Analyst Visit

17 October 2006
## Agenda

- **INTRODUCTION**  Gerhard Potgieter  *(ARM Executive : Operations)*
- **PROJECT REVIEW**  Mark Brasler  *(Project Leader)*
- **OPERATIONS REVIEW**  Nico Muller  *(Business Leader)*
- **SITE VISIT**
  - Underground  Anthony Durrant  *(Mining Leader)*
  - Concentrator  Francois Vermeulen  *(Process Leader)*
Introduction

“Doing it Better . . . . ”

Gerhard Potgieter
ARM Executive : Operations

17 October 2006
Introduction

• Joint Venture
  • Shareholder Agreement
  • Management Agreement
  • Active Participation

• Learning from previous projects

• Project in execution / construction site
Fundamentals

• Owner Mining
  • Trial mining validated feasibility assumptions
  • Trackless room & pillar mining

• Outsource Concentrator & Tailings Operations
  • Specialist / non core services

• Undertaking to employ local labour
Project Review

“Doing it Better . . . .”

Mark Brasler
Project Leader Two Rivers Platinum

17 October 2006
Mine, plant & infrastructure

- Mining
  - Surface Stockpile: 1,200,000 tons (October 2006)
  - Underground: 185,000 tpm (LOM)
  - Open pit (north): 40,000 tpm (Years 2 - 5)
  - Adit: 25,000 tpm (Years 5 - 13)
  - North Adit: 40,000 tpm (LOM)

- Concentrator 2.5 M tpa MF²
  - 82.5 % recovery @ 4E 3.49 g/t
  - Design 50% waste / No DMS / optical sorting
  - Toll smelt & refine @ IRS & Springs

- Infrastructure
  - Water supply of 2.9 million m³/a secured
North Decline
Project Focus

- To implement the capital works program within the approved budget
- To advance the concentrator ramp up schedule
- To establish a platform to sustain and improve feasibility parameters
Milestone Dates

- Purchase land & mineral rights: Dec 01
- EMPR & mining license approved: Mar 03
- WULA approved: Dec 03
- Trial Mining & access development: Jan 04
- Project submission to ARM & Implats: Dec 04
- Project release, commence construction: Jun 05
- Conclude Bank Funding Agreement: Sep 05
- Commence concentrator commissioning: Aug 06
- Concentrator at full capacity: 4th Qtr 06
- North Decline Construction: Mar 07
- Commercial operations: Apr 07
- Underground Mining at 185 000 tpm: Dec 07
Project Finance

- Project Funding R 1.3 billion
  - 50% bank funded
    - 50% ABSA / 50% Nedcor
  - 50% shareholder / equity funded
    - 55% ARM / 45% Implats

- Asset Finance R 0.3 billion
  - Mining Fleet (ABSA)
  - Lydenburg Housing Development (Nedcor)
Resourcing

- **EPCM Services**
  - Concentrator & Infrastructure (DRA)

- **Major contracts awarded**
  - Mining access development (GLTA- Mining)
  - FFE – Mills
  - GLTA Civils – Civil construction
  - Cosira – Structural steelwork & Mechanical erection
  - Outokumpu – Thickeners & Float Cells
  - ECMP - Tailings Dam
  - Rooimech – Conveyors
  - Larox – Concentrate filter
  - Wade Walker – Portal electrical & instrumentation scope

- **Lydenburg Housing development**
  - Mvela Phanda Construction / Sunset Bay Partnership
Capital Implementation Progress (October 2006)

• + 95% complete (mine & concentrator)
  • Commitments R 1.2 billion
    • Weighted BEE / HDSA commitment 32 %
    • Expenditure R 1.1 billion
  • Site labour peak
    • Mine & Concentrator 2 200
    • Lydenburg Housing 700

• Project budget saving of ±10%
Capital Implementation: Achievements

Team success
Executive / Shareholders / Project / Operations / Contractors / ….
Trust in an empowered project team (C1 / satellite office)

Realistic implementation parameters
Mining

Benchmarking
Trial Mining established the foundation to succeed
  Proved mining fundamentals
  Advanced primary access development
  Stockpile Accumulation (250 000 tons to 1 200 000 tons)
  Optimized designs

Concentrator Schedule
  15 months (not necessarily repeatable with current market up-tick)

Operational flexibility
  Face redundancy (30% - 100%)
  Mill capacity (225 000 tpm – 260 000 tpm)

Exceeded project objectives
  Safety / Capital / Schedule
Main Decline Infrastructure

August 2006
Lydenburg Housing Development
“The Boulders”
Capital Implementation Challenges

**Expedite the concentrator ramp-up**
- Girth gear / Mill silos / Mill gearbox lubrication / Primary mill discharge grate / …
- Crusher hold down bolts / Tailings barge power supply / Tailings flexible hoses / …
- Delivery of Strategic Spares …

**Ongoing capital implementation scope (Focus on opening the revenue pipeline)**
- Mining service extensions  below 4 level
- Deluge system
- ENGEN Diesel fuelling facilities (surface & underground)
- Surface compressor plant
- Richmond / Plant / Portal roads
- Lydenburg housing (10 / 90 / 180 – 9 months behind planned schedule)

**Manage handover to new operations team**
- Manage capital growth

**Manage attrition within the project team (industry skills shortage)**

**Project close out reporting**
Operations Review

“Doing it Better . . . . .”

Nico Muller
Business Leader Two Rivers Platinum

17 October 2006
Geology
106 cm 572 cmg/t Pt:Pd=1:1

185 cm 781 cmg/t Pt:Pd= 5:3

Steepoort Fault
UG2 Reef Section: North - South
Typical 6E Grade Profile
Geology Base Parameters

- Average Dip: 8 - 10° West
- Channel Width: ≥ 1.5m
- Mining Cut: 1.85m – 2.60m
- Grade: 3.49 g/t (4E)
- Geological Losses: 30% (14%)
  - Potholes: 15% (8%)
  - Faults & Dykes: 14% (6%)
  - Repl. pegm.: 1%

Mining Method: Mechanized Bord & Pillar
## Resource & Reserve Statement

**As at May 2006**

<table>
<thead>
<tr>
<th>Category</th>
<th>Mt</th>
<th>Pt</th>
<th>Pd</th>
<th>Rh</th>
<th>Au</th>
<th>(3E+Au)</th>
<th>(5E+Au)</th>
<th>Moz Pt</th>
<th>Moz 6E</th>
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<tbody>
<tr>
<td><strong>UG2 Resource</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Measured</td>
<td>13.05</td>
<td>2.90</td>
<td>1.70</td>
<td>0.50</td>
<td>0.04</td>
<td>5.17</td>
<td>6.27</td>
<td>1.18</td>
<td>2.54</td>
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<tr>
<td>Indicated</td>
<td>46.23</td>
<td>2.01</td>
<td>1.30</td>
<td>0.35</td>
<td>0.04</td>
<td>3.70</td>
<td>4.43</td>
<td>2.89</td>
<td>6.37</td>
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<tr>
<td>Inferred</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>59.28</strong></td>
<td><strong>2.21</strong></td>
<td><strong>1.39</strong></td>
<td><strong>0.38</strong></td>
<td><strong>0.04</strong></td>
<td><strong>4.02</strong></td>
<td><strong>4.83</strong></td>
<td><strong>4.07</strong></td>
<td><strong>8.91</strong></td>
</tr>
</tbody>
</table>

| **UG2 Reserves** |     |    |    |    |    |         |         |       |       |
| Stockpile     | 1.00 | 2.04 | 1.15 | 0.38 | 0.03 | 3.60 | 4.35 | 0.06 | 0.14 |
| Proven        | 9.50 | 2.04 | 1.15 | 0.38 | 0.03 | 3.60 | 4.35 | 0.60 | 1.29 |
| Probable      | 29.80 | 1.86 | 1.20 | 0.35 | 0.03 | 3.44 | 4.11 | 1.72 | 3.81 |
| **Total**     | **40.30** | **1.91** | **1.19** | **0.36** | **0.03** | **3.49** | **4.19** | **2.39** | **5.23** |
Production

- Full Production: 225,000 tpm
  - Main Decline: 185,000 tpm
  - North Decline: 40,000 tpm
  - Merensky
  - Open Pit

- Average Annual Sales: 220,000 Oz PGEs

- Total Labour: 1,000 (225 t/person/month)
Production Crews

- Mining Crews: 14
  - 1 x Miner
  - 1 x Team leader
  - 1 x Drill rig operator
  - 1 x Roofbolter operator
  - 1 x UV operator
  - 2 x LHD operators
  - 2 x PTV
  - 2 x Tip attendants
  - 3 x Sweepers

- Work Arrangement
  - Shift – 9 hrs
  - 2 x Shifts per day
  - 2 x 12m panels per shift
  - 3m advance per blast
  - 500 t / crew / shift
  - 36 t / man / shift
  - 20,500 t / section / month
  - 11 day fortnight
  - Conops options
Minning Layout
End of September 06

Ledging: 758m (81%)
Reef Declines: 907m (87%)
Conveyor Decline: Complete
Decline Cross Section

CURRENT DEVELOPMENT

MINING BOUNDARY

560m

430m

Level 9  Level 8  Level 7  Level 6  Level 5  Level 4  Level 3  Level 2  Level 1

Development acquired to Mining Boundary

Current Development

Analyst Visit – 17 October 2006
Reef Stockpile

Tons

2004 2005 2006 2007 2008 2009 2010

History Actual 5Y Plan Plan Forecast

Analyst Visit – 17 October 2006
# Overall Production Performance

**Jul 05 – Sep 06**

## Tons

<table>
<thead>
<tr>
<th></th>
<th>Development</th>
<th>Ledging</th>
<th>Stoping</th>
<th>ROM</th>
<th>Stockpile</th>
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<tbody>
<tr>
<td><strong>Planned</strong></td>
<td>193,829</td>
<td>256,806</td>
<td>658,978</td>
<td>1,026,388</td>
<td>1,065,860</td>
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<tr>
<td><strong>Actual</strong></td>
<td>179,598</td>
<td>280,114</td>
<td>702,503</td>
<td>1,064,881</td>
<td>1,170,342</td>
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Analyst Visit – 17 October 2006
Concentrator Plant
Concentrator Plant

- Plant Commission
  - Commissioning started ahead of schedule
  - Critical commissioning challenges resolved
  - Awaiting final strategic spares
  - Full throughput by end of year
  - Early recoveries higher than planned

- General
  - Contractor operations (EPC)
  - 82 staff (contractor & mine)
  - Conops
  - 2 x 12hr shifts per day
  - 4 on 4 off cycle
Commissioning Challenges

Mill Silo Damage

Mill Discharge Screen
Plant Commissioning

Mill Gearbox Bearing

Girth Gear
Plant Performance

CONCENTRATOR PLANT

Milled Tons

22 Jul 29 Jul 05 Aug 12 Aug 19 Aug 26 Aug 02 Sep 09 Sep 16 Sep 23 Sep 30 Sep 07 Oct 14 Oct

Graph showing milled tons from 22 July to 14 October, with a steady increase over time.
General
Safety Performance

**Project To Date**
- Fatalities = 0
- Fatality Free Shifts = 621,002
- LTIFR = 1.22

**Graph Details**
- Employees: 193, 887, 1196, 1633, 1768, 1833, 2070, 2270, 2077, 1976, 1218, 1177
- Minor Injuries: 1, 3, 5, 3, 9, 8, 12, 5, 12, 8, 7, 3
- Serious Injuries: 0, 1, 1, 0, 2, 0, 2, 0, 0, 1, 1, 0
- LTIFR Actual: 0, 3.47, 2.67, 1.02, 1.27, 1.10, 1.25, 1.39, 1.22, 2.6, 2.78, 2.27
- LTIFR Plan: 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5
## 2007 Financial Year: 1st Quarter

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>YTD Actual</th>
<th>Plan</th>
<th>Var</th>
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<tbody>
<tr>
<td>Operating Cost</td>
<td>R mil</td>
<td>72.0</td>
<td>94.2</td>
<td>22.2</td>
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<tr>
<td>Mining</td>
<td>R mil</td>
<td>35.7</td>
<td>37.8</td>
<td>2.1</td>
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<tr>
<td>Process</td>
<td>R mil</td>
<td>19.0</td>
<td>31.1</td>
<td>12.1</td>
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<tr>
<td>Other On Mine Costs</td>
<td>R mil</td>
<td>17.3</td>
<td>25.3</td>
<td>8.0</td>
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<tr>
<td>ROM Tons</td>
<td>kt</td>
<td>253</td>
<td>338</td>
<td>-86</td>
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<tr>
<td>Cash Operating Cost</td>
<td>R/t</td>
<td>285</td>
<td>278</td>
<td>-7</td>
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</tbody>
</table>

**Notes**
- "Other On Mine Costs" excludes change in value of unsold stock
- Increase in unit costs due to lower production (strike)
- Unit operating costs reflect current costs during ramp up - not steady state costs
Licensing & Permits

- North Open Pit
  - Application submitted in 2003
  - Rejected in May 2006
  - Appeal process

- North Decline
  - Full application required & well advanced
  - Scoping document
  - Authorities & I&A Parties consultation concluded
  - Submission date: 27 October

- New Order Mining Rights
  - Expected submission date: February 07
  - Technical skills (artisans, foreman)
The Way Forward

- Production
  - Recruitment & Training
  - Decline Extension
  - Additional Fleet
  - North Decline
  - Full Calendar Operations
  - Continuous Improvement (LTIFR, R/t, t/man, . . . )

- Skills Development
  - UG Training Section
  - Training Fleet
  - Simulators
  - Learnership Programs
  - Regional Training Infrastructure

- Concentrator Plant
  - Tailings dam return water
  - Critical Spares Delivery
  - Process Optimisation (recovery, availability, throughput, . . . )
The Way Forward

- Licensing & Permits
  - North Decline Environmental Authorisation (Nov 06)
  - New Order Mining Rights (Feb 07)
- Local Communities
  - Skills Development Programs
  - Local Economic Development (SMME’s)
- Management Systems
  - ERP
  - Production monitoring
  - SHEQ
  - Performance Management
“We Do It Better”
Thank You

Questions?