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

13 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

13 October 2006
Mine, plant & infrastructure

- **Mining**
  - Surface Stockpile: 1,200,000 tons (October 2006)
  - Underground: 185,000 tpm (LOM)
  - North Adit: 40,000 tpm (LOM) Delayed

- **Concentrator 2.5 M tpa MF^2**
  - 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
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 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 – 260 000 tpm)

Exceeded most project objectives
Safety / Capital / Schedule / Commissioning
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

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

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

Steelpoort Fault

UG2 Reef Section: North - South

11
Typical 6E Grade Profile

Geology Base Parameters

- Average Dip: 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**

### UG2 Resource

<table>
<thead>
<tr>
<th>Category</th>
<th>Measured</th>
<th>Indicated</th>
<th>Inferred</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt</td>
<td>13.05</td>
<td>46.23</td>
<td></td>
<td>59.28</td>
</tr>
<tr>
<td>Pd</td>
<td>2.90</td>
<td>2.01</td>
<td></td>
<td>2.21</td>
</tr>
<tr>
<td>Rh</td>
<td>1.70</td>
<td>1.30</td>
<td></td>
<td>1.39</td>
</tr>
<tr>
<td>Au</td>
<td>0.50</td>
<td>0.35</td>
<td></td>
<td>0.38</td>
</tr>
<tr>
<td>[Bi+Au]</td>
<td>6.27</td>
<td>4.43</td>
<td></td>
<td>4.83</td>
</tr>
<tr>
<td>[Bi+Au]</td>
<td>5.17</td>
<td>3.70</td>
<td></td>
<td>4.02</td>
</tr>
</tbody>
</table>

### UG2 Reserves

<table>
<thead>
<tr>
<th>Stockpile</th>
<th>Measured</th>
<th>Indicated</th>
<th>Inferred</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt</td>
<td>1.00</td>
<td>0.33</td>
<td>0.03</td>
<td>0.36</td>
</tr>
<tr>
<td>Pd</td>
<td>2.04</td>
<td>3.00</td>
<td>0.35</td>
<td>3.05</td>
</tr>
<tr>
<td>Rh</td>
<td>1.15</td>
<td>3.60</td>
<td>0.50</td>
<td>4.00</td>
</tr>
<tr>
<td>Au</td>
<td>0.28</td>
<td>0.30</td>
<td>0.20</td>
<td>0.30</td>
</tr>
<tr>
<td>[Bi+Au]</td>
<td>1.18</td>
<td>3.44</td>
<td>0.20</td>
<td>3.94</td>
</tr>
<tr>
<td>[Bi+Au]</td>
<td>2.54</td>
<td>3.44</td>
<td>0.23</td>
<td>3.73</td>
</tr>
</tbody>
</table>

### Merensky Resources

<table>
<thead>
<tr>
<th>Measured</th>
<th>Indicated</th>
<th>Inferred</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt</td>
<td>18.7</td>
<td>2.06</td>
<td>20.76</td>
</tr>
<tr>
<td>Pd</td>
<td>2.06</td>
<td>-</td>
<td>2.06</td>
</tr>
<tr>
<td>Rh</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Au</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>[Bi+Au]</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>[Bi+Au]</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Mt Grade (g/t) Category

- **Measured**
- **Indicated**
- **Inferred**
- **Total**
Production

- Mining Reserve 40 Mt
- Life of Mine +16 Years
  - Main Decline 185 ktpm
  - North Decline 40 ktpm
- Other Resources
  - Open Pit
  - Merensky
  - Toll Feed
  - Adjacent resources
- Average Annual Sales 220,000 Oz PGEs
Mining Fleet

<table>
<thead>
<tr>
<th>Activity</th>
<th>Machinery</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face Drilling</td>
<td>1X AXERA LP D/BOOMER, 8 X ATLAS S1L DRILL RIG</td>
<td>9</td>
</tr>
<tr>
<td>Loading</td>
<td>1 X TORO 007 LHD (4659), 1 X WAGNER ST 600 LHD, 1 X TORRO 400 LHD, 15 X LHD 115 LP, 1 X WAGNER ST400 LHD, 1 X GHH LHD</td>
<td>20</td>
</tr>
<tr>
<td>Rock Bolting</td>
<td>8 X ROBOLT LP BOLTER, 1 X DBT Bolter</td>
<td>9</td>
</tr>
<tr>
<td>Logistics and charging</td>
<td>1 X Fermel UV, 17 X SECO UV 42</td>
<td>18</td>
</tr>
<tr>
<td>Personnel Transport</td>
<td>1 X Fermel Jeep, 5 X Toyota 4X4 LDVs</td>
<td>6</td>
</tr>
</tbody>
</table>

Production Crews

- Mining Crews: 11
  - 1xMiner
  - 1xTeam leader
  - 1xDig rig operator
  - 1xRoofbolter operator
  - 1xUV operator
  - 2xLHD operators
  - 2xPTV
  - 2xtip attendants

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

Decline Cross Section

Analyst Visit – 17 October 2006
### Overall Production Performance
**Jul 05 – Sep 06**

<table>
<thead>
<tr>
<th></th>
<th>Planned</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development</td>
<td>193,829</td>
<td>179,598</td>
</tr>
<tr>
<td>Leading</td>
<td>256,806</td>
<td>280,114</td>
</tr>
<tr>
<td>Stopping</td>
<td>658,978</td>
<td>702,503</td>
</tr>
<tr>
<td>ROM</td>
<td>1,026,388</td>
<td>1,064,881</td>
</tr>
<tr>
<td>Stockpile</td>
<td>1,065,860</td>
<td>1,170,342</td>
</tr>
</tbody>
</table>

### 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
General

Safety Performance

Project To Date
Fatalities = 0
Fatality Free Shifts = 821,002
LTIFR = 1.22
### Operating Cost
**Jul 06 – Sep 06**

#### 2007 Financial Year: 1st Quarter

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

- Total labour plan = 1000 people
  - 650 Mine employees
  - 350 Contracted out services

- Employment of local labour
  - To the extent possible
  - Initial skills through contracting

**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 : Feb 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
Thank You
Questions?