IMPLATS
Distinctly Platinum

Investor visit – Refineries

October 2005

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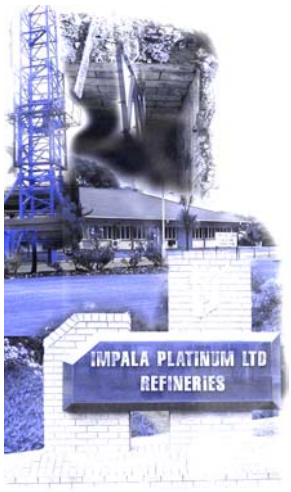
Refineries flowsheet

- Overview
- BMR flowsheet
- PMR flowsheet

Why Springs?

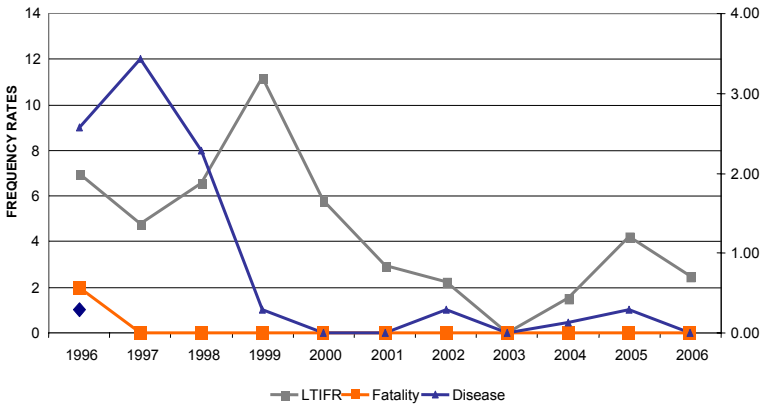
- Infrastructure available from Geduld Gold Mine
- Proximity to Joburg International Airport
- Gas supply
- Chemistry and Engineering skills



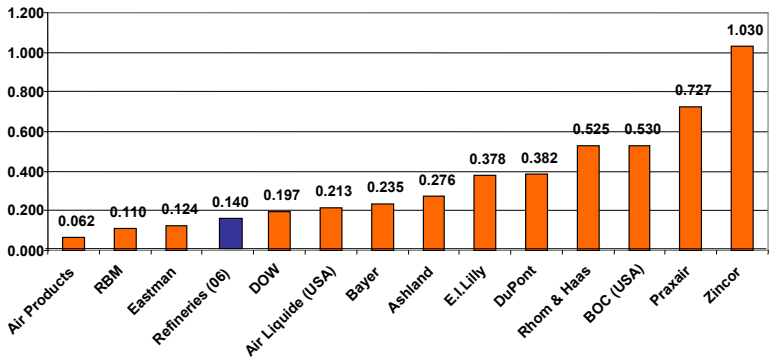
Major achievements in safety

- 0.0 LTIFR including contractors for 25 months
- Benchmarking : NOSA – International Top 100, 7 NOSCAR Awards
- Won the MMMA competition for second year in 2005
  - Mine Metallurgical Managers Association
- Individual recognition awards from NOSA
- Meerkat programme
- Currently in “gap analysis” for OSHAS 18 000

Statistical overview: Refineries health and safety history



Benchmarking – LTIFR (200 000 hours)



Quality

- ISO 9002 Quality Management System (QMS) – first certification , July 1997
- ISO 9001 revised quality management system (QMS) – first certification, July 2002
- 12 external surveillance audits have been conducted on site thus far with one re-certification audit (September 2005)

Springs quality forum

- Presently Impala chairs the forum
- All issues related to the ISO 9001 QMS are discussed at these forums

Environmental

- First received certification in May 2000
- Re-certified in November 2004
- A total of 8 surveillance audits

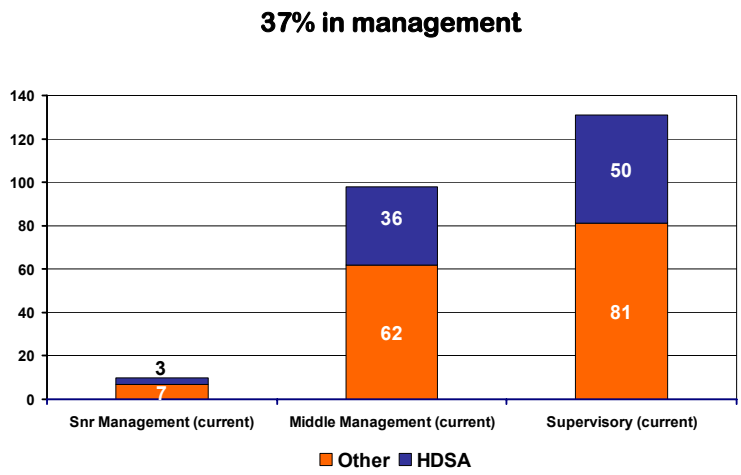
Springs Air Forum

- Presently Impala chairs the Forum
- Working with local businesses and authorities

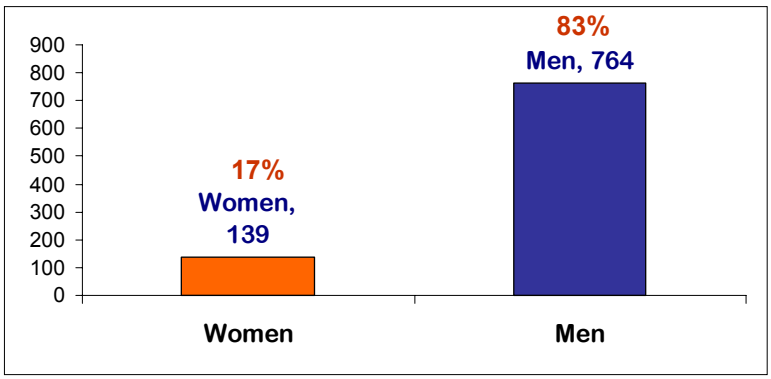
Blesbokspruit

- Blesbokspruit Forum
  - Impala is part of the monitoring committee
- Grootvaly Trust
  - developing a framework to develop the centre as an environmental education centre for the Springs area
  - main aim is to assist environmental affairs with the retention of the RAMSAR status

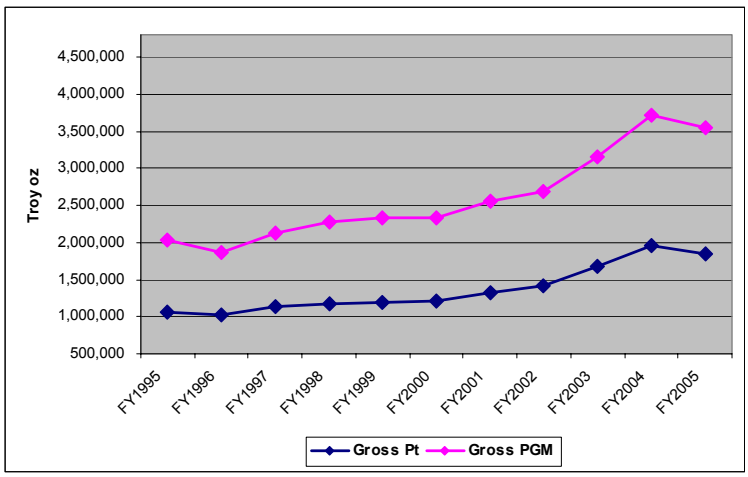
Employment equity - management



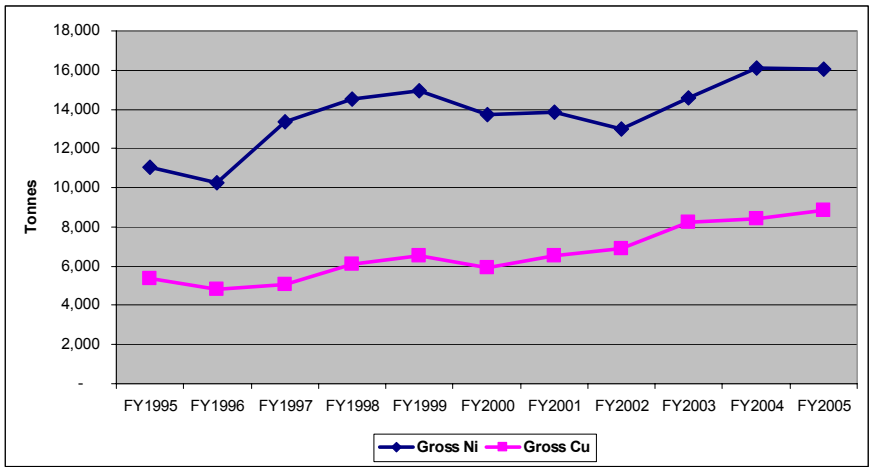
Women employed



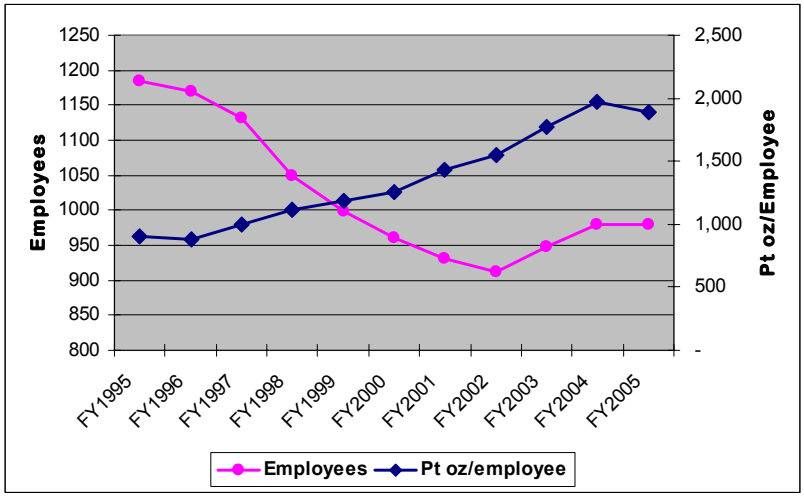
Gross Pt and PGE production



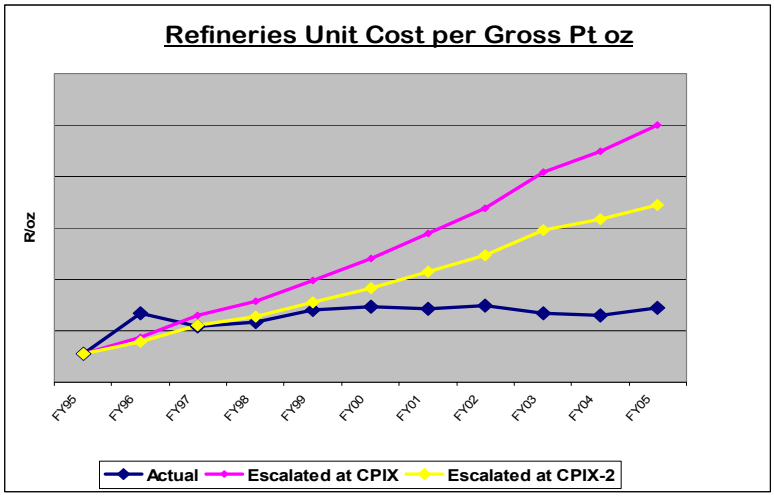
Gross base metal production



Employees and Pt oz/employee



Refineries unit costs



Refineries expansion

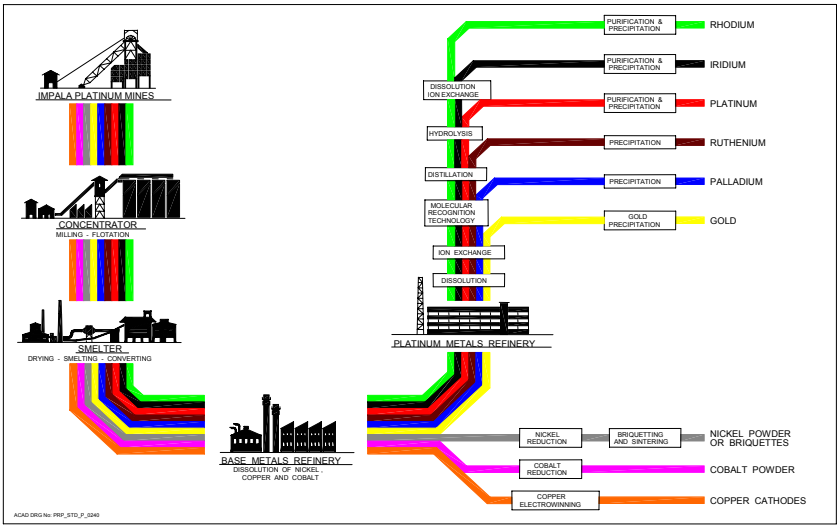
BMR

PMR

Expansion phases

Phase	Resultant Capacity	End Date	Value
PMR Phase I	1.6m ozs	Jul 2003	R18m
PMR Phase II	2m ozs	June 2006	R225m
PMR Phase III	2.3m ozs	June 2007	R40m
BMR Phase I	2m ozs	Jul 2005	R398m
BMR Phase II	2.3m ozs	June 2007	R300m

Simplified flow diagram



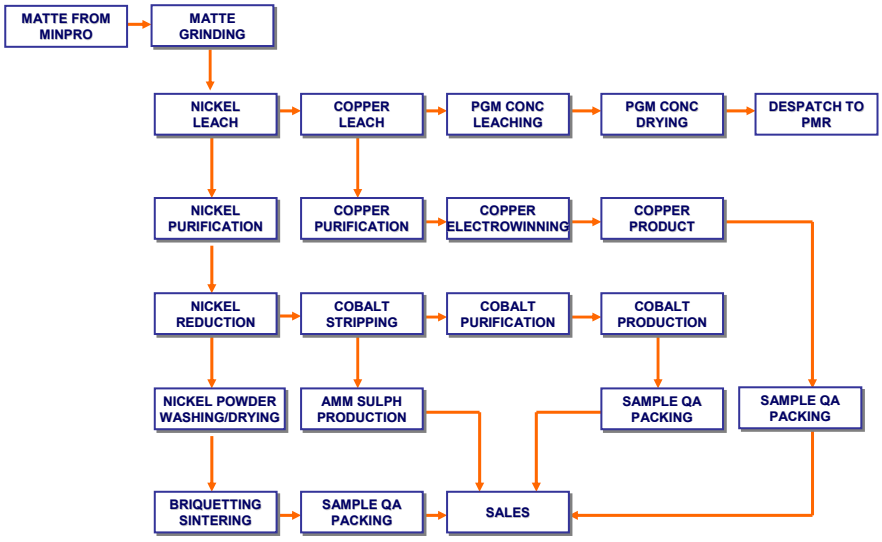
Base metals refinery

Base metals refinery

Objective

To upgrade the PGM content of the feed to a level suitable for the refining of the PGM's in the Precious Metals Refinery, while simultaneously and cost-effectively extracting the base metals – nickel, copper and cobalt – from the converter matte and converting them into quality saleable products

Base metals refinery flowsheet



Across-the-fence hydrogen

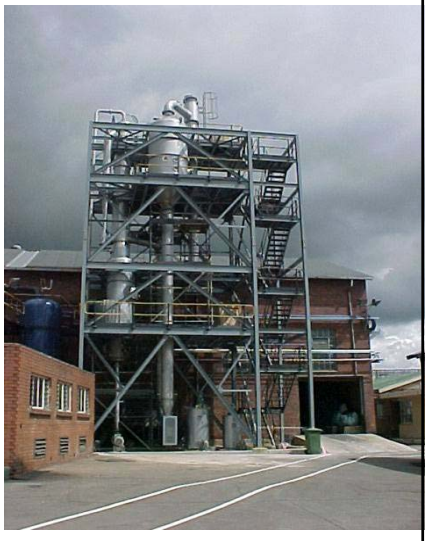
- Successfully installed in late March
- Required as current H2 reformers too small for the new natural gas feed
- 18-hour storage in the 110km pipeline gives instant usage after frequent power outages and ample time for compressor or PSA repairs
- Very minor capital expenditure
- 99.999% pure compared with 97% – better reduction kinetics – capacity
- Hydrogen plants on care and maintenance therefore no CO_2 greenhouse emissions +/- 22t/day

Across-the-fence hydrogen (cont)

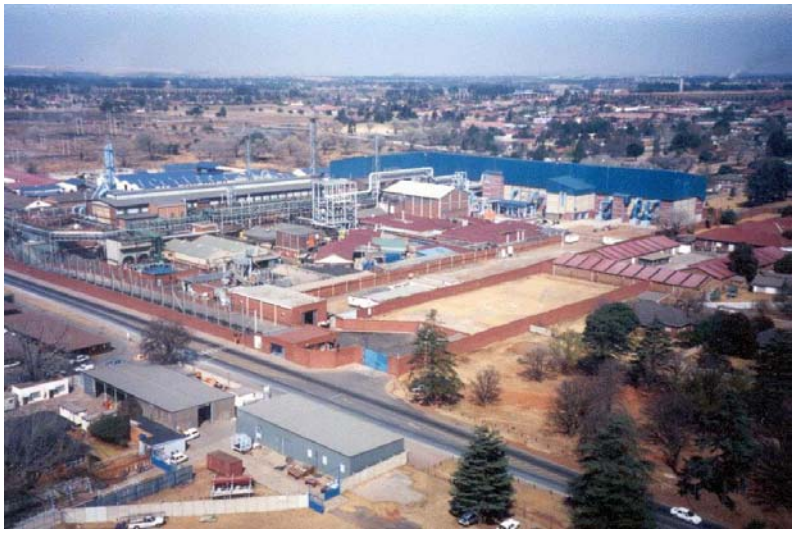
- Opportunity cost of Reformer steam (4t/hr or some 7% of total refineries steam consumption) and cooling water to be used for capacity
- Less risk in the case of the large boilers becoming incapacitated
- Cheaper gas over life of project
- Opportunity for credits for third party hydrogen off-take
- More constant pressure provision

Zero liquid effluent

- Effluent treatment process for the treatment of rainwater run-off
- Recycling of up to 900m3 of good quality water a day to the plant (RWB R3.71/m3 ≡ R1.2m/a)



Precious metals refinery



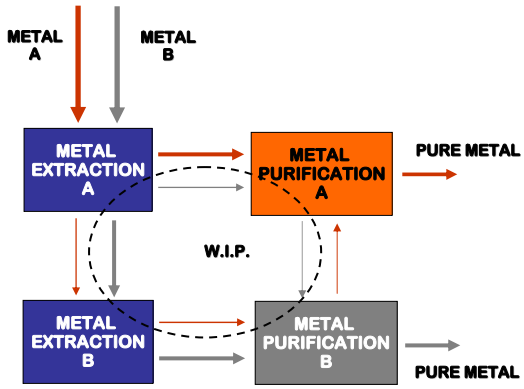
Precious metals refinery

Objective

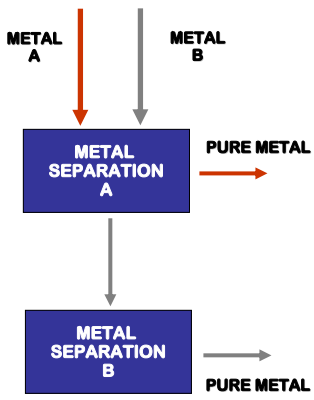
To cost-effectively separate the various platinum group metals contained in the PGM concentrate from the Base Metals Refinery into individually pure and saleable metals

Precious metals refinery philosophy

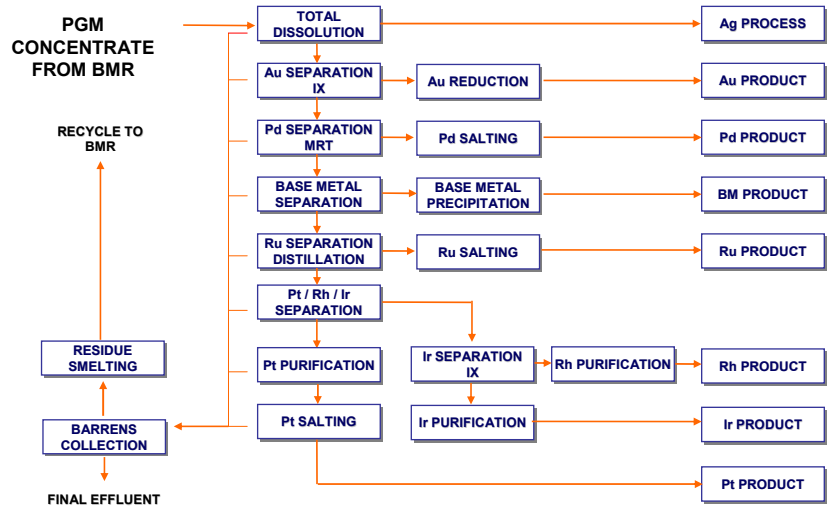
Classical process
low yields and high inventory



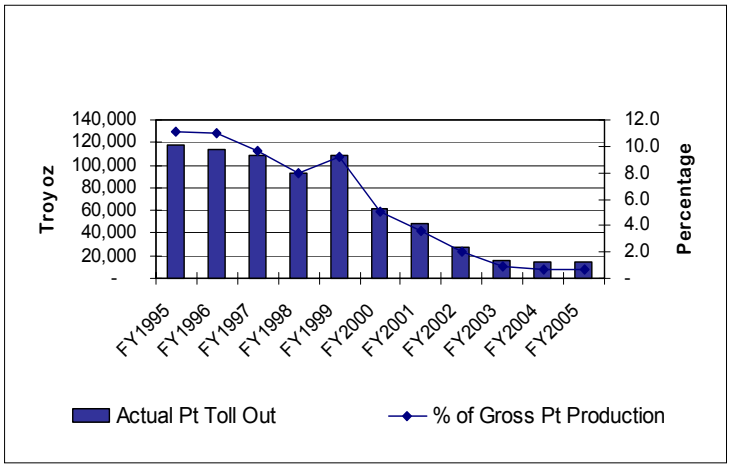
PMR philosophy
quantitative and selective



Precious metals refinery flowsheet



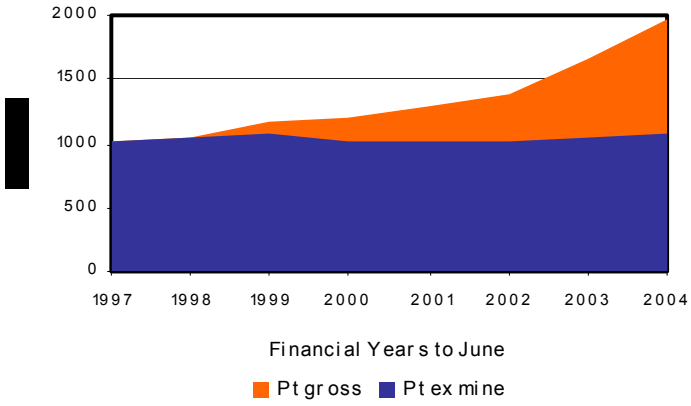
Toll-Out production



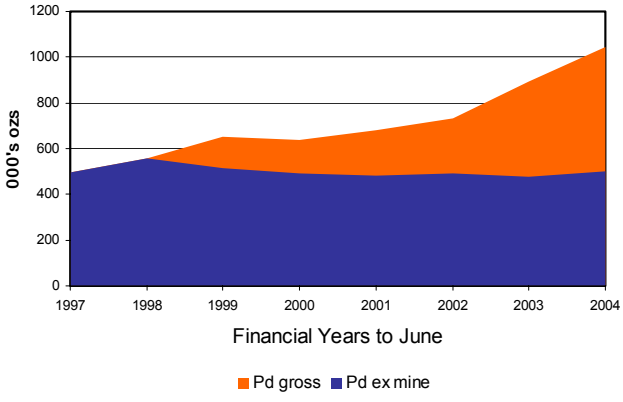
Pipeline days

Financial Year	1995	2004
Platinum	85	33
Palladium	108	51
Rhodium	315	91
Iridium	1 138	283

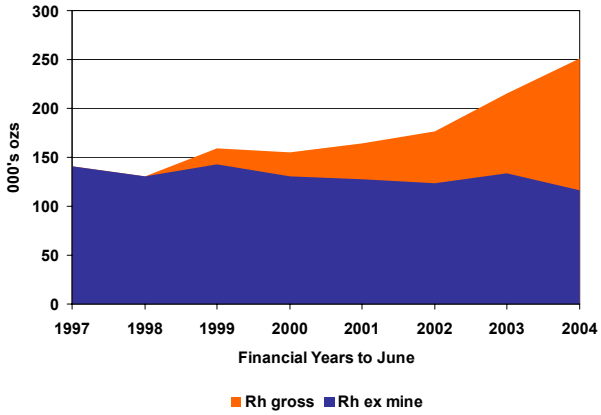
Annual platinum production



Annual palladium production



Annual rhodium production



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Impala Refining Services

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Impala Refining Services (IRS)

- Officially created in 1998
- Dedicated vehicle for toll-refining and metal concentrate purchases
  - leverage surface assets and expertise
  - reduce unit costs (through economies of scale)
  - seek growth through strategic alliances and joint ventures

Key benefits

- Key benefits of growth through IRS
  - reduced exposure to mining risk
  - lower investment
  - exploitation of smaller deposits possible
  - increased process throughput

How does IRS work?

- Confirmation of third party resource
- Impurity distribution
- PGM grade
- Aggregate volume/capacity availability
- Equity involvement
- Contract establishment

Tolling relationship with Impala Platinum Limited

- Wholly-owned subsidiary
- Arm's length toll-refining agreement
  - Metal recoveries
  - Metal pricing
  - Processing costs
  - Metal pipelines
- Sampling / Analysis

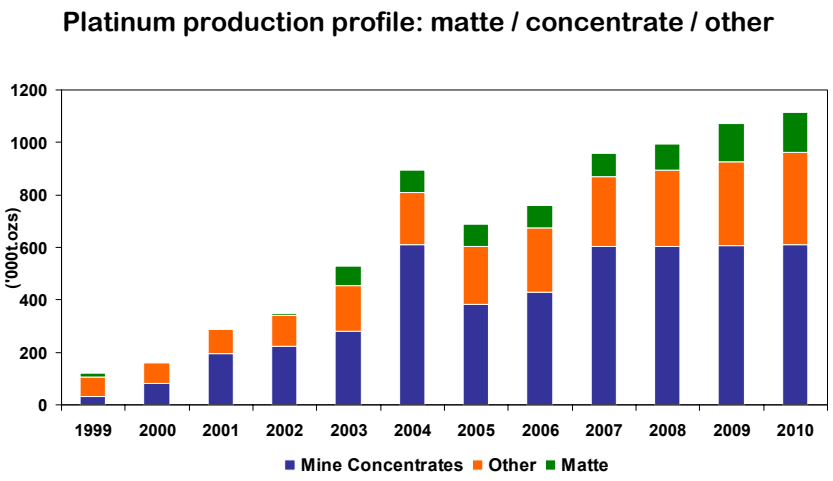
Contract structures

- Metal purchase agreements
  - Metal purchase after an agreed processing period
  - IRS retains agreed proportion portion of metal value
- Toll refining agreements
  - Percentage return of market value
  - Refining
  - Smelting
  - Handling charge

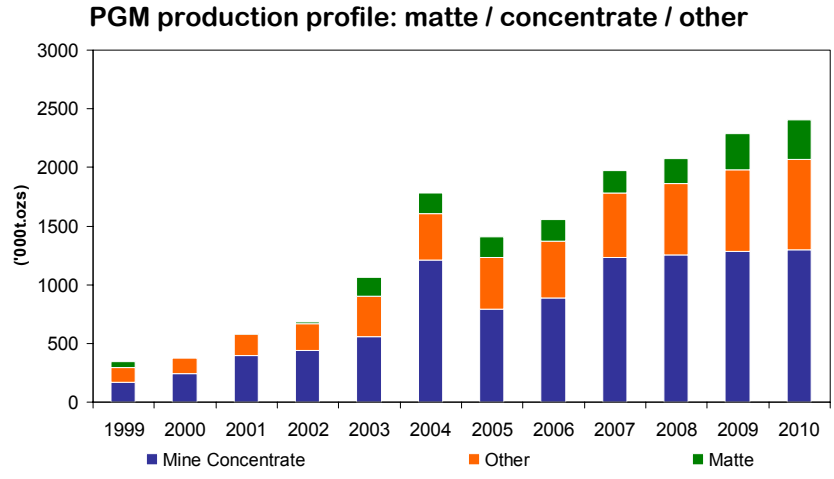
Future growth

- Autocatalyst and secondary refining
- Everest South / Two Rivers
- Mine Concentrates

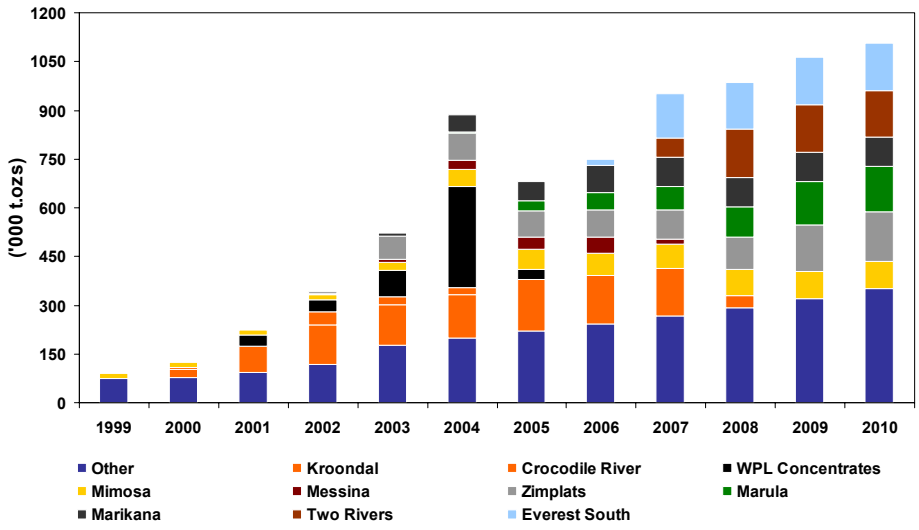
IRS: platinum production



IRS: PGM production



IRS platinum profile by contract



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Ambatovy Nickel Project

Ambatovy

- Dynatec - 37.5%
- Implats - 37.5%
- Sumitomo - 25%
- Nickel laterite in Madagascar
- Mining and ore treatment to mixed sulphide in Madagascar
- Refining to cobalt and nickel metal in Springs

Ambatovy

- Nickel - 60 000tpa from Madagascar and 20 000tpa from Implats operation
- Cobalt - 5 800tpa
- Large ammonium sulphate credit
- 27-year mine life

Implats' motivation

- Save on further capital requirements in current BMR operation
- Dilute current BMR fixed cost structure over a larger production volume
- Leverage skills, infrastructure and hydrogen pipeline
- Involvement in a world – class primary nickel producer

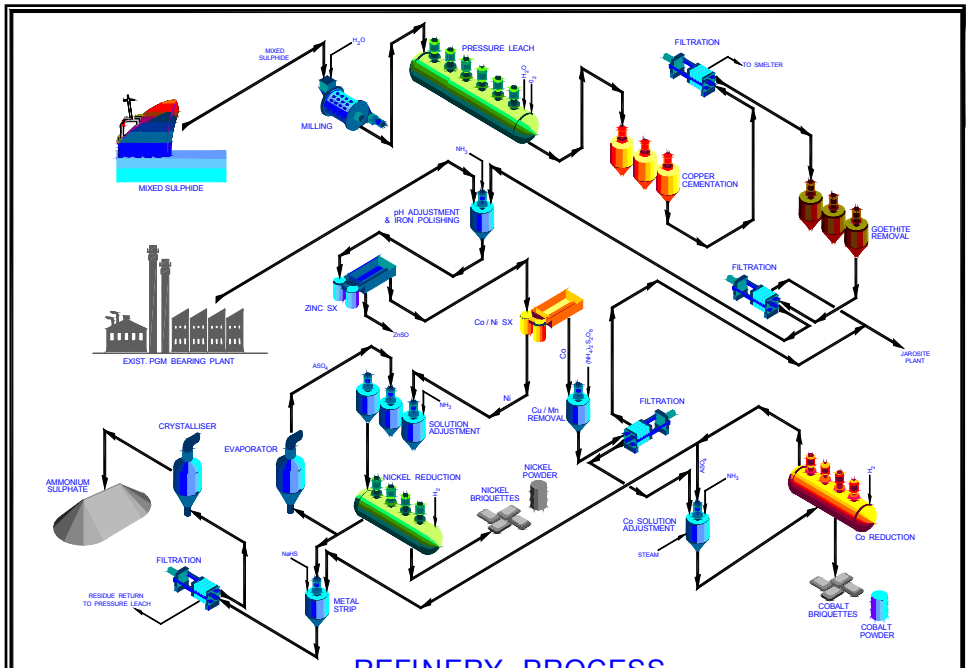
Current status

- Under feasibility study with Hatch – SNC JV in Woodmead
- Study complete in February 2005
- EIA well progressed submission before December 2005
- Metallurgical piloting complete

Pre-feasibility data

- 50% gearing
- Total project - $2.3 billion
- Lowest quartile operating costs
- Approximately 12% capital spend at Springs

Madagascar - Ambatovy Project



REFINERY PROCESS

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