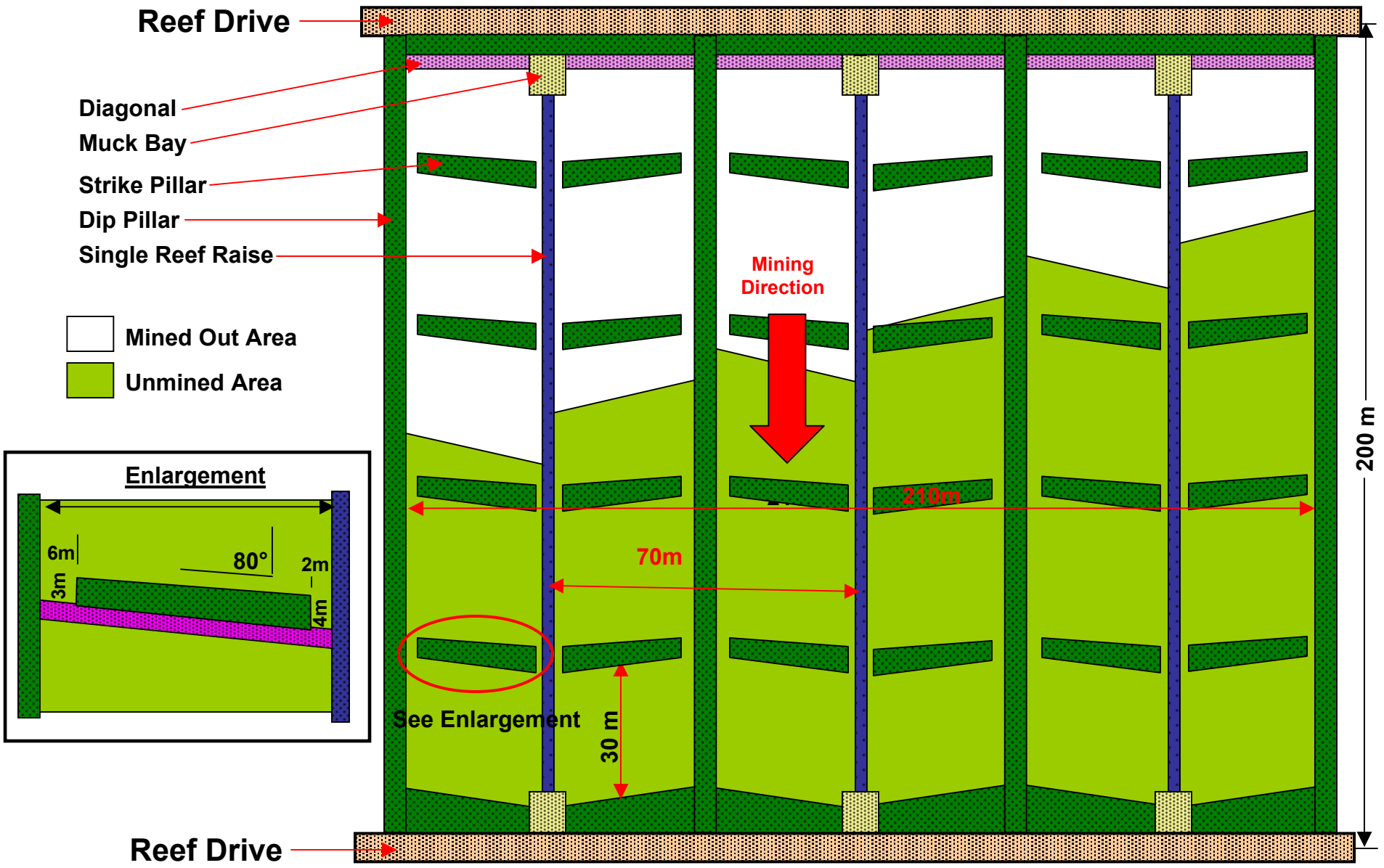
- Twin decline shaft systems
  - Vehicle access decline
  - Belt decline
- **Main strike development on-reef**
- **Conventional down-dip stoping**
- **Twin raises separated by 5m pillar**
- 90 cm stoping width
- Mechanised development and tramming
- **Flat management / supervisory structures**
- Self directed, multi-skilled work teams
- No night shift, two panel cycle
- Continuous operations (Conops)
- Fully autogenous milling
- 200 ktpm, 162 kozpa
- Onverwacht Hill and Mid Shaft areas included

Changes to original design

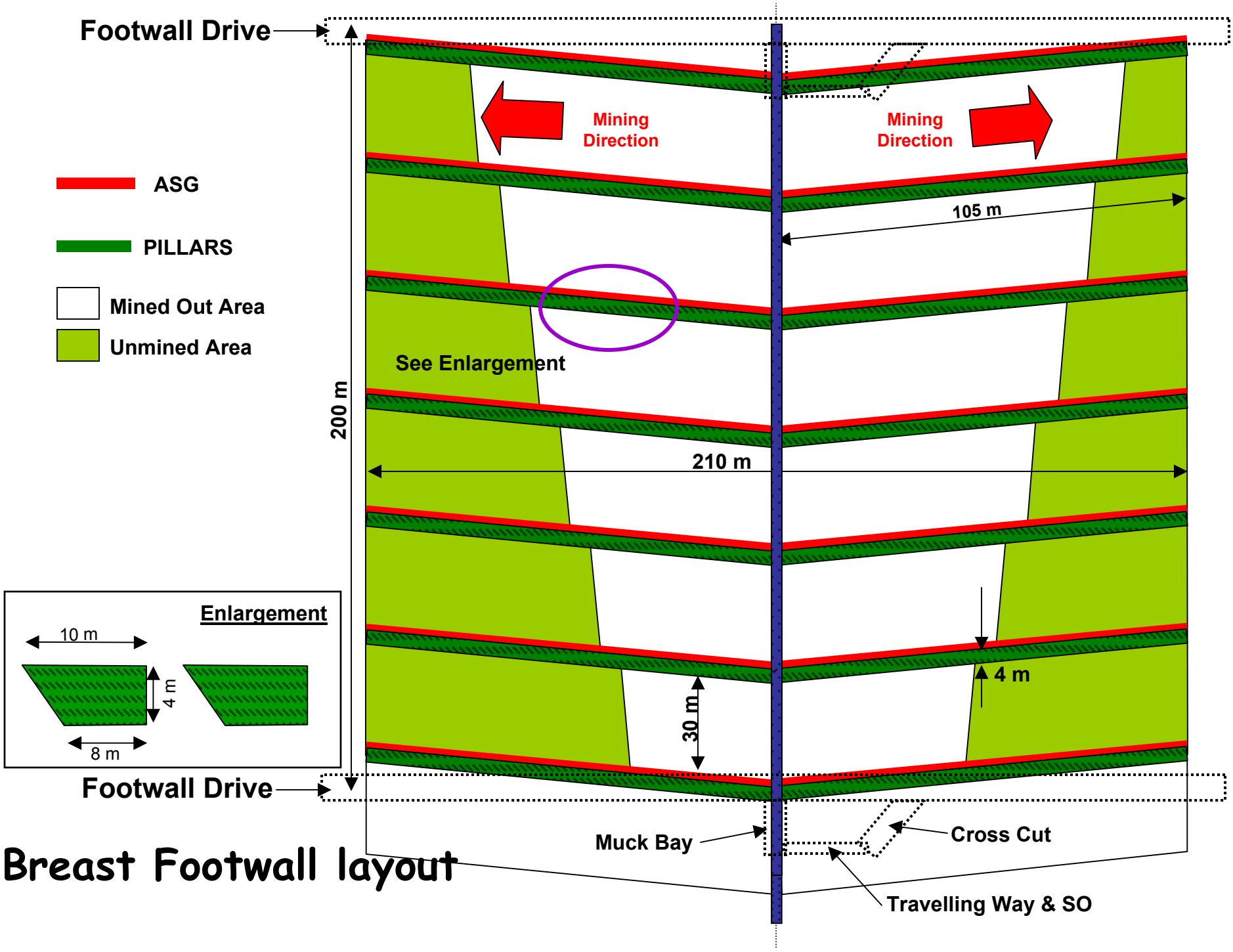
- Chairlift decline access
- Main strike development in the footwall
- Stoping changed from down-dip to breast
- 102 cm stoping width
- Introduced night shift
- Traditional management structure
- Ball milling to increase capacity
- 240 ktpm, 162 kozpa



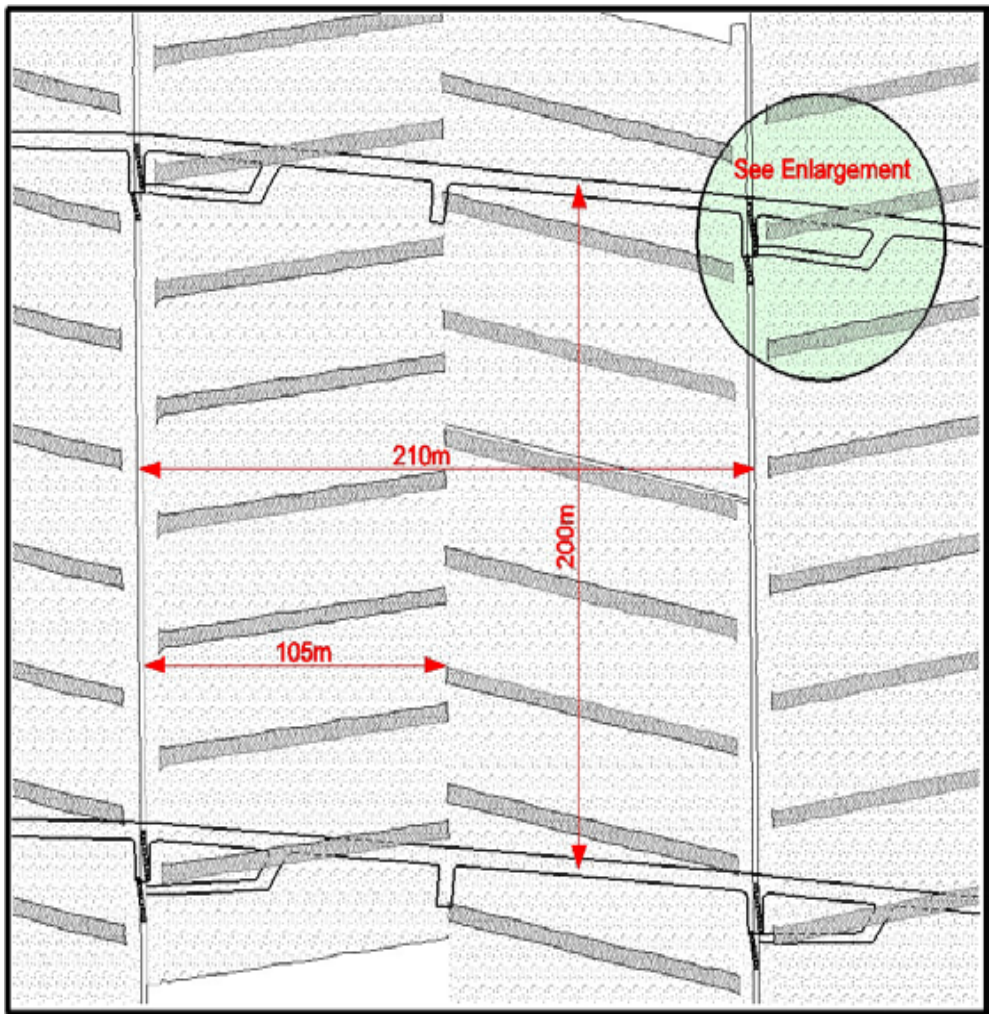
Downdip Twin Raise Reef Drive layout

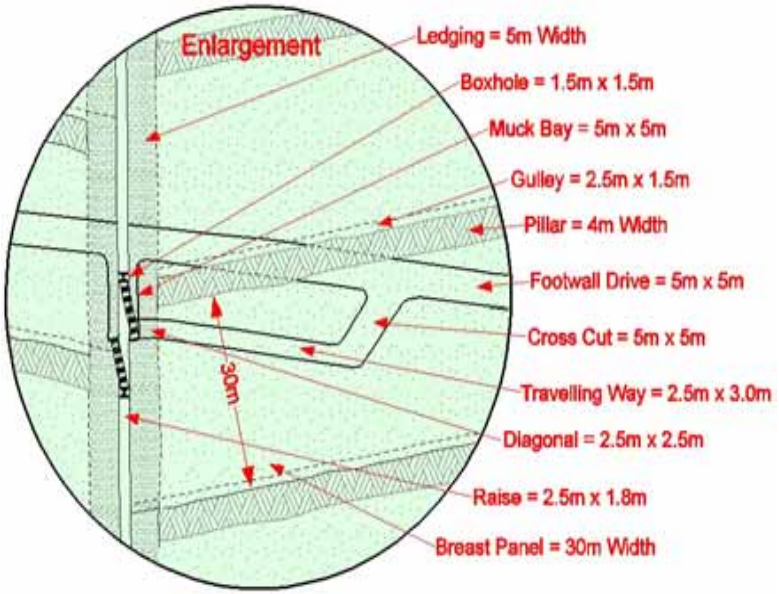


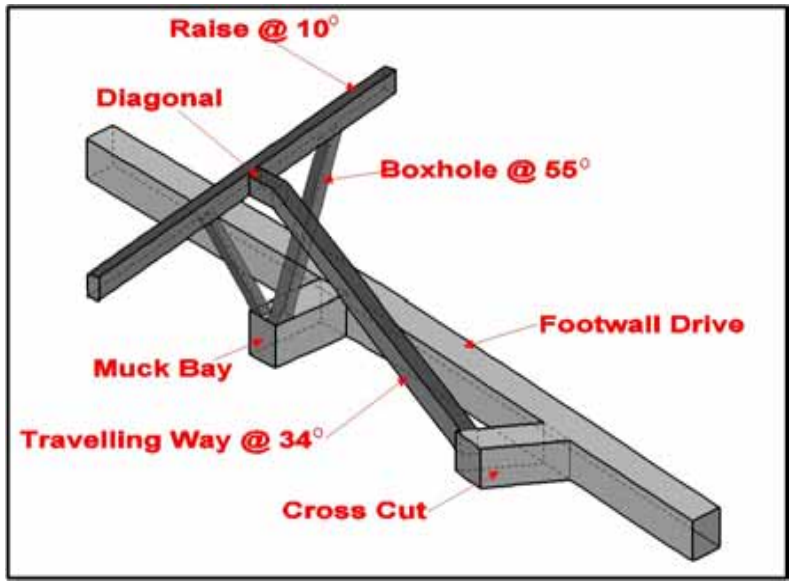
Downdip Single Raise Reef Drive layout



Breast Footwall layout

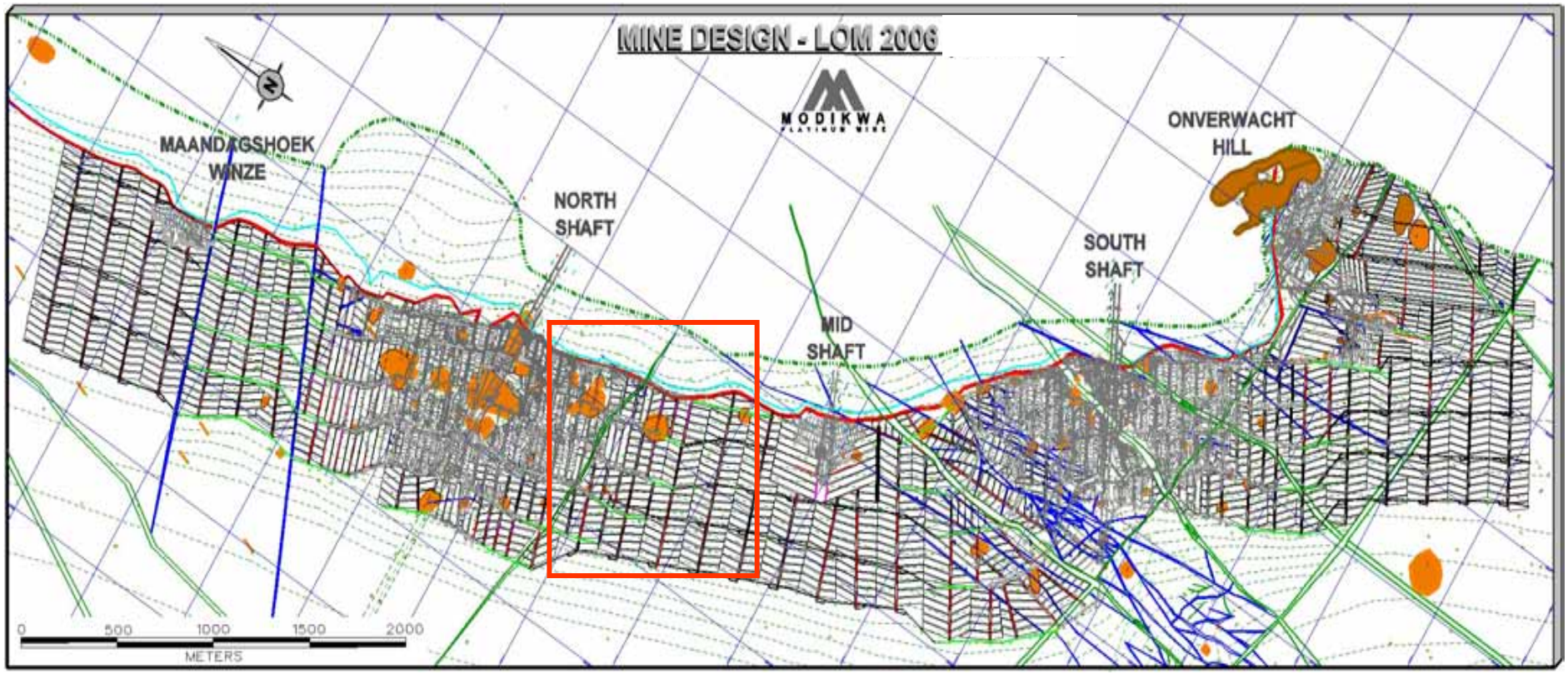




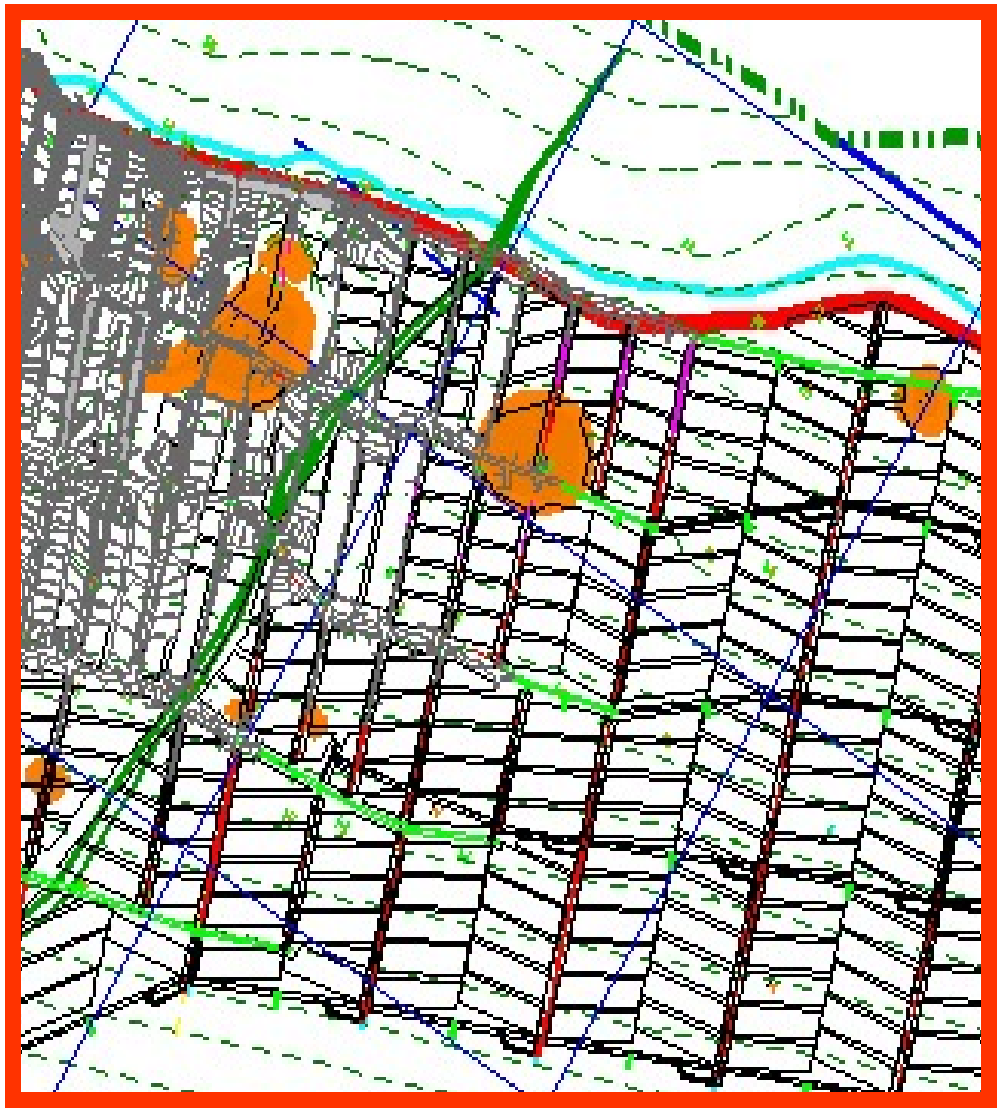


Breast Footwall layout

Current mine design



Current mine design – North shaft



Production sources

(000's tons per month)

Production area	2005	2006	Steady state
North Shaft	80	100	120
South Shaft	60	81	120
Hill	35	38	-
Mid Shaft	10	14	-
Low grade dev.	25	-	-
TOTAL	210	233	240

Production

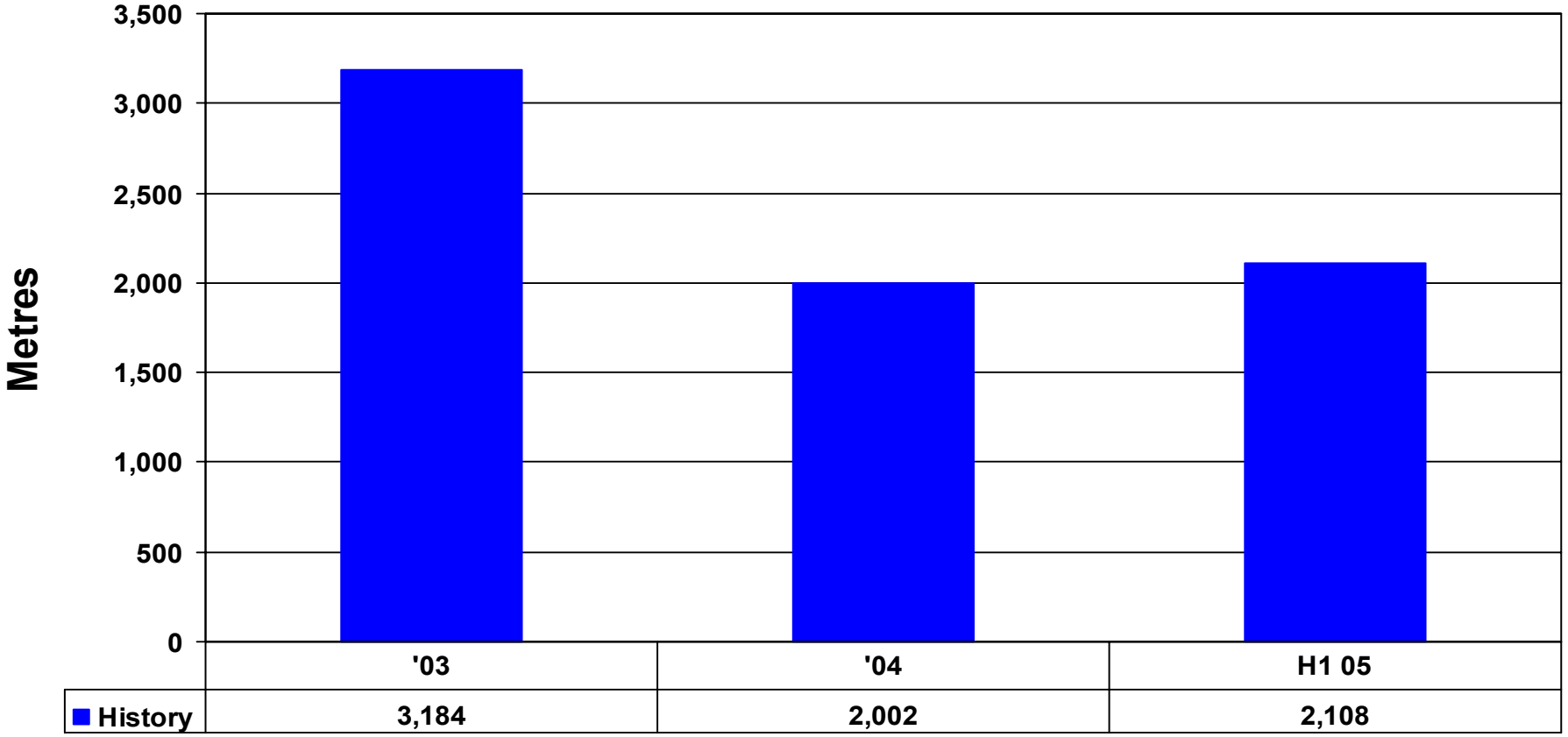
Conversion to footwall strike development & breast stoping

Development required to generate ore reserves

	Breast mining Footwall drives		Dip mining Twin raise & reef drives	
	m^2/metre	Required to replace 50 000 m^2	m^2/metre	Required to replace 50 000 m^2
m^2/ Total Dev	53	935	17	2 874
m^2/ Prim.- R/W, TW, BH & Diag	108	463	22	2 272
m^2/ Prim.- Large Ends	106	472	83	602

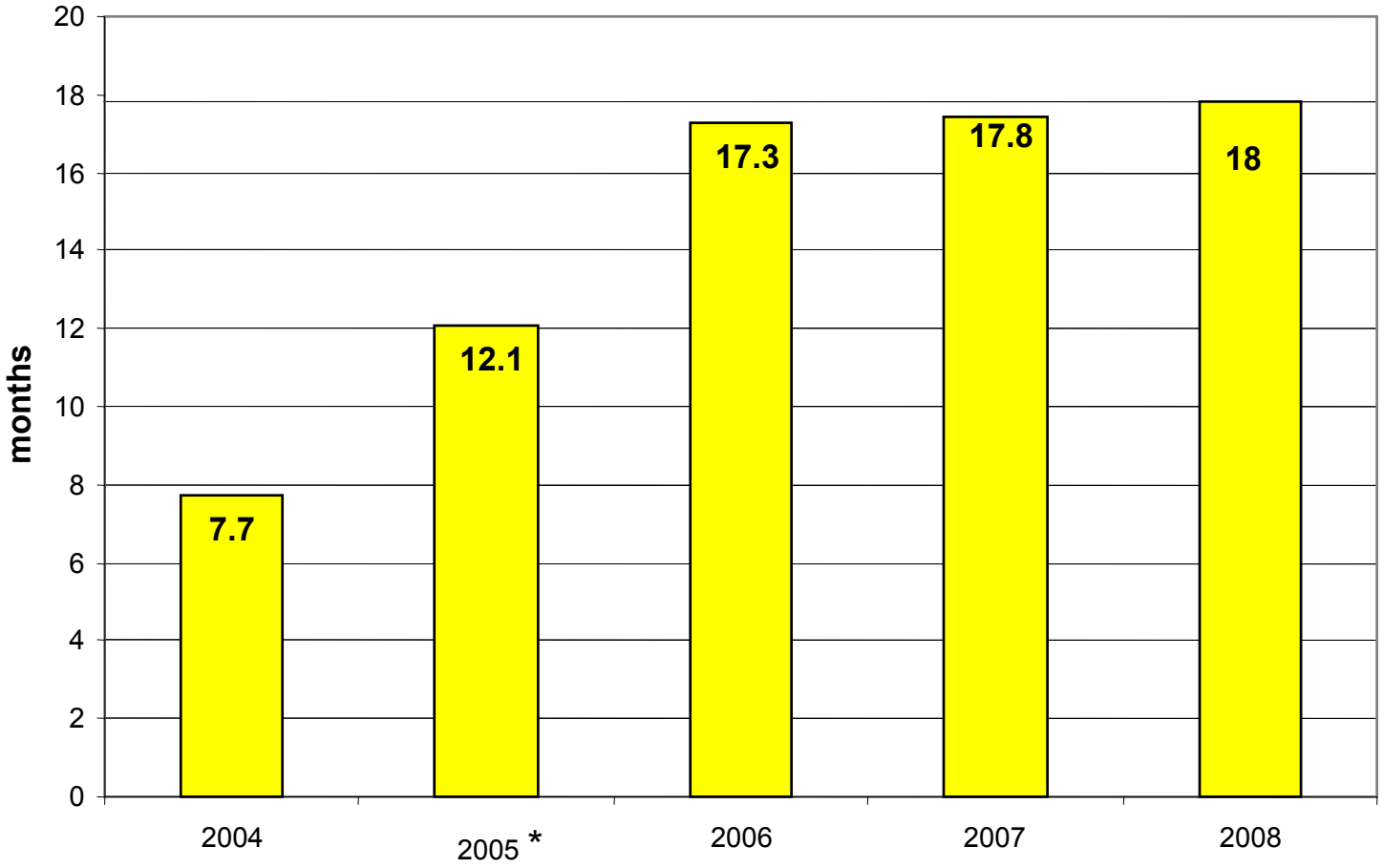
- **60% of stoping on breast by end 2006, 95% by end 2007**
- **100% reef drives in footwall by end 2008**

Total primary development metres / month (Excludes # Sinking)



- **2003 to 2004 reduction due to single raise dip mining**
- **At steady state breast requires less development than dip to generate the same ore reserves**

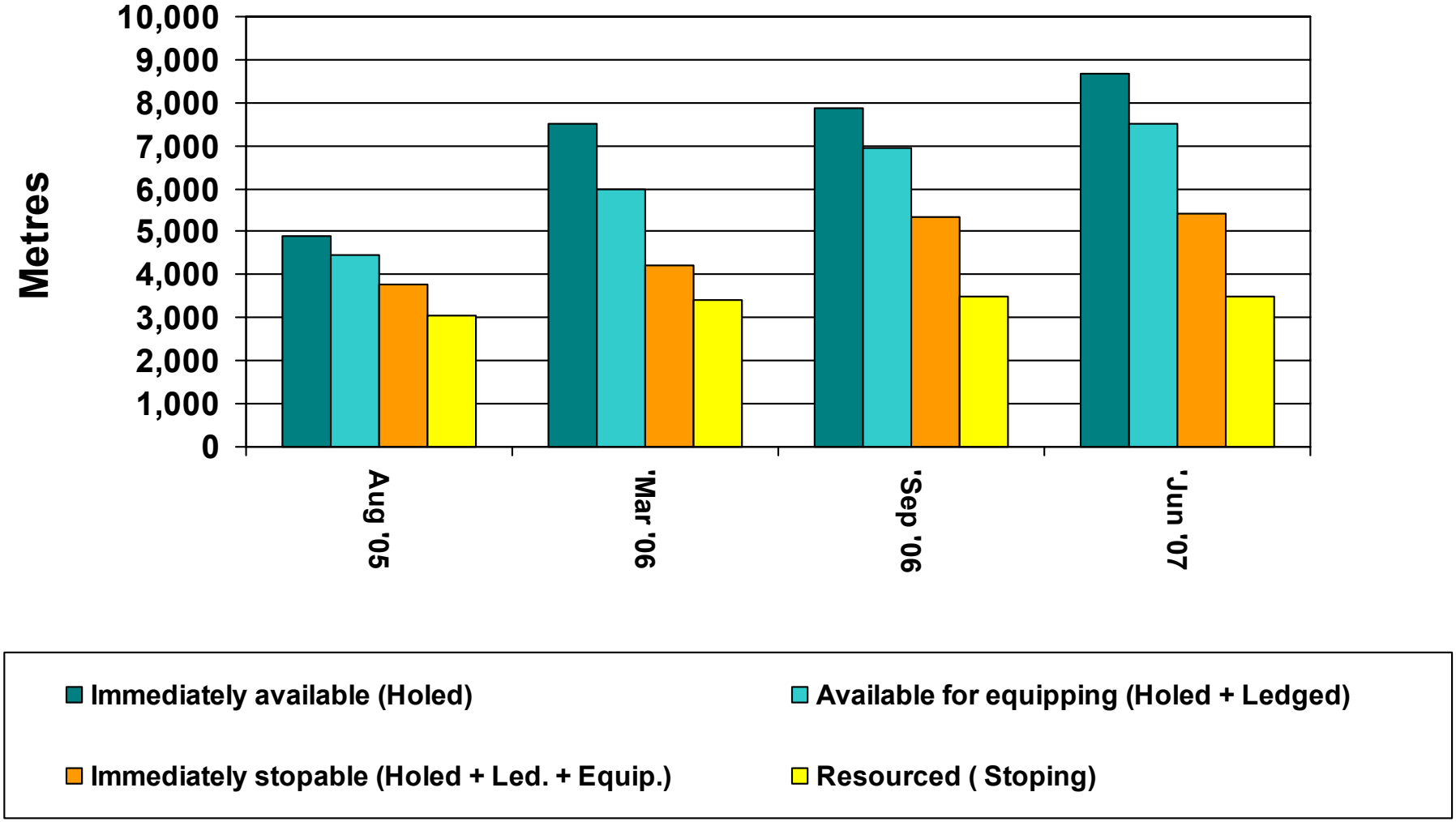
Immediately Available Reserves (Raises Holed)



* Revised dip method increased rate of ore reserve build up

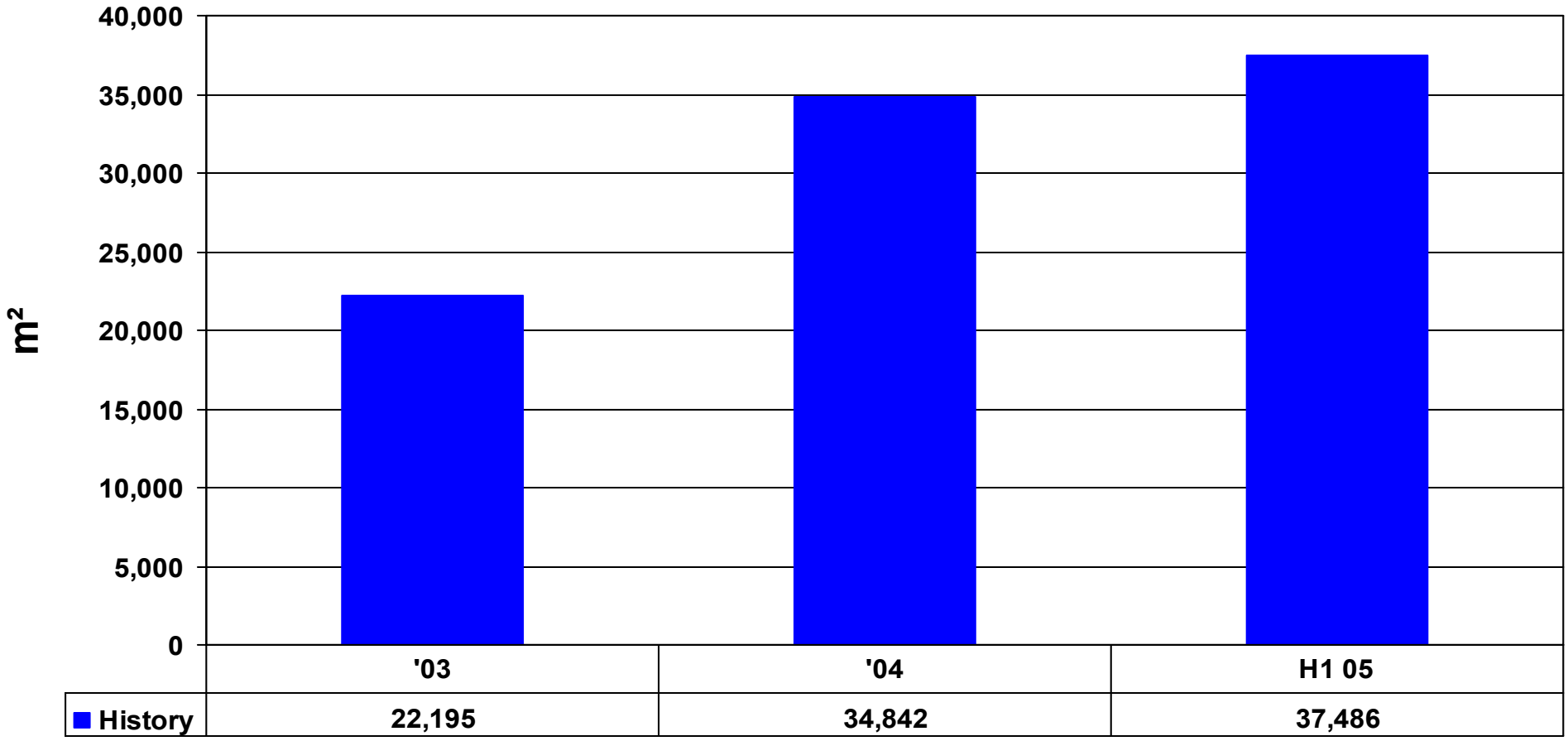
- **Includes depletion of Hill and mid shaft areas**
- **Transition to 100% underground production**

Face length build-up



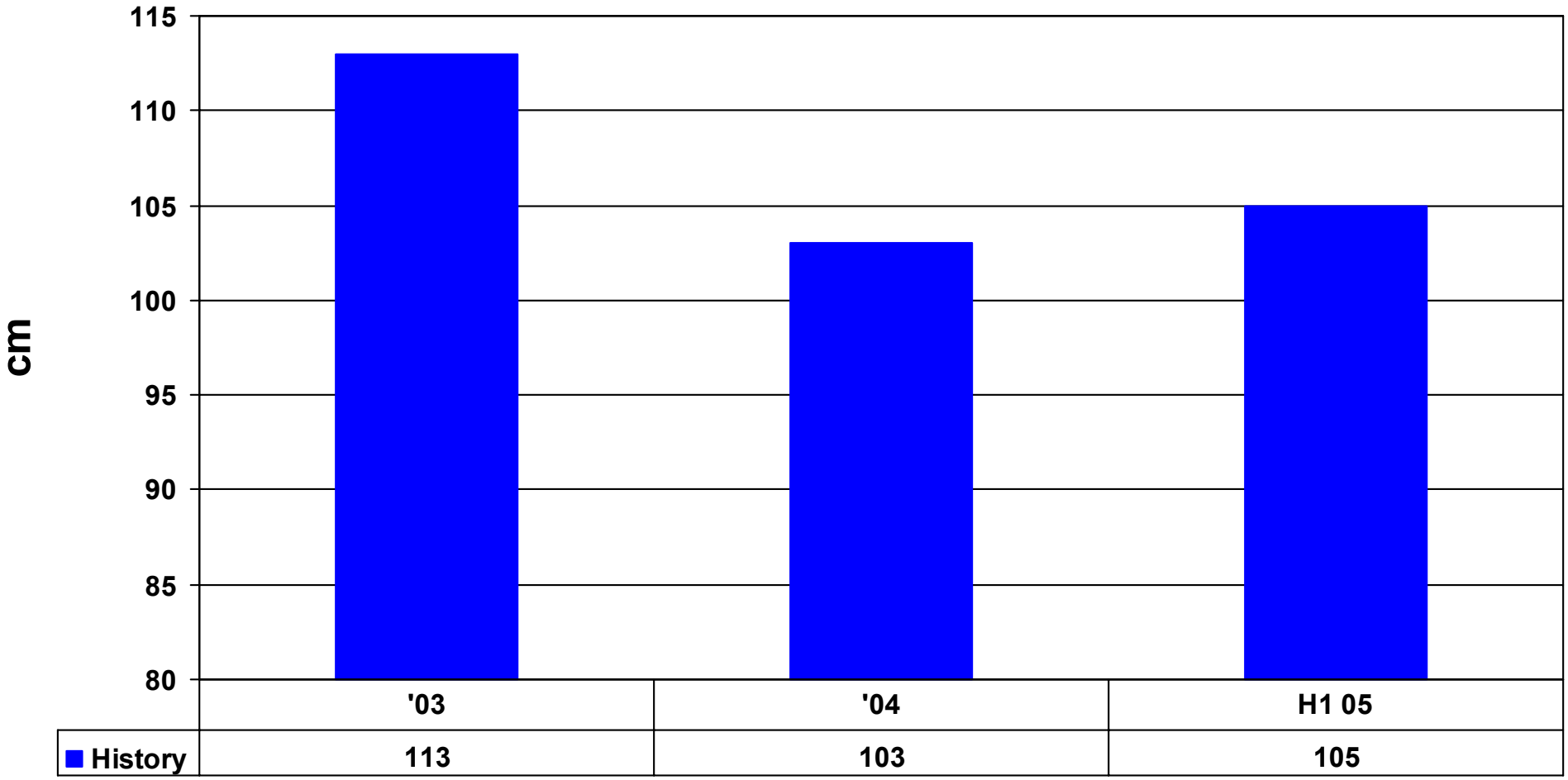
- **Planned ratio – stopable: stoping 1,5:1 by end 2006**

Monthly area mined (m²)



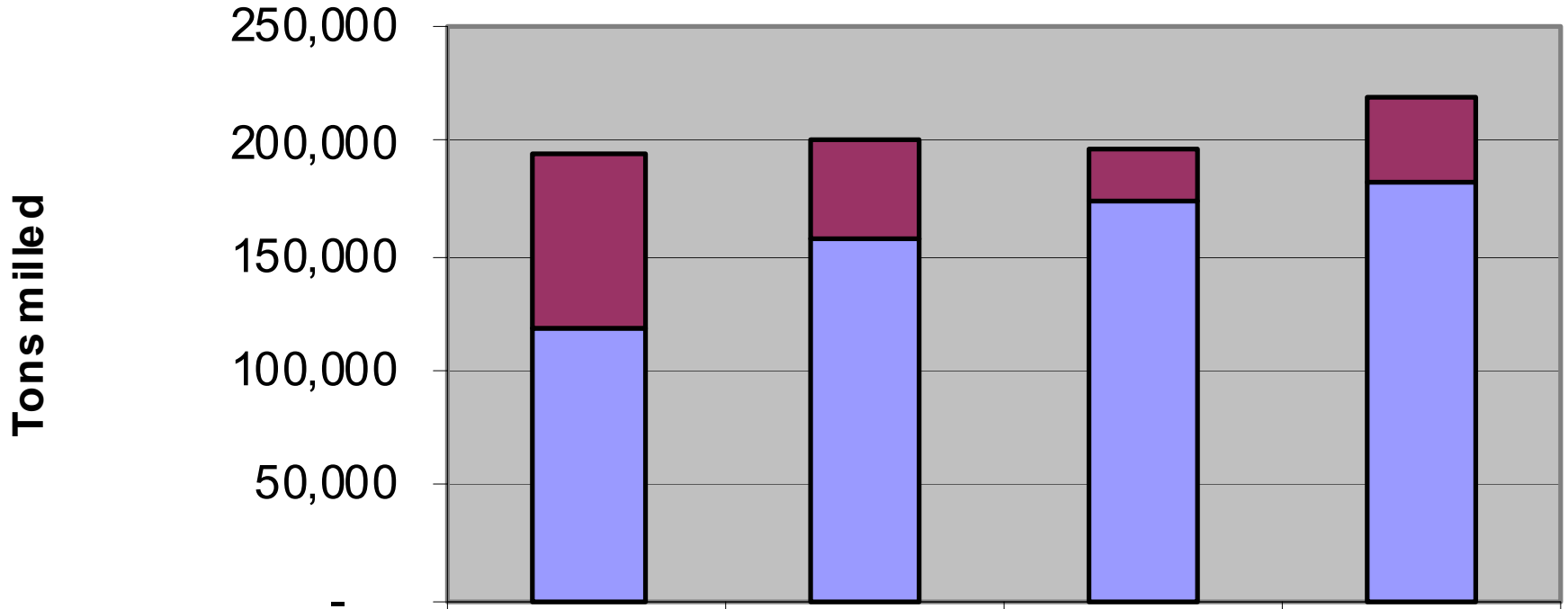
- **Planned steady state – 100% underground at 50 000m² / month**

Stoping width

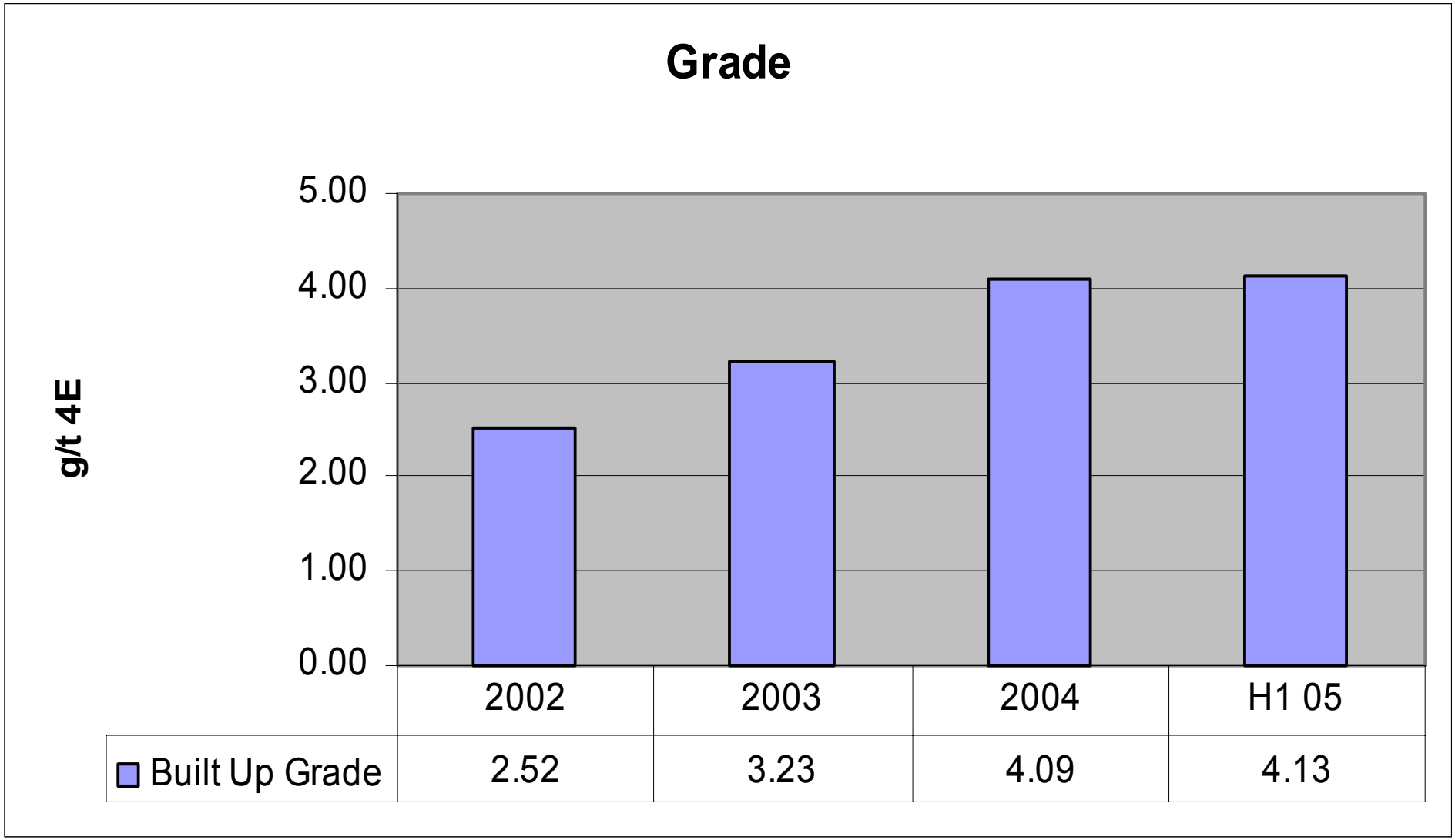


- **Steady state mine average planned at 102 cm by end 2006**

Average Tons Milled per month

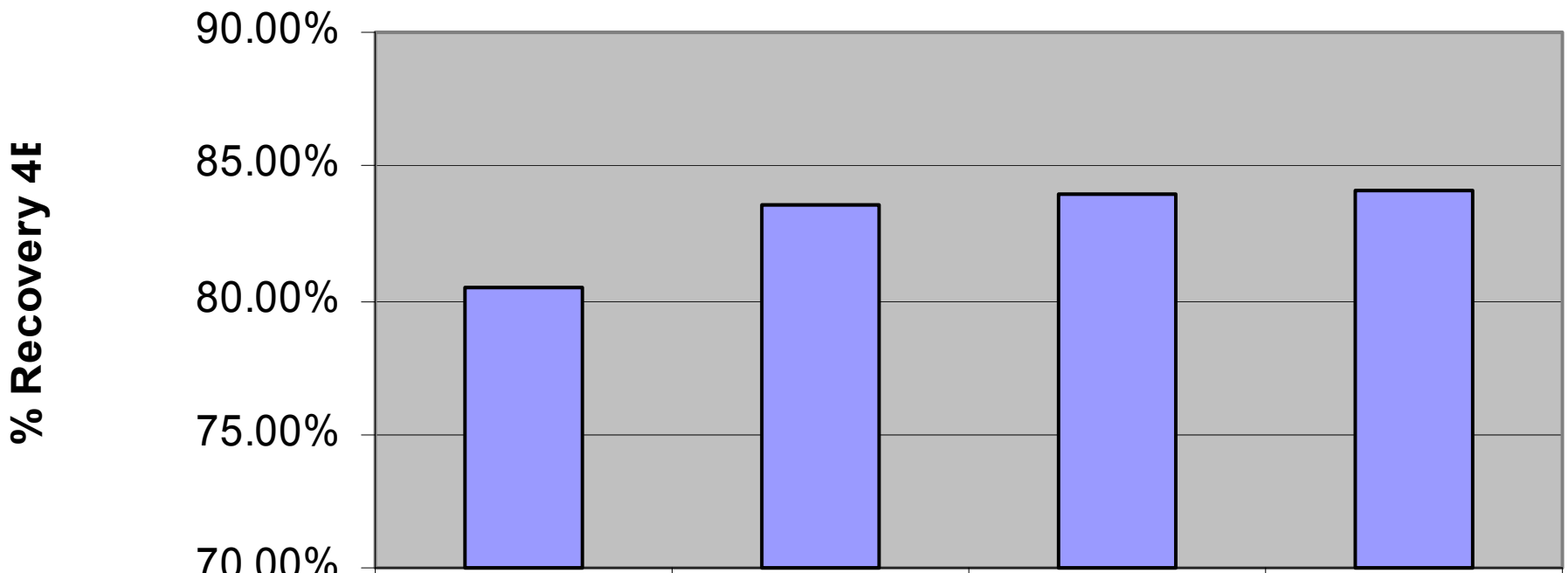


	2002	2003	2004	H1 05
Other Sources	75,545	44,323	22,886	38,124
HG UG2	119,455	157,427	174,114	181,543



- **Includes low grade ‘other’ sources – depleted by end 2005**
- **Current underground average grade 4,45 g/t**

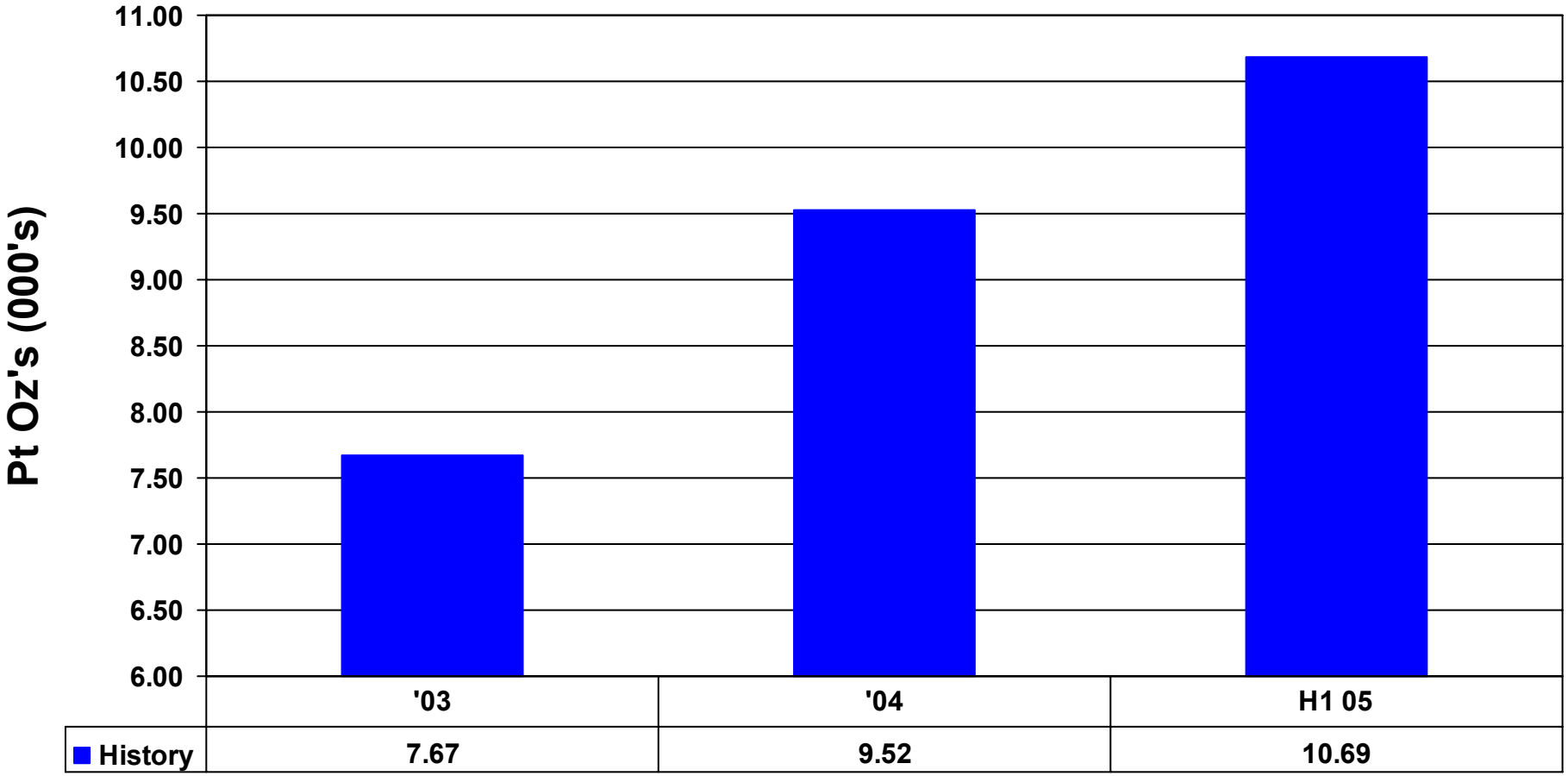
Plant 4E Recovery



	2002	2003	2004	H1 05
4E Recovery	80.50%	83.60%	84.00%	84.09%

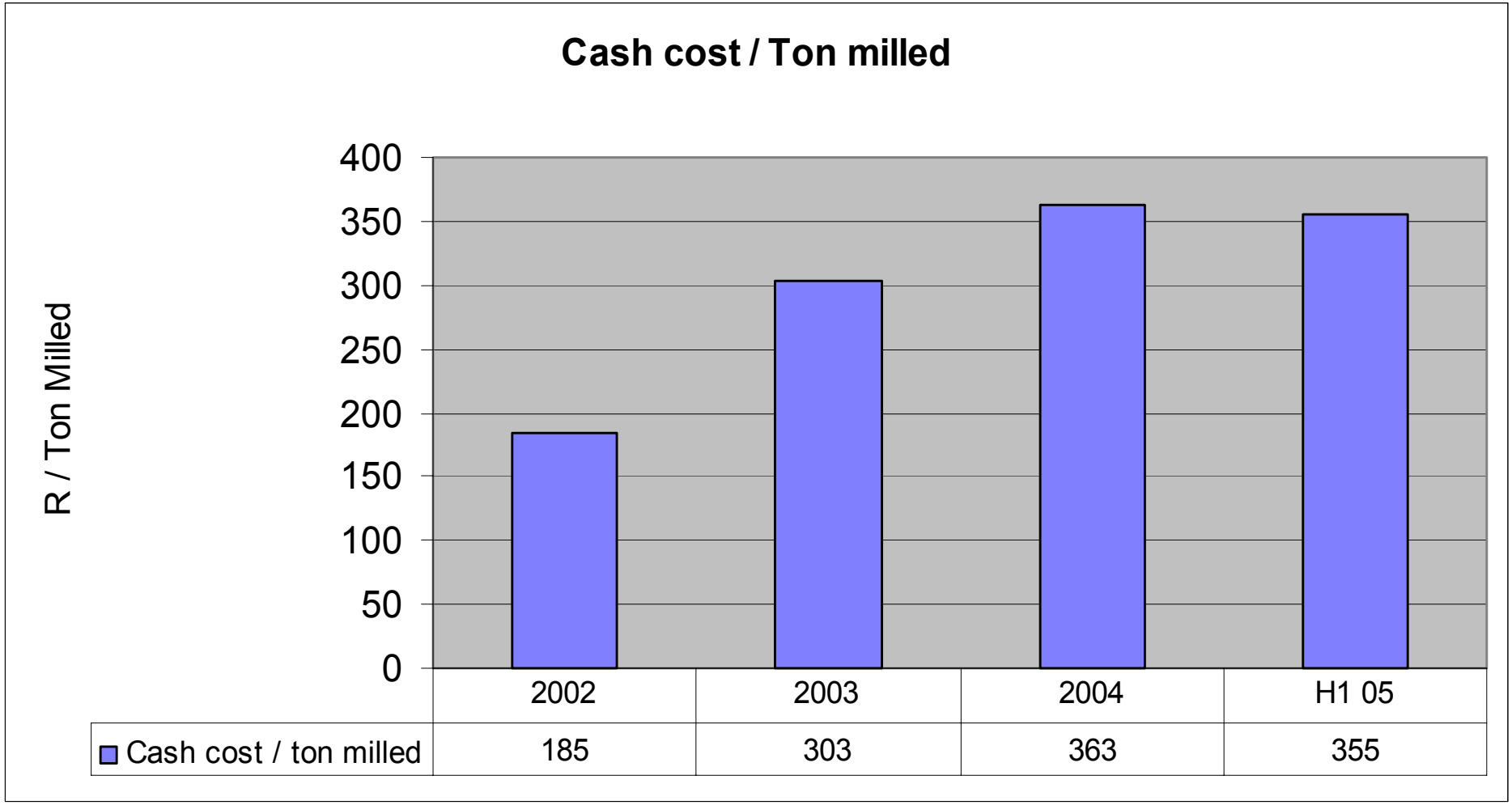
- **Steady state planned recovery 86%**
- **Achieved 240 ktpm in May 2005**
- **Expert systems in place – circuit optimisation ongoing**

Equivalent refined Pt Oz / month

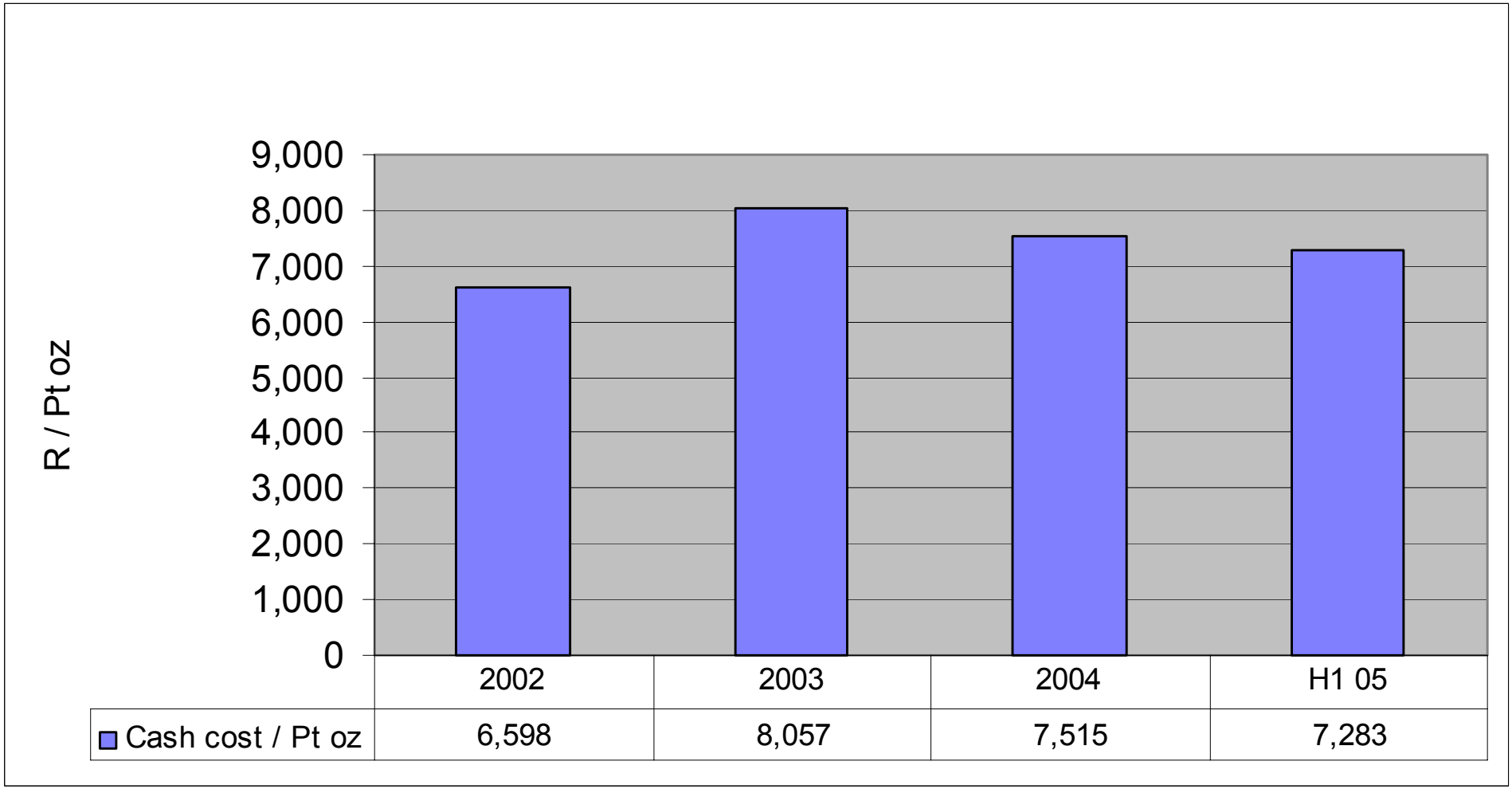


Operating costs

Cash cost / ton milled



Cash cost / equivalent refined Pt oz



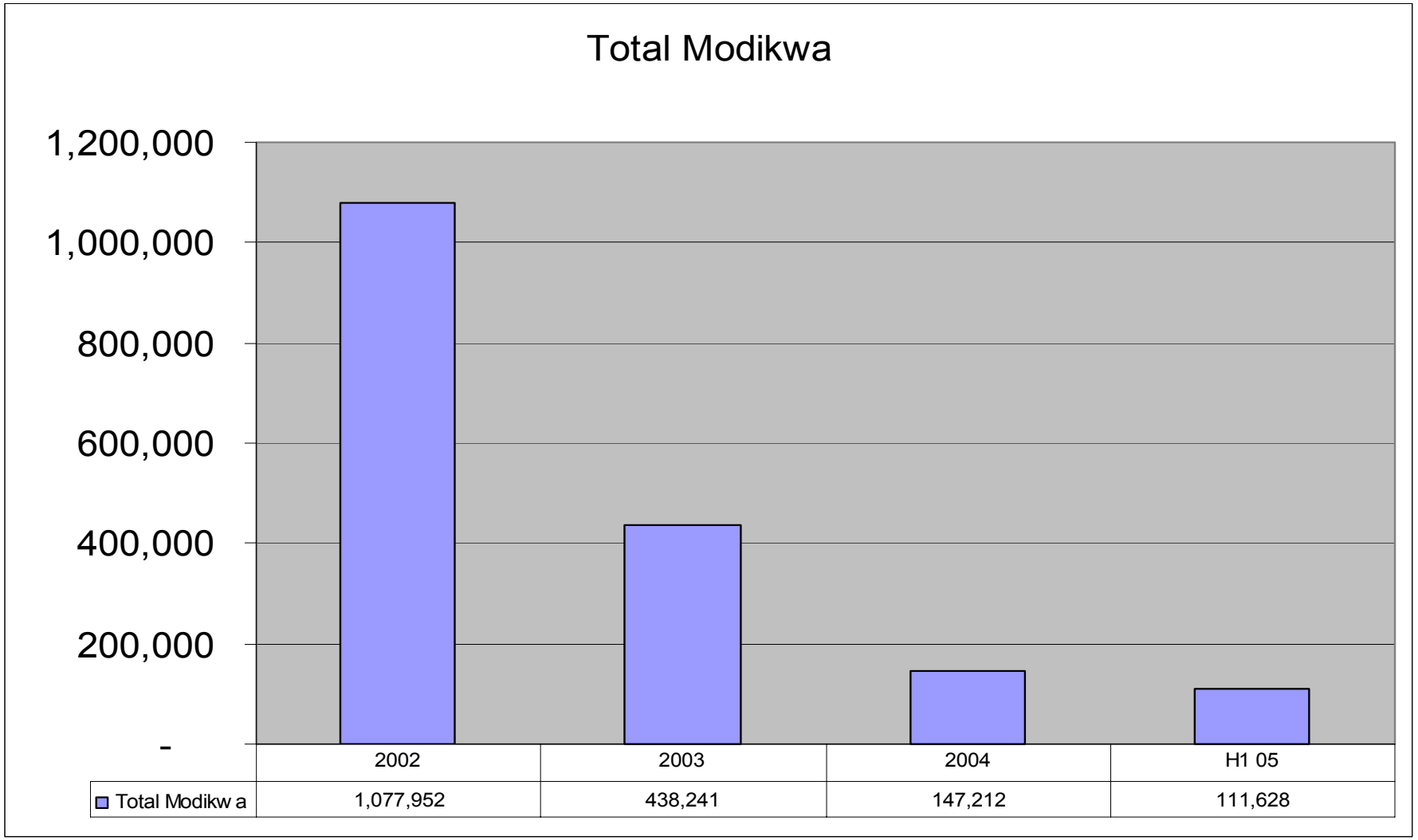
- **Lower platinum content of Modikwa ore results in higher unit cost per Pt oz, comparable cost per PGM oz**

Operating costs

- Current cash costs per ton milled and Pt oz high as build up continues.
- Drivers of cost reduction
  - Volume increase
  - 4 mining areas to 2
  - 1,5m of equipped face per m face blasted
  - Novice workforce moving up learning curve
  - Less development required
  - Cost reduction initiatives

Capital expenditure

Capital expenditure (*R000's*)



- **Approximately R 160 m to be spent on average on LOM ongoing / replacement capital**
- **Approximately R 100 m additional to be spent per year during decline deepening**

Capital expenditure

Main Items for 2005

- Burgersfort Housing Project R 125 million
- Flag Boshielo Damwall R 19 million
- Ore reserve development R60 million - and commencement of North Shaft deepening by 1 level
- Off mine capex largely complete

Human resources

Employee relations

- Community and employee expectations high
- Non-procedural workplace disruptions – higher than normal
- Significant management effort and focus to educate and mentor workforce and improve relationships
- Mining Charter Compliance Strategy in place.

Human resources development

- Underground and surface training centres.
- Increased training of supervisors.
- Fall Of Ground competency compliant by Dec 2005.

Key business issues

- Improved safety performance
- Achieve planned volume increase
- Smooth transition from down dip to breast stoping and moving drives into footwall
- Further improve efficiency of the mechanised development and tramming
- Improve efficiencies of stoping teams
- ***Major transition commenced, complete in 2006***

Facility visit

11 October 2005