Great Noligwa Mine

Presentation to media and analysts

7 February 2002

AngloGold – South African operations

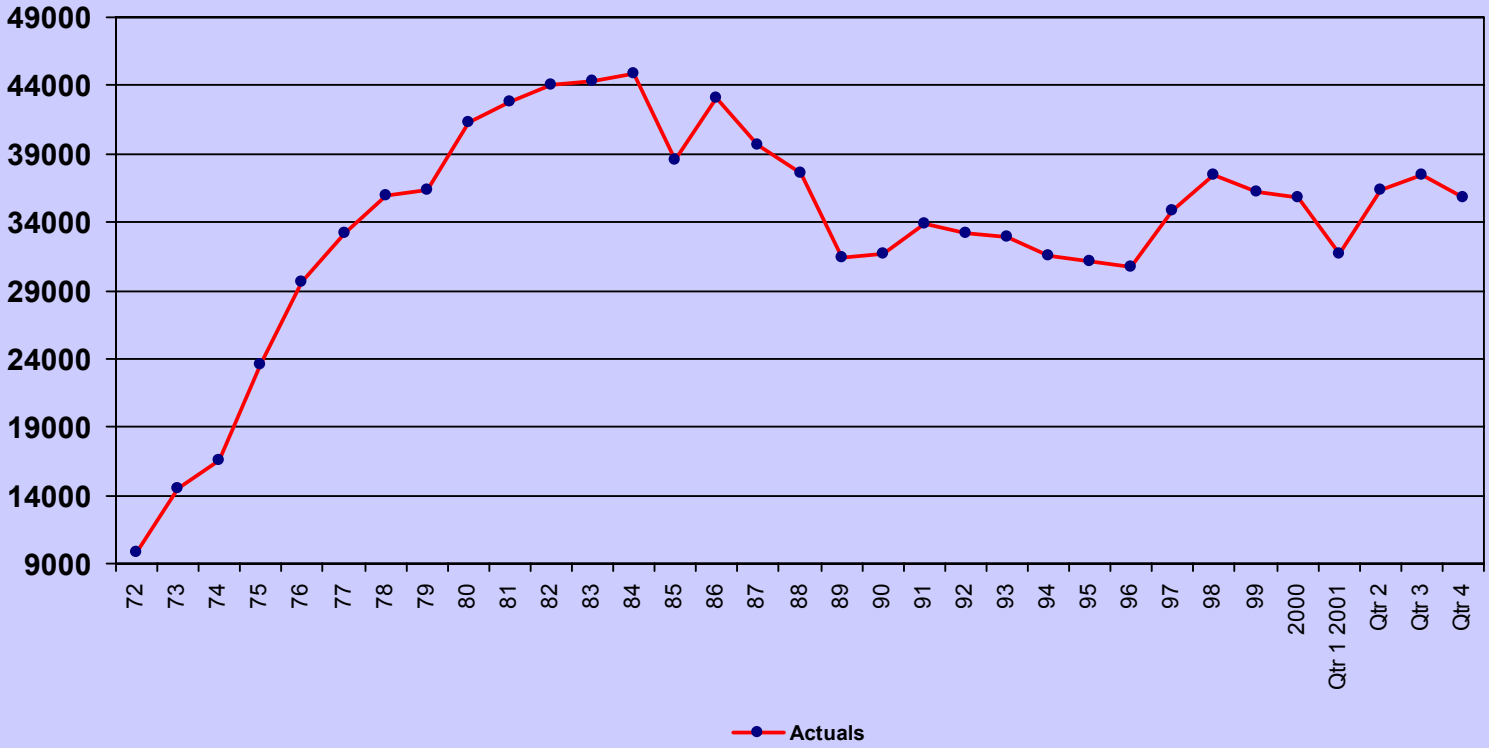
Great Noligwa – Salient features

- Great Noligwa means “near to the Ligwa (Vaal) River” in Zulu
- Great Noligwa and Moab Khotsong form the southern boundary of the KOSH gold field.
- Mine situated south of the Vaal River above the 50 year flood plane
- Shaft sinking commenced in 1967
- Production commenced in 1972
- Safety & Annual Production Records
  - Safety Shifts (1999) 1 401 264
  - Lost time injury rate (2000) 6.18 – Q3 2000
  - Production(1984) 538 593 m^2
  - Gold recovered (1982) 34 738 kg
  - Tons Hoisted(1983) 3 756 019 t

Great Noligwa – Salient features

- Twin shaft system with mid-shaft cross over
- Surface fans move 1.2t/s of air
- 63 MW of installed refrigeration give cooling power above 300 W/m²
- Design hoist capacity of 300 000t/mth
- Ore fed directly to a dedicated plant
- The mine operates at an average depth of 2.4 km
- The resource comprises both Vaal and “C” reefs
- Development values
  - Q1 (2001) 3 469 cm.g/t
  - Q2 (2001) 3 070 cm.g/t
  - Q3 (2001) 3 625 cm.g/t
  - Q4 (2001) 3 244 cm.g/t

Total m^2/mth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44000
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92
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96
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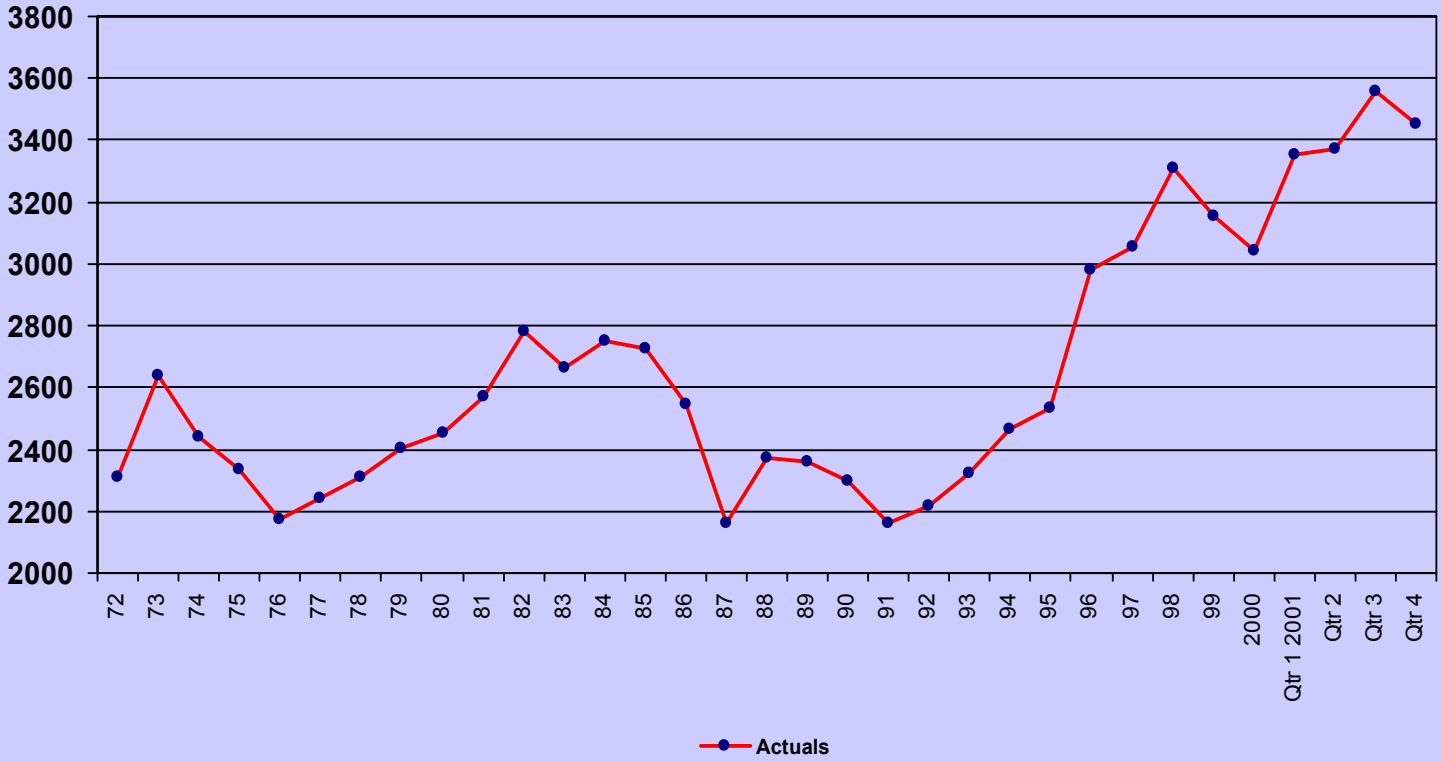
2000
Qtr 1 2001
Qtr 2
Qtr 3
Qtr 4
Actuals

Cm g/t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Qtr 1 2001
Qtr 2
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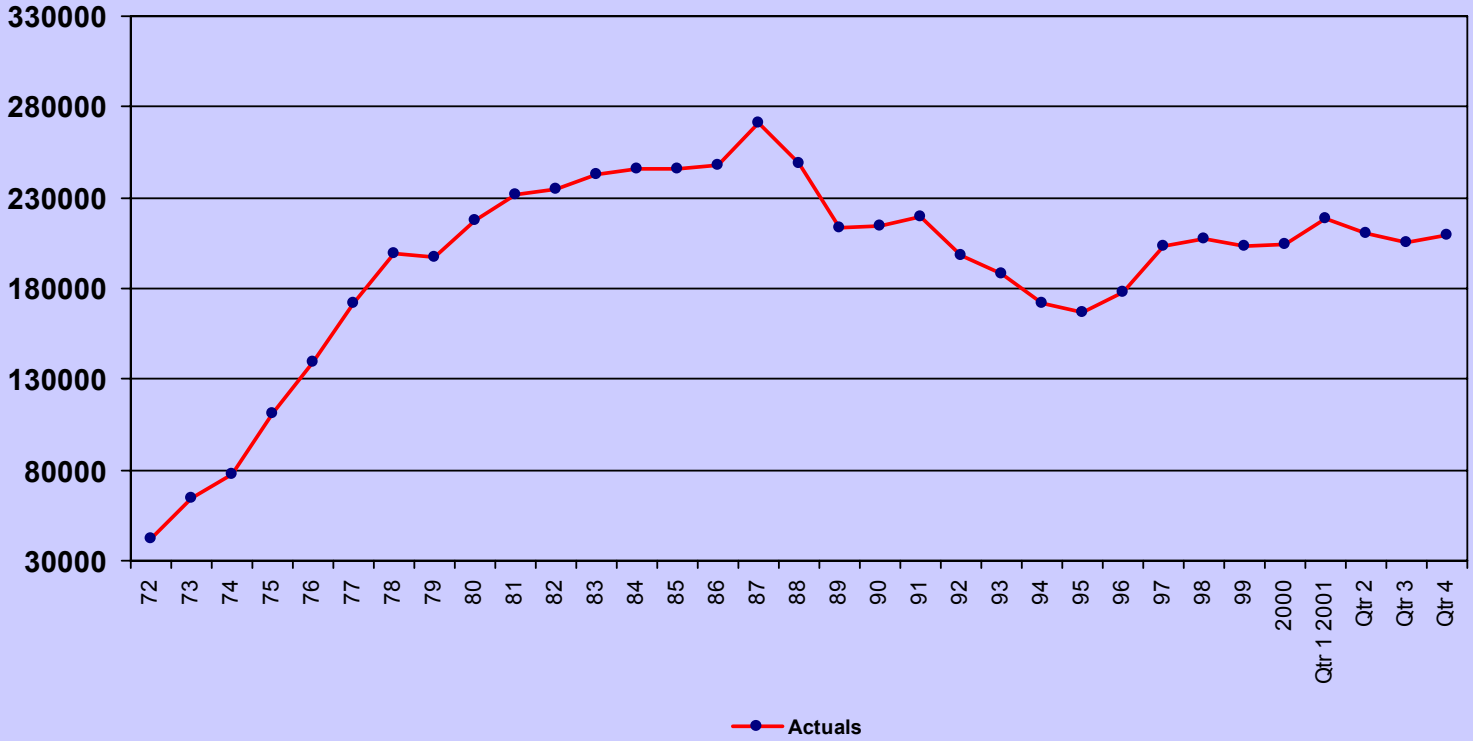
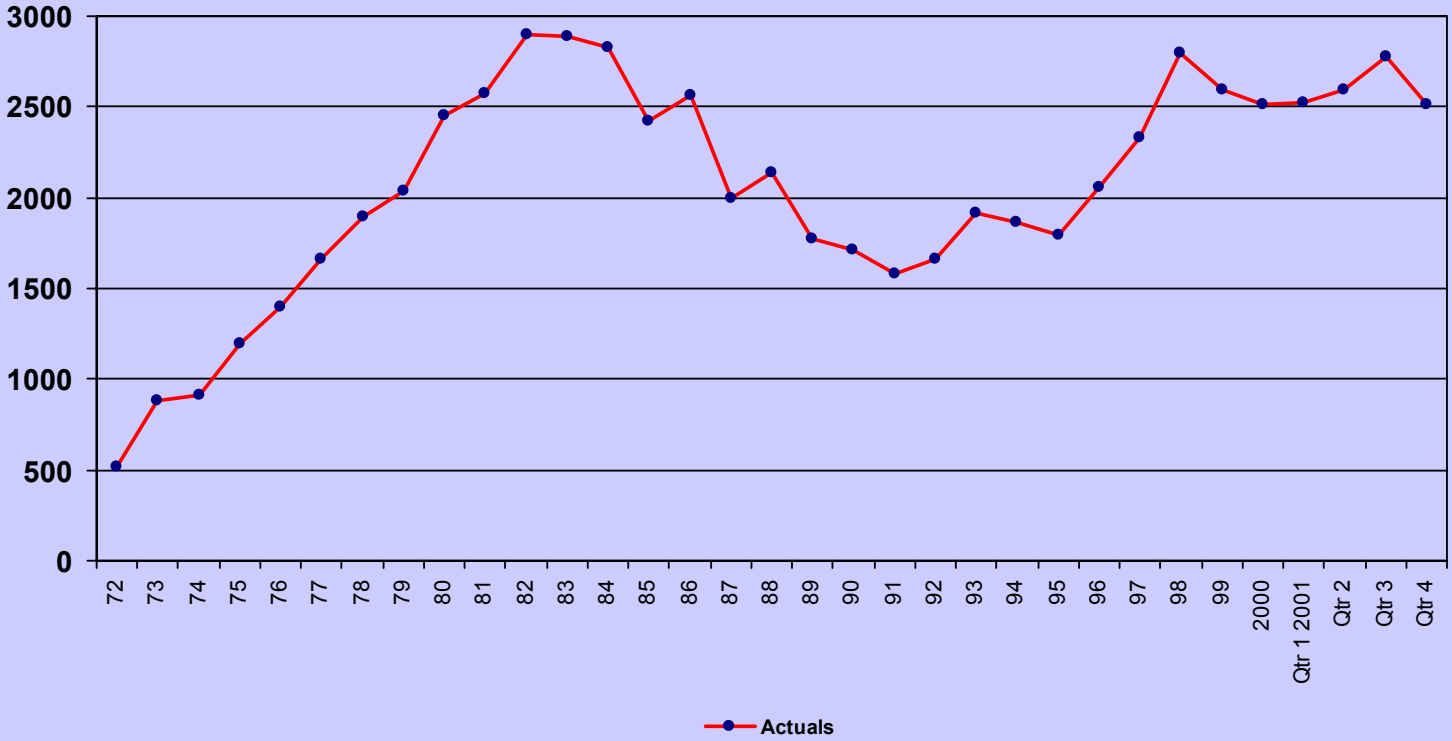
Qtr 4
Actuals

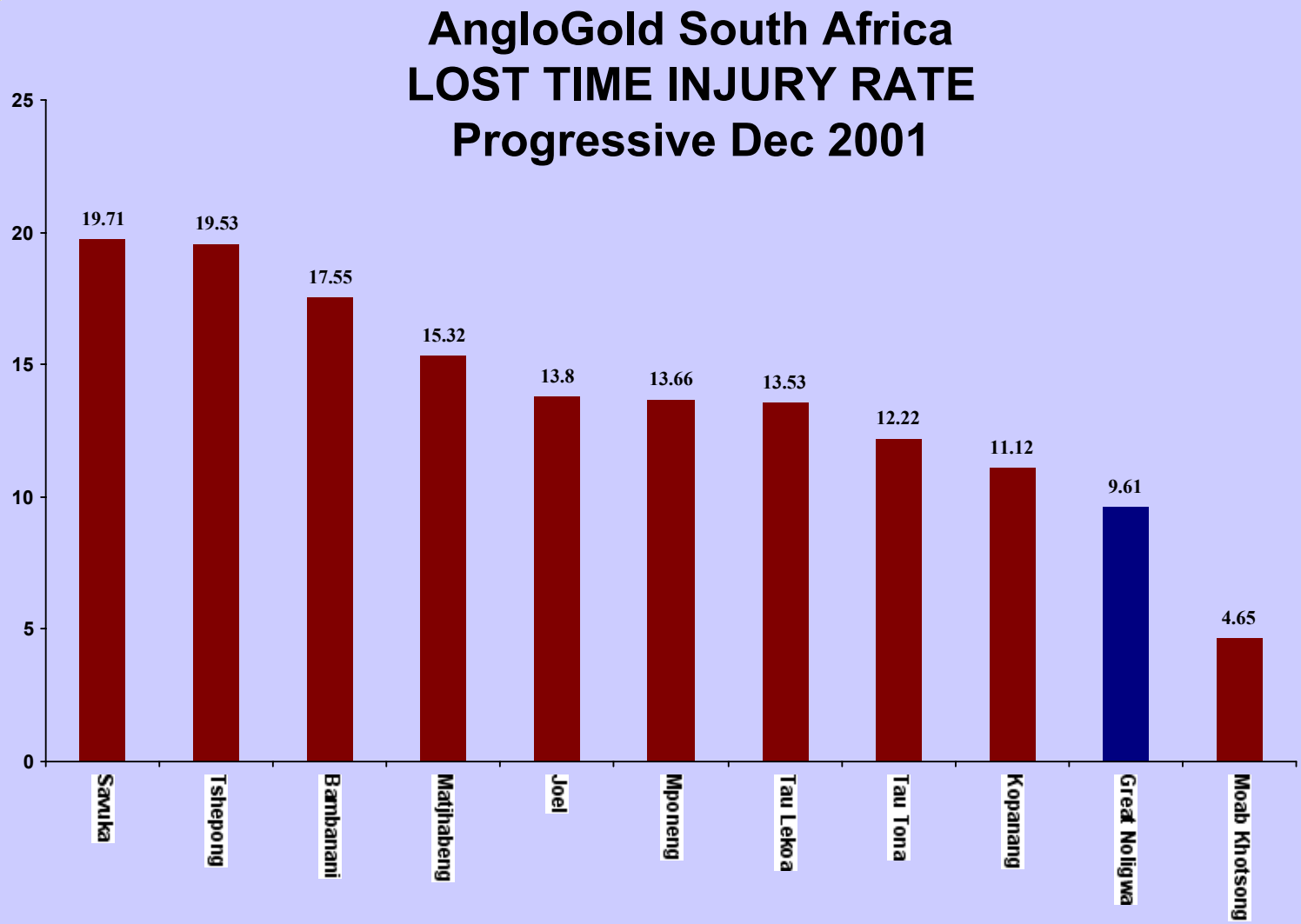
Tons treated/mth



Gold produced/mth

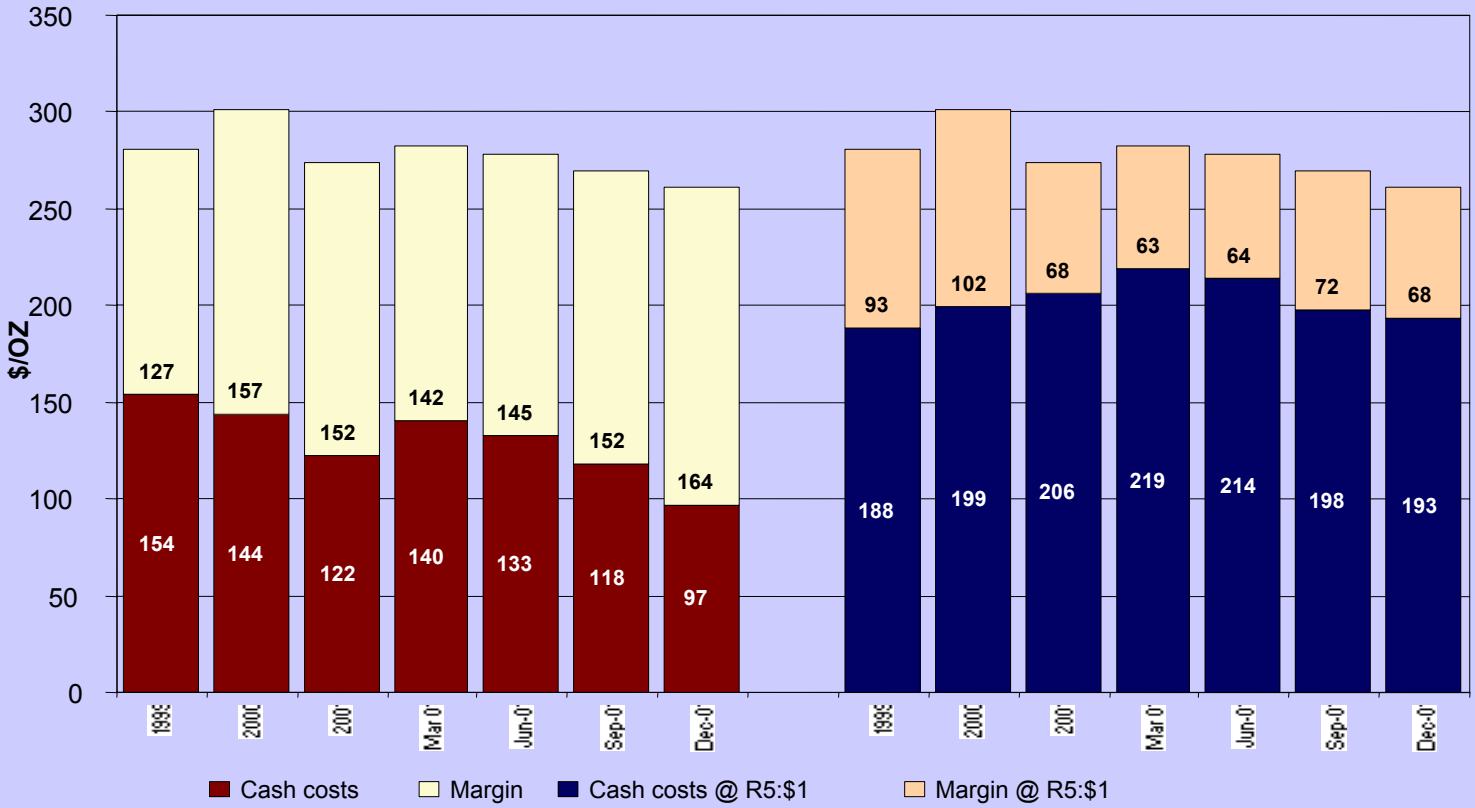


Safety


AngloGold South Africa
LOST TIME INJURY RATE
Progressive Dec 2001
25
20
15
10
5
0
19.71
19.53
17.55
15.32
13.8
13.66
13.53
12.22
11.12
9.61
4.65
Savuka
Tshepong
Bambanani
Matjhabeng
Joel
Mponeng
Tau Lekoa
Tau Tona
Kopanang
Great Noligwa
Moab Khotsong

Cash costs

GREAT NOLIGWA MINE



Exchange rate year 2000 = R6,7832 $/oz

Exchange rate year 2001 = R8,6182 $/oz

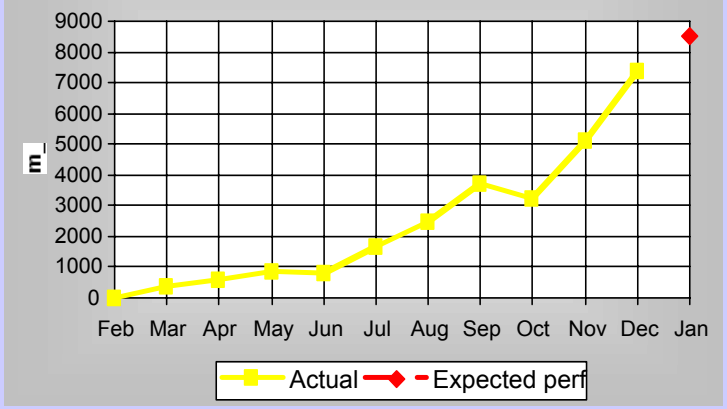
Productivity Improvement Strategy

- Human Engineering
  - Great Team Training:- Team alignment
  - Newtec Training:- Technology Implementation
- Technology Implementation
  - New mining methods

Whytookay Gr8 Team Training

52 completed

Pack-in-a-pipe performance 2001 - 200

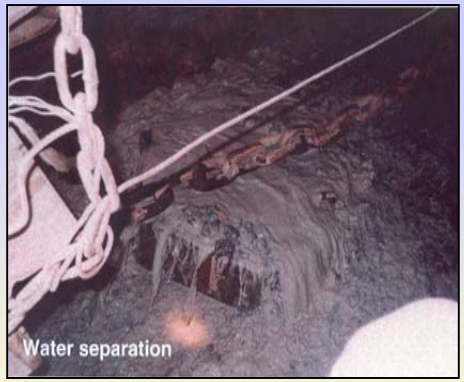


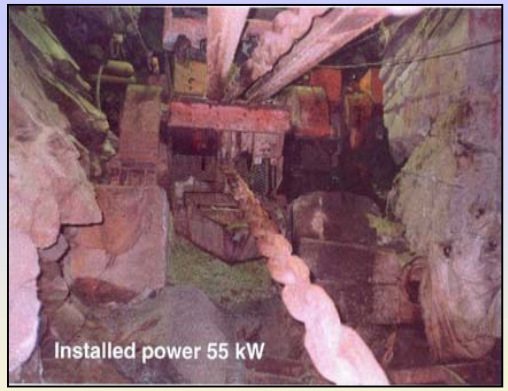
More cost effective stope support (-R100/m^2)

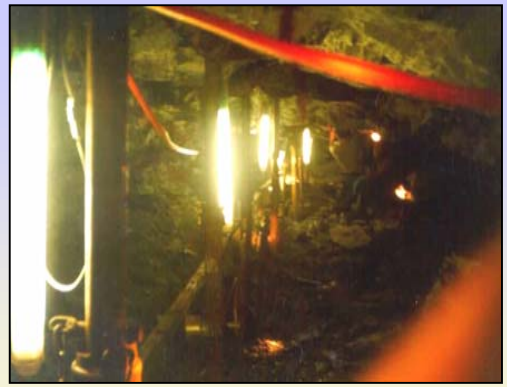
The Hypermine concept

- The Hypermine is a long-term and sustainable approach to improved productivity through the synergies of proven technology with efficient work teams operating in a mining layout designed to optimise performance.
- Mining design allows raise lines to be developed quickly maximising use of rock boring and drop raise techniques.
- Stoping arrangements apply drill rigs to attain long rounds (± 1,5m) that are cleaned with water jet assisted scrapers into a continuous scraper slusher path allowing ore to be pulled up-dip with the water separated and flowing down to a central pumping system at the crosscut.
- Tramming from the single orepass will be performed by either normal or NT trains (double header).
- All locos will tip into central ore handling systems that are serviced by dedicated NT trains.

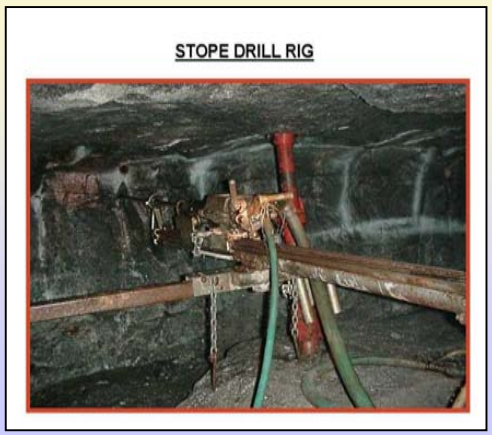
Technology and mechanisation projects







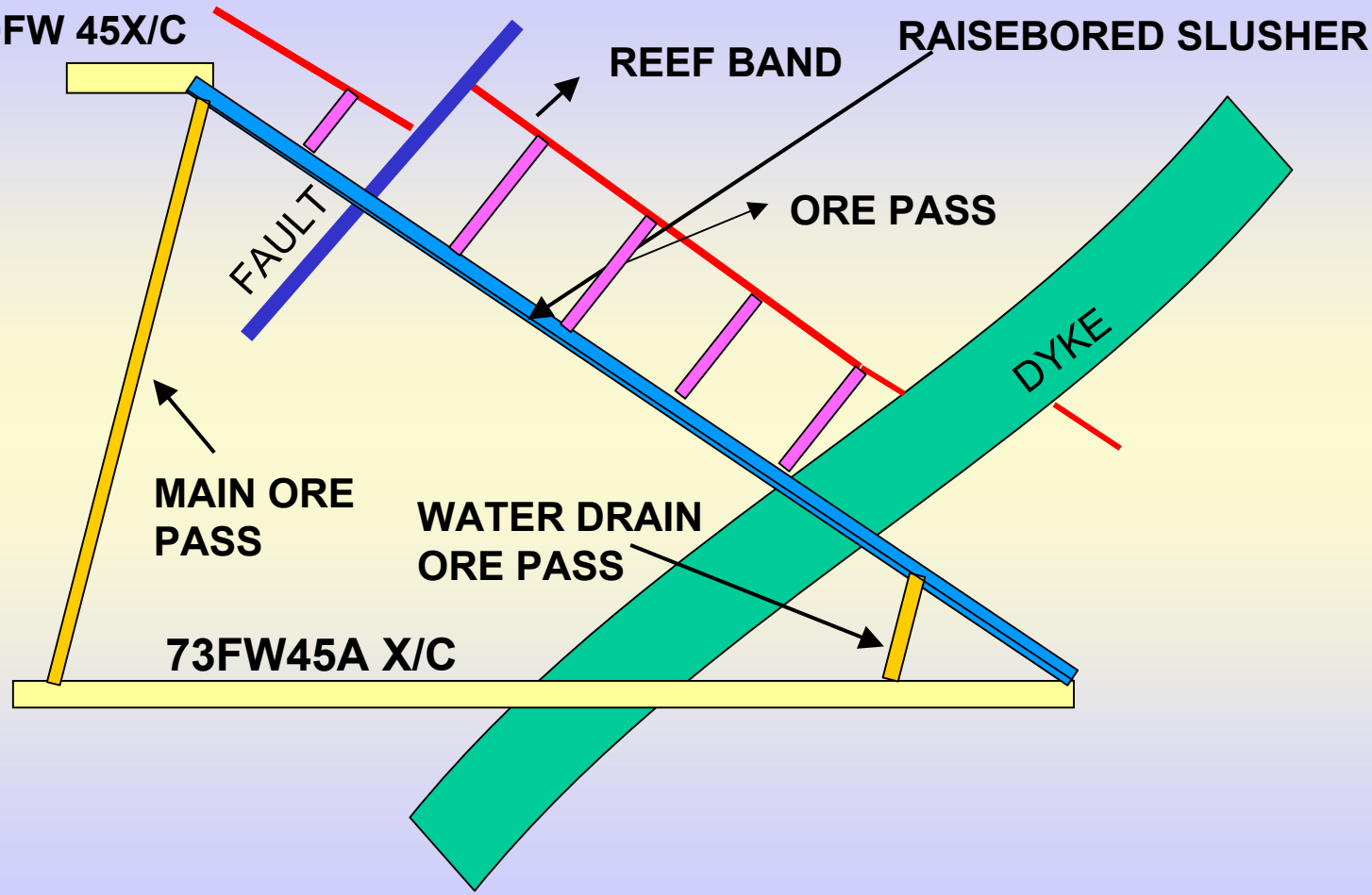
Synergy of technologies used in Hypermine layout



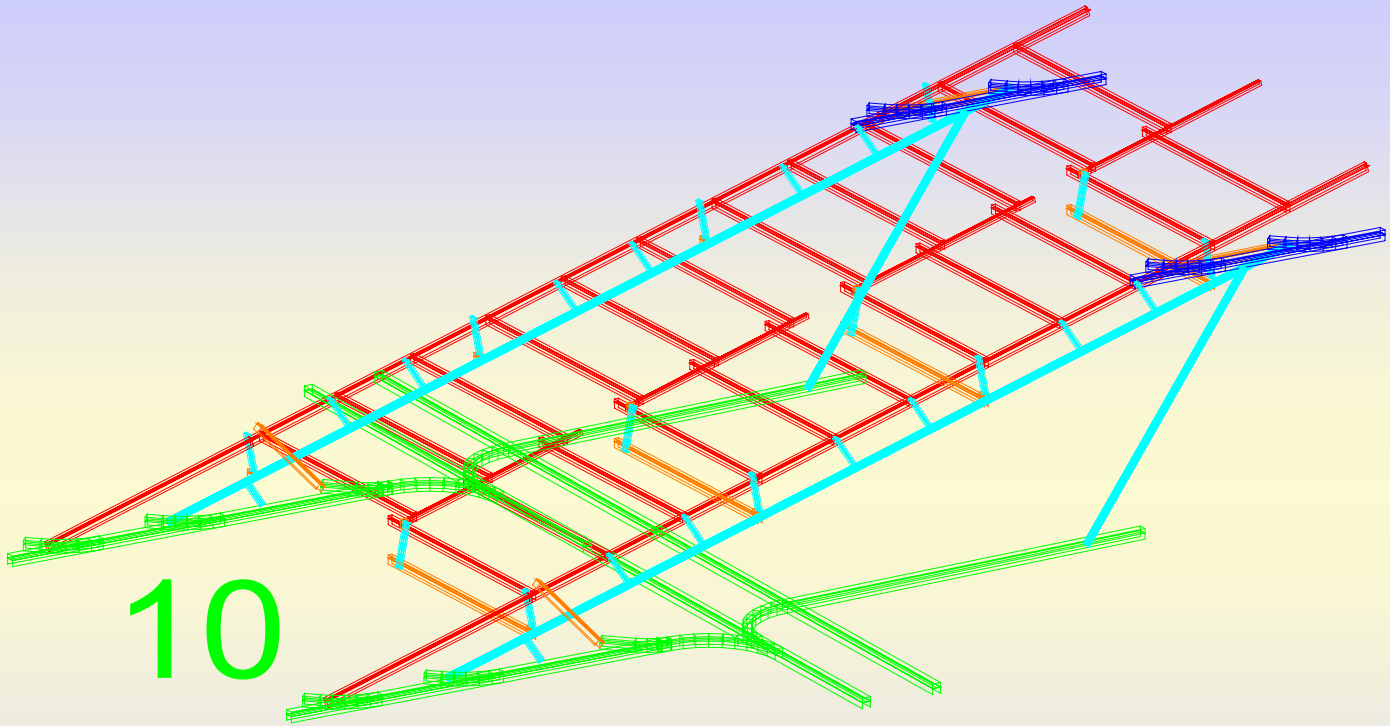
Technology and mechanisation projects

- Technology initiatives & projects with
  - mine design office (CAD)
  - tramming dispatch systems
  - pack in the pipe
  - stope lights and in-stope water filters
  - electric delay detonators
  - seismic monitoring network
  - drill rigs
  - NT or Double header trains
  - Pumpable emulsion explosives (UBST)
  - Varying degrees of implementation

Slusher development layout



Panel layout and shape



Overview

- First raise line completed

	Previously	**NOW**
Time taken to raise holes	18 months	**6 months**
Cost of completion	R2.3 million	**R1.2 million**
Metres per person	2.6 metres p.p	**3.4 metres p.p**

- All technologies proven at GNM – usual RC factor overcome in most cases
- 24 other sites identified for Hypermine layouts over next 5 years
- Planned for 20 000m^2/mth from end 2003
  - Total TEC reduction of 660 from 9477 to 8817

Hypermine programme

Number of "hypermines" in production																			
	2002				2003				2004				2005				2006		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
SV1						1	1	1	2	2	2	2	3	2	2	2	2	2	3
SV3			1	1	1	1	1	1	3	3	2	2	2	2	3	3	4	3	3
SV4	1	1		1	2	3	3	3	3	1	2	2	3	3	2	2	3		
Count	1	1	1	2	3	5	5	5	8	7	6	6	8	7	7	7	9	5	6

Hypermine – development comparison

Hypermine Layout				Boxhole for each Panel Conventional Layout		
		metres				metres
Slusher Raise (Raiseborer)		212				
Raise 1	40			Raise		152
Raise 2	26					
Raise 3	24			B/H 1 Conventional		44
Raise 4	26			B/H 2 Conventional	37	
Raise 5	36	152		B/H 2 Dropraise	30	67
				B/H 3 Conventional	46	
Slusher B/H 1	13			B/H 3 Dropraise	45	91
Slusher B/H 2	13			B/H 1A Conventional	25	
Slusher B/H 3	14			B/H 1A Dropraise	29	54
Slusher B/H 4	14			B/H 2A Conventional	45	
Slusher B/H 5	15			B/H 2A Dropraise	36	81
Slusher B/H 6	14	83		B/H 3A Raiseborer	105	
				B/H 3A Tapping Pass	17	122
Boxhole (Mechanical)		92				
Tapping Pass		20		Reef Drive		10
Water Boxhole		29				
Access X/C		37		Access X/C		27
Vent T/W		21		Travelling Way		52
Total Metres		**646**		**Total Metres**		**700**

Technology outlook

- In 2002 we will:
  - begin the second hypermine
  - regularly achieve the long stoping round with drill rigs
  - increase usage of pack-in-a-pipe and EDD's to over 50% of production
  - introduce Newtec training
  - have 10 more NT or double-headed trains running in dedicated haulages
  - get the piped explosives system into wider use in stoping
  - make improvements to slusher scraping and water handling from the hypermine

Outlook

	2001	2002	2003	2004
Area m2	424003	423966	426601	424515
m2/Tec	3.71	3.85	4.03	4.26
Labour	9536	9185	8820	8297
gold	31224	30225	30426	29909
g/Tec	273	274	287	300

Outlook

- Annual area mined expected to remain around 420,000 centares for the next 9 years.
  - The possible shaft pillar removal and other outlying pillars will influence rates beyond this date.
- Gold recovered will remain around 30t for 3 years and then start to decline gradually over the next 9 years.
  - Mining grades will drop gradually over the next 9 years down to approximately 2,200cmg/t at a similar stope width to current mining.
- Tons milled should remain fairly constant.