AN INDEPENDENT COMPETENT PERSONS’ REPORT ON BARBERTON MINES (PTY) LIMITED

EXECUTIVE SUMMARY

INTRODUCTION

Pan African Resources PLC (“PAR”), an exploration company quoted on the AIM Market (“AIM”) of the London Stock Exchange plc (“LSE”), plans to acquire the 74% stake in Barberton Mines (Proprietary) Limited (“BML”) from Metorex Limited (“Metorex”) through a reverse takeover of PAR by Metorex. Metorex is a diversified public mining company incorporated in the Republic of South Africa, with listings on the JSE Limited (“JSE”) and the LSE. PAR wishes to secure a dual listing by admission to the Alternative Exchange (“ALT”) of the JSE.

SRK Consulting (South Africa) (Pty) Limited (“SRK”) has been commissioned by the directors of PAR to prepare an independent competent person’s report (“CPR”) on the material assets and liabilities associated with the gold mines and projects of BML located near Barberton in the Mpumalanga Province of South Africa (the “Material Assets”). Key information pertaining to the Material Assets has been summarised in Table 1.
Table 1: Summary Table of BML Assets

<table>
<thead>
<tr>
<th>Licence No. Attributable Asset</th>
<th>Held by</th>
<th>to PAR</th>
<th>Status</th>
<th>and expiry date</th>
<th>Licence area (ha)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheba Mine</td>
<td>BMI</td>
<td>74%</td>
<td>Production</td>
<td>ML29/2003 26/10/2013</td>
<td>1,705.0645</td>
<td>Application for conversion of mining licence to new order mining right submitted in October 2005. Award of new order mining right expected by BML soon.</td>
</tr>
<tr>
<td>Calcine Project</td>
<td>BMI</td>
<td>74%</td>
<td>Development</td>
<td>Part of New Consort operation</td>
<td>n/a</td>
<td>A project proposal to rework an old calcine dump and recover a portion of the contained gold.</td>
</tr>
</tbody>
</table>

This CPR has been prepared in accordance with the requirements of Chapter 12 of the JSE Listings Requirements, together with the requirements of the AIM Rules for Companies of July 2005 (the “AIM Rules”) and the Guidance Note for Mining, Oil and Gas Companies issued by AIM on 16 March 2006 (the “AIM Mining Guidance”) in anticipation of a listing of PAR on ALT and renewed trading on AIM during the middle of 2007. SRK has been informed that a copy of this CPR will be included in the combined re-admission document for AIM and pre-listing statement for ALT (the “Document”).

This report has been prepared under the direction of the Competent Person (the “CP”) who assumes overall professional responsibility for the document (Section 1.7). The report, however, is published by SRK, the commissioned entity, and accordingly SRK assumes responsibility for the views expressed herein. Consequently all references to SRK mean the CP and vice versa.

The effective date (the “Effective Date”) of this report is deemed to be 1 January 2007, and is co-incident with the Valuation Date and any cash flow projections as incorporated herein.

PAR has confirmed in writing to SRK that to its knowledge, the information provided by it and BML was complete and not incorrect, misleading or irrelevant in any material aspect. SRK has no reason to believe that any material facts have been withheld.

The achievability of budgets and forecasts are neither warranted nor guaranteed by SRK. The forecasts for the gold operations as presented and discussed herein have been developed by BML, and cannot be assured; they are necessarily based on economic assumptions, many of which are beyond the control of BML and PAR. Future cash flows and profits derived from such forecasts are inherently uncertain and actual results may be significantly more or less favourable.

This report includes technical information, which requires subsequent calculations to derive subtotals, totals and weighted averages. Such calculations may involve a degree of rounding and consequently introduce an error. Where such errors occur, SRK does not consider them to be material.

SRK consents to the issuing of this report in the form and content in which it is to be included in the Document.

TENURE

PAR is a public exploration company listed on AIM with gold projects in Mozambique and Central African Republic (“CAR”). PAR announced on 20 December 2006 that it plans to acquire the 74% stake in BML from Metorex through a reverse takeover of PAR by Metorex that would give Metorex 55% control of PAR.

Assuming the reverse takeover of PAR by Metorex goes ahead, PAR will have a 74% interest in BML, with the balance held by Shanduka Resources (Pty) Limited (“Shanduka”).
Metorex is a public mining company, with listings on the JSE and the LSE. Metorex holds a 74% interest in BML, with the remaining 26% held by Shanduka. Assuming the reverse take-over of PAR by Metorex, PAR will hold a 74% interest in BML and Metorex in turn will hold a 55% interest in PAR (see Figure 2.1).

BML comprises three operating mines, Fairview, New Consort and Sheba. The BML is situated in the Magisterial District of Barberton, Mpumalanga Province, Republic of South Africa, some 370km east of Johannesburg and 47km south-west of Nelspruit (Figure 2.2).

The extent of BML’s mineral rights holding both within the licences and nearby properties as listed in Table 2.3 can be seen in Figure 2.3. Although the mineral rights holdings as described in Table 2.3 and Figure 2.3 were acquired from ETC and Avgold in 2003, it appears that the mineral rights have not yet been transferred to BML.

**Mining Right:** BML is able to mine on Fairview, New Consort and Sheba Mines and operate in terms of the existing mining licences ML28/2003, ML30/2003 and ML29/2003, respectively, which have been issued to BML in terms of section 9(1) of the Minerals Act. These licences are valid to 26 October 2009 (for Fairview and New Consort) and to 26 October 2013 for Sheba. However, these mining authorisations represent Old Order Mining Rights and BML is required in terms of the MPRDA to convert these to New Order Mining Rights. BML showed SRK documentary evidence from the DME that the applications for conversion were submitted in October 2005. BML advised SRK that all queries regarding the MWP and SLP have been resolved with the DME, so that award of the new order mining right should occur soon.

**Prospecting Right:** BML was granted a Prospecting Right in terms of the MPRDA over some 1,900ha of ground (Protocol number 586/2006) on 10 November 2006.

**Surface Rights:** The surface rights on Portion 1 of Bickenhall 346JU and Portion 1 of Bramber Central 348JU, which adjoin the Fairview mining licence (Figure 2.3), were combined as Fairview 542JU and registered to BML by way of notarised transfer. Certain mine infrastructure, offices and a tailings dam have been located on this property.

### Table 2: Summary of Mineral Rights held by BML

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Right Title</th>
<th>Valid to</th>
<th>Area of Title (ha)</th>
<th>Properties Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mining Licences:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GEOLOGY**

This section describes the geology of the deposits owned by BML and gives a brief summary of the geology of the Barberton Greenstone Belt (“BGB”).

The BGB is surrounded by a variety of granitic rock types that have been categorised into three magmatic cycles based on their distinctive geochemical, geochronological and field characteristics. The cycles reflect the stages in the formation and genetic evolution of the earliest sialic crust in the Barberton Mountain Land and they span a period of 600Ma commencing in about 3500Ma with the latest estimated to have occurred about 2900Ma.

Most of the known occurrences of gold within the BGB have been found localised in the region to the north and north-east of the Barberton, known locally as the James and Sheba Hills, and in the area immediately south-west of Barberton, in the Moodies Hills. Apart from these areas, additional gold concentrations occur along and adjacent to the major strike and faults as well as in a
few localities in Swaziland near the granite-greenstone contacts.

The ore bodies all occur in the vicinity of a complex, refolded, arcuate, south-dipping shear/fault system, the Sheba Fault Zone developed between the Ulundi and Eureka synclines. The locations and geometries of the ore bodies themselves are structurally controlled and, due to the complex deformational history of the host rocks, have variable strikes, dips and widths. Some are continuous for several hundreds of metres, along strike and down dip, whereas others are discontinuous and not traceable between adjacent crosscuts or drill holes.

Consort Mine

The New Consort ore bodies are located in rock types that are stratigraphically similar to those of the Sheba ore bodies but that have been subjected to higher-grade metamorphism. At this mine, contact between the talc-biotite-amphibole schist and intercalated lephtite of the Onverwacht group and the metapelites of the Fig Tree Group is marked by a sheared and highly siliceous mylonite, known as the New Consort Bar (Figure 3.7). The footwall contact of the Bar is known as the New Consort Contact.

Current plans for exploration at the New Consort Mine involve the exploration of contact areas. The object is primarily to locate extensions to known shoots.

Fairview Mine

The Fairview property is situated along the central and southern portions of the Eureka Syncline and Ulundi Synclinorium (Figure 3.3). These synforms are separated by the Sheba Fault and bounded to the north by the Lily Fault and to the south by the Barbrook Fault. These structures were subsequently arcuated about a north-west axis that resulted in the formation of most of the mineralised shears.

The bulk of the Fairview production comes from refractory orebodies situated east of the Sheba Fault within the Onverwacht and Fig Tree Group lithologies.

Exploration and mining is presently concentrated on the Commitment orebody. There is possibility of locating mineralisation within tension gashes, expected to be in the order of 100m to 200m in length.

Sheba Mine

The Sheba mine is located about 12km north-east of Barberton in the Sheba Hills (Figure 3.3). The Swartkoppie Formation occurs at the top of the Onverwacht Group and is represented by well developed schist and green schists associated with banded black and white chert and is host to portions of the gold mineralisation at Sheba Mine.

A long exploration diamond drill hole has recently been drilled from the lower portion of Fairview and revealed no further mineralised deformation zones. Exploration of the ZK ore bodies below 35 level is continuing and a decline shaft to 38 level is planned.

Prospecting Licence Area

The exploration program and budget for the prospecting right area as submitted with the prospecting permit application is shown in Table 3.1. A total of R5.55 million is earmarked for exploration over the five-year validity of the permit.

MINERAL RESOURCES AND RESERVES

A summary Mineral Resource and Mineral Reserve statement for BML at 31 December 2006 is presented in Table 3, showing gross in situ and proportion attributable to PAR. All resources have been estimated using a cut-off grade of 3.0g/t. These statements are valid at 31 December 2006 and include adjustments to take account of mining depletion for the six months to December 2006. The stated Mineral Resources are inclusive of those Mineral Resources upgraded to Mineral Reserves following the application of technical and economic factors.

Table 3: BML – Audited Mineral Resource and Mineral Reserve Statement (at 31 December 2006)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Tonnage</th>
<th>Grade</th>
<th>Contained Au (kt) (g/t) (kg) (koz)</th>
<th>Proved</th>
<th>Probable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>655</td>
<td>6.48</td>
<td>4,248</td>
<td>137</td>
<td>485</td>
</tr>
<tr>
<td>New Consort</td>
<td>116</td>
<td>7.60</td>
<td>883</td>
<td>28</td>
<td>86</td>
</tr>
<tr>
<td>Sheba</td>
<td>385</td>
<td>9.28</td>
<td>3,578</td>
<td>115</td>
<td>285</td>
</tr>
</tbody>
</table>

**GROSS IN SITU FOR BML ATTRIBUTABLE TO PAR**

**Table 3: BML – Audited Mineral Resource and Mineral Reserve Statement (at 31 December 2006)**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Tonnage</th>
<th>Grade</th>
<th>Contained Au (kt) (g/t) (kg) (koz)</th>
<th>Proved</th>
<th>Probable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total – Proved</td>
<td>1,157</td>
<td>7.53</td>
<td>8,709</td>
<td>280</td>
<td>856</td>
</tr>
<tr>
<td>Total – Probable</td>
<td>856</td>
<td>7.53</td>
<td>6,445</td>
<td>207</td>
<td></td>
</tr>
</tbody>
</table>
**Measured Measured**

Fairview 1,589 7.90 12,552 404 Fairview 1,176 7.90 9,288 299 New Consort 298 11.07 3,295 106 New Consort 220 11.07 2,439 78 Sheba 358 13.43 4,813 155 Sheba 265 13.43 3,562 115 Outside sections 509 4.94 2,511 81

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoM ore</td>
<td>(kt)</td>
<td>82.5</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
</tr>
<tr>
<td>RoM grade</td>
<td>(g/t)</td>
<td>7.6</td>
<td>7.6</td>
<td>7.6</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
</tr>
<tr>
<td>New Consort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoM ore</td>
<td>(kt)</td>
<td>41.3</td>
<td>80.1</td>
<td>81.2</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
</tr>
<tr>
<td>RoM grade</td>
<td>(g/t)</td>
<td>6.95</td>
<td>6.95</td>
<td>6.95</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
</tr>
<tr>
<td>Sheba</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoM ore</td>
<td>(kt)</td>
<td>58.3</td>
<td>105.4</td>
<td>104.7</td>
<td>105.4</td>
<td>105.4</td>
<td>103.4</td>
<td>98.3</td>
<td>108.9</td>
<td>108.9</td>
<td>108.9</td>
</tr>
<tr>
<td>RoM grade</td>
<td>(g/t)</td>
<td>8.05</td>
<td>8.05</td>
<td>8.05</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
</tr>
<tr>
<td>Total BML</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoM ore</td>
<td>(kt)</td>
<td>182.0</td>
<td>317.3</td>
<td>317.7</td>
<td>314.4</td>
<td>314.4</td>
<td>312.3</td>
<td>307.2</td>
<td>317.8</td>
<td>317.8</td>
<td>317.8</td>
</tr>
<tr>
<td>RoM grade</td>
<td>(g/t)</td>
<td>7.60</td>
<td>7.59</td>
<td>7.58</td>
<td>7.47</td>
<td>7.47</td>
<td>7.47</td>
<td>7.46</td>
<td>7.48</td>
<td>7.48</td>
<td>7.48</td>
</tr>
</tbody>
</table>

**Indicated Indicated**

Fairview 480 10.45 5,010 161 Fairview 355 10.45 3,707 119 New Consort 200 11.46 2,290 74 New Consort 148 11.46 1,695 54 Sheba 448 7.54 3,373 108 Sheba 331 7.54 2,496 80 Outside sections 1,424 4.56 6,492 209

**Inferred Inferred**

Fairview 241 12.96 3,122 100 Fairview 187 8.05 1,503 48 Sheba 187 8.05 1,112 36 Outside sections 2,598 3.95 10,265 209

**TOTAL RESOURCES 8,537 6.72 57,380 1,845**

**MINING**

BML has drawn up a 15-year Forecast which is a depletion schedule of resource blocks from July 2006 to June 2021. The schedule is dependent on feasibility and capital approval of certain projects and does not provide for dilution and other modifying factors. Not all resources are included in the forecast and in some cases BML has included projections beyond declared resources. There is no formal life-of-mine plan for BML.

SRK has therefore extracted the data from the first ten years into a ten-year plan for BML (“Ten-Year Plan”) up to F2016 (the financial year from 1 July 2015 to 30 June 2016). The Ten-Year Plan depletes 2.98Mt of resources at a mean grade of 10.06g/t Au.

The resulting production schedule for the Ten-Year Plan, based on the above, is shown in Table 4.

*Table 4: Production Schedule in Ten-Year Plan (excluding vamping)*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoM ore</td>
<td>(kt)</td>
<td>82.5</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
</tr>
<tr>
<td>RoM grade</td>
<td>(g/t)</td>
<td>7.6</td>
<td>7.6</td>
<td>7.6</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
</tr>
<tr>
<td>New Consort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoM ore</td>
<td>(kt)</td>
<td>41.3</td>
<td>80.1</td>
<td>81.2</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
</tr>
<tr>
<td>RoM grade</td>
<td>(g/t)</td>
<td>6.95</td>
<td>6.95</td>
<td>6.95</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
</tr>
<tr>
<td>Sheba</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoM ore</td>
<td>(kt)</td>
<td>58.3</td>
<td>105.4</td>
<td>104.7</td>
<td>105.4</td>
<td>105.4</td>
<td>103.4</td>
<td>98.3</td>
<td>108.9</td>
<td>108.9</td>
<td>108.9</td>
</tr>
<tr>
<td>RoM grade</td>
<td>(g/t)</td>
<td>8.05</td>
<td>8.05</td>
<td>8.05</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
</tr>
<tr>
<td>Total BML</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoM ore</td>
<td>(kt)</td>
<td>182.0</td>
<td>317.3</td>
<td>317.7</td>
<td>314.4</td>
<td>314.4</td>
<td>312.3</td>
<td>307.2</td>
<td>317.8</td>
<td>317.8</td>
<td>317.8</td>
</tr>
<tr>
<td>RoM grade</td>
<td>(g/t)</td>
<td>7.60</td>
<td>7.59</td>
<td>7.58</td>
<td>7.47</td>
<td>7.47</td>
<td>7.47</td>
<td>7.46</td>
<td>7.48</td>
<td>7.48</td>
<td>7.48</td>
</tr>
</tbody>
</table>

(1)
represents forecast/budget tonnage per BMI and grades per Table 5.4 for January to June 2007.

METALLURGY

The BMI met all legal processing plans were reviewed during a site visit on 15 and 16 January 2007. The area and total of
six processing plants located on the BML site at Barberton on:

New Consort Concentrator – operated and managed by BML;
Sheba Concentrator – operated and managed by BML;
Fairview Concentrator, Smelthouse and Biox® Plant – operated and managed by BML;
Segalla Gold Recovery CIL Plant at New Consort – operated and managed by Grinaker-LTA;
Barberton Gold Tailings Reclamation at Fairview – operated and managed by
Barberton Gold, a separate private company;

Was te Crushers at Fairview – operated and managed by a private contractor.

The plants that are not operated and managed by BML personnel still fall under the overall responsibility of mine management from a high level as they operate within the mining lease area. All managerial appointments are effected at an operational level.

The New Consort Plant processed an average of 6,100tpm for the first six months of this current financial year (monthly budget plan tonnage is 6,300t) – the previous six-month period averaged 5,591tpm.

The head grade to the plant has averaged 8.7g/t for the current six months with
the previous six months being 11.3g/t. The monthly head grade has ranged from 7.3 to 9.8g/t during the last six months. The on mine gold recovery is currently 95.4% (previous 12 months) compared to 93.7% during the previous visit. The improvement has been identified as the relocation of the flash cell and the improved reagent suite.

The clean up of the old roaster plant remains substantially as it was during the previous visit, with the bunkers still to be demolished and covered.

The Sheba Concentrator has suffered from mill gearbox failures during the year, but these seem to have been rectified now. The crusher changes mentioned in previous reports are operating.
satisfactorily.

The plant throughput has averaged 9,700tpm for the first six months of this financial year with the grade being just over 10g/t. The recovery for the last 12 months is 94.5%, which is substantiated by the reported performance from the plant.

The plant condition does not appear to have changed from the previous visit (7 October 2004) and it is likely to remain in a good condition, provided that adequate maintenance is continued.

The Fairview Concentrator has processed an average 11,910tpm with a grade of 8.8g/t. The recovery for the past year has averaged in excess of 92.5%.

As a result of the changes to the underground layout, throughput
has remained high at the Fairview plant. A cross-tram facility has been set up between Fairview and Sheba, where spare capacity exists in the Sheba plant. The Fairview plant capacity is still reported to be 13,000tpm. The plant condition does not appear to have changed form the previous visit and it is likely to remain in a good condition, provided that adequate maintenance is continued. All gravity concentration has been removed from Fairview concentrator and Biox® plants, as the quantity of gold recovered is regarded as insignificant.

The Fairview Biox® Plant is operating satisfactorily. The treatment of the arsenic stockpile through the Biox® plant has been stopped as a
result of the treatment cost implications. As Zincor will need about five years to completely remove the arsenic stockpile, BML management does not see this as a major issue.

The plant has processed up to 2,500 tpm (83 tpd) compared with the stated plant capacity of 60 tpd. This improvement in processing rate was a result of the high levels of stock ahead of the Biox® plant. During recent months, concentrate production from the three mines has been less than this quantity and the treatment rate has returned to a level of about 69 tpd.

The Fairview Smelthouse produces all the final gold bullion produced from BMI, either as gravity gold or Biox® gold via the diesel-fired furnace. The
Gravity gold from each of the mines is smelted separately into bullion for accounting purposes. Additionally, all the gold produced from the Grinaker-L.T.A Plants is stored and shipped from Fairview to Rand Refinery on a regular basis with the normal BML production.

The contract for the processing of the original tailings dams ended with the completion of the Fairview upper tailings dams. The plant was stopped in August 2003 and placed on care and maintenance with motor and drives turned regularly. The plant has subsequently been sold.

The processing contract with Grinaker-L.T.A at the Segalla CIL Plant will expire in November 2007 with the completion
of the last of the tailings dams. The tailings arising from the New Consort plant are still processed through the Segalla Plant but these will be treated through the refurbished and converted leach plant. Tailings are deposited onto the new Segalla Dam. The Segalla plant will be utilised by BML to treat the calcine dump material and co-deposit this with current New Consort tailings onto a modified Segalla tailings dam.

METALLURGY

The BML metallurgical processing plants were reviewed during a site visit on 15 and 16 January 2007. There are a total of six processing plants located on the BML site at Barberton:

- New Consort Concentrator – operated and managed by BML;
- Sheba Concentrator – operated and managed by BML;
- Fairview Concentrator, Smelthouse and Biox® Plant – operated and managed by BML;
- Segalla Gold Recovery CIL Plant at New Consort – operated and managed by Grinaker-LTA;
- Barberton Gold Tailings Reclamation at Fairview – operated and managed by Barberton Gold, a separate private company;
- Waste Crushers at Fairview – operated and managed by a private contractor.

The plants that are not operated and managed by BML personnel still fall under the overall responsibility of mine management from a high level as they operate within the mining lease area. All managerial appointments are effected at an operational level.

The New Consort Plant processed an average of 6,100tpm for the first six months of this current financial year (monthly budget plan tonnage is 6,300t) – the previous six-month period averaged 5,591tpm. The head grade to the plant has averaged 8.7g/t for the current six months with the previous six months being 11.3g/t. The monthly head grade has ranged from 7.3 to 9.8g/t during the last six months. The on mine gold recovery is currently 95.4% (previous 12 months) compared to 93.7% during the previous visit. The improvement has been identified as the relocation of the flash cell and the improved reagent suite.

The clean up of the old roaster plant remains substantially as it was during the previous visit, with the bunkers still to be demolished and covered.
The Sheba Concentrator has suffered from mill gearbox failures during the year, but these seem to have been rectified now. The crusher changes mentioned in previous reports are operating satisfactorily.

The plant throughput has averaged 9,700tpm for the first six months of this financial year with the grade being just over 10g/t. The recovery for the last 12 months is 94.5%, which is substantiated by the reported performance from the plant.

The plant condition does not appear to have changed from the previous visit (7 October 2004) and it is likely to remain in a good condition, provided that adequate maintenance is continued.

The Fairview Concentrator has processed an average 11,910tpm with a grade of 8.8g/t. The recovery for the past year has averaged in excess of 92.5%.

As a result of the changes to the underground layout, throughput has remained high at the Fairview plant. A cross-tram facility has been set up between Fairview and Sheba, where spare capacity exists in the Sheba plant. The Fairview plant capacity is still reported to be 13,000tpm.

The plant condition does not appear to have changed from the previous visit and it is likely to remain in a good condition, provided that adequate maintenance is continued. All gravity concentration has been removed from Fairview concentrator and Biox® plants, as the quantity of gold recovered is regarded as insignificant.

The Fairview Biox® Plant is operating satisfactorily.

The treatment of the arsenic stockpile through the Biox® plant has been stopped as a result of the treatment cost implications. As Zincon will need about five years to completely remove the arsenic stockpile, BML management does not see this as major issue.

The plant has processed up to 2,500tpm (83tpd) compared with the stated plant capacity of 60tpd. This improvement in processing rate was a result of the high levels of stock ahead of the Biox® plant. During recent months, concentrate production from the three mines has been less than this quantity and the treatment rate has returned to a level of about 69tpd.

The Fairview Smelthouse produces all the final gold bullion produced from BML, either as gravity gold or Biox® gold via the diesel-fired furnace. The gravity gold from each of the mines is smelted separately into bullion for accounting purposes. Additionally, all the gold produced from the Grinaker-LTA Plants is stored and shipped from Fairview to Rand Refinery on a regular basis with the normal BML production.

The contract for the processing of the original tailings dams ended with the completion of the Fairview upper tailings dams. The plant was stopped in August 2003 and placed on care and maintenance with motor and drives turned regularly. The plant has subsequently been sold.

The processing contract with Grinaker-LTA at the Segalla CIL Plant will expire in November 2007 with the completion of the last of the tailings dams. The tailings arising from the New Consort plant are still processed through the Segalla Plant but these will be treated through the refurbished and converted leach plant. Tailings are deposited onto the new Segalla Dam. The Segalla plant will be utilised by BML to treat the calcine dump material and co-deposit this with current New Consort tailings onto a modified Segalla tailings dam.

TAILINGS DISPOSAL

The Bramber tailings dam was commissioned in 1987 and is currently operated and managed by Environmental, Civil and Mining Projects (Pty) Ltd (“ECMP”). ECMP has recently taken over the operating responsibilities at Fairview from Fraser Alexander Tailings.

The tailings dam is a twin compartment, unlined facility with tailings being pumped to the dam in two 100NB HDPE pipelines and deposited by means of open-ended discharge at a slurry density range of between 1.35 and 1.45. The outer walls of the tailings dam are formed through the day-wall hand packing method.

Based on a limiting rate of rise (“RoR”) of between 1.5 – 2.0m/yr, the final elevation projected at 1V:3H side slopes from the latest freeboard survey are 678.0mamsl. The total remaining capacity on Bramber is estimated to be 0.4Mt (0.516Mm³) based on an in situ dry density of 1.45t/m³. This implies a remaining life of three years at the maximum design tonnage of 13,000tpm.

It must be noted that an extension to the Bramber tailings dam is scheduled for construction in 2008, with an amount of R2.0 million allowed for in the current capital plan. The new extension will be able to accommodate the tailings arising from the Ten-Year Plan of approximately 156,000tpa once deposition on the Bramber tailings dam has stopped or is split between the Bramber tailings dam and Bramber tailings dam extension.

The Segalla tailings dam was designed by ECMP and was commissioned in August 1998.

The facility is a partly lined double-valley tailings dam overlying a saddle between two hills. The lined area covers a dyke which runs through the centre of the dam. As well as having blanket drains in the vicinity of the upstream toes of the starter walls, there is also additional underdrainage on the lined section, which minimises the ingress of process water into the sub-taillings dam.
The Camelot tailings dam was designed and constructed by ECMP and was commissioned in July 1997.

The facility is an unlined valley dam. Tailings is pumped to the dam in a single 125NB rubber lined steel pipeline and deposited by means of open-ended discharge within a slurry density range of between 1.40 and 1.45t/m³.

The Sheba tailings dam is an unlined valley dam impoundment and is situated upstream of the Camelot tailings dam. Currently the Sheba tailings dam is decommissioned. Storm water on the dam is decanted by means of the existing penstock system, which is linked into the Camelot penstock system. The decant then spills into the Camelot RWD. Access to the tailings dam is good and the tailings dam is fenced with adequate safety signage.

INFRASTRUCTURE AND SERVICES

Engineering infrastructure at BML comprises shaft complexes and associated services to access and service the underground mining and ancillary operations. Surface infrastructure comprises headgears and winding systems, main ventilation plant, an aerial ropeway, roads and stormwater drains, electrical and water supply and distribution, office blocks and training centres, workshops and stores, lamp rooms, change houses and hostels. This has been well established over a number of years. Underground infrastructure includes ore, men and material hoisting installations, chairlifts, ore and material tramming systems, water dams, pump stations, ore storage bins, ore passes, tips, conveyor belts and loading stations. Additionally, there are also a number of centrally placed services and supplies to individual shafts or adits within the mine complexes. These include compressed air supply stations as well as workshops for the repair of plant and equipment.

Underground fissure water is used to supply all three shaft operations. The water is settled and re-circulated within each operation. Conventional mining techniques are used to distribute the water. The water balance remains positive right through the year. Excess ground water is sealed off from the mining operations.

Pumps are maintained and upgraded when required to meet each operation’s needs. SCADA systems are being introduced to control pump operation and dam levels.

The risks associated with the water supply and distribution are seen as typical of underground mining operations.

Eskom supplies power via a ring feed to the Noord Kaap Substation at 132kV where it is transformed to 22kV. The substation is located approximately 4km from New Consort Shaft. Further distribution is via dual feed to the Eskom owned Sheba and Fairview Substations and single feed to the mine owned New Consort Substation. One line to Sheba and Fairview is dedicated for the BML’s use. Fairview can operate with feed from the rural line in the event of the dedicated line failure, whereas Sheba could operate at reduced capacity.

The Mine has a compressed air installed capacity of 26,500cfm. The compressors are located at the three shaft heads.

Sheba, Fairview and New Consort sections are long established operations with proven records of production. They are typical small shaft establishments with limited power requirement, producing a combined total of approximately 30,000tpm.

The engineering infrastructure observed at BML is installed and maintained to a good standard. It is considered adequate to satisfy the requirements of the Ten-Year Plan. Further, the power generation and distribution systems, water sourcing and reticulation systems and planned maintenance programmes are appropriate for the operations as envisaged in the Ten-Year Plan. No fatal flaws were observed.

A number of risk areas were identified by SRK and discussed with mine management, who have instituted appropriate actions to address them.

ENVIRONMENTAL MANAGEMENT

This section includes discussion and comment on the environmental and water management aspects of the material properties of BML. Specifically, detail and comment is included on the status of the environmental issues, environmental legislation and permitting and environmental liabilities.

The mines are situated in an area characterised by mountainous topography and numerous rivers and streams. Of these the most significant are the Suid Kaap River and the Noord Kaap River. The Suid Kaap River receives runoff from Fairview Mine via the Olifants Creek and Hyslops Creek. The Noord Kaap River flows through the New Consort mining area and also receives runoff from Sheba Mine via the Snymans Creek. The area has a history of environmental sensitivity predominantly related to the contamination of surface and ground water, as well as soil, by arsenic and other contaminants. In a recent audit by external consultants soil contamination was identified as being inadequately understood. Other issues include:

- The existence of numerous holings to surface at all operations;
- The existence of numerous tailings dams and rock dumps adjacent to rivers;
- The reprocessing of tailings dams under contract by Grinaker-LTA at Sheba and New Consort, resulting in the creation of new larger tailings dams (the Camelot dam at Sheba and the Segalla dam at New Consort) and the removal of the tailings dam at Fairview Top;
- Other operations currently being undertaken under contract, notably the re-processing of several tailings dams at
Fairview by Barberton Gold and removal and crushing of waste rock from the Fairview waste rock dump by Quickstone;

The existence of the footprint area of an arsenic trioxide dump at Fairview and a remaining arsenic trioxide stockpile at New Consort;

The existence of a sulphur stockpile at New Consort.

All of these issues contribute to the complexity of the environmental setting and, in many cases, a degree of uncertainty regarding management requirements.

Where risks cannot be quantified definitively SRK has identified the risk without quantifying the potential liability. These primarily relate to the following:

- Water related issues;
- Arsenic stockpiles;
- Rehabilitation requirements which may not be adequately catered for in current provisions; and
- The financial risk that the DME will request a guarantee for the full amount of the closure liability.

Other environmental liabilities associated with BML are related to the requirements for final closure and rehabilitation, generally involving relatively standard and well understood practices. However, complicating factors at BML, which result in operational risks, not included in the SRK closure cost estimate, are:

- The steep and badly eroded state of tailings dams at Fairview;
- The steepness and length of the slopes of the Segalla tailings dam wall;
- The existence of numerous holings to surface at all mines, often in steep and relatively inaccessible terrain;
- The existence of waste rock dumps in or infringing on water courses at Sheba and Fairview;
- The existence of a sulphur stockpile at New Consort;
- Possible non-fulfilment of a number of rehabilitation obligations;
- The need to complete the removal of a gum tree plantation on the mountain above Fairview as required by the EMPR in the event that revenue generated does not cover the costs.

The likelihood and extent of these risks is a function of the extent to which the issues are addressed in terms of current operational management.

BML intends to address the closure of holings using operating costs and amounts included by SRK in the cost assessment are therefore provisional. Illegal mining by small scale miners is occurring at the abandoned holings and the extent of the problem associated with these holings may increase as more holings are identified.

While recognised as a risk, the waste rock dumps may not represent a material liability and material from the Fairview dump continues to be removed under contract.

SRK understands that Metorex plans to transfer the sulphur stockpile to the Kabwe plant in Zambia once the acid plant has been constructed at fair market value.

The mine is working in very close consultation with a contractor regarding the remaining gum trees at Fairview as required in terms of the EMPR.

Numerous closure cost estimates have been undertaken historically for BML. However, these are all based on differing assumptions and interpretation of existing information and differing unit rates. There is therefore a high degree of variation between estimates, which reflects the significance of the operational risks described in Section 9.4.1. The current estimate provided to SRK at the time of the site visit amounts to a total of ZAR30.2 million, but based on the items identified above and discussions with mine management, SRK estimated in 2005 that ZAR41.7 million will be needed for closure (Table 5). SRK recognises that considerable progress has been made in that the tailings dam at Fairview Top, and numerous tailings dams at New Consort have now been removed. It is also recognised that re-vegetation on these areas show promise in that grass species are colonising the area. However, all of these areas are still subject to erosion and active rehabilitation will still be required over much of the area. It is SRK’s view that the total liability has not been significantly reduced. SRK’s estimate is considerably more than the ZAR23.1 million already available in the fund at 30 June 2006. The difference has been provided in the financial evaluation of the mine.

### Table 5: BML – Estimated Liabilities

<table>
<thead>
<tr>
<th>Mine</th>
<th>Closure Cost Estimate (ZAR million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>13.9</td>
</tr>
<tr>
<td>Sheba</td>
<td>10.2</td>
</tr>
<tr>
<td>New Consort</td>
<td>13.2</td>
</tr>
<tr>
<td>Abandoned Mines and workings</td>
<td>4.4</td>
</tr>
</tbody>
</table>
|                           |                                      | 41.7

Against the background described above the following opportunities exist:
to optimise demolition and rehabilitation costs to ensure that all work is undertaken cost effectively;
to negotiate standards and to work with other stakeholders, such as the Mpumalanga Parks Board in the case of the gum plantation at Fairview Top, to realise some economic benefit in the meeting environmental objectives;
to undertake remedial work during the operational phase at each of the BML mines aimed at minimising sources of ongoing arsenic and other contamination as well as the rehabilitation of tailings dams and footprint areas; and

• to reduce the closure cost identified by the mine but for which there is currently no finality such as remediation work which can be undertaken using operational costs, and costs for the rehabilitation of footprint areas where contractors such as Quickstone (who are removing rock from the Fairview dump), and Barberton Gold (who are reprocessing tailings dams at Fairview). These costs could be transferred contractually.

Evaluation of the success achieved in this way will include modelling surface runoff and seepage during the operational phase, taking remediation activities into account. Several years of monitoring prior to closure will be required to confirm or amend the predictions of the model. Post-closure monitoring will then have to continue long enough to confirm that:
the model is realistic;
risks to downstream users are acceptably low.

In SRK’s opinion there is, as yet, no definitive estimate of the environmental liability of BML. Given that many measures proposed for the mines are dependent on further investigative work and detailed design and costing a level of uncertainty regarding actual liability is inevitable. The cost estimates presented above must therefore be considered to be rough estimates at best. There is a need to recognise this risk. BML will need to assess its financial liabilities associated with environmental issues in more detail than has been done to date.

TECHNICAL ECONOMIC PARAMETERS

The technical economic parameters for BML are detailed in Table 6. All expenditures are stated in financial years and in 1 July 2006 constant money (real) terms. F2007 represents the budget/forecast values for the six months January to June 2007, except where changed by SRK.

Table 6: BML – Technical-Economic Input Parameters

<table>
<thead>
<tr>
<th>Year</th>
<th>Tonnage (kt)</th>
<th>Head Feed Grade (g/t)</th>
<th>Gold Sold (kg)</th>
<th>Working Costs (ZARm)</th>
<th>Capital Expenditure (ZARm)</th>
<th>Expenditure Total (ZARm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F2007 – H2(1)</td>
<td>201.0</td>
<td>8.92</td>
<td>1,642.5</td>
<td>163.8</td>
<td>7.7</td>
<td>171.4</td>
</tr>
<tr>
<td>F2008</td>
<td>354.9</td>
<td>9.09</td>
<td>2,957.9</td>
<td>312.2</td>
<td>11.4</td>
<td>323.6</td>
</tr>
<tr>
<td>F2009</td>
<td>355.2</td>
<td>9.08</td>
<td>2,959.6</td>
<td>312.0</td>
<td>9.6</td>
<td>321.6</td>
</tr>
<tr>
<td>F2010</td>
<td>351.9</td>
<td>9.00</td>
<td>2,904.6</td>
<td>316.4</td>
<td>8.0</td>
<td>324.4</td>
</tr>
<tr>
<td>F2011</td>
<td>351.9</td>
<td>9.00</td>
<td>2,904.2</td>
<td>319.3</td>
<td>5.5</td>
<td>324.8</td>
</tr>
<tr>
<td>F2012</td>
<td>349.8</td>
<td>9.01</td>
<td>2,889.2</td>
<td>319.2</td>
<td>4.4</td>
<td>323.6</td>
</tr>
<tr>
<td>F2013</td>
<td>344.7</td>
<td>9.02</td>
<td>2,851.1</td>
<td>318.4</td>
<td>4.3</td>
<td>322.7</td>
</tr>
<tr>
<td>F2014</td>
<td>355.3</td>
<td>8.99</td>
<td>2,929.9</td>
<td>321.4</td>
<td>4.4</td>
<td>325.8</td>
</tr>
<tr>
<td>F2015</td>
<td>355.3</td>
<td>8.99</td>
<td>2,929.9</td>
<td>321.8</td>
<td>4.4</td>
<td>326.2</td>
</tr>
<tr>
<td>F2016</td>
<td>355.3</td>
<td>8.99</td>
<td>2,929.9</td>
<td>351.8</td>
<td>4.4</td>
<td>356.2</td>
</tr>
</tbody>
</table>

(1) The budget/forecast results for January to June 2007.

BML, with an expected gold production of around 3,000kg per annum, will not have a significant impact on global and South Africa’s annual gold production and so will have no impact on the dollar gold price.

PAR obtained projections for the ZAR:US$ exchange rate and RSA inflation rate (CPIX) for 2007 to 2009, and gold price
forecasts for 2007 and 2008 (Table 7). SRK has assumed that the ZAR-US$ exchange rate in 2009 and the gold price in 2008 can be kept constant in real terms for the rest of the Ten-Year Plan. For evaluation purposes, SRK has assumed that the parameters in Table 12.2 are the average applicable for the financial year July to June. Assumed inflation rates for the USA are also shown.

**Table 7: Macro-Economic and Commodity Price Assumptions**

<table>
<thead>
<tr>
<th>Year</th>
<th>(ZAR:US$) (Real)</th>
<th>(RSA CPI) (%)</th>
<th>(USA CPI) (%)</th>
<th>US$/oz</th>
<th>R/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>F2007</td>
<td>7.53</td>
<td>5.26</td>
<td>2.50</td>
<td>651</td>
<td>157,604</td>
</tr>
<tr>
<td>F2008</td>
<td>7.80</td>
<td>4.81</td>
<td>2.50</td>
<td>655</td>
<td>164,258</td>
</tr>
<tr>
<td>F2009</td>
<td>8.05</td>
<td>4.61</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2010</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2011</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2012</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2013</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2014</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2015</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2016</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
</tbody>
</table>

BML has gold hedge contracts in place with ABSA and Investec, which are due to expire by November 2007. BML has been able to roll over delivery of gold into these contracts (originally due to expire in June 2005). At 1 January 2007, BML is still required to deliver 752.5kg of gold into these hedge contracts, at the volumes and prices as shown in Table 8. SRK has accepted these hedge prices for evaluation purposes.

**Table 8: BML – Timed Delivery of Gold into Hedge Contracts**

<table>
<thead>
<tr>
<th>Contract Period</th>
<th>Contract Au Delivered (kg)</th>
<th>Contract Price (R/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2007 February 2007 March 2007 April 2007 May 2007 June 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>95,297.70 95,259.44 96,201.13 99,591.52 101,273.23 100,783.26</td>
</tr>
<tr>
<td>July 2007 August 2007 September 2007 October 2007 November 2007</td>
<td>70.0 70.0 70.0 70.0 52.5</td>
<td>100,768.14 100,607.07 100,607.07 100,607.07 100,607.07</td>
</tr>
</tbody>
</table>

**MATERIAL ASSETS VALUATION**

The summary valuation for the Material Assets is based on a sum of the parts approach using:

- the discounted cash flow (“DCF”) technique applied on a post-tax pre-finance basis for the Mines. This is based on the Ten-Year Plan developed by SRK from the 15-Year Forecast and supplemental information as provided by BML including the resulting Technical economic parameters (“TEPs”) (Section 12);
- the value of contained gold in the Mineral Resources for the Mines that do not form part of the Ten-Year Plan is based on a SRK-preferred value taken from the value of in-situ gold, modified by the weighted effect of a range of technical issues, the net DCF value for the Mines converted to a US$/oz gold in head feed applied to the in-situ contained gold, and future exploration expenditure;
- the DCF technique applied on a post-tax pre-finance basis for the Calcine Project;
- the value for the Prospecting Right derived from future exploration expenditure.
SUMMARY VALUATION AND CONCLUDING REMARKS

The summary equity valuation for BML, which excludes any impact of Secondary Taxation on Companies (“STC”), is presented in Table 9.

Table 9: BML – Summary Valuation at 1 January 2007

<table>
<thead>
<tr>
<th>Asset/Adjustment</th>
<th>Unit</th>
<th>Value of BML</th>
<th>Value Attributable to PAR after Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Assets</td>
<td></td>
<td>(ZARm)</td>
<td></td>
</tr>
<tr>
<td>The Mines</td>
<td>(ZARm)</td>
<td>555.9 46.6</td>
<td>411.4 34.5</td>
</tr>
<tr>
<td>Unused Resources</td>
<td>(ZARm)</td>
<td>38.7 2.6</td>
<td>28.6 1.9</td>
</tr>
<tr>
<td>Calcine Project</td>
<td>(ZARm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prospecting Right</td>
<td>(ZARm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Asset Valuation</td>
<td>(ZARm)</td>
<td>643.8</td>
<td>476.4</td>
</tr>
<tr>
<td>Adjustments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unallocated Corporate Expenses</td>
<td>(ZARm)</td>
<td>0.0 (13.0)</td>
<td>0.0 (9.6)</td>
</tr>
<tr>
<td>Net (debt)/cash at 1 January 2007</td>
<td>(ZARm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity Value</td>
<td>(ZARm)</td>
<td>630.8</td>
<td>466.8</td>
</tr>
</tbody>
</table>

(1) Based on NPV of Ten-Year Plan at 8% real DCF (Table 13.3), which is based on a production schedule that includes the Used Resources and production from vamping, which cannot be classified as a Resource. Gold recovered from vamping contributes approximately ZAR252 million to the value shown here.

(2) SRK’s preferred value for the unused Resources from Table 13.10.

(3) NPV at 8% real DCF (Table 13.12).

(4) Represents the NPV of probability-adjusted exploration expenditure for a five-year period (Section 13.8).

(5) Represents the NPV of probability-adjusted exploration expenditure for a five-year period (Section 13.8).

(6) Net debt/cash position as supplied by BML at 1 January 2007.

SRK has conducted a comprehensive review and assessment of all material issues likely to influence the future operations and/or exploration of the Material Assets. In the absence of a formal LoM plan for the Mines, SRK developed a Ten-Year Plan which takes account of actual results and current projections. The capital and operating budgets for BML, as provided to and taken in good faith by SRK, have been reviewed in detail for appropriateness, reasonableness and viability. Where material differences were found, these were discussed with BML and adjusted where considered appropriate. SRK considers that the resulting TEPs are based on sound reasoning, engineering judgment and technically achievable plans, within the context of the risks associated with the South African mining industry.

In considering the valuation as derived herein, SRK notes the sensitivity of BML to both macro-economic and commodity price forecasts. Non-achievement of the forecasted gold prices will have a significant impact on the valuation of BML.

The observations, comments and conclusions presented in this report represent SRK’s opinion as of 1 January 2007. The views expressed by SRK in this report are based on the assumption that the Ten-Year Plan presented in this CPR is adhered to and that the required management, resources and capital are made available. SRK has assigned an equity value to BML of ZAR630.8 million at that date.

CONTENTS

Section Description Page

1. INTRODUCTION 219

1.1 Background 219

1.2 Competent Persons’ Report – Purpose of Report, Compliance and Sources of Data 220
   1.2.1 Purpose of Report 220
   1.2.2 Compliance 221
   1.2.3 Sources of Data 221
1.3 Effective Date and Valuation Date 221

1.4 Verification, Validation and Reliance 222
  1.4.1 Technical Reliance 222
  1.4.2 Financial Reliance 222
  1.4.3 Legal Matters 222

1.5 Valuation Basis 223

1.6 Limitations, Reliance on Information, Declarations and Consent 223
  1.6.1 Limitations 223
  1.6.2 Reliance on Information 224
  1.6.3 Declarations 224
  1.6.4 Consent 224

1.7 Capability and Independence 224

2. PAN AFRICAN RESOURCES AND BML 225

  2.1 Introduction 225

2.2 Company and Operating Structure 225
  2.2.1 Pan African Resources 225
  2.2.2 Metorex 226
  2.2.3 BML 226

2.3 Mining History 228

2.4 Regulatory Environment 228
  2.4.1 South African Law: The Minerals and Petroleum Resources Development Act 228
  2.4.2 South African Law: The Mining Charter 229
  2.4.3 South African Law: Mineral and Petroleum Resources Royalty Bill 230
  2.4.4 South African Environmental Legislation 230
  2.4.5 BML – Current Status 231

3. GEOLOGY 236

  3.1 Introduction 236

3.2 Geological Setting of the Barberton Greenstone Belt 236

3.3 Deposit Geology 237
  3.3.1 Fairview Mine 237
  3.3.2 New Consort Mine 237
  3.3.3 Sheba Mine 238

  Section Description Page

3.4 Exploration Activities 239
  3.4.1 Fairview Mine 239
  3.4.2 New Consort 239
  3.4.3 Sheba Mine 239
  3.4.4 Prospecting Licence Area 239

4. MINERAL RESOURCES AND RESERVES 251

  4.1 Introduction 251

4.2 SRK Audit Procedures 251

4.3 Mineral Resource and Reserve Estimation Methodology 251
  4.3.1 Quality and Quantity of Data 251
  4.3.2 Quality Assurance/Quality Control 251
  4.3.3 Definition of Drillhole Intersections 251
  4.3.4 Block Tonnage Grade Estimation 252
  4.3.5 Mineral Resource Blocks 252
  4.3.6 Classification 252
  4.3.7 Mineral Reserve Estimation 253

4.4 BML’s Mineral Resource and Mineral Reserve Statement 253
  4.4.1 Previous Resource and Reserve Statements 253
  4.4.2 Current Resource and Reserve Statements 254

4.5 SRK Comments 256
5. MINING 256

5.1 Introduction 256

5.2 Mining Geotechnics 257
  5.2.1 The Mining Operation 257
  5.2.2 Geotechnical Environment 257
  5.2.3 Regional Stability 257
  5.2.4 Local Stability 257
  5.2.5 Staffing 257
  5.2.6 Stability of Service Excavations and Main Accessways 257
  5.2.7 Code of Practice 257

5.3 Ground Water 258

5.4 Mineral Reserves 258

5.5 Mine Planning 258

5.6 Mine Descriptions 261
  5.6.1 Fairview 261
  5.6.2 New Consort 261
  5.6.3 Sheba 261
  5.6.4 Vamping 262

5.7 Mining Methods 262

5.8 Mining Equipment 262

5.9 SRK Comments 263
  5.9.1 Mine Planning 263
  5.9.2 Mine Management 263
  5.9.3 Manning Levels 263
  5.9.4 Production Projections 263
  5.9.5 Dilution 263

5.10 Opportunities 263

5.11 Risks 263

Section Description Page

6. METALLURGICAL PROCESSING 267

6.1 Introduction 267

6.2 Sampling, Analysis and Gold Accounting 267
  6.2.1 Process Sampling 267
  6.2.2 Gold Inventory and Lock-up 267
  6.2.3 Gold Accounting 268
  6.2.4 Gold Assaying 268
  6.2.5 Bullion Quality 269

6.3 Security 269

6.4 Update of Plant Operations 269
  6.4.1 New Consort Concentrator Plant 269
  6.4.2 Sheba Concentrator Plant 269
  6.4.3 Fairview Concentrator Plant 270
  6.4.4 Fairview Biox® Plant 270
  6.4.5 Fairview Smelthouse 270
  6.4.6 Condition of Plant and Equipment 270
  6.4.7 Metallurgical Staffing 271
  6.4.8 Camelot CIL Plant 271
  6.4.9 Segalla CIL Plant 271
  6.4.10 Barberton Gold 272
  6.4.11 Barberton Crushers 272

6.5 Historical Metallurgical Performance 272

6.6 Operating Costs 274
6.7 Capital Expenditure and Major Expenditure 276

6.8 Concerns, Risks and Opportunities 276

7. TAILINGS MANAGEMENT 279

7.1 Introduction 279

7.2 Overview of the Tailings Disposal Facilities at BML 279
  7.2.1 Bramber Tailings Dam 279
  7.2.2 Other Tailings Dams at Fairview 279
  7.2.3 Segalla Tailings Dam 280
  7.2.4 Camelot Tailings Dam 280
  7.2.5 Sheba Tailings Dam 281

7.3 Operating Procedures 281

7.4 Additional Tailings Capital Costs 281

7.5 SRK Comments 281

8. SUPPORT INFRASTRUCTURE AND CAPITAL EXPENDITURE 286

8.1 Introduction 286

8.2 Surface Infrastructure 286
  8.2.1 Water 286
  8.2.2 Electricity 286
  8.2.3 Compressed Air 287
  8.2.4 Buildings and Workshops 287

8.3 Shafts and Winding Plant 287
  8.3.1 Fairview Section 288
  8.3.2 Sheba Surface Section 289

8.4 Capital Expenditure Programmes 289
  8.4.1 Project Capital Expenditure 289
  8.4.2 Ongoing Capital 289

8.5 Operational Costs 289

8.6 General Engineering 290
  8.6.1 Critical Spares 290
  8.6.2 Maintenance Teams 290

8.7 Conclusions 290

9. ENVIRONMENTAL AND WATER MANAGEMENT 291

9.1 Introduction 291

9.2 Environmental Setting 291

9.3 Current Legislation 291

9.4 Risks, Liabilities and Opportunities 292
  9.4.1 Risks 292
  9.4.2 Liabilities 294
  9.4.3 Opportunities 295

9.5 SRK Comments 295

10. HEALTH AND SAFETY 296

11. HUMAN RESOURCES 296

11.1 Legislation 296

11.2 Organisational Structure and Operational Manpower 296


Table 4.4: BML – SRK Audited Mineral Resource and Mineral Reserve Statement (at 31 December 2006)

Table 5.1: BML Proved and Probable Reserves (at 30 June 2006)

Table 5.2: Tonnage Depletion Schedule in Ten-Year Plan (F2007 to F2016)

Table 5.3: BML Resource-to-Reserve Grade Conversion

Table 5.4: SRK Grades used for 10-Year Plan (excluding vamping)

Table 5.5: Production Schedule in Ten-Year Plan (excluding vamping)

Table 5.6: Historical Vamping Production Statistics (VTN)

Table 5.7: Tailings Disposal Capital Requirements

Table 6.1: Gold Inventory Comparison

Table 6.2: BML – Metallurgical Performance for Fairview Plant

Table 6.3: BML – Metallurgical Performance for New Consort Plant

Table 6.4: BML – Metallurgical Performance for Sheba Plant

Table 6.5: BML Metallurgical Costs

Table 7.1: Tailings Disposal Capital Requirements

Table 8.1: Schedule of Power Capacity and Usage at the Barberton Mine Shafts

Table 8.2: Schedule of Compressed Air Capacity and Usage at the Barberton Mine Shafts

Table 8.3: Schedule of Engineering Operating Costs at end December 2006

Table 8.4: Engineering Complement

Table 9.1: BML – Estimated Liabilities

Table 12.1: BML – Technical-Economic Input Parameters

Table 12.2: Macro-Economic and Commodity Price Assumptions

Table 12.3: BML – Timed Delivery of Gold into Hedge Contracts

Table 13.1: Taxation and Working Capital Input Parameters at 1 January 2007

Table 13.2: BML: FM for Ten-Year Plan, Inclusive of the Used Resources

Section Description Page

Table 13.3: BML Mines: Variation of Real NPV with Discount Factors

Table 13.4: BML Mines (Including the Used Resources): Real NPV – Single Parameter Sensitivity

Table 13.5: BML Mines (Including the Used Resources): Real NPV Sensitivity – Varying Twin Parameter at 8% Discount

Table 13.6: Risk-Impact Matrix for Adjusting Gold Price Percentage

Table 13.7: Risk-Adjusted Value Ranges for Unused Resources

Table 13.8: Value for Unused Resources from NPV of the Mines

Table 13.9: Exploration Budgets for Fairview, New Consort and Sheba Mines

Table 13.10: Alternative Values for the Unused Resources

Table 13.11: BML – FM for Calcine Project

Table 13.12: Variation of Real NPV for Calcine Project

Table 13.13: Probability-Adjusted Exploration Budget for Prospecting License Area

Table 14.1: BML – Summary Valuation at 1 January 2007

TABLE OF FIGURES

Figure 2.1: Corporate Structure of PAR and BML After Take-over, Admission to ALT and Renewed Trading on AIM

Figure 2.2: Barberton Mines – Location of Operations

Figure 2.3: Barberton Mines – Material Mineral Rights held by BML

Figure 3.1: Barberton Mines – Locality Plan of the Barberton Greenstone Belt

Figure 3.2: Barberton Mines – Simplified Stratigraphic Column for the Barberton Greenstone Belt

Figure 3.3: Barberton Mines – Simplified Geology of the Barberton Greenstone Belt

Figure 3.4: Barberton Mines – Detailed Geology of the New Consort – Fairview – Sheba Gold Mining Area

Figure 3.5: Barberton Mines – Underground Exposure of MRC Orebody Showing Refractory Ores

Figure 3.6: Barberton Mines – Mining Extent and Ore Body Location on Fairview

Figure 3.7: Barberton Mines – Plan and Section through New Consort Mine

Figure 3.8: Barberton Mines – Schematic Section looking West with planned access routes

Figure 5.1: Barberton Mines – Variability in Head Grades for July 2005 to
## Figure 5.2: Barberton Mines – Longitudinal Section through Fairview and Sheba Mines
Showing Mine Infrastructure and Past Mining

## Figure 5.3: Barberton Mines – Longitudinal Section through New Consort Mine
Showing Mine Infrastructure and Past Mining

## Figure 6.1: BML – Typical Gold Accounting Flowsheet

## Figure 6.2: BML – Typical Schematic Flotation Process Flow Diagram

## Figure 6.3: BML – Fairview BIOX Plant Flow Diagram

## Figure 7.1: Barberton Mines – Site Plan for Fairview Mine Showing Surface Infrastructure and Named Tailings Dams

## Figure 7.2: Barberton Mines – Site Plan for New Consort Mine Showing Surface Infrastructure and Named Tailings Dams

## Figure 7.3: Barberton Mines – Site Plan for Sheba Mine Showing Surface Infrastructure and Named Tailings Dams

## Figure 11.1: Barberton Mines – Organogram of Senior and Middle Management

## Figure 12.1: Ten-Year Plan Recovered Gold for BML

## Figure 12.2: Ten-Year Plan Tonnes Milled for BML

---

### COMPLIANCE CHECKLIST PER CLAUSE 12.6 OF JSE LISTINGS REQUIREMENTS

<table>
<thead>
<tr>
<th>Reference to Section 12 General/Exploration Companies</th>
<th>Reference to Section 12 Mining Companies</th>
<th>Report Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1</td>
<td>12.12(c) – (d)</td>
<td>2.3, 11.2, Figure 11.1, Table 2.3</td>
</tr>
<tr>
<td>12.3(a) – (c), (e)</td>
<td>12.13</td>
<td>1.2</td>
</tr>
<tr>
<td>12.7(b) – (d)</td>
<td>12.14(a)(i)</td>
<td>2.4.5, 6.4, 9.2, 9.3, 9.4, Table 9.1</td>
</tr>
<tr>
<td>12.8(a) – (e)</td>
<td>12.14(a)(ii)</td>
<td>4.1, 4.4.2, 5.5, 13.5.2, Tables 4.3 and 13.3</td>
</tr>
<tr>
<td>12.9(a) – (d)</td>
<td>12.14(a)(iii – iv)</td>
<td>4.1, 4.4.2, 4.5, 5.5, 5.7, Tables 5.2, 5.3, 5.4 and 5.5</td>
</tr>
<tr>
<td>12.9(c)</td>
<td>12.14(a)(v – vii)</td>
<td>5.5, 5.7, 6.4, 6.5, 7.2, Figures 6.1, 6.2 and 6.3</td>
</tr>
<tr>
<td>12.9(f)</td>
<td>12.14(a)(viii)</td>
<td>6.2, 6.6, 8.4, 9.4, 12.5, 13.3, 13.5</td>
</tr>
<tr>
<td>12.10(a)(i)</td>
<td>12.14(a)(ix – x)</td>
<td>1.2.3, 2.2.3, 4.1, 5.5, 6.2.2, 6.5, 6.6, Tables 2.1, 2.2, 5.6, 6.1 and 6.2</td>
</tr>
<tr>
<td>12.10(a)(ii)</td>
<td>12.14(a)(xi)</td>
<td>4.3, 2.2.1, 2.4.5, 5.11, 6.3, 6.4, 6.8, 8.2, 8.3, 8.6, 8.7, 9.2, 9.3, 9.4, 9.5, 10, 12.6 Table 2.3</td>
</tr>
<tr>
<td>12.10(a)(iii)</td>
<td>12.14(a)(xii)</td>
<td>4.3, 4.3.1, 4.3.4, 12.14(a)(xiii)</td>
</tr>
<tr>
<td>12.10(a)(iv – vi)</td>
<td>12.14(a)(xiv)</td>
<td>13.5.2 Table 13.3</td>
</tr>
<tr>
<td>12.10(a)(vii – viii)</td>
<td>12.14(a)(xv)</td>
<td>4.3, 4.3.1, 4.3.4, 12.14(a)(xvi)</td>
</tr>
<tr>
<td>12.10(a)(ix)</td>
<td>12.14(a)(xv)</td>
<td>4.3.7 Table 5.1</td>
</tr>
<tr>
<td>12.10(a)(x)</td>
<td>6.2, Table 6.1</td>
<td>12.14(a)(xvi)</td>
</tr>
<tr>
<td>12.10(a)(xi)</td>
<td>4.4.2 Table 4.3</td>
<td>4.4.2 Table 4.3</td>
</tr>
<tr>
<td>12.10(a)(xii)</td>
<td>12.14(a)(xvii)</td>
<td>5.9, 6.4.7, 6.8, 8.4, 14.2</td>
</tr>
<tr>
<td>12.10(a)(xiv)</td>
<td>12.14(a)(xviii)</td>
<td>4.5, 14.2</td>
</tr>
<tr>
<td>12.10(a)(xv)</td>
<td>12.14(a)(xix)</td>
<td>5.8, 5.9, 6.2, 6.2.3, 6.8, 12.2, 13.4, 14.2</td>
</tr>
<tr>
<td>12.10(a)(xvi)</td>
<td>4.3.3</td>
<td>5.6, 5.8, 6.1, 6.4, 6.8, 7.2, 8.1, 8.2, 8.3, 8.4, 9.4, 9.5</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

1.1 Background

Pan African Resources PLC (“PAR”) is an exploration company quoted on the AIM Market (“AIM”) of the London Stock Exchange plc (“LSE”) with gold projects in Mozambique and Central African Republic (“CAR”). PAR announced on 20 December 2006 that it plans to acquire the 74% stake in Barberton Mines (Pty) Limited (“BML”)
from Metorex Limited ("Metorex") through a reverse takeover of PAR by Metorex that would give Metorex 55% control of PAR. Metorex is a diversified public mining company incorporated in the Republic of South Africa, with listings on the JSE Limited ("JSE") and the LSE. PAR wishes to secure a dual listing by admission to the Alternative Exchange ("ALT") of the JSE.

SRK Consulting (South Africa) (Pty) Limited ("SRK") compiled an independent competent person’s report ("CPR") on BML in 2005 entitled "An Independent Competent Person’s Report on Barberton Mines Ltd, report SA341717 barberton mines cpr – feb05-v02.doc, dated 7 February 2005" (the “2005 CPR”). A copy of the 2005 CPR will be available on PAR’s website www.panafricanresources.com and on request from PAR’s registered offices. SRK has been commissioned by the directors of PAR to prepare a CPR on the material assets and liabilities associated with the gold mines and projects of BML located near Barberton in the Mpumalanga Province of South Africa (the “Material Assets”), which will be an update of the 2005 CPR. PAR’s gold exploration projects in Mozambique and CAR are dealt with in separate CPRs appearing elsewhere in this combined re-admission document for AIM and pre-listing statement for ALT (the “Document”) and are not referred to again here.

Key information pertaining to the Material Assets of BML has been summarised in Table 1.1.

Table 1.1 Summary Table of Material Assets of BML

<table>
<thead>
<tr>
<th>Asset Held by Attributable Licence No. Licence Comments to PAR Status and expiry date area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview Mine BML 74% Production</td>
</tr>
</tbody>
</table>
to new word ring in Ocotber 2005. A word of new word ring
Sheba Mine BML 74% Production
Exploration Project BML 74% Exploration Protocol 1,900,1227
The Material Assets in Table 1.1 have been valued by SRK using valuation techniques appropriate to the stage of development of each project.
1.2 Competent Persons’ Report – Purpose of Report, Compliance and Sources of Data

1.2.1 Purpose of Report

This report has been prepared by SRK for inclusion in the Document to be lodged by PAR in support of its admission to ALT and renewed trading on AIM.

SRK was instructed by PAR to prepare a CPR on the Material Assets of BML in South Africa. This report, which summarises the findings of SRK’s review, has been prepared in order to satisfy the requirements of Chapter 12 of the JSE Listings Requirements, as well as the AIM Rules for Companies dated July 2005 (the “AIM Rules”) and the “Guidance Note for Mining, Oil and Gas Companies” dated March 2006 (the “AIM Mining Guidance”).

SRK has reviewed the practice and estimation methods undertaken by BML and is of the opinion that they are in compliance with the Recommendations for Prospectuses issued by the Committee of European Securities Regulators (“CESR Recommendations”), specifically clauses 131 to 133. SRK has classified the Material Assets in accordance with the South African Code for Reporting Mineral Resources and Mineral Reserves (the “SAMREC Code”), which is a reporting code that is acceptable to the Financial Services Authority (“FSA”) in the United Kingdom. In this report, all mineral resource and mineral reserve estimates have been substantiated by evidence obtained from SRK’s site visits and observation and are supported by details of exploration results, analyses and other evidence and take account of all relevant information supplied by the management of BML.

SRK has included a valuation of the Material Assets in accordance with the SAMVAL Code.

The report, which follows, provides an update of the 2005 CPR on BML issued in November 2005.

1.2.2 Compliance

This report has been prepared under the direction of the Competent Person (the “CP”) who assumes overall professional responsibility for the document (Section 1.7). The report, however, is published by SRK, the commissioned entity, and accordingly SRK assumes responsibility for the views expressed herein. Consequently all references to SRK mean the CP and vice versa.

This CPR has been prepared in accordance with the requirements of Chapter 12 of the JSE Listings Requirements, as well as the AIM Rules and the AIM Mining Guidance. Mineral resource and reserve estimates presented in this CPR have been reported according to the SAMREC Code compiled by the South African Mineral Committee, which code is accepted by the FSA.

Valuation of the Material Assets uses a combination of discounted cash flow (“DCF”), in-situ gold and exploration multipliers according to the SAMVAL Code, which has been compiled under the auspices of the South African Mineral Committee. The SAMVAL Code incorporates the principles of the CIMVal Code (Canadian Institute of Mining, Metallurgy and Petroleum), the Valmin Code (Australian Institute of Mining and Metallurgy) and the International Valuation Standards Committee, and is consistent with international reporting practices.

This CPR has complied with all requirements of Section 12.9(f) of the JSE Listings Requirements, except for certain points as indicated in the compliance checklist which were not applicable.

1.2.3 Sources of Data

Data/Information for BML used to prepare this CPR are set out in the Appendix 1, with the key items as follows:
- Management reports for June 2005, June 2006 and July to December 2006;
- Business plan and current operating and capital budgets for 1 July 2006 to 30 June 2007 (financial year F2007);
- Latest resource and reserve statement;
- Recent rock engineering reviews with regards to underground support;
- 15-Year Forecast resource depletion plan and five-year business plan;
- Status of environmental trust funds;
- Legal opinion report on BML by Tabacks Inc;
- Status of gold hedge contracts; and
- Balance sheet at 31 December 2006.

1.3 Effective Date and Valuation Date

The effective date (the “Effective Date”) of this CPR and the information on which it is based is deemed to be 1 January 2007 and is co-incident with the Valuation Date.

To the best of the knowledge of SRK, there have been no material changes to BML since the Effective Date.

1.4 Verification, Validation and Reliance

The valuation as reported herein is dependent upon technical, financial and legal input. The technical information as provided to and taken in good faith by SRK has not been independently verified by means of recalculation. SRK has
however:

- Conducted a comprehensive review and assessment of all material technical issues likely to influence the future performance of BML, which included the following:
  - inspection visits to operations, metallurgical plants, surface structures and associated infrastructure of BML in January 2007;
  - full access to key BML and Metorex personnel for discussion and enquiry;
  - a review, and where appropriate, modification of BML’s estimates and classification of Mineral Resources and Mineral Reserves at BML, including the methodologies applied in determining such estimates and classifications;
  - a review of historical operating records and management accounting statements for BML from June 2005 and June 2006 to December 2006;
  - a review of BML’s latest 15-Year Forecast plan and supporting documentation and associated technical-economic projections as prepared by BML, including projected future operating costs and capital expenditure schedules for the operations and conversion into a ten-year plan; and
  - a detailed examination of documentation made available by BML in support of the operational planning and in particular the Business Plan and budgets.

Satisfied itself that such information is both appropriate and valid for the valuation as reported herein. SRK considers that with respect to all material technical-economic matters it has undertaken all necessary investigation, both in terms of level of investigation and level of disclosure, to satisfy the reporting requirements of Chapter 12 of the JSE Listings Requirements and the AIM Mining Guidance.

SRK’s approach in undertaking a review of the Mineral Resource and Mineral Reserve estimates and classifications is detailed in Section 4 of this CPR.

SRK has performed all necessary validation and verification of the information provided by BML and Metorex in order to place an appropriate level of reliance on such information.

1.4.1 Technical Reliance

SRK places reliance on Metorex’s CP that all technical information provided to SRK at the time of writing is both valid and accurate for the purpose of compiling this CPR.

The information with respect to Mineral Resources and Reserves for BML has been prepared under the direction of Mr F Chadwick, PLATO.

1.4.2 Financial Reliance

In consideration of all financial aspects relating to the valuation of BML, SRK has placed reliance on the Chief Financial Officer of Metorex, Mr Maritz Smith, CA(SA), that the following information for BML is accurate at 31 December 2006:

Unredeemed capital balances;
Assessed losses;
Opening balances for debtors, creditors and stores; and
Taxation logic.

1.4.3 Legal Matters

SRK has relied on a legal opinion report compiled by Mr Chris Stephens of Tabacks Inc. in February 2007. In respect of specific compliance items SRK notes the following:

A detailed list of BML’s mineral and surface rights will be made available at PAR’s and Metorex’s corporate offices. For practical purposes of volume, a summary of the salient features is included in the CPR;
A detailed statement of any legal proceedings which may have an influence on the rights to explore for minerals or an appropriate negative statement has been included in the body of the Document; and
No significant legal issue exists which would affect the likely viability of a project and/or the estimation and classification of the Mineral Resources as reported herein.

1.5 Valuation Basis

The summary valuation for BML is based on a sum of the parts approach using a SRK-preferred value for each of the Material Assets. SRK has determined its preferred value for each project area based on its assessment of the validity of a number of different valuation techniques:

The discounted cash flow (“DCF”) technique applied on a post-tax pre-finance basis on real cash flows arising from the various production schedules and budgets as provided by BML and commodity price and macro-economic forecasts provided by PAR’s advisors, compiled by SRK into a Financial Model (“FM”) for the Fairview, New Consort and Sheba mines (the “ Mines”), the results of which are reported in Section 13 of this CPR. The FM is based on annual cash flow projections ending 30 June and technical-economic parameters (“TEPs”) stated in 1 July 2006 money terms. The valuation date is 1 January 2007 and uses the remaining six months January to June of F2007 and annually thereafter;

- In respect of Mineral Resources not used in production schedules incorporated into the FM, these have been
valued separately using a preferred value from amongst:

- the value of in-situ gold in declared resources and exploration targets, modified by a factor which represents the relative confidence attached to each deposit. The valuation uses the gold price and ZAR:US$ exchange rate ruling at 1 January 2007;
- the DCF value for the Mines, converted into a R/oz of gold in RoM feed; and
- the value of future exploration expenditure.

For the Calcine Project, a DCF technique applied to post-tax pre-finance real cash flows arising from the project proposal as compiled by BML;

For the Exploration Project, SRK is not aware of any mineralised zones that have been identified by BML. Accordingly, a value has been based on future exploration expenditure.

At the time of writing no indication of the sensitivity of the Mineral Reserve or production plans to commodity prices were available. Variances in commodity prices exist between that used to derive Mineral Reserves, the current spot market prices and that used for the financial valuation. The impacts on the valuation have not been considered. SRK has based its review on the latest available information as presented by BML and Metorex.

1.6 Limitations, Reliance on Information, Declarations and Consent

1.6.1 Limitations

SRK’s opinion contained herein and effective 1 January 2007, is based on information provided to SRK by BML and Metorex throughout the course of SRK’s investigations as described in Section 1.3 above, which in turn reflect various technical and economic conditions at the time of writing. If these conditions did change materially, the information and opinions contained in this report would have to be addressed to reflect these changes.

SRK notes that the resulting budgets and forecasts have, taking due consideration of the time-frames for transactions of this nature, been prepared appropriately and are based on the information available at the time and within the practical constraints and limitations of such budgets and forecasts. The achievability of these budgets and forecasts is not warranted nor guaranteed by SRK. Future cash flows and profits derived from such forecasts are inherently uncertain owing primarily to the volatility of the US Dollar gold price and Rand/US Dollar exchange rates. The forecasts as reported upon herein are predictions by BML of future events that cannot be assured and are necessarily based on assumptions, many of which are beyond the control of BML or its management. Consequently, actual results may be significantly more or less favourable. Nevertheless, SRK believes that the projections extracted from BML’s Business Plan and the Model and adjusted by SRK, where applicable, should be achievable, provided that the required management resources and adequate capital necessary to achieve the Business Plan projections for the operation are sustained.

This report includes technical information, which requires subsequent calculations to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where such errors occur, SRK does not consider them to be material.

As far as SRK has been able to ascertain, the information provided by BML was complete and not incorrect, misleading or irrelevant in any material aspect. SRK has no reason to believe that any material facts have been withheld.

1.6.2 Reliance on Information

SRK believes that its opinion must be considered as a whole and that selecting portions of the analysis or factors considered by it, without considering all factors and analyses together, could create a misleading view of the process underlying the opinions presented in the report. The preparation of such a report is a complex process and does not lend itself to partial analysis or summary.

SRK’s value for BML is effective at 1 January 2007 and is based on information provided by BML throughout the course of SRK’s investigations, which in turn reflect various technical-economic conditions prevailing at the date of this report. In particular, the value is based on expectations regarding the gold price projections prevailing at the date of this report.

These can change significantly over relatively short periods of time. Should these change materially, the value could be materially different in these changed circumstances. Further, SRK has no obligation or undertaking to advise any person of any change in circumstances which comes to its attention after the date of this CPR or to review, revise or update the CPR or opinion.

1.6.3 Declarations

SRK will receive a fee for the preparation of this report in accordance with normal professional consulting practice. SRK will receive no other benefit for the preparation of this report. Neither SRK nor any of its employees and associates employed in the preparation of this CPR has any pecuniary or beneficial interest in PAR, Metorex or BML. SRK considers itself to be independent.
1.6.4 Consent

SRK consents to the issuing of this report in the form and content in which it is to be included in documentation distributed to the directors of PAR, and in the Document.

Neither the whole nor any part of this report nor any reference thereto may be included in any other document without the prior written consent of SRK as to the form and context in which it appears.

1.7 Capability and Independence

Details of the qualifications and experience of the consultants who have carried out the work in this report, have extensive experience in the mining industry and are members in good standing of appropriate professional institutions, are set out below:

- H G (Wally) Waldeck, PrEng, FSAIMM, AMAMMSA, BScEng, MBA;
- Alan Goldschmidt, MSAIMM, BSc(Hons);
- Marcin Wertz, PrEng, MSAIMM, Mine Manager's Cert. of Competency, BSc(Hons);
- Gordon Cunningham, PrEng, MSAIMM, MMMASA, BEng;
- Andrew Smithen, PrEng, MSAICE, MSAIAE, MSAIMM, MScEng, MBL;
- Johan Boshoff, PrEng, MSAICE, MSc(Eng);
- Martin Hobbs, PrEng, BScEng, Mech. Engineers Cert. of Competency (Mines and Works);
- Andrew McDonald, CEng, MIMMM, FSAIMM, MSc, MBL,

all of SRK House, 265 Oxford Road, Illovo 2196, Johannesburg.

The CP with overall responsibility for the reporting of Mineral Resources in this CPR is Mr Alan Goldschmidt, PrSciNat (SA Council of Natural and Scientific Professionals), who is a Senior Geologist employed by SRK. Mr Goldschmidt is a mining geologist with 20 years’ experience in the mining industry. He has been involved in the evaluation and reporting of Mineral Resources related to greenstone and shear-zone hosted gold mineralisation for more than five years, as follows:

- geological modelling and resource estimation of Prestea Gold Deposit, Ghana; and
- due diligence review of BML.

The CP with overall responsibility for the compilation of this CPR is Mr Wally Waldeck, PrEng (Engineering Council of SA), who is a Partner with SRK. Mr Waldeck is a mining engineer with 34 years’ experience in the mining industry and has supervised numerous due-diligence reviews and technical mine evaluation studies in South Africa and internationally during the past five years. Mr Waldeck also assumes responsibility for reporting of Mineral Reserves as included in this CPR.

The CP with responsibility for the valuation of BML is Mr A J McDonald CEng (Engineering Council of UK), who is an Associate Consultant with SRK. Mr McDonald has been responsible for numerous valuations as part of due-diligence reviews and feasibility studies in Africa during the past 10 years.

SRK operates as an independent technical consultant providing resource evaluation, mining engineering and mine valuation services to clients. SRK has received, and will receive, professional fees for its preparation of this report. However, neither SRK nor any of its directors, staff or sub-consultants who contributed to this report has any interest in:

- Pan African Resources PLC, BML or Metorex Limited; or
- Any of the advisers to PAR or Metorex; or
- The mining assets reviewed; or
- The outcome of the transaction.

Drafts of this report were provided to PAR and Metorex, but only for the purpose of confirming both the accuracy of factual material and the reasonableness of assumptions relied upon in the report.

For the purposes of Prospectus Rule 5.5.3R(2)(f) of the LSE, SRK is responsible for this report as part of the Document and declares that it has taken all reasonable care to ensure that the information contained in this report is, to the best of its knowledge, in accordance with the facts and contains no omission likely to affect its import. This declaration is included in the Document in compliance with item 1.2 of Annex 1 to the Prospectus Rules.

2. PAN AFRICAN RESOURCES AND BML

2.1 Introduction

This Section gives a brief overview of PAR, Metorex and BML, including property descriptions, locations and histories.
2.2 Company and Operating Structure

2.2.1 Pan African Resources

PAR is a public exploration company listed on AIM with gold projects in Mozambique and CAR. PAR announced on 20 December 2006 that it plans to acquire the 74% stake in BML from Metorex through a reverse take-over of PAR by Metorex that would give Metorex 55% control of PAR.

Assuming the reverse takeover of PAR by Metorex goes ahead, PAR will have a 74% interest in BML, with the balance held by Shanduka Resources (Pty) Limited (“Shanduka”). The operating structure and effective shareholdings both in PAR and of PAR in BML are shown in Figure 2.1.

Shanduka, as a company owned by historically disadvantaged South Africans (“HDSAs”), provides BML with its black economic empowerment (“BEE”) requirements as laid down by the Minerals and Petroleum Resources Development Act, No. 28 of 2002 (the “MPRDA”), and the Broad-Based Socio-Economic Empowerment Charter for the South African Mining Industry (the “Mining Charter”) of 2002.

2.2.2 Metorex

Metorex is a public mining company, with listings on the JSE and the LSE. Metorex has mining interests in a wide range of mineral commodities. Metorex holds a 74% interest in BML, with the remaining 26% held by Shanduka. Assuming the reverse take-over of PAR by Metorex, PAR will hold a 74% interest in BML and Metorex in turn will hold a 55% interest in PAR (see Figure 2.1).

2.2.3 BML

BML comprises three operating mines, Fairview, New Consort and Sheba. The BML is situated in the Magisterial District of Barberton, Mpumalanga Province, Republic of South Africa, some 370km east of Johannesburg and 47km south-west of Nelspruit (Figure 2.2).

Brief historical operating statistics for BML are shown in Table 2.1.

**Table 2.1: BML – Historical Operating Statistics**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>F2001(a)</th>
<th>F2002(b)</th>
<th>F2003(c)</th>
<th>F2004(d)</th>
<th>F2005</th>
<th>F2006</th>
<th>F2007(H1)(e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material milled (kt)</td>
<td></td>
<td>309.5</td>
<td>315.5</td>
<td>334.8</td>
<td>349.2</td>
<td>316.1</td>
<td>313.8</td>
<td>166.4</td>
</tr>
<tr>
<td>Vamping contract (kt)</td>
<td></td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>14.8</td>
<td>17.3</td>
<td>19.3</td>
<td>11.6</td>
</tr>
<tr>
<td>Head grade (g/t)</td>
<td></td>
<td>9.93</td>
<td>10.00</td>
<td>9.80</td>
<td>10.41</td>
<td>11.07</td>
<td>10.70</td>
<td>9.24</td>
</tr>
<tr>
<td>Average plant recovery (%)</td>
<td></td>
<td>91.5%</td>
<td>88.7%</td>
<td>87.8%</td>
<td>90.9%</td>
<td>92.3%</td>
<td>92.0%</td>
<td>91.8%</td>
</tr>
<tr>
<td>Gold production (kg)</td>
<td></td>
<td>2,810.8</td>
<td>2,798.3</td>
<td>2,891.9</td>
<td>3,304.7</td>
<td>3,229.9</td>
<td>3,087.6</td>
<td>1,410.1</td>
</tr>
<tr>
<td>(koz)</td>
<td></td>
<td>90.4</td>
<td>90.0</td>
<td>92.6</td>
<td>106.2</td>
<td>103.8</td>
<td>99.3</td>
<td>45.3</td>
</tr>
<tr>
<td>Productivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEC-BML (No.)</td>
<td></td>
<td>1,333</td>
<td>1,381</td>
<td>1,256</td>
<td>1,405</td>
<td>1,434</td>
<td>1,426</td>
<td>1,478</td>
</tr>
<tr>
<td>Efficiency (t/TEC/month)</td>
<td></td>
<td>19</td>
<td>19</td>
<td>22</td>
<td>21</td>
<td>18</td>
<td>18</td>
<td>19</td>
</tr>
</tbody>
</table>
### Effectiveness (g/TEC/month)

<table>
<thead>
<tr>
<th></th>
<th>176</th>
<th>169</th>
<th>191</th>
<th>196</th>
<th>188</th>
<th>180</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and Safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatalities (No.)</td>
<td>0 1 1</td>
<td>0 0 0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reportable injuries (No.)</td>
<td>14 11 21</td>
<td>15 9 8</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lost Time Injuries (No.)</td>
<td>69 39 55</td>
<td>35 49 40</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTIFR</td>
<td>8.5 8.9 12.3</td>
<td>7.9 10.0 8.0</td>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average monthly medical incapacitation (No.)</td>
<td>13 10 10</td>
<td>14 20 24</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminations due to medical incapacitation (No.)</td>
<td>2 3 3</td>
<td>5 9 21</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Costs

<table>
<thead>
<tr>
<th></th>
<th>182.6 210.4 231.9</th>
<th>231.2 266.5 267.7</th>
<th>147.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total operating costs (R'm)</td>
<td>203.1 245.3 262.0</td>
<td>262.2 272.9 275.5</td>
<td>151.9</td>
</tr>
<tr>
<td>Cash costs (R/kg)</td>
<td>64,954 75,173 80,553</td>
<td>69,528 82,496 86,697</td>
<td>104,704</td>
</tr>
<tr>
<td>Capital (R'm)</td>
<td>18.6 17.5 11.0</td>
<td>13.3 18.2 12.6</td>
<td>11.9</td>
</tr>
</tbody>
</table>

### Revenue

<table>
<thead>
<tr>
<th></th>
<th>217.6 253.6 249.1</th>
<th>249.4 271.4 337.8</th>
<th>205.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vamping profit (R'm)</td>
<td>28.0</td>
<td>77,433 90,640 86,447</td>
<td>86,284 84,607 108,683</td>
</tr>
<tr>
<td>Gold price received</td>
<td>86,284 84,607 108,683</td>
<td>144,564</td>
<td></td>
</tr>
<tr>
<td>(R/kg)</td>
<td>2,810.8 2,798.3 2,881.4</td>
<td>93.3 31.8 13.4</td>
<td></td>
</tr>
<tr>
<td>Other income/</td>
<td>25.7</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>expenses (R'm)</td>
<td>20.8 14.5</td>
<td>(16.3)</td>
<td>1.7</td>
</tr>
</tbody>
</table>

### EBITDA (R'm) 35.3 22.8 13.0

<table>
<thead>
<tr>
<th></th>
<th>82.1 55.1 58.7</th>
<th>41.9</th>
</tr>
</thead>
</table>

1. F2001 and F2002 represent the annual operating results when BML was still the ETC Division of Avgold Limited.

### Notes:

2. F2003 represents the combined operating results for the whole year, even though Metorex had operational control of BML for the last two weeks of the financial year from 16 June 2003.

3. F2004 represents the first full year of operations under Metorex’s control.

1. Actual results for the first six months of F2007, i.e., July to December 2006.
2. Material from VTN vamping contract is included in total tonnes milled.
3. Includes the cost of the VTN vamping contract.
4. Total operating costs include amortisation.
5. Includes gold recovered via the VTN vamping contract.
6. The profit from vamping is based on the difference between the average spot price achieved and a fixed price per kg of gold recovered by VTN in terms of the contract.
7. The hedge profit is derived from the gold sold into the hedge contract at the difference.
between the hedge price and spot price achieved. This figure also includes part of the forward hedge contract that was sold and realised some R54 million in F2004.

An interest charge of R23 million is included in F2004.

Note that F2003 in Table 2.1 represents the combined operating results for the whole year, even though Metorex only had operational control of BML for the last two weeks of the financial year from 16 June 2003. The results for F2001 and F2002 are shown for comparative purposes, even though this was when BML (then ETC) was a division of Avgold Limited. F2004 represents the first full year of operations for BML under Metorex’s control. Statistics for the first half of F2007 (F2007 – H1, July to December 2006) are also included.

2.3 Mining History

Production from the mines that now comprise BML commenced more than 100 years ago.

The area surrounding New Consort originally consisted of several small workings which over a period of time were consolidated into what eventually became New Consort Gold Mines Limited in 1925. This name was changed to Eastern Transvaal Consolidated Mines Limited (ultimately ETC) in 1933 and became a member of the Anglovaal Group in 1948.

Sheba’s life started with the mining of Bray’s Golden Quarry, the first 13 000 tonnes from which yielded 50,000oz of gold. This and adjacent workings then changed hands quite frequently before being eventually acquired by ETC in 1937. Sheba’s output has increased significantly over recent years following the delineation of additional reserves.

Mining commenced in the vicinity of the current Fairview Mine in 1886 and continued intermittently until 1955 and more continuously since this time. ETC acquired Fairview Mine in 1998.

New Consort was previously the largest contributor of gold at ETC. The gold recovery plant was accordingly centred at this mine to handle flotation and gravity concentrates from the Sheba and Agnes Mines as well as the New Consort ore itself. Agnes mine was sold in 1999.

One of the early problems encountered by the mines was the refractory nature of the orebodies at depth whereby the gold is difficult to extract because a significant proportion of it is contained within sulphide and arsenic minerals. This problem was overcome with roasting, whereby the sulphur and arsenic is removed from the concentrates prior to treatment. After the flotation and gravity
concentrates had been roasted, the resultant calcine product and the New Consort ore were treated in conventional cyanidation plants.

South Africa’s first large scale Bio-Oxidation (Biox) plant was commissioned at Fairview in 1986. The Biox process utilises bacteria (Thiobacillus ferro-oxidans) to decompose and subsequently oxidise the sulphides containing the gold. Once this has been done the oxidised ore can be treated by conventional cyanidation, thereby replacing the roasting process.

Following the acquisition of Fairview, the Biox plant was expanded to accommodate sulphide concentrates from Sheba and New Consort and the roasting plant was decommissioned.

ETC was acquired by Metorex in 2003 and its name was changed to BML.

The proportion of historical gold production at BML from each of the three mines from F2001 to F2007 is shown in Table 2.2. The contribution from New Consort has remained approximately the same, whereas Fairview has replaced Sheba as the main contributor to gold production for BML.

Table 2.2: BML – Historical Gold Production Statistics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview (%)</td>
<td>22.3%</td>
<td>29.3%</td>
<td>37.4%</td>
<td>41.1%</td>
<td>40.1%</td>
<td>41.2%</td>
<td>New Consort (%)</td>
</tr>
<tr>
<td></td>
<td>30.7%</td>
<td>15.2%</td>
<td>21.7%</td>
<td>19.1%</td>
<td>21.4%</td>
<td>20.7%</td>
<td>Sheba (%)</td>
</tr>
<tr>
<td></td>
<td>57.3%</td>
<td>57.0%</td>
<td>51.0%</td>
<td>50.7%</td>
<td>39.9%</td>
<td>35.5%</td>
<td>38.1%</td>
</tr>
</tbody>
</table>

2.4 Regulatory Environment

2.4.1 South African Law: The Minerals and Petroleum Resources Development Act

The MPRDA was promulgated by the South African Parliament during July 2002 and came into effect on 1 May 2004.

Prior to 1 May 2004, mineral rights in South Africa were held privately or in some instances by the State. With the enactment of the MPRDA, all mineral rights are vested in the State. Transitional provisions in the MPRDA allow mining companies to convert their existing ‘old order’ rights to ‘new order’ rights. The transitional provisions contemplate three categories of old order rights:

(a) unused old order rights, which are mineral rights in respect of which no prospecting permit or mining authorisation had been issued under the former Minerals Act, No. 50 of 1991 (South Africa) (the “Minerals Act”) or, where such an issue had occurred, no prospecting or mining activities had taken place at 1 May 2004;

(b) old order prospecting rights, which are rights to prospect in respect of which a prospecting permit had been issued under the Minerals Act and prospecting had taken place prior to 1 May 2004; and

(c) old order mining rights, which are rights to mine in respect of which a mining authorisation had been
issued under the Minerals Act and mining had taken place.

Holders of unused old order rights were required to apply for prospecting or mining rights under the MPRDA within one year of 1 May 2004, i.e. before 30 April 2005.

Under the MPRDA, old order prospecting rights and old order mining rights and the related permits and authorisations granted under the Minerals Act will continue to be valid for the period granted under that legislation, subject to a maximum period of two years, in the case of old order prospecting rights, and five years, in the case of old order mining rights. To continue thereafter with prospecting or mining operations, holders of old order prospecting and mining rights are required to apply within these periods to convert their rights to the ‘new order’ prospecting and mining rights provided for by the MPRDA.

Under the MPRDA, prospecting rights will initially be granted for a maximum period of five years, and can be renewed once upon application for a further period of up to three years. Mining rights will be valid for a maximum period of 30 years and can be renewed on application for further periods, each of which may not exceed 30 years. Provision is made for the granting of retention permits in circumstances where prospecting has been completed but mining is not commercially viable, which will have a maximum term of three years and which are not renewable. A wide range of factors and principles, including proposals relating to black economic empowerment and social responsibility and evidence of an applicant’s ability to conduct mining optimally, will be pre-requisites for the approval of such applications.

2.4.2 South African Law: The Mining Charter

In accordance with the provisions of the MPRDA, the Mining Charter was signed on 12 October 2002 by the South African Minister of Minerals and Energy, representatives of the South African mining industry and the South African National Union of Mineworkers. The Mining Charter embraces a range of criteria against which prospecting and mining right applications and conversion applications will be considered. These criteria include issues such as human resources development, employment equity, procurement, community and rural development and ownership of mining assets by HDSA’s. On the issue of ownership, the Mining Charter requires that mining companies achieve 15% HDSA ownership of mining assets by 1 May 2009 and 26% HDSA ownership of mining assets by 1 May 2014. The Mining Charter envisages that transactions directed at achieving the required HDSA status will take place in a transparent manner and for fair market value.

Applications for the conversion of old order rights are assessed against a “scorecard” promulgated by the South African Department of Minerals and
Energy. The scorecard covers human resources development, employment equity, migrant labour, mine community and rural development, housing and living conditions, ownership and joint ventures, beneficiation and reporting. The scorecard does not indicate the relative significance of each item nor does it provide a particular score which an applicant must achieve to be in compliance with the Mining Charter and be granted new rights under the MPRDA (except with respect to HDSA ownership).

2.4.3 South African Law: Mineral and Petroleum Resources Royalty Bill

On 11 October 2006, the *Mineral and Petroleum Resources Royalty Act, 2006* (“New Royalty Bill”), was released. This is an amended version of the Royalty Bill first released on 10 March 2003. Under the terms of the earlier Royalty Bill, the royalties were to commence as soon as companies had met the requirements of the Mining Charter. The Minister subsequently indicated that the royalty would not take effect until the transitional period for conversion of mining rights under the MPRDA had expired, i.e. 1 May 2009. This is confirmed in Section 33(2) of the New Royalty Bill.

The New Royalty Bill proposes to impose a revenue-based royalty on South African gold producers, payable to the South African Government, levied at 3% on the value of unreﬁned gold and 1.5% on the value of reﬁned gold. The New Royalty Bill deﬁnes gold as reﬁned once it has been processed to at least a 99.5% purity.

Notes:

2. F2003 represents the combined operating results for the whole year, even though Metorex had operational control of BML for the last two weeks of the financial year from 16 June 2003.
3. F2004 represents the first full year of operations under Metorex’s control.

1 Actual results for the first six months of F2007, viz. July to December 2006.
2 Material from VTN vamping contract is included in total tonnes milled.
3 Includes the cost of the VTN vamping contract.
4 Total operating costs include amortisation.
5 Includes gold recovered via the VTN vamping contract.
6 The profit from vamping is based on the difference between the average spot price achieved and a fixed price per kg of gold recovered by VTN in terms of the contract.
7 The hedge proﬁt is derived from the gold sold into the hedge contract at the difference between the hedge price and spot price achieved. This ﬁgure also includes part of the forward hedge contract that was sold and realised some R54 million in F2004.
8 An interest charge of R23 million is included in F2004.

Note that F2003 in Table 2.1 represents the combined operating results for the whole year, even though Metorex only had operational control of BML for the last two weeks of the financial year from 16 June 2003. The results for F2001 and F2002 are shown for comparative purposes, even though this was when BML (then ETC) was a division of Avgold Limited. F2004 represents the first full year of operations for BML under Metorex’s control. Statistics for the first half of F2007 (F2007 – H1, July to December 2006) are also included.

2.3 Mining History

Production from the mines that now comprise BML commenced more than 100 years ago.
The area surrounding New Consort originally consisted of several small workings which over a period of time were consolidated into what eventually became New Consort Gold Mines Limited in 1925. This name was changed to Eastern Transvaal Consolidated Mines Limited (ultimately ETC) in 1933 and became a member of the Anglovaal Group in 1948.

Sheba’s life started with the mining of Bray’s Golden Quarry, the first 13,000 tonnes from which yielded 50,000oz of gold. This and adjacent workings then changed hands quite frequently before being eventually acquired by ETC in 1937. Sheba’s output has increased significantly over recent years following the delineation of additional reserves.

Mining commenced in the vicinity of the current Fairview Mine in 1886 and continued intermittently until 1955 and more continuously since this time. ETC acquired Fairview Mine in 1998.

New Consort was previously the largest contributor of gold at ETC. The gold recovery plant was accordingly centred at this mine to handle flotation and gravity concentrates from the Sheba and Agnes Mines as well as the New Consort ore itself. Agnes mine was sold in 1999.

One of the early problems encountered by the mines was the refractory nature of the orebodies at depth whereby the gold is difficult to extract because a significant proportion of it is contained within sulphide and arsenic minerals. This problem was overcome with roasting, whereby the sulphur and arsenic is removed from the concentrates prior to treatment. After the flotation and gravity concentrates had been roasted, the resultant calcine product and the New Consort ore were treated in conventional cyanidation plants.

South Africa’s first large scale Bio-Oxidation (Biox®) plant was commissioned at Fairview in 1986. The Biox® process utilises bacteria (thiobacillus ferro-oxidans) to decompose and subsequently oxidise the sulphides containing the gold. Once this has been done the oxidised ore can be treated by conventional cyanidation, thereby replacing the roasting process.

Following the acquisition of Fairview, the Biox® plant was expanded to accommodate sulphide concentrates from Sheba and New Consort and the roasting plant was decommissioned.

ETC was acquired by Metorex in 2003 and its name was changed to BML.

The proportion of historical gold production at BML from each of the three mines from F2001 to F2007 is shown in Table 2.2. The contribution from New Consort has remained approximately the same, whereas Fairview has replaced Sheba as the main contributor to gold production for BML.

Table 2.2: BML – Historical Gold Production Statistics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of Au production:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview (%)</td>
<td>22.3%</td>
<td>29.3%</td>
<td>37.4%</td>
<td>30.7%</td>
<td>41.1%</td>
<td>40.1%</td>
<td>41.2%</td>
<td>New Consort (%)</td>
</tr>
<tr>
<td>21.7%</td>
<td>18.6%</td>
<td>19.1%</td>
<td>24.4%</td>
<td>20.7%</td>
<td>Sheba (%)</td>
<td>57.3%</td>
<td>55.5%</td>
<td>41.0%</td>
</tr>
</tbody>
</table>

2.4 Regulatory Environment

2.4.1 South African Law: The Minerals and Petroleum Resources Development Act

The MPRDA was promulgated by the South African Parliament during July 2002 and came into effect on 1 May 2004.

Prior to 1 May 2004, mineral rights in South Africa were held privately or in some instances by the State. With the enactment of the MPRDA, all mineral rights are vested in the State. Transitional provisions in the MPRDA allow mining companies to convert their existing ‘old order’ rights to ‘new order’ rights. The transitional provisions contemplate three categories of old order rights:

(a) unused old order rights, which are mineral rights in respect of which no prospecting permit or mining authorisation had been issued under the former Minerals Act, No. 50 of 1991 (South Africa) (the “Minerals Act”) or, where such an issue had occurred, no prospecting or mining activities had taken place at 1 May 2004;

(b) old order prospecting rights, which are rights to prospect in respect of which a prospecting permit had been issued under the Minerals Act and prospecting had taken place prior to 1 May 2004; and

(c) old order mining rights, which are rights to mine in respect of which a mining authorisation had been issued under the Minerals Act and mining had taken place.

Holders of unused old order rights were required to apply for prospecting or mining rights under the MPRDA within one year of 1 May 2004, i.e. before 30 April 2005.

Under the MPRDA, old order prospecting rights and old order mining rights and the related permits and authorisations granted under the Minerals Act will continue to be valid for the period granted under that legislation, subject to a maximum period of two years, in the case of old order prospecting rights, and five years, in the case of old order mining rights. To continue thereafter with prospecting or mining operations, holders of old order prospecting and mining rights are required to apply within these periods to convert their rights to the ‘new order’ prospecting and mining rights provided for by the MPRDA.
Under the MPRDA, prospecting rights will initially be granted for a maximum period of five years, and can be renewed once upon application for a further period of up to three years. Mining rights will be valid for a maximum period of 30 years and can be renewed on application for further periods, each of which may not exceed 30 years. Provision is made for the granting of retention permits in circumstances where prospecting has been completed but mining is not commercially viable, which will have a maximum term of three years and which are not renewable. A wide range of factors and principles, including proposals relating to black economic empowerment and social responsibility and evidence of an applicant’s ability to conduct mining optimally, will be pre-requisites for the approval of such applications.

2.4.2 South African Law: The Mining Charter

In accordance with the provisions of the MPRDA, the Mining Charter was signed on 12 October 2002 by the South African Minister of Minerals and Energy, representatives of the South African mining industry and the South African National Union of Mineworkers. The Mining Charter embraces a range of criteria against which prospecting and mining right applications and conversion applications will be considered. These criteria include issues such as human resources development, employment equity, procurement, community and rural development and ownership of mining assets by HDSA’s. On the issue of ownership, the Mining Charter requires that mining companies achieve 15% HDSA ownership of mining assets by 1 May 2009 and 26% HDSA ownership of mining assets by 1 May 2014. The Mining Charter envisages that transactions directed at achieving the required HDSA status will take place in a transparent manner and for fair market value.

Applications for the conversion of old order rights are assessed against a “scorecard” promulgated by the South African Department of Minerals and Energy. The scorecard covers human resources development, employment equity, migrant labour, mine community and rural development, housing and living conditions, ownership and joint ventures, beneficiation and reporting. The scorecard does not indicate the relative significance of each item nor does it provide a particular score which an applicant must achieve to be in compliance with the Mining Charter and be granted new rights under the MPRDA (except with respect to HDSA ownership).

2.4.3 South African Law: Mineral and Petroleum Resources Royalty Bill

On 11 October 2006, the Mineral and Petroleum Resources Royalty Act, 2006 (“New Royalty Bill”), was released. This is an amended version of the Royalty Bill first released on 10 March 2003. Under the terms of the earlier Royalty Bill, the royalties were to commence as soon as companies had met the requirements of the Mining Charter. The Minister subsequently indicated that the royalty would not take effect until the transitional period for conversion of mining rights under the MPRDA had expired, i.e. 1 May 2009. This is confirmed in Section 33(2) of the New Royalty Bill.

The New Royalty Bill proposes to impose a revenue-based royalty on South African gold producers, payable to the South African Government, levied at 3% on the value of unrefined gold and 1.5% on the value of refined gold. The New Royalty Bill defines gold as refined once it has been processed to at least a 99.5% purity.

The South African Chamber of Mines submitted its comments to the National Treasury in mid February 2007 with respect to the New Royalty Bill, reiterating its plea for the royalty to be charged on profits. It was concerned that the dual levies could damage certain sectors of the mining industry where there is little downstream benefit. It also urged that money generated from royalties should be used for developing communities around the mines and the creation of sustainable industries for when the mines close.

The effects of the New Royalty Bill as proposed have been taken into account in the valuation of BML. Should the New Royalty Bill not proceed, or be implemented in a different fashion, the valuation of BML would have to be re-assessed.

2.4.4 South African Environmental Legislation

Key environmental legislation, which is applicable to the South African mining industry, is as follows:

*National Environmental Management Act (107 of 1998) (“NEMA”), as regulated by the Department of Environmental Affairs and Tourism (“DEAT”) and relevant Provincial departments of environment.* This over-arches South African environmental legislation and lays down basic environmental principles including: Duty of Care, Polluter Pays and Sustainability.

*MPRDA, as regulated by the Department of Minerals and Energy (“DME”).* The MPRDA replaces the Minerals Act and makes provision for equitable access to, and sustainable development of, South Africa’s mineral and petroleum resources. Regulations under the MPRDA set out the procedures for undertaking environmental impact assessments (“EIAs”) and for developing environmental management programmes (“EMPs”) for the construction, operation and closure of mines. This includes the need for public consultation. The DME is responsible for approval of each EMP and for ensuring that other regulatory authorities with an interest in the environment are consulted. In summary, the EMP contains the environmental conditions of authorisation for the development, operation and closure of a mine. Existing mines should have an approved environmental management programme report (“EMPR”) in terms of the Minerals Act, and the MPRDA makes provisions for transitional arrangements. A mine must convert old order mining rights to new order mining rights by the 30 April 2009. A key requirement for new mines or for the conversion process is the need for a SLP, a MWP, proof of technical and financial competence as well as an approved EMP.

*Mine Health and Safety Act (Act 29 of 1996), as regulated by the DME.* This Act deals with the protection of the health and safety of persons in the mining industry but has some implications for environmental issues due to the need for
controls sites of archaeological or cultural significance. Such sites must be investigated and, if necessary, protected for the nation. Procedures for the relocation of graves are also given.

**Hazardous Substances Act (15 of 1973), as regulated by the Department of Health.** This Act controls the declaration of hazardous substances and control of declared substances. It allows for regulations relating to the manufacturing, modification, importation, storage, transportation and disposal of any grouped hazardous substance.

**ECA, Forest Act (84 of 1998), Provincial Nature Conservation Acts and other Ordinances as regulated by Provincial conservation authorities.** These Acts ensure protection of certain species of animals and plants. Permissions to move protected species are required in certain cases.

Environmental liability provisioning in the South African mining industry is a requirement of the MPRDA and must be agreed with the relevant regulatory authorities (mainly DME and DWAF). Based on South Africa’s environmental and regulatory requirements, for existing mines monies are generally accrued based on the estimated environmental rehabilitation costs should the mine have to close tomorrow and over the operating life of a mine. Annual contributions are made to an environmental trust fund, which provides for the estimated costs of pollution control and rehabilitation. The South African Revenue Service approves such annual contributions to the trust fund and requires that the annual contributions be estimated on the basis of the remaining liability over the expected remaining life of the operation. Additional bank guarantees may be required at the start of operations and can be used to offset provision in the trust fund. Alternative measures such as insurance can be negotiated with the DME.

2.4.5 BML – Current Status

SRK has relied on a legal due-diligence report compiled by Mr C Stevens of Tabacks Inc on the Material Assets.

The extent of BML’s mineral rights holding both within the licences and nearby properties as listed in Table 2.3 can be seen in Figure 2.3. Although the mineral rights holdings as described in Table 2.3 and Figure 2.3 were acquired from ETC and Avgold in 2003, it appears that the mineral rights have not yet been transferred to BML.

**Mining Right:** BML is able to mine on Fairview, New Consort and Sheba Mines in terms of the existing mining licences ML28/2003, ML30/2003 and ML29/2003, respectively, which have been issued to BML in terms of Section 9(1) of the Minerals Act (see Table 2.3 and Figure 2.3). These licences are valid to 26 October 2009 (for Fairview and New Consort) and to 26 October 2013 for Sheba. However, these mining authorisations represent Old Order Mining Rights and BML is required in terms of the MPRDA to convert these to New Order Mining Rights. BML showed SRK documentary evidence from the DME that the applications for conversion were submitted in October 2005. BML advised SRK that all queries regarding the MWP have been resolved with the DME, while certain issues relating to the procurement side of the SLP had to be addressed and the SLP has been relodged for approval.

**EMPR:** BML has an approved EMPR in terms of section 39(1) of the previous Minerals Act. This constitutes approved EMPR’s for purposes of item 10 of Schedule II to the MPRDA. There is no requirement for a new EMPR to be approved upon conversion. Only if the Minister calls upon the existing EMPR to be updated according to the requirements of the MPRDA will the EMPR have to be amended. BML is currently operating under water permits issued in terms of the old Water Act. However, water use on all mines has been registered as a required step in obtaining water licences as required in terms of the NWA. SRK understands that BML has verbal permission to continue operating while negotiations are underway with DWAF. BML advised that the submission of its application for a permanent water licence will occur once certain aspects have been clarified with DWAF.
There are historical environmental liabilities associated with BML’s operations within its mining areas. BML has an environmental rehabilitation fund which has been set up to address identified liabilities. Contributions to the trust fund are paid in annually depending on the estimated life of the mine and the estimated final closure cost estimate, with such payments deductible for tax purposes.

**Prospecting Right:** BML was granted a Prospecting Right in terms of the MPRDA over some 1,900ha of ground (Protocol Number 586/2006) on 10 November 2006. The Prospecting Right has an approved EMP and is valid for five years.

**Surface Rights:** The surface rights on Portion 1 of Bickenhall 346JU and Portion 1 of Bramber Central 348JU, which adjoin the Fairview mining licence (Figure 2.3), were consolidated as Fairview 542JU and registered to BML by way of notarised transfer. Certain mine infrastructure, offices and a tailings dam of Fairview have been located on this property. BML also owns the surface rights to Portion 1 Bramber South 348JU (for Fairview’s slimes dam), Portion 1 Segalla 306JU (for New Consort’s Segalla slimes dam) and Thornhill 347JU.

In terms of the mining licences, BML has extensive rights to use the surface at common law and in accordance with the provisions of section 51(1) of the Minerals Act which continue to apply and will continue to apply upon conversion.

### Table 2.3: Summary of Mineral Rights held by BML

<table>
<thead>
<tr>
<th>Mine</th>
<th>Mineral Right Title</th>
<th>Valid to</th>
<th>Mineral</th>
<th>Area of title (ha)</th>
<th>Properties covered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mining Licences:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The covering letters from the DME for the Sheba and Fairview mining authorisations dated 27 October 2003 made reference to “land claims … submitted to the Commission on the Restitution of Land Rights in respect of a few of the properties included in the … mining areas”. According to BML mine management, the land claims relate to the farm Segalla into which a portion of 3# section at New Consort mine extends. BML mine management obtained permission from the Commission on Restitution of Land Rights for purpose of obtaining the mining authorisations. The details regarding the gazetting of such claim and the merits of such claim are sketchy at best. It appears unlikely that these land claims will have an impact on the underground operations at New Consort.

The layout of mine infrastructure for Fairview, New Consort and Sheba Mines has been controlled by topography and available level ground (see examples of general arrangement plans in Figures 7.1 to 7.3).
3. GEODESY

3.1 Introduction

This section describes the geology of the deposits owned by BML and gives a brief summary of the geology of the Barberton Greenstone Belt ("BGB") (Figure 3.1).
3.2 Geological Setting of the Barberton Greenstone Belt

The stratigraphy of the BGB has been classified into three groups on the basis of lithostratigraphic associations (Figure 3.2). The lowermost group is the Onverwacht Group (Figures 3.2 and 3.3), characterised by a lower unit dominated by ultramafic meta-volcanics, overlain by an upper unit consisting of mafic and felsic meta-volcanics. The Onverwacht Group is capped by the Swartkoppie Formation which consists of fuchsitic bearing carbonated ultramafic schists; this formation is particularly significant given the topic of this document and is the host of much of the gold mineralisation described in this document. The Onverwacht Group is overlain by the Fig Tree Group (Figures 3.2 and 3.3), a sequence of sedimentary rocks consisting of turbiditic greywackes, shales and banded iron-formations. Tuffs and volcaniclastics are also present within the Fig Tree Group, largely within the uppermost formation, which overlies the meta-sedimentary lower formations. The uppermost Group within the BGB is the Moodies Group (Figures 3.2 and 3.3), dominated by three upward fining sequences of continental terrigenous-sedimentary rocks. The Group consists of arenites, shales, jasperlites and minor units of amygdaloidal andesites.

Radiometric dating of the rocks the Onverwacht Group indicate ages of the order of 3500 to 3470Ma (million years before present) for the commencement of the extrusion of the volcanic lavas.

The BGB is surrounded by a variety of granitic rock types that have been categorised into three magmatic cycles based on their distinctive geochemical, geochronological and field characteristics. The cycles reflect the stages in the formation and genetic evolution of the earliest sialic crust in the Barberton Mountain Land and they span a period of 600Ma commencing in about 3500Ma with the latest estimated to have occurred about 2900Ma.

The BGB is a large, triangular shaped remnant of metavolcanic and metasedimentary rocks surrounded and intruded by granitoid bodies (Figures 3.1 and 3.3). Internally the BGB has a complex structure, consisting predominantly of northeast trending shear zones separating upright to recumbent synclinal folds. Refolding of early fold zones is evident and exemplified by the Eureka Syncline (Figure 3.4), a northeast trending syncline that has been refolded about a northwest trending axis. This axis is broadly coincident with the Jamestown Schist belt, a northwest trending tongue of largely ultramafic meta-volcanic rocks that forms the eastern margin of the Kaap Valley Tonalite, one of the larger diapiric intrusions located on the northern margin of the BGB. The refolding of the Eureka Syncline has been interpreted to be a result of the intrusion of the Kaap Valley pluton (Figure 3.3).

The combined influence of granite emplacement structural deformation and thermal metamorphism has played a significant role in the distribution and localisation of the epigenetic gold occurrences in the BGB.

Most of the known occurrences of gold within the BGB have been found localised in the region to the north and north-east of the Barberton (Figure 3.3), known locally as the James and Sheba Hills, and in the area immediately south-west of Barberton, in the Moodies Hills. Apart from these areas, additional gold concentrations occur along and adjacent to the major strike and faults as well as in a few localities in Swaziland near the granite-greenstone contacts.

The ore bodies all occur in the vicinity of a complex, refolded, arcuate, south-dipping shear/fault system, the Sheba Fault Zone developed between the Ulundi and Eureka synclines (Figure 3.4). The locations and geometries of the ore bodies themselves are structurally controlled and, due to the complex deformational history of the host rocks, have variable strikes, dips and widths. Some are continuous for several hundreds of metres, along strike and down dip, whereas others are discontinuous and not traceable between adjacent crosscuts or drill holes.

There are three broad groupings of gold mineralisation within the BGB:

1. **Refractory ore**: This is the dominant ore type within the Archean gold ores in Barberton region, and the gold particles occur trapped within sulphide minerals especially in pyrite and arsenopyrite (Figure 3.5). This ore type does not respond to conventional methods of treatment.

2. **Gold-bearing quartz veins**: The gold-quartz lodes generally represent tectonically produced dilatant features filled with vein-type gold ores as a consequence of mobilisation of essentially silicicous and/or carbonated solutions by metamorphic processes. The dilatant and shear zones generally provide free-milling gold ore, the gold occurring in the form of irregular gold grains, which may be accompanied by variable, but usually small quantities of sulphides. Almost all the gold in the Barberton region have gold-bearing veins, either alone as the dominant ore type or in association with the complex sulphidic ores.

In the Fairview mine, gold-quartz veins in the Moodies quartzite are in places accompanied by minor pyrite, arsenopyrite, chalcopyrite and galena. In the Sheba Mine, free gold occurs mainly in silicicous fractures in brittle chert horizons. In New Consort, gold occurrences in gold-bearing quartz veins have been described.

3. **Weathered ore**: These are gold deposits that have been subjected to oxidation and become enriched near the surface as a result of a chemical process involving the migration of gold and by the removal of soluble gangue and sulphides. This type of ore is not present in any of the Mines.

3.3 Deposit Geology

3.3.1 Fairview Mine

The Fairview property is situated along the central and southern portions of the Eureka Syncline and Ulundi Synclinorium (Figure 3.3). These synforms are separated by the Sheba Fault and bounded to the north by the Lily
Fault and to the south by the Barbrook Fault. These structures were subsequently arcuated about a north-west axis that resulted in the formation of most of the mineralised shears.

The bulk of the Fairview production comes from refractory ore bodies situated east of the Sheba Fault within the Onverwacht and Fig Tree Group lithologies. Refractory gold-quartz-sulphide mineralisation occurs within fractures and disseminations (Figure 3.5). Mineralised shear zones dip eastwards from Fairview Mine and enter the Sheba Mine property at depths of approximately 750m. This mineralisation is known as the Main Reef Complex (“MRC”) (Figure 3.5). Three main refractory mineralised units known as the Royal, Main and Main Reef Thrust (“MRT”) ore bodies are developed within the Fairview Mine (Figure 3.6). These ore bodies consist of shear zones ranging from 20mm to 2m in width, surrounded by disseminated haloes of sulphidic alteration containing gold within the host lithologies. The strike of these mineralised zones reaches up to 500m although payable grades are restricted to narrow shoots up to 50m in width developed within the more continuous shear zones (Figure 3.7).

Free-milling gold is recovered from discordant quartz veins hosted within Moodies Group quartzites located to the west of the Sheba Fault. These gold veins are significantly smaller and less continuous than the mineralisation hosted within the Fig Tree Group lithologies.

3.3.2 New Consort Mine

The New Consort ore bodies are located in rock types that are stratigraphically similar to those of the Sheba ore bodies but that have been subjected to higher-grade metamorphism. At this mine, contact between the talc-biotite-amphibole schist and intercalated leptite of the Onverwacht group and the metapelites of the Fig Tree Group is marked by a sheared and highly siliceous mylonite, known as the New Consort Bar. The footwall contact of the Bar is known as the New Consort Contact. Towards the eastern section of the mine a lenticular body consisting of leptite and underlying serenpite occurs 10m to 20m below the New Consort Contact. The Consort Bar occurs at the contact between the underlying mafic and ultramafic rocks of the Onverwacht Group and the overlying metapelites of the Fig Tree Group. The bar averages 4m but may reach thickness up to 25m in places. The rocks of the bar are strongly laminated and highly siliceous with alternating layers of in shades of green and brown colours, the colours due to the varying content of the mica.

The footwall of the leptite is known as the Footwall (Lens) Contact. Gold-bearing ore bodies occur as narrow, elongated and high-grade shoots, mainly on the New Consort Contact but also on the Footwall Contact in the eastern part of the mine. Free gold is often present as irregular grains and veins in the ore while the principal sulphide is arsenopyrite. Some 5% to 10% of the two contacts are mineralised. Current mining and exploration activities centre on what is known as the PC, MMR, Ivaura, No. 3 Shaft and No. 7 Shaft shoots (see Figures 3.6 and 3.8).

The predominant structure in the mine is determined by the Noordkaap Fault (see Figure 3.4) and a splay known as the Shires Shear Zone. The south-dipping sequence is truncated by the vertically-dipping, northerly-striking Shires Shear Zone through the central part of the mine. The New Consort stratigraphy is juxtaposed against the lower Onverwacht rocks at the Noordkaap Fault to the south. A series of faults, the Ivaura and MMR faults being the most prominent, strike parallel to the Shires Shear Zone, and complex drag folding associated with these faults and shear zones commonly results in an intensely folded structure. The New Consort sequence is intruded by a series of pegmatite dykes (with associated displacements) that are related to the Nelspruit Granite batholith to the north of the mine.

3.3.3 Sheba Mine

The Sheba mine is located about 12km north-east of Barberton in the Sheba Hills (Figure 3.3). The Swartkoppie Formation occurs at the top of the Onverwacht Group and is represented by well developed schist and green schists associated with banded black and white chert and is host to portions of the gold mineralisation at Sheba Mine. The Fig Tree Group consists of pelitic sediments often rhythmically banded with interlayered siliceous chemical sediments. The upper Fig Tree Group is characterised by the presence of felsic tuffs and agglomerates. The Moodies Group consists mainly of clastic sediments comprising of conglomerates, quartzites and calcareous sandstones (Figure 3.9).

The gold workings on the Sheba property may be broadly sub-divided into four categories:

1. **North of the Sheba Fault:** Ore bodies occur to the north of the Sheba Fault in the quartzite host rocks of the Moodies Group within the Eureka Syncline.
2. **Sheba Fault Ore Bodies:** Ore bodies in close proximity to the Sheba. These ore bodies appear to be associated with a southeast-dipping off shoot of the Sheba Fault, and are localised at inflexions which appear to be caused by transecting structures. Brittle brecia-style mineralisation is found in the form of free gold with subordinate pyrite and galena.
3. **Royal Sheba Ore Body:** Disseminated pyrite and rare free gold occur where shear zones associated with the Sheba Fault transect structures of the Royal Sheba Ore Body.
4. **South of Sheba Fault:** The bulk of the ore production from Sheba comes from the ore bodies to the south of the Sheba Fault. The ore bodies are hosted within a number of structures transecting the Zwartkoppie Anticline near surface and the Birthday Anticlines at depth. Mineralisation, in the form of pyrite and free gold, is hosted along discrete intersecting shears, in a repetitive pattern. All of the current high-grade production is mined from the Zwartkoppie (“ZK”) and Main Reef Complex.
To the west of the ZK Shoot and plunging to the southeast, the MRC ore body enters the Sheba claim area from Barberton Mines (Fairview). In the MRC, disseminated arsenopyrite and pyrite constitute the main gold bearing mineralisation (Figure 3.5) hosted within southeast-dipping, dichotomous shear system and subsidiary structures of various orientations. High-grade (up to 100g/t) shoots occur at the intersection of shear zones within the greywackes of the Fig Tree Group. The MRC has a plunge of about 1,500m from surface to 35 Level.

Two ore bodies located in the Fairview area, the Le Roux and Hope Reefs, plunge into the Sheba mine area at the approximately 39 Level elevation (and thus below current Sheba infrastructure), some 800m south of the MRC. These ore bodies are located within the Fig Tree Group sediments and are mineralogically similar to the MRC.

3.4 Exploration Activities

3.4.1 Fairview Mine

Exploration and mining is presently concentrated on the Commitment orebody. There is possibility of locating mineralisation within tension gashes, expected to be in the order of 100m to 200m in length. Potential exists for the discovery of other paysheets. The Commitment shaft has been deepened to 46 level. Other areas of exploration include the development of a decline to access ore below level 58. Further investigations of the downdip extensions of the Le Roux Reef and MRC as well as extensions of the structures in the footwall of the Sheba Fault are in progress.

The exploration budget for Fairview Mine for F2007 to F2011 as included in BML’s F2007 Business Plan is summarised in Table 3.1 and appears to be appropriate for the exploration activities described.

3.4.2 New Consort

Current plans for the New Consort Mine involve the exploration of contact areas. The object is primarily to locate extensions to known shoots. The mine area has been intruded by a series of pegmatite dykes that are related to the Nelspruit Granite batholith to the north of the mine. The complex structure and the pegmatitic intrusions have dissected the Contact zone into discrete and variable-sized blocks making exploration planning difficult. Drilling is presently in progress below 50 level at the 7 shaft area. Gold, visible with the naked eye has been intersected in three drillholes. It is proposed that two incline shafts will be developed to access the down-dip extension of the two separate shoots that are present within the 7 Shaft orebody.

The exploration budget for New Consort Mine for F2007 to F2011 as included in the F2007 Business Plan is summarised in Table 3.1 and looks reasonable for the activities planned.

3.4.3 Sheba Mine

Exploration of the ZK ore bodies below 35 level is continuing and a decline shaft to 38 level is planned. A new surface exploration hole is currently in progress, targeting the Thomas orebody. The Southwell adit and the 7 inter-level are currently being re-equipped. This will provide access to the Sheba West orebody. Development is planned to the Thomas and Joe’s Luck orebodies from the Edwin Bray development. BML indicated that it is planning to commence with a pre-feasibility study into the optimum exploitation of these latter ore bodies, whether by way of a new mine/shaft system or extensions to existing underground infrastructure (Figure 3.10). Examples of drill intersection data are also shown in Figure 3.10.

The exploration budget for Sheba Mine for F2007 to F2011 as included in the F2007 Business Plan is summarised in Table 3.1 and appears reasonable for the work envisaged.

Table 3.1: Exploration Budgets for Consort, Fairview and Sheba Mines

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview (ZAR’000)</td>
<td>1,329</td>
<td>1,980</td>
<td>2,150</td>
<td>1,500</td>
<td>1,250</td>
</tr>
<tr>
<td>New Consort (ZAR’000)</td>
<td>1,107</td>
<td>890</td>
<td>1,550</td>
<td>2,100</td>
<td>2,100</td>
</tr>
<tr>
<td>Sheba (ZAR’000)</td>
<td>1,738</td>
<td>1,280</td>
<td>1,500</td>
<td>500</td>
<td>4,174</td>
</tr>
</tbody>
</table>

1. The budget shown represents the revised forecast/budget for January to June 2007.

3.4.4 Prospecting Licence Area.

The exploration programme and budget for the prospecting right area as submitted with the prospecting permit application is shown in Table 3.1. A total of R5.55 million is earmarked for exploration over the five-year validity of the permit.
Table 3.2: Exploration Programme and Budget for Prospecting License Area

<table>
<thead>
<tr>
<th>Activity (All amounts in ZAR'000)</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1–8</td>
<td>9–12</td>
<td>13–16</td>
<td>33–36</td>
<td>55–60</td>
</tr>
<tr>
<td>Phase 1 Desktop studies Phase 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional mapping Phase 2 Target</td>
<td>206.8</td>
<td>226.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>generation and structural analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 2 Geophysical surveys Phase 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geochronal surveys Phase 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percussion drilling Phase 4</td>
<td></td>
<td></td>
<td></td>
<td>88.0</td>
<td></td>
</tr>
<tr>
<td>Diamond drilling Phase 5</td>
<td></td>
<td></td>
<td></td>
<td>646.8</td>
<td>399.2</td>
</tr>
<tr>
<td>Metallurgical test work Phase 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-feasibility study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals (per year)</td>
<td>433.4</td>
<td>734.8</td>
<td>1,815.0</td>
<td>1,511.4</td>
<td>1,056.0</td>
</tr>
</tbody>
</table>

Given the geological nature at the existing operating mines of Fairview, New Consort, and Sheba, the programme and budget set out in Table 3.1 appears reasonable to enable the possible identification and delineation of economic orebodies within the prospecting licence area.
Pan African Resources - Barberton Mines
Simplified Geology of the Barberton Greenstone Belt

LEGEND
- Proterozoic Cover Rocks
- 3.105 Ga Potassic Granitoids
- 3.220 Ga Late TTG Plutons
- 2.445 Ga Early TTG Plutons
- Moodies Group Aranites
- Fig Tree Greywackers
- Onverwacht Group/greenstones
- Ultramafic Complexes
- Regional Thrust & Strike Slip Faults
- Larger Gold Deposits (>1000kg Au)

1. Worcester
2. New Consort
3. Clitha
4. Joe's Luck
5. Golden Quarry
6. Bonanza
7. Shaba
8. Fairview
9. Fortuna
10. Rosetta
11. Pioneer
12. Agnes
13. Alpine
14. Princeton
15. Pigg's Peak
16. Daylight
17. Barrock
18. Three Sisters

(Scale 1:100,000, 10km = 0.1000, NR=0.01, SWH=0.100, 10km=0.10000, W=0.1, SWH=0.100, 10km=0.10000, W=0.1)
Mining extent and orebody location on Fairview, New Consort and Sheba mines
4. MINERAL RESOURCES AND RESERVES

4.1 Introduction

This section summarises the methods used by BML to derive and classify their latest Mineral Resource and Reserve estimates. It also gives SRK’s comments and opinions on the reasonableness of these and presents audited SRK Mineral Resource and Reserve statements as appropriate.
4.2 SRK Audit Procedures

SRK has not recalculated Mineral Resource and Reserve estimates for BML. SRK has, however, undertaken sufficient check calculations and has passed comment on the Resource and Reserve statement presented by BML.

SRK has not independently verified the underlying sampling and assay data. SRK considers that given the extensive operating history of the individual operations, geological investigations, independent check assaying and, in certain instances, independent audits, the estimates reflect an appropriate level of comfort.

The Mineral Resources and Reserves estimates use the terms and definitions as set out by the SAMREC Code. Further, the Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce Mineral Reserves.

4.3 Mineral Resource and Reserve Estimation Methodology

The same method of estimating the mineral resources and reserves is used at each of the sections that comprise BML. The estimation of resource and reserve blocks is not typical of a mining operation where the value of resource blocks are estimated and classified well ahead of the mining blocks presently being developed and mined. Because of the highly erratic nature of both the structure of the ‘ore shoots’ and of the grade within them, most of the data for evaluating resource blocks is derived from development adjacent to the mining blocks and from the position of the present mining. The continuity of grade values within the ore shoots is based primarily on experience that has been gained from mining the orebody in the past and experience that has been gained from the study of its tectonic structure. Mineral Resource and Reserve blocks have been defined based on this information.

The tectonic structure and orebody geometry has been modelled using the Lynx ore body modeling system. This system allows the three-dimensional structure of the mineralised volume to be viewed graphically. This is used as a tool for visualising grade continuity and is an aid for mine planning.

4.3.1 Quality and Quantity of Data

Within development ends, channel sampling is at 3m intervals and cut perpendicular to the reef plane. The spacing of the diamond-drilled boreholes is not uniform. The assay results are entered into the StopeCad system where the data can be manipulated and block values calculated. Historical sampling from positions within the mineral rights area that have been mined in the past but have at some stage been closed has also been checked and captured within StopeCad.

4.3.2 Quality Assurance/Quality Control

Samples are prepared and analysed by SGS-Lakefield laboratories in Barberton. SGS-Lakefield is accredited with SANAS and conducts its own quality checks to retain this rating. BML does not perform any checks on the performance of the laboratory in the form of blank or duplicate samples. Although being an accredited laboratory, where the standards are supposedly kept to a high standard, SRK recommends that the use of simple sample checks (duplicates, blanks and standards) be considered by BML.

4.3.3 Definition of Drillhole Intersections

Reef intersections are defined as all samples intersecting the reef, irrespective of the sample grade and inclusive of at least one sample in the footwall and another in the hangingwall of the reef. For both diamond-cored drillhole and underground sampling, a minimum sampling width of 150cm is used in the case of mechanical mining and 100cm for conventional scraper type stoping. Where the reef width is less than this value, hangingwall and footwall samples are included.

Where an individual sample value is greater than 100g/t, the grade is reduced to and capped at 100g/t. This is done at the sample level and not over the whole channel width. It has been found historically that if sample values over 100g/t are capped then these abnormally high sample grade values will not erratically raise the mean value of stretch samples which are used to assign values to nearby resource blocks.

4.3.4 Block Tonnage Grade Estimation

The mine is split into sub-areas defined by reef type. Within these areas, ore resource blocks are defined adjacent to development ends and could be adjacent to previous mining. The 3D visualisation of the orebody within Lynx helps defining the blocks in relation to the orebody geometry. Blocks are generally 20m on strike and 10m in the dip direction. Where blocks are defined adjacent to a development end only, the grade and true width of the reef in the block are estimated by calculating the arithmetic mean or ‘stretch average’ of the samples along the development end. If the sample spacing is at the standard 3m, then the block value is derived by calculating the average value of the samples. If the sample interval is variable then the block is assigned the length-weighted arithmetic mean of the strip averages. If the resource block is surrounded by other sampling, either by previous stope sampling or exploration boreholes, the block is assigned values based on the mean of the surrounding sampling, weighted by the inverse of the distance from the sampling to the
centre of the block. In each case, one mean value is determined for each channel sampling section first and the means are then averaged.

The number and spacing of drillholes intersecting the reef is dictated by the position of the exploration development with respect to the orientation of the reef being explored. Because of this, there is no set drillhole spacing and the number of drillholes available to estimate block values varies from place to place. This parameter cannot therefore be used as a Resource classification criterion.

4.3.5 Mineral Resource Blocks

In selecting Resource blocks to be included in a mineral resource statement, a cut-off grade of 3.0g/t is applied. This is not an economic cut-off, but is historical in the Barberton area. However, some resource blocks that are below the cut-off grade are included within the 15-Year Forecast plan, where the blocks are required to be mined to extract the economic pay portion of the total resource, either for geological or geotechnical considerations. Some blocks are within safety and shaft pillars and some cannot be mined from the current infrastructure or using the currently employed mining methods or strategies, so are therefore included in the resources but excluded from the reserves. For BML to include a resource block in the reserves, it must satisfy one of the following:

- Immediately available blocks – resource blocks that are adjacent to current mining areas, have all mining infrastructure in place and are fully equipped with services; or
- Not-immediately available blocks – resource blocks which can be made available within one month. Mining infrastructure is in place, but has yet to be equipped with services. A block tonnage is calculated for each Resource block using the estimated true thickness, the block area and by using an average specific gravity for each of the operating mines (sections). At Fairview Mine a density of 2.83t/m$^3$ is used while at Sheba and New Consort a value of 2.93t/m$^3$ is used for the ore horizons. It is known that rock density is linked to sulphide mineralisation. Because gold mineralisation is often closely associated with sulphide mineralisation, in parts of the mine there may be a gold grade – rock density association. The ZK Reef however is known to contain less sulphide mineralisation and the gold within this reef is mostly free gold and hence a lower value 2.73t/m$^3$ is used. Development and waste rock is also assigned a density of 2.73t/m$^3$. The SG values have generally been accepted as being ‘historically’ correct. The values were last checked for accuracy in 2000. Detailed variation of true block densities around these accepted standards is not known.

4.3.6 Classification

The resource blocks are classified into Measured, Indicated and Inferred Resources based on the following criteria:

**Measured Mineral Resources:** Measured blocks are bounded by sampled development or stope faces on at least one side. Measured Mineral Resource blocks are also delineated immediately adjacent to reef drives, but in this case, they are bounded by information only on one side. In this case their extent is limited to a distance of 10m up and down dip along the plane of the orebody.

**Indicated Mineral Resources:** Indicated blocks are blocks bounded by sampling on one side, or where the down dip continuation of a block has been demonstrated by drillhole intersections. In most cases, Indicated Resource blocks are adjacent to Measured Resource blocks and are normally the extension of Measured Resources based on diamond drilling or other information.

**Inferred Mineral Resources:** Blocks where geological interpretation suggests that continued mineralisation is likely even where no drilling information is available. These blocks occur adjacent to Indicated Mineral Resource blocks.

Other resource blocks that have previously been closed for economic reasons, but can be brought back into production when economic conditions improve are termed Dormant Blocks. These blocks have been included in the Mineral Resource using the same classification criteria as those applied to areas that are presently available for mining. These areas are listed separately in the latest Mineral Resource Statement.

4.3.7 Mineral Reserve Estimation

Mineral Reserves are derived from Mineral Resources by:

- the application of appropriate in–situ cut-offs (which vary from orebody to orebody and from mine to mine);
- the addition of dilution and development mining tonnes;
- the exclusion of those blocks within boundary, safety and shaft pillars and also those not mineable from the current infrastructure or using the currently employed mining methods;
- the application of block factors, mine call factors and plant recovery factors such that the resulting estimates reflect yield grades.

Proved Mineral Reserves are derived from Measured Mineral Resources and Probable Mineral Reserves from Indicated Mineral Resources.
4.4 BML’s Mineral Resource and Mineral Reserve Statement

4.4.1 Previous Resource and Reserve Statements

SRK has previously issued audited Mineral Resource and Mineral Reserve statements for BML as at December 2002 and June 2004, as summarised in Tables 4.1 and 4.2, respectively.


<table>
<thead>
<tr>
<th>Classification</th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Gold (koz)</th>
<th>Classification</th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Gold (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proved</td>
<td>800</td>
<td>10.6</td>
<td>270</td>
<td>Measured</td>
<td>2,700</td>
<td>9.2</td>
<td>780</td>
</tr>
<tr>
<td>Probable</td>
<td>1,100</td>
<td>8.6</td>
<td>300</td>
<td>Indicated</td>
<td>2,700</td>
<td>7.4</td>
<td>630</td>
</tr>
<tr>
<td>Total</td>
<td>1,900</td>
<td>9.4</td>
<td>570</td>
<td>Total</td>
<td>5,300</td>
<td>8.3</td>
<td>1,410</td>
</tr>
<tr>
<td>Inferred</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,900</td>
<td>6.2</td>
<td>780</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Classification</th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Gold (koz)</th>
<th>Classification</th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Gold (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proved</td>
<td>949</td>
<td>9.45</td>
<td>288</td>
<td>Measured</td>
<td>861</td>
<td>12.39</td>
<td>343</td>
</tr>
<tr>
<td>Probable</td>
<td>900</td>
<td>9.03</td>
<td>261</td>
<td>Indicated</td>
<td>870</td>
<td>12.03</td>
<td>337</td>
</tr>
<tr>
<td>Total</td>
<td>1,848</td>
<td>9.25</td>
<td>550</td>
<td>Total</td>
<td>3,321</td>
<td>10.00</td>
<td>1,068</td>
</tr>
<tr>
<td>Inferred</td>
<td>621</td>
<td>12.28</td>
<td>245</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4.2 Current Resource and Reserve Statements

A combined Mineral Resource and Mineral Reserve statement for BML as at 31 December 2006 is presented in Table 4.3. The statement in Table 4.3 presents the total estimated resources and reserves at BML and does not reflect the proportion that would be attributable to PAR, which is shown separately in Table 4.4. All resources have been estimated using a cut-off grade of 3.0g/t.

The Mineral Resources include blocks within Dormant Outside Sections Areas for which there is sufficient sampling, both historical and recent, to enable the blocks to be classified as presented.

These statements are valid at 31 December 2006 and include adjustments to take account of mining depletion for the six months to December 2006. The stated Mineral Resources are inclusive of those Mineral Resources upgraded to Mineral Reserves following the application of technical and economic factors.

The conversion factor for Measured plus Indicated Resources into reserves for the Mines is lower than would normally be expected. This is particularly true for Fairview and New Consort, where the conversion rates are around 40%, since many of the resource blocks are scattered in old areas of the mines that would require re-equipping of infrastructure to make them available. The feasibility of re-equipping these areas must still be investigated before these blocks can be included in the reserves.

In the case of Sheba, the conversion rate for Probable Reserves is low since 264kt of lower grade Indicated Resource in the Sheba West section has been excluded in the conversion to Probable Reserve. This causes the increase in the Sheba average grade on conversion.

In general, the Measured Resources comprise smaller blocks of ground, whereas the Indicated Resources are made up of larger blocks which include areas of non-pay material.

Table 4.3: BML – SRK Audited Mineral Resource and Mineral Reserve Statement (at 31 December 2006)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg) (koz)</th>
<th>Classification</th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg) (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Proved Measured

<table>
<thead>
<tr>
<th></th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg)</th>
<th>Contained Au (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proved</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview</td>
<td>1,589</td>
<td>7.90</td>
<td>12,552</td>
<td>404</td>
</tr>
<tr>
<td>New Consort</td>
<td>116</td>
<td>7.60</td>
<td>883</td>
<td>28</td>
</tr>
<tr>
<td>Sheba</td>
<td>358</td>
<td>13.43</td>
<td>4,813</td>
<td>155</td>
</tr>
<tr>
<td>Outside sections</td>
<td>509</td>
<td>4.94</td>
<td>2,511</td>
<td>81</td>
</tr>
<tr>
<td><strong>Total – Proved</strong></td>
<td><strong>1,157</strong></td>
<td><strong>7.53</strong></td>
<td><strong>8,709</strong></td>
<td><strong>280</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg)</th>
<th>Contained Au (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measured</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview</td>
<td>371</td>
<td>9.89</td>
<td>3,670</td>
<td>118</td>
</tr>
<tr>
<td>New Consort</td>
<td>177</td>
<td>7.70</td>
<td>1,360</td>
<td>44</td>
</tr>
<tr>
<td>Sheba</td>
<td>448</td>
<td>9.39</td>
<td>1,341</td>
<td>43</td>
</tr>
<tr>
<td>Outside sections</td>
<td>1,424</td>
<td>4.56</td>
<td>6,492</td>
<td>209</td>
</tr>
<tr>
<td><strong>Total – Measured</strong></td>
<td><strong>2,754</strong></td>
<td><strong>8.41</strong></td>
<td><strong>23,172</strong></td>
<td><strong>745</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg)</th>
<th>Contained Au (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Probable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview</td>
<td>275</td>
<td>9.89</td>
<td>2,095</td>
<td>654</td>
</tr>
<tr>
<td>New Consort</td>
<td>220</td>
<td>11.46</td>
<td>2,290</td>
<td>74</td>
</tr>
<tr>
<td>Sheba</td>
<td>10</td>
<td>9.39</td>
<td>992</td>
<td>32</td>
</tr>
<tr>
<td>Outside sections</td>
<td>1,923</td>
<td>4.56</td>
<td>8,444</td>
<td>244</td>
</tr>
<tr>
<td><strong>Total – Probable</strong></td>
<td><strong>511</strong></td>
<td><strong>9.23</strong></td>
<td><strong>4,715</strong></td>
<td><strong>152</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg)</th>
<th>Contained Au (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicated</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview</td>
<td>1,176</td>
<td>7.90</td>
<td>9,288</td>
<td>299</td>
</tr>
<tr>
<td>New Consort</td>
<td>355</td>
<td>10.45</td>
<td>3,707</td>
<td>119</td>
</tr>
<tr>
<td>Sheba</td>
<td>6</td>
<td>9.39</td>
<td>992</td>
<td>32</td>
</tr>
<tr>
<td>Outside sections</td>
<td>2,392</td>
<td>5.27</td>
<td>12,612</td>
<td>405</td>
</tr>
<tr>
<td><strong>Total – Indicated</strong></td>
<td><strong>1,888</strong></td>
<td><strong>6.73</strong></td>
<td><strong>12,702</strong></td>
<td><strong>408</strong></td>
</tr>
</tbody>
</table>

**Note:** The grade drop from Measured/Indicated Resources to Proved/Probable Reserves is governed by mining of unpay blocks between pay areas to fit the mining method (at Fairview) and low block/mine call factors and dilution at New Consort. In the case of Sheba, the reduction in grade from Measured Resources to Proved Reserves is affected by dilution and low block/mine call factors.

### Table 4.4: BML – SRK Audited Mineral Resource and Mineral Reserve Statement, Attributable to PAR (at 31 December 2006)

<table>
<thead>
<tr>
<th>Mineral Reserve Category</th>
<th>Classification</th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg)</th>
<th>Contained Au (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proved Measured</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview</td>
<td></td>
<td>1,589</td>
<td>7.90</td>
<td>12,552</td>
<td>404</td>
</tr>
<tr>
<td>New Consort</td>
<td></td>
<td>116</td>
<td>7.60</td>
<td>883</td>
<td>28</td>
</tr>
<tr>
<td>Sheba</td>
<td></td>
<td>358</td>
<td>13.43</td>
<td>4,813</td>
<td>155</td>
</tr>
<tr>
<td>Outside sections</td>
<td></td>
<td>509</td>
<td>4.94</td>
<td>2,511</td>
<td>81</td>
</tr>
<tr>
<td><strong>Total – Proved Measured</strong></td>
<td><strong>1,157</strong></td>
<td><strong>7.53</strong></td>
<td><strong>8,709</strong></td>
<td><strong>280</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mineral Reserve Category</th>
<th>Classification</th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg)</th>
<th>Contained Au (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Probable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview</td>
<td></td>
<td>371</td>
<td>9.89</td>
<td>3,670</td>
<td>118</td>
</tr>
<tr>
<td>New Consort</td>
<td></td>
<td>177</td>
<td>7.70</td>
<td>1,360</td>
<td>44</td>
</tr>
<tr>
<td>Sheba</td>
<td></td>
<td>448</td>
<td>9.39</td>
<td>1,341</td>
<td>43</td>
</tr>
<tr>
<td>Outside sections</td>
<td></td>
<td>1,424</td>
<td>4.56</td>
<td>6,492</td>
<td>209</td>
</tr>
<tr>
<td><strong>Total – Probable</strong></td>
<td></td>
<td><strong>511</strong></td>
<td><strong>9.23</strong></td>
<td><strong>4,715</strong></td>
<td><strong>152</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mineral Reserve Category</th>
<th>Classification</th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg)</th>
<th>Contained Au (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicated</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview</td>
<td></td>
<td>1,176</td>
<td>7.90</td>
<td>9,288</td>
<td>299</td>
</tr>
<tr>
<td>New Consort</td>
<td></td>
<td>355</td>
<td>10.45</td>
<td>3,707</td>
<td>119</td>
</tr>
<tr>
<td>Sheba</td>
<td></td>
<td>6</td>
<td>9.39</td>
<td>992</td>
<td>32</td>
</tr>
<tr>
<td>Outside sections</td>
<td></td>
<td>2,392</td>
<td>5.27</td>
<td>12,612</td>
<td>405</td>
</tr>
<tr>
<td><strong>Total – Indicated</strong></td>
<td></td>
<td><strong>1,888</strong></td>
<td><strong>6.73</strong></td>
<td><strong>12,702</strong></td>
<td><strong>408</strong></td>
</tr>
</tbody>
</table>

**Total Reserves**

<table>
<thead>
<tr>
<th></th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg)</th>
<th>Contained Au (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Reserves</strong></td>
<td><strong>1,367</strong></td>
<td><strong>8.16</strong></td>
<td><strong>11,159</strong></td>
<td><strong>359</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Tonnage (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Au (kg)</th>
<th>Contained Au (koz)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Reserves</strong></td>
<td><strong>6,317</strong></td>
<td><strong>6.72</strong></td>
<td><strong>42,461</strong></td>
<td><strong>1,365</strong></td>
</tr>
</tbody>
</table>

### 4.5 SRK Comments

SRK considers that the quantity and quality of the drilling, sampling, sample preparation and handling is sufficient to delineate the Mineral Resources to the level of confidence implied by the classification used in the audited Mineral Resource and Mineral Reserve statement given above.

The mines have been in operation for over 100 years but at any one time, the statement of Mineral Resources and
Mineral Reserves only provide cover for the equivalent of five to 10 years’ production. The cautionary approach in the declaration of mineral resources and mineral reserves is a consequence of the inability to predict over large distances the extent and tenor of the reefs due to the complex geological and structural controls of the mineralisation and the correct interpretations thereof of these structural features.

The approach used by BML to derive their Mineral Resource estimates is generally considered to be appropriate to the orebodies being evaluated. It must be noted, however, that the estimation methodology employed is relatively simple and standard values based on historically accepted values have been used for some of the variables in the estimation process.

The estimation method of Resource and Reserve blocks from sample data is not based on actual grade continuity nor on geostatistically proven methods and parameters, but on historically accepted methods using arithmetic averaging and inverse distance weighting to estimate block values. The classification of mineral resources is based on the availability and position of data in relation to the block being classified. The spatial extent of measured resources is limited by a distance that is historically accepted and not based on the measured accuracy of the estimation. When comparing successive resource estimates, it is noted that the Measured Resources remain relatively constant, while the Indicated and Inferred Resources are slowly depleted.

It must be accepted that despite the complexity of the mineralised horizons and the estimation techniques applied, the estimation methodology should determine estimates of the block grades which are ‘on average’ equal to the true mean estimates. This is supported by the fact that the historical and current block factors are reasonably consistent.

When compared to the resource statement dated June 2004, the most recent statement (June 2006) shows a significant increase (22%) in the tonnage classified as Indicated at New Consort. This is due to the fact that a new mineralised zone, PC45, has been discovered on level 45.

At the Sheba mine there has been a 58% increase in the tonnage classified as Indicated and a 37% decrease in the average grade. This is due to the fact that the Sheba West orebody is now included as part of the Sheba mine resource statement. New drilling has proved Sheba West to be much larger than previously estimated and at a lower grade. The 12% decrease in Inferred tonnage from Sheba is due to the normal depletion of Inferred Resources.

SRK recommends that the use of simple sample checks (duplicates, blanks and standards) be considered by BML. These will not only check on the quality of the service being received from Lakefield Labs but ensure that no errors have been made by BML staff during sample handling.

BML is in the process of transferring data from the old hand drawn plans onto computer-based, CAD plans. New interpretations regarding the structure of the orebody and the previously mined areas are thus being revealed.

SRK considers there is good potential for the delineation of further Mineral Resources and Mineral Reserves following ongoing exploration and development. The BML economic model includes an annual revolving drilling budget to investigate the extensions to known reefs outside of the currently defined Mineral Resource base.

5. MINING

5.1 Introduction

This section comments on the current and planned mining methods at BML, mine layouts, underground infrastructure, equipment and the mine planning process. Comments are also given on the achievability of the mine production schedule as given in the first ten years of the BML 15-Year Forecast. Comments on the SRK projections as compared to the BML ones are presented at the end of this section.

5.2 Mining Geotechnics

5.2.1 The Mining Operation

Two basic mining methods are being used at BML. Approximately 90% of the stopes are being mined using a semi-mechanised up dip cut and fill mining method, and 10% of the stopes use up dip room and stick mining. It is envisaged that the semi-mechanised cut and fill mining method will be the only mining method used at BML.

The maximum depths of mining below surface at the three mines at present are as follows:

New Consort 1,600m;
Sheba 1,060m; and
Fairview 1,400m.

The expected depth of mining in each case will be approximately 100m deeper by 2016.

5.2.2 Geotechnical Environment

The host rock comprises metasediments of Fig Tree and Moodies groups and metavolcanics of the Onverwacht
group. These include a variety of greywackes, shales, banded iron formations, chert, quartzites, amygdaloidal
andesites, schists and greenstones, which are all extremely competent. Despite the complex tectonic history of the
area and the intensely sheared nature of the host rock, the joints tend to be tightly healed. In general the ground
conditions are very stable.

The stress environment is not aggressive with the result that stress induced damage and rockbursting are essentially
absent.

5.2.3 Regional Stability

The steep dipping narrow orebodies tend to be scattered and individual orebodies have a limited strike length. The
spans of the mined out areas are relatively small with large unmined areas in between. Historically there has been no
need to leave additional ore as pillars and it is unlikely to be required in the future. The waste filling stabilises the
mined out excavations and has proven to be effective. No regional stability problems are envisaged at BML.

5.2.4 Local Stability

Rock conditions at BML are generally good. Poor ground conditions are only experienced in isolated areas. Potential
safety hazards are minimised by installing the correct rock support and barring.

The stope support strategies being followed at BML are considered adequate to provide the necessary local stability.

5.2.5 Staffing

No in-house rock engineering service is available at BML. Strata control functions are addressed on an on-going
basis by in-house production and geology staff. Rock engineering services are provided on a quarterly basis by
external rock engineering consultants. The level of rock engineering services and input to mine planning is
considered adequate for this operation.

5.2.6 Stability of Service Excavations and Main Accessways

Most service excavations and main accessways are supported by rockbolts, and in some cases, by cable anchors.
Where deemed necessary, diamond mesh is used as areal support. Adits and shafts are adequately protected by
pillars. Stability problems have not been experienced in any of these excavations and are unlikely to occur in future.

5.2.7 Code of Practice

The Code of Practice to Combat Rockfall Accidents at BML, Ref. No. COP/BML/RF/2004 was revised in 2006.

5.3 Ground Water

Fissure water in the underground workings is collected and distributed using conventional techniques of the mining
industry to supply all three shaft operations (see also Section 8.2.1). Known water compartments at Sheba 23 level have
been sealed with a plug. The water compartment on New Consort 50 level is in the process of being sealed.

SRK does not consider ground water to pose any significant risk to mining operations.

5.4 Mineral Reserves

The Proved and Probable Reserves as supplied by BML are summarised in Table 5.1. These Reserves are at 30 June 2006
and have not been adjusted for mining depletion (cf Table 4.3).

Table 5.1: BML Proved and Probable Reserves (at 30 June 2006)

<table>
<thead>
<tr>
<th>Mine</th>
<th>Proved and Probable Reserves (kt)</th>
<th>Grade (g/t)</th>
<th>Contained Gold (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>1,085</td>
<td>7.72</td>
<td>8,381</td>
</tr>
<tr>
<td>New Consort</td>
<td>311</td>
<td>7.74</td>
<td>2,407</td>
</tr>
<tr>
<td>Sheba</td>
<td>564</td>
<td>9.20</td>
<td>5,187</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,961</strong></td>
<td><strong>8.15</strong></td>
<td><strong>15,974</strong></td>
</tr>
</tbody>
</table>

5.5 Mine Planning

BML has drawn up a 15-year Forecast which is a depletion schedule of resource blocks for F2007 to
F2021. The schedule is dependent on feasibility and capital approval of certain projects and does not
provide for dilution and other modifying factors. Not all resources are included in the forecast and in
some cases BML has included projections beyond declared resources. SRK has not seen a formal mine
plan that covers this period.
SRK has therefore extracted the data from the first ten years with a view to compiling a ten-year plan for BML (“Ten-Year Plan”) for F2007 to F2016. The Ten-Year Plan depletes 2.98 Mt of resources at a mean grade of 10.06 g/t Au, as shown in Table 5.2.

**Table 5.2: Tonnage Depletion Schedule in Ten-Year Plan (F2007 to F2016)***

<table>
<thead>
<tr>
<th>Mine</th>
<th>Depleted Tonnage Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>1,260</td>
</tr>
<tr>
<td>New Consort</td>
<td>715</td>
</tr>
<tr>
<td>Sheba</td>
<td>1,002</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,977</strong></td>
</tr>
</tbody>
</table>

*Note that this excludes vamping operations.

It should be noted that the tonnage depleted for this period is greater than the Proved and Probable Reserves at 30 June 2006 as provided by BML (Table 5.1). Because the blocks included in the reserve calculation form a subset of those included in the resource estimate, a direct comparison cannot be made. From a mine-wide perspective, however, a comparison of the resource and reserve grades (columns marked (1) and (2) in Table 5.3) results in the grade conversion factors as shown in column (3) in Table 5.3. Applying these grade conversion factors to the resource grade in the Ten-Year Plan (Table 5.2 and column (4) in Table 5.3) gives the equivalent reserve grade (column (5) in Table 5.3).

BML also uses a Block Call Factor (“BCF”), which takes into account a block factor, shaft call factor and plant call factor. Applying the BCF to the Ten-Year Plan grades (Table 5.2 and column (4) in Table 5.3) gives the grades shown in column (6) in Table 5.3. It should be noted that this excludes dilution, which varies significantly from mine to mine and from year to year. Mine wide dilution was calculated to be 17% for the current mining of July to December 2006 and 10% for F2006. The dilution varies considerably across the Mines and is commonly governed by mining of unpay blocks between pay areas to allow LHD travel along the whole stope face. Whether this dilution increase is part of a deteriorating trend is unclear, but dilution will need to be monitored if BML is to achieve its stated targets.

The actual head feed grades (including vamping operations) achieved for the period July to December 2006 are shown in column (7) of Table 5.3. Actual head feed grades for this period, excluding vamping production, are shown in column (8). The actual head grades achieved are lower than shown in the reserves, with the exception of Fairview.

**Table 5.3: BML Resource-to-Reserve Grade Conversion***

<table>
<thead>
<tr>
<th>Mine</th>
<th>(1) BML Resource Grade</th>
<th>(2) BML Reserve Grade</th>
<th>(3) Resource Grade Conversion Factor</th>
<th>(4) Equivalent Grade Ten-Year Plan</th>
<th>(5) Reserve Ten-Year Plan (BCF)</th>
<th>(6) Av. Jul to Dec 2006 incl. vamping (BCF)</th>
<th>(7) Av. Jul to Dec 2006 excl. vamping</th>
<th>(8) to Dec 2006 excl. vamping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>9.01</td>
<td>7.72</td>
<td>85.7%</td>
<td>10.47</td>
<td>8.98</td>
<td>8.80</td>
<td>8.85</td>
<td>7.60</td>
</tr>
<tr>
<td>New Consort</td>
<td>11.05</td>
<td>7.74</td>
<td>70.0%</td>
<td>9.41</td>
<td>6.59</td>
<td>7.28</td>
<td>8.70</td>
<td>6.95</td>
</tr>
<tr>
<td>Sheba</td>
<td>9.81</td>
<td>9.20</td>
<td>93.8%</td>
<td>10.01</td>
<td>9.38</td>
<td>9.30</td>
<td>10.05</td>
<td>8.05</td>
</tr>
</tbody>
</table>

* Units in g/t unless otherwise indicated.

Because the areas planned to be mined for the first three years of the Ten-Year Plan are essentially the same as those currently being mined, SRK has applied the average grades from July to December 2006 for this period in the Ten-Year Plan, i.e. those in column (8) in Table 5.3. For the remainder of the Ten-Year Plan, SRK has used the grades as calculated in column (6) but further discounted by 15% to allow for dilution. These are shown in Table 5.4.

**Table 5.4: SRK Grades used for 10-Year Plan (excluding vamping)**

<table>
<thead>
<tr>
<th>Mine</th>
<th>Years 1–3 (g/t)</th>
<th>Years 4–10 (g/t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>7.60</td>
<td>7.65</td>
</tr>
<tr>
<td>New Consort</td>
<td>6.95</td>
<td>6.33</td>
</tr>
<tr>
<td>Sheba</td>
<td>8.05</td>
<td>8.09</td>
</tr>
</tbody>
</table>

Mine management contends that the use of the grades in Table 5.4 will unduly penalise BML, since they span the November – December 2006 period when the RoM grades were lower than normal. SRK examined the production records for the period July 2005 to December 2006 and extracted the RoM grades for each of Fairview, New Consort and Sheba mines (shown in Figure 5.1). These grades relate only to ore mined at the various mines and exclude any vamping. The combined feed grade to the plants, which...
includes the contributions from the mines together with all vamped material, for the period July 2005 to December 2006 is also shown in Figure 5.1.

From Figure 5.1, distinct downward trends are evident in all material mined/extracted at BML. SRK therefore believes that use of the grades set out in Table 5.4 is justified. However, the effect of excluding the November – December 2006 results is examined as a sensitivity, with the results presented in Section 13 of this CPR.

The resulting production schedule from the Ten-Year Plan for 1 January 2007 to 30 June 2016, based on the above, is shown in Table 5.5. The tonnages shown include the 15% dilution discussed above, but exclude any vamping done by BML or the outside contractor (see Section 5.6.4).

Table 5.5: Production Schedule in Ten-Year Plan (excluding vamping)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>RoM ore (kt)</td>
<td>82.5</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
<td>131.8</td>
</tr>
<tr>
<td></td>
<td>RoM grade (g/t)</td>
<td>7.60</td>
<td>7.60</td>
<td>7.60</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
<td>7.65</td>
</tr>
<tr>
<td>New Consort</td>
<td>RoM ore (kt)</td>
<td>41.3</td>
<td>80.1</td>
<td>81.2</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
<td>77.1</td>
</tr>
<tr>
<td></td>
<td>RoM grade (g/t)</td>
<td>6.95</td>
<td>6.95</td>
<td>6.95</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
<td>6.33</td>
</tr>
<tr>
<td>Sheba</td>
<td>RoM ore (kt)</td>
<td>58.3</td>
<td>105.4</td>
<td>104.7</td>
<td>105.4</td>
<td>105.4</td>
<td>103.4</td>
<td>98.3</td>
<td>108.9</td>
<td>108.9</td>
<td>108.9</td>
</tr>
<tr>
<td></td>
<td>RoM grade (g/t)</td>
<td>8.05</td>
<td>8.05</td>
<td>8.05</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
<td>8.09</td>
</tr>
<tr>
<td>Total BML</td>
<td>RoM ore (kt)</td>
<td>182.0</td>
<td>317.3</td>
<td>317.7</td>
<td>314.4</td>
<td>314.4</td>
<td>312.3</td>
<td>307.2</td>
<td>317.8</td>
<td>317.8</td>
<td>317.8</td>
</tr>
<tr>
<td></td>
<td>RoM grade (g/t)</td>
<td>7.60</td>
<td>7.59</td>
<td>7.58</td>
<td>7.47</td>
<td>7.47</td>
<td>7.47</td>
<td>7.46</td>
<td>7.48</td>
<td>7.48</td>
<td>7.48</td>
</tr>
</tbody>
</table>

1. F2007 represents the forecast/budget tonnage per BML and grades per Table 5.4 for January to June 2007.

The figures quoted in the resource and reserve estimates at 30 June 2006 were based on all known resource blocks at that time and what was envisaged to be mined. This approach is consistent with previous mine plans compiled by BML which typically cover only a five-year period. The resource and reserve estimates as shown in Table 4.3 have been adjusted by block depletions from 30 June 2006 up to 31 December 2006. The 15-year Forecast was compiled by BML by systematically depleting existing resource blocks, without regard to what was converted from resources to reserves when the Mineral Resource and Mineral
Reserve estimates were compiled at the beginning of F2007. SRK has assumed for evaluation purposes that the stated Mineral Reserves are mined in the early periods of the plan, with latter periods extracting resources which have not been converted to reserves by the application of appropriate modifying factors. From the information available, it is difficult to determine what proportions of Measured, Indicated and Inferred Resources (“Used Resources”) constitute the production in the latter years of the Ten-Year Plan. SRK is not aware of any geological, structural or mining constraint that would prevent their conversion to reserves.

It should be noted that, although a ten-year schedule is presented, the unpredictable continuity and grade of the orebodies at the Mines precludes BML from planning beyond a five-year horizon in great detail. Nevertheless, the absence of a formalised LoM plan for the Mines is considered to be a major omission.

5.6 Mine Descriptions

BML comprises three operating mines, Fairview, New Consort and Sheba that have been operated by Metorex since mid 2003. The introduction of contractors to do vamping with vacuum machines in old areas has had a significant influence on gold production.

5.6.1 Fairview

Fairview is serviced via the 11 Level adit from surface, followed by a series of three inclined shafts. All ore and material is handled through these shafts with current production some 11,900tpm excluding vamping. Men travel in a separate dedicated incline system that is equipped with chairlifts down to 42 Level after which they are transported in the No. 3 Incline Shaft. The deepest workings are about 1,400 m below surface. Underground infrastructure is generally adequate for its purpose.

Fairview has made significant progress in adopting the semi-mechanised cut and fill mining method practiced at BML.

Production from mining operations at Fairview is planned to be 126,000tpa at an average grade of 10.47g/t (resource) for the 10-year plan. This compares with an average of 11,910tpm at 8.85g/t (head feed) for the July to December 2006 period.

5.6.2 New Consort

New Consort has a number of shafts and adits the majority of which are no longer in use. The main access to the mine is through the PC adit on 12 Level. This adit connects to the 1,360m PC sub-vertical shaft that is New Consort’s main production shaft. The No 7 surface vertical shaft and sub shaft system is fully maintained as a second outlet. It is SRK’s opinion that New Consort has adequate shaft capacity to handle the projected average annual tonnage of 71,545tpa that is incorporated in the Ten-Year Plan.

The main focus at New Consort is to explore the Bullion orebody. Capital development planned on 45 Level to intersect the Bullion orebody and provide a top hoist for ventilation is continuing. The remainder of the production is planned from the PC Mid-28L, 7 shaft upper and the 3 shaft – 1 shaft area.

Production from the MMR orebody continues throughout the Ten-Year Plan. A total of 72,000t at 10.07g/t (resource) is planned for F2007 compared with 36,000t at 8.70g/t (head feed) for the July to December 2006 period.

5.6.3 Sheba

Sheba mine is serviced by the vertical 700m deep Zwartkoppie (ZK) Shaft and a complex arrangement of vertical and incline shafts. The mine’s deepest production level is 35 Level (1,064m below the ZK Shaft collar). In SRK’s opinion the shaft systems have adequate capacity to handle the average planned production rate of 8,400tpm for the 10-Year Plan. Underground infrastructure is generally in adequate condition. The capital programme for refurbishment of the ZK Shaft is complete.

The orebodies are in general narrow and steeply dipping and are mined with semi-mechanised cut-and-fill methods. Current production is mainly from the MRC and ZK orebodies with limited remnant mining also in the MRC.

Ventilation for the mine is drawn down the ZK shaft by a fan situated on 19 Level. From 19 Level the air is fed down a sub incline and along 27 Level to the MRC shaft. Air is drawn off en-route for mining operations. Return air is drawn through up-cast raise boreholes to 29 Level from where it discharges through old workings.

The modifying factors applied to the resources are based on previous history at BML and are considered reasonable.

Production planned for F2007 is 100,150t at a resource grade of 12.25g/t compared with the previous six months’ production (July to December 2006) of 58,317t at a head feed grade of 10.05g/t, including vamping operations (see Section 5.6.4 on vamping below). The tonnage is thus in line with that achieved recently.
The main workings at Sheba are scheduled to be depleted in F2013, with production moving to the more speculative areas of Pan and Joe’s Luck, Royal Sheba and Sheba West. The mining of the MRC orebody extension below 35 Level will be undertaken by Fairview Mine. The continuing life of Sheba after F2013 will thus depend on the success of mining these orebodies or finding economic ore in the hangingwall of the current orebodies.

5.6.4 Vamping

A private contractor company (VTN Mining (Pty) Limited “VTN”) conducts vamping operations in worked out areas using vacuum machines and transporting the ore out in large canvas bags. The tonnages and grades of material recovered by VTN in F2004, F2005, F2006 and July to December 2006 are shown in Table 5.6. A total of 11,646t of material at a grade of 30.94g/t was recovered by VTN during July to December 2006. This represents 7% of the tonnage mined and 23% of the gold produced during this six-month period. Resources and reserves for this source of gold have not been defined.

Table 5.6: Historical Vamping Production Statistics (VTN)

|                | F2004 | F2005 | F2006 | F2007-H1 | RoM RoM RoM RoM Mine Tonnage Grade Tonnage Grade Tonnage Grade Tonnage Grade |
|----------------|-------|-------|-------|-----------|---------------------------|---------------------------|---------------------------|---------------------------|
|                | (t) (g/t) | (t) (g/t) | (t) (g/t) | (t) (g/t) |                  |                      |                      |                          |
| Fairview       | 2,640 28.44 | 5,389 31.15 | 7,368 31.36 | 5,593 23.78 | New Consort 3,631 56.36 | 3,533 76.87 | 3,540 63.01 | 1,862 41.28 | Sheba 8,538 24.67 | 8,422 29.37 | 8,364 30.94 |
|                | 30.82 4,191 | 35.91 30.82 | 4,191 35.91 | 30.82 4,191 |                |                      |                      |                          |
| Total VTN      | 14,809 33.11 | 17,345 39.60 | 19,292 36.93 | 11,646 30.94 |                  |                      |                      |                          |

The mine also conducts vamping operations and is researching the application of alternative methods such as water jetting.

5.7 Mining Methods

BML has continued with the application of the semi-mechanised cut and fill method and increased its usage. SRK considers this method appropriate for the environment. The method is mined in an up-dip direction and involves drilling holes vertically into the stope back. A variation of this, with horizontally-directed holes (called breast stoping), is used in stopes with shorter strike lengths and/or poor rock conditions. Breast stoping has a lower production potential than the standard up-dip method.

As the stope is mined it is filled with development waste to provide a working platform. The amount of development is thus determined by the need to open up new areas without having to hoist waste out of the mine.

5.8 Mining Equipment

Poor ventilation and maintenance techniques were observed at the 60L diesel workshop at Fairview (see Section 8.3.1). The quality of maintenance will lead to reduced availability, reliability and machine life and is seen as a medium risk. Since the fleet consists of a mixture of new and old machines, a varying range of breakdown frequencies can be expected.

The conditions under which the machines were observed to be working could be regarded as being average with ramps not being excessively steep and roads being fairly well maintained even though there is no grader on the mine.

The operating cost budget for F2007 includes R0.6 million per month for running costs (consumables) and R1.0 million for LHD maintenance costs, which appear to be high when calculated as a cost per ton produced. If it is taken into consideration that the LHD’s are used to do back filling, the figures look more realistic. The five-year plan capital expenditure forecast for replacement of the LHD fleet includes R2.3 million for F2007, R1.5 million for F2008 and R3.0 million for each year F2009 to F2011, which should be sufficient.

5.9 SRK Comments

5.9.1 Mine Planning

SRK considers the mining methods, mine layouts and designs and the mine planning process used at Barberton Mines to be appropriate for the nature of the orebodies. The technical input from planning, survey and geology is from highly experienced personnel with long service on the mine. Mining supervisory staff, many of whom have a similar length of service at BML, are also involved in the planning process by means of attendance at regular monthly planning meetings. This experience enables a high degree of sound judgment to be applied to the planning process.

Nevertheless, the absence of a formalised LoM plan for the Mines is considered to be a major omission.

5.9.2 Mine Management

Management of the three mines is in the hands of Mine Overseers who have long service in the Barberton area and
have the relevant experience to manage these unique operations.

5.9.3 Manning Levels

SRK is of the opinion that manning levels in all departments are adequate for the size and complexity of operation.

5.9.4 Production Projections

The tonnage projections for the Ten-Year Plan have been extracted from a resource depletion schedule and are not supported by a formal mine plan. The projections are however consistent with historical production levels and are considered to be reasonable.

It should be noted that a large proportion of production at Sheba Mine is obtained from Sheba West and other speculative future targets after the first three years. Present production levels will only be maintained if the mine has success in developing these orebodies in the near future. This applies to a similar degree for certain areas in the other two mines. In all cases, mine life after the first five years cannot be guaranteed.

The inclusion of Resources in mine plans in cases such as this where the geometries of the orebodies are irregular and orientated such that they are difficult to drill, is not in SRK’s opinion unusual. While SRK has included these Used Resources in the Ten-Year Plan, the tonnes and grades scheduled to be mined are less certain than would be the case if the plan only depleted Mineral Reserves, and, consequently, this represents an area of risk.

5.9.5 Dilution

Mine wide dilution was calculated to be 17% for the current mining of July to December 2006 and 10% for F2006. Whether this dilution increase is part of a deteriorating trend is unclear, but dilution will need to be monitored and carefully managed if BML is to achieve its stated targets.

5.10 Opportunities

The most significant opportunity at BML is to prolong the life of the mine by delineating further mineral resources. The nature of the orebodies is such that this is impossible to quantify, suffice to say that the mines have been in operation for a considerable time and have been able to explore and generate reserves of the same order as those reported here on an ongoing basis.

5.11 Risks

The unpredictability of the orebodies at BML causes uncertainty with regards to the forecast grade and tonnage. The relatively high grade of the orebodies exacerbates the situation to the extent that a small percentage error in estimation results in relatively large quantum of gold. BML does, however, have the advantage of many years of aggregated experience in evaluating these orebodies available to them in the technical services department.

BML’s 15-year Forecast is a depletion schedule of resource blocks and does not provide for dilution and other modifying factors. Not all resources are included in the forecast and in some cases BML has included projections beyond declared resources. SRK has not seen a formal mine plan that covers this period.

It should be noted that a large proportion of production at Sheba Mine is obtained from Sheba West and other speculative future targets after the first three years. Present production levels will only be maintained if the mine has success in developing these orebodies in the near future. This applies to similar degrees for certain areas in the other two mines. In all cases, mine life after the first five years cannot be guaranteed.

The gold production derived from vamping is not supported by a defined resource and reserve.
6. METALLURGICAL PROCESSING

6.1 Introduction

The BML metallurgical processing plants were reviewed during a site visit on 15 and 16 January 2007 as part of an update of the 2005 CPR.
There are a total of six processing plants located on the BML site at Barberton:

- New Consort Concentrator – operated and managed by BML;
- Sheba Concentrator – operated and managed by BML;
- Fairview Concentrator, Smelthouse and Biox® Plant – operated and managed by BML;
- Segalla Gold Recovery CIL Plant at New Consort – operated and managed by Grinaker-LTA;
- Barberton Gold Tailings Reclamation at Fairview – operated and managed by Barberton Gold, a separate private company; and
- Waste Crushers at Fairview – operated and managed by a private contractor.

The plants that are not operated and managed by BML personnel still fall under the overall responsibility of mine management from a high level as they operate within the mining lease area. The mine has placed all managerial appointments in the operating companies.

The Camelot tailings retreatment facility, which never belonged to BML, was sold by Grinaker-LTA to Aucor in December 2006.

Where technical issues are unchanged from the 2005 CPR, they are excluded from the discussion below.

6.2 Sampling, Analysis and Gold Accounting

6.2.1 Process Sampling

A number of process streams are sampled on a regular basis for controlling the process, check assays and metal accounting. The number of samples appears to be fair and reasonable and the information generated results in acceptable technical control of all three operations. Most samples are manual grab samples, apart from the important accounting samples. These are either pipe samplers or cross-stream types, presenting sub-samples to a secondary rotary Vezin type sampler. Full concentrate flows at the Biox® plant are presented to a Vezin sampler.

The process sampling methods were not scrutinised, but the facilities are regarded as adequate and reasonable for this type of operation.

All assays are completed at the accredited SGS Lakefield commercial laboratory located in Barberton.

There have been no changes in the methods involved with process sampling.

6.2.2 Gold Inventory and Lock-up

The gold inventory and lock up status has been compared between the three visits and the comparison is detailed in Table 6.1.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New Consort Concentrator</td>
<td>2.3 kg</td>
<td>8.1 kg (estim.)</td>
<td>3.8 kg</td>
<td>1.6 kg</td>
</tr>
<tr>
<td>Sheba Concentrator</td>
<td>13.5 kg</td>
<td>10.5 kg (estim.)</td>
<td>3.7 kg</td>
<td>2.3 kg</td>
</tr>
<tr>
<td>Fairview Concentrator</td>
<td>11.0 kg</td>
<td>9.0 kg (estim.)</td>
<td>3.5 kg</td>
<td>1.7 kg</td>
</tr>
<tr>
<td>Fairview Biox®</td>
<td>153.0 kg</td>
<td>128.2 kg</td>
<td>108.7 kg</td>
<td>98.1 kg</td>
</tr>
<tr>
<td>Total Inventory</td>
<td>179.8 kg</td>
<td>155.8 kg</td>
<td>119.7 kg</td>
<td>103.7 kg</td>
</tr>
<tr>
<td>Concentrate Stock</td>
<td>nil</td>
<td>36 kg</td>
<td>nil</td>
<td>nil</td>
</tr>
</tbody>
</table>

This plant inventory has decreased marginally from the previous visit (in 2005 CPR) as a result of improved stock management detailed in previous reports.

6.2.3 Gold Accounting

There has been no change in the methodology used for gold accounting. The reported ‘daily’ head grade is back calculated from the concentrate production (tonnes and grade), free gold production (kilograms and grade) and the residue grade with the tonnes milled. Tonnes milled are calculated from the mill feed weigher plus crusher slime corrections. This methodology is not a direct indication of the gold received from the mine, but is regarded as acceptable for this process flow sheet. The ‘daily’ grade is compared to the belt grade, mill discharge grade and cyclone overflow grade, but only as a check.
The free gold produced is weighed every few days and dispatched to Fairview for smelting. The bullion produced maintains its ‘identity’ for accounting purposes. The concentrates are weighed at each mine and at the Biox® Plant and then sampled for moisture and gold value in the Vezin sampler at the plant. Gold produced from the Biox® Process is allocated according to the receipts from each mine. The typical gold accounting ‘flow sheet’ is indicated in Figure 6.1.

The accounting methodology is fair and reasonable. There may be gold allocation inconsistencies between the mines, but all the production remains within BML and this is not considered to be a concern.

Over an extended period, it is stated by the metallurgical staff that the gold reconciliation over the Biox® Plant remains within acceptable limits, previously reported as better than 0.2%. This is extremely good for any metallurgical accounting system.

6.2.4 Gold Assaying

Gold and other analytical requirements are performed at SGS Lakefield commercial analytical laboratory located in Barberton. This laboratory is accredited and as such the accuracy and repeatability of the results generated is expected to be reliable. Samples are delivered each morning to SGS Lakefield and the results are available on a same day basis for plant samples and within three days for mine samples. BML is satisfied with the service, but does concede that a mine laboratory would be advantageous, but would not be accredited and thus the use of SGS is likely to continue.

6.2.5 Bullion Quality

The average bullion quality remains acceptable at between 97% and 98% for cyanide-sourced gold and between 80% and 90% for mill recovered and gravity gold – the remainder is silver and base metals.

6.3 Security

The security situation has been problematic within the plants and on the mine in general. There have been a number of plant intrusions from external sources as well as a break in within the smelthouse to remove cathodes. Fencing and dog patrols have been improved as well as the entire surveillance systems and CCTV installations. The security force has been changed and significant equipment upgrades have been completed which have resulted in improved monitoring with rapid response. Each
day, the ‘tapes’ are monitored if security personnel missed any untoward activity during the shift. There have been a significant number of security intrusions into the underground environment with fatal results. This situation is being monitored with improved isolation of remote access to the mined areas, but once intruders are underground, there is very little that can be done to remove them from the mine. This situation is far from ideal and even more vigilance is required to keep the intruders out of the mine.

6.4 Update of Plant Operations

6.4.1 New Consort Concentrator Plant

The mill failure of a few years ago has been overcome and the plant has exceeded 7,000tpm on occasions. Plant recovery is variable but is generally above 90%.

The New Consort Plant processed an average of 6,100tpm for the first six months of this current financial year (monthly budget plan tonnage is 6,300t) – the previous six-month period averaged 5,591tpm. The head grade to the plant has averaged 8.7g/t for the current six months with the previous six months being 11.3g/t. The monthly head grade has ranged from 7.3 to 9.8g/t during the last six months. The on mine gold recovery is currently 95.4% (previous 12 months) compared to 93.7% during the previous visit. The improvement has been identified as the relocation of the flash cell and the improved reagent suite.

The clean up of the old roaster plant remains substantially as it was during the previous visit, with the bunkers still to be demolished and covered.

The plant condition does not appear to have changed form the previous visit and it is likely to remain in a good condition, provided that adequate maintenance is continued. The area around the pre-leach thickeners and leach tanks still requires some rehabilitation and is stated that this is planned, depending upon economic factors.

The carbon generated will be eluted at either Segalla or at Fairview.

The recovery and re-treatment of the arsenic stockpile from New Consort remains stopped. A contract has been entered into with Zincor with an off-take of almost 30tpm being achieved. The Fairview Biox® Plant is no longer in a position to accept this material and convert it to a stable form of arsenic as a result of cannibalising of the plant, but it could be returned to operation fairly easily if desired. This means that the environmental hazard of the 2,000-ton stockpile remains. There was an investigation into encapsulating the entire stockpile, with a concrete cap and this has been rejected (see Section 9.4.1).

6.4.2 Sheba Concentrator Plant

The Sheba Concentrator has suffered from mill gearbox failures during the year, but these seem to have been rectified now. The crusher changes mentioned in previous reports are operating satisfactorily.

The plant throughput has averaged 9,700tpm for the first six months of this financial year with the grade being just over 10g/t. The recovery for the last twelve months is 94.5%, which is substantiated by the reported performance from the plant.

The plant condition does not appear to have changed form the previous visit and it is likely to remain in a good condition, provided that adequate maintenance is continued.

6.4.3 Fairview Concentrator Plant

The Fairview Concentrator has processed an average 11,910tpm with a grade of 8.8g/t. The recovery for the past year has averaged in excess of 92.5%.

As a result of the changes to the underground layout, throughput has remained high at the Fairview plant. A cross tram facility has been set up between Fairview and Sheba, where spare capacity exists in the Sheba plant. The Fairview plant capacity is still reported to be 13,000tpm.

The plant condition does not appear to have changed form the previous visit and it is likely to remain in a good condition, provided that adequate maintenance is continued. All gravity concentration has been removed from Fairview concentrator and Biox® plants, as the quantity of gold recovered is regarded as insignificant.

6.4.4 Fairview Biox® Plant
The Fairview Biox® Plant is operating satisfactorily.

The treatment of the arsenic stockpile through the Biox® plant has been stopped as a result of the treatment cost implications. As Zincor will need about five years to completely remove the arsenic stockpile, BML management does not see this as major issue.

The plant has processed up to 2,500tpm (83tpd) compared with the stated plant capacity of 60tpd. This improvement in processing rate was a result of the high levels of stock ahead of the Biox® plant. During recent months, concentrate production from the three mines has been less than this quantity and the treatment rate has returned to a level of about 69tpd.

The plant has operated substantially fault free for the past few years.

There is a development with Gold Fields Limited for alternative high temperature bacteria for the Biox® Process. A thermophile pilot plant is to be placed at Fairview for process development with the anticipated benefit of being able to operate at an elevated temperature of up to 60°C and subsequently lower cyanide consumption.

The plant condition does not appear to have changed form the previous visit and it is likely to remain in a good condition, provided that adequate maintenance is continued.

The licensing agreement with Gold Fields Ltd has been upgraded to cover the current production levels.

6.4.5 Fairview Smelthouse

The Fairview Smelthouse produces all the final gold bullion produced from BMI, either as gravity gold or Biox® gold via the diesel-fired furnace. The gravity gold from each of the mines is smelted separately into bullion for accounting purposes. Additionally, all the gold produced from the Grinaker-LTA Plants is stored and shipped from Fairview to Rand Refinery on a regular basis with the normal BML production.

There is one electro-winning cell containing six cathodes to produce all cyanide recovered gold after elution. The loaded cathodes are calcined and smelted in the diesel-fired furnace. The bullion is stored in a conventional strong room prior to dispatch.

Smelt house management is appropriate with good key control systems in place. There is appropriate security to observe the activities within the smelt house – all personnel working in the smelt house are not residents of the local community and are resident in the town – this has reduced the levels of intimidation considerably with the effect of a reduced risk of gold theft. The local unions have supported this, which is somewhat unexpected.

6.4.6 Condition of Plant and Equipment

The condition of the major items of plant and equipment remains reasonably good for plants that were built many decades ago. The maintenance of the equipment appeared to be adequate, as is substantiated by the reported availability of 92% to 94% excluding stoppages due to non-availability of ore. Ongoing maintenance activities were stressed by the Biox® plant management as a critical aspect of plant operation. There was evidence of minor spillage at a number of areas in the plants but these did not appear to be cumulative in nature.

The technical control of all the operations remains above average with record keeping and metallurgical data up to date and relevant. This is subject to the quality of the plant management and there have been significant changes in this aspect during the last six months with expertise from the Metallurgical Operations and the Biox® Plant in particular being moved elsewhere in the group.

6.4.7 Metallurgical Staffing

The total metallurgical staff complement is regarded as adequate. There were two metallurgists allocated to the operations, but based at Fairview and both have subsequently been moved and the senior position being made redundant. This situation is a major concern as technical issues are not being adequately addressed. There is a replacement junior inexperienced metallurgist on site who is learning but has a long way to go. It is strongly recommended that these positions be maintained as they ensure good technical control of the operations at all levels, particularly at the Biox® Plant.

The metallurgical manager has been moved elsewhere in the Metorex group and has not been replaced. The plant manager in charge of Fairview has absorbed the responsibilities of the metallurgical and plant manager roles. This is acceptable until such time as there are significant technical issues to resolve.

Experienced metallurgical supervisors on the different plants are also in short supply. These members of staff do not need to be technically qualified, but it is essential that they well experienced. This is a concern and is regarded as a risk.

The entire technical management of the BML metallurgical operations needs to be reviewed and reconsidered – the current structure is adequate if all is routine, but with the highly technical Biox® plant, this is regarded as a significant risk. Metorex has advised SRK that the metallurgical expertise is still available within the Metorex Group and can be brought back at short notice.
Technical support from Gold Fields Ltd has been stated as adequate, but this support is not immediate. Whilst this assists BML, it does not ameliorate the risk.

**Metallurgical Training**

The metallurgical training of staff is based on achieving competence at all levels. To this effect, training manuals have been developed commercially for the plants.

The threat of AIDS and other illnesses is significant and causing concern on the metallurgical plants with reduction of skills base. The training indicated above is regarded as essential and appropriate for the operations, although absence of full-time metallurgical training staff means the training has been only partially implemented.

6.4.8 Camelot CIL Plant

The contract for the processing of the original tailings dams ended with the completion of the Fairview upper tailings dams. The plant was stopped in August 2003 and placed on care and maintenance with motor and drives turned regularly until its sale in December 2006.

6.4.9 Segalla CIL Plant

The processing contract with Grinker-LTA will expire in November 2007 with the completion of the last of the tailings dams. The tailings arising from the New Consort plant are still processed through the Segalla Plant but these will be treated through the refurbished and converted leach plant. Tailings are deposited onto the new Segalla Dam. The Segalla plant will be utilised by BML to treat the calcine dump material and co-deposit this with current New Consort tailings onto a modified Segalla tailings dam.

6.4.10 Barberton Gold

The treatment contract has been extended for another three years to 2009. This plant was not viewed during this site visit.

6.4.11 Barberton Crushers

This plant was not viewed during this site visit.

### 6.5 Historical Metallurgical Performance

**Tables 6.2 to 6.4 summarise, respectively, the metallurgical plant performances for Fairview, New Consort and Sheba processing plants for the 15 quarters ended December 2006. It can be seen that there is a considerable variation in the performances, but the averages are meaningful.**

#### Table 6.2: BML – Metallurgical Performance for Fairview Plant

<table>
<thead>
<tr>
<th>Date</th>
<th>Tonnels Milled (per quarter)</th>
<th>Biox Production (kg)</th>
<th>Concentrate Produced (tonnes)</th>
<th>Gold Produced (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/03</td>
<td>32292 35376 32078 33319 36161 35023 34082 31623 31145 35000 36221 35178 33407 37155 34305</td>
<td>6.6 8.0 10.1 7.6 6.9 8.6 10.9 14.6 9.7 10.2 9.7 9.3 10.0 7.6 1.0</td>
<td>191.9 236.7 298.0</td>
<td>252.9 278.3</td>
</tr>
<tr>
<td>2/03</td>
<td>3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438</td>
<td>6.3 7.0 9.4 5.0 6.7 7.5 9.9 12.6 9.1 8.9 8.8 8.2 8.9 9.6 7.6</td>
<td>87.5 115.4 130.2</td>
<td>87.5 115.4</td>
</tr>
<tr>
<td>3/03</td>
<td>3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438</td>
<td>6.3 7.0 9.4 5.0 6.7 7.5 9.9 12.6 9.1 8.9 8.8 8.2 8.9 9.6 7.6</td>
<td>87.5 115.4 130.2</td>
<td>87.5 115.4</td>
</tr>
</tbody>
</table>

#### Table 6.3: BML – Metallurgical Performance for New Consort Plant

<table>
<thead>
<tr>
<th>Date</th>
<th>Tonnels Milled (per quarter)</th>
<th>Biox Production (kg)</th>
<th>Concentrate Produced (tonnes)</th>
<th>Gold Produced (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/03</td>
<td>32292 35376 32078 33319 36161 35023 34082 31623 31145 35000 36221 35178 33407 37155 34305</td>
<td>6.6 8.0 10.1 7.6 6.9 8.6 10.9 14.6 9.7 10.2 9.7 9.3 10.0 7.6 1.0</td>
<td>191.9 236.7 298.0</td>
<td>252.9 278.3</td>
</tr>
<tr>
<td>2/03</td>
<td>3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438</td>
<td>6.3 7.0 9.4 5.0 6.7 7.5 9.9 12.6 9.1 8.9 8.8 8.2 8.9 9.6 7.6</td>
<td>87.5 115.4 130.2</td>
<td>87.5 115.4</td>
</tr>
<tr>
<td>3/03</td>
<td>3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438</td>
<td>6.3 7.0 9.4 5.0 6.7 7.5 9.9 12.6 9.1 8.9 8.8 8.2 8.9 9.6 7.6</td>
<td>87.5 115.4 130.2</td>
<td>87.5 115.4</td>
</tr>
</tbody>
</table>

#### Table 6.4: BML – Metallurgical Performance for Sheba Plant

<table>
<thead>
<tr>
<th>Date</th>
<th>Tonnels Milled (per quarter)</th>
<th>Biox Production (kg)</th>
<th>Concentrate Produced (tonnes)</th>
<th>Gold Produced (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/03</td>
<td>32292 35376 32078 33319 36161 35023 34082 31623 31145 35000 36221 35178 33407 37155 34305</td>
<td>6.6 8.0 10.1 7.6 6.9 8.6 10.9 14.6 9.7 10.2 9.7 9.3 10.0 7.6 1.0</td>
<td>191.9 236.7 298.0</td>
<td>252.9 278.3</td>
</tr>
<tr>
<td>2/03</td>
<td>3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438</td>
<td>6.3 7.0 9.4 5.0 6.7 7.5 9.9 12.6 9.1 8.9 8.8 8.2 8.9 9.6 7.6</td>
<td>87.5 115.4 130.2</td>
<td>87.5 115.4</td>
</tr>
<tr>
<td>3/03</td>
<td>3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438 3438</td>
<td>6.3 7.0 9.4 5.0 6.7 7.5 9.9 12.6 9.1 8.9 8.8 8.2 8.9 9.6 7.6</td>
<td>87.5 115.4 130.2</td>
<td>87.5 115.4</td>
</tr>
</tbody>
</table>

6.5 Historical Metallurgical Performance

**Table 6.2 to 6.4 summarise, respectively, the metallurgical plant performances for Fairview, New Consort and Sheba processing plants for the 15 quarters ended December 2006. It can be seen that there is a considerable variation in the performances, but the averages are meaningful.**
The nominal plant capacity for each of the plants is the following:

- **Fairview Concentrator** – 13,000tpm – achieving 12,000tpm;
- **Sheba Concentrator** – 11,000tpm – achieving 10,000tpm;
- **New Consort Concentrator** – 7,000tpm – achieving 6,000tpm; and
- **Fairview Biox® Plant** – 80tpd or 2,400tpm – achieving 2,000tpm.

BML was projecting an overall recovery of 95% at New Consort, and is achieving approximately 95.4% in the previous year ending December 2006, and this is in excess of the historical performance. At Sheba, BML was anticipating achieving 95% gold recovery, which is comparable to the historic average – the recovery averaged 94.5% for the last 12 months ending December 2006. At Fairview, BML was anticipating using 93.4% gold recovery, which is in excess of the historical average – the last 12 months ending December 2006 averaged 92.43%. These recoveries have improved significantly since the previous review.

Overall, the gold recovery for the last year has been 93.7%. The average tonnage processed was 26,392tpm with 240.4kg of gold produced per month with an average yield of 9.1g/t. The tonnage processed and the yield has decreased since the previous review.

### 6.6 Operating Costs

The current total operating cost for the metallurgical plants is reported to be marginally less than R130/t for the last 12 months ending December 2006 (Table 6.5). The costs have remained at this level for the last three years, which management claims are due mainly to the following reasons:

- Optimisation and improved regulation in addition of reagents and cyanide;
- Changes in supply companies for defoamer glycol and BIOX nutrients;
- A favourable exchange rate has meant that increases in cyanide prices have been small; and
- A structured maintenance programme on the BIOX reactors.

While the cost increases on the concentrators have been very significant as a result of major increases in the input costs (such as grinding media and mill liners), these have been offset by a significant decrease in the operating costs at the Biox® Plant.

The operating costs for the Biox® Plant have been almost constant for the last two years at between R1,450 and R1,000/t of concentrate treated. This is as a result of the increased throughput that can now be achieved. The high cost was achieved more than three years ago and more recently this has dropped to the R1,100/t level and has been maintained at these reduced levels. This cost control is as a result of projects initiated by the Fairview Plant management and is highly commendable.

<table>
<thead>
<tr>
<th>Table 6.5: BML Metallurgical Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consort Plant</strong></td>
</tr>
<tr>
<td>Tonnage (tpm)</td>
</tr>
<tr>
<td>Gold Produced (kg)</td>
</tr>
<tr>
<td>Metallurgical Cost (Rand)</td>
</tr>
<tr>
<td>Metallurgical Cost (R/t)</td>
</tr>
<tr>
<td>Metallurgical Cost (R/kg)</td>
</tr>
<tr>
<td><strong>Sheba Plant</strong></td>
</tr>
<tr>
<td>Tonnage (tpm)</td>
</tr>
<tr>
<td>Gold Produced (kg)</td>
</tr>
<tr>
<td>Metallurgical Cost (Rand)</td>
</tr>
<tr>
<td>Metallurgical Cost (R/t)</td>
</tr>
<tr>
<td>Metallurgical Cost (R/kg)</td>
</tr>
<tr>
<td><strong>Fairview Plant</strong></td>
</tr>
<tr>
<td>Tonnage (tpm)</td>
</tr>
<tr>
<td>Gold Produced (kg)</td>
</tr>
<tr>
<td>Metallurgical Cost (Rand)</td>
</tr>
<tr>
<td>Metallurgical Cost (R/t)</td>
</tr>
<tr>
<td>Metallurgical Cost (R/kg)</td>
</tr>
<tr>
<td><strong>Biox Plant</strong></td>
</tr>
<tr>
<td>Tonnage (tpm)</td>
</tr>
<tr>
<td>Gold Produced (kg)</td>
</tr>
<tr>
<td>Metallurgical Cost (Rand)</td>
</tr>
<tr>
<td>Metallurgical Cost (R/t)</td>
</tr>
<tr>
<td>Metallurgical Cost (R/kg)</td>
</tr>
</tbody>
</table>
Metallurgical Cost (Rand) R7,876,673 R7,844,858 R6,643,405 R6,805,759 R6,663,117 R6,882,385 R6,838,184 R7,039,915 R6,850,015 R7,120,928
Metallurgical Cost (R/t concentrate) R1,280.97 R1,443.66 R1,146.12 R1,112.05 R1,022.4 R1,069.18 R1,120.36 R1,016.83 R1,111.45 R1,168.15 R1,026.96 R788.26
Metallurgical Cost (R/t milled) R88.53 R93.62 R81.19 R81.20 R87.80 R86.98 R90.99 R84.37 R87.99 R83.21 R58.95
Metallurgical Cost (R/kg) R12,979 R12,044 R10,510 R10,262 R9,317 R11,026 R10,117 R9,982 R11,657 R10,863 R10,913 R8,358

Total Metallurgical Plants

<table>
<thead>
<tr>
<th>Tons Milled (tpm)</th>
<th>Gold Produced (kg)</th>
<th>Total Metallurgical Costs</th>
<th>Total Metallurgical Cost (R/t)</th>
<th>Total Metallurgical Cost (R/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>88,971.0</td>
<td>759.7</td>
<td>R11,304,145</td>
<td>R127.05</td>
<td>R14,879</td>
</tr>
<tr>
<td>83,796.0</td>
<td>810.6</td>
<td>R11,133,456</td>
<td>R132.86</td>
<td>R13,734</td>
</tr>
<tr>
<td>80,168.0</td>
<td>76,011.0</td>
<td>R9,657,616</td>
<td>R120.47</td>
<td>R9,561</td>
</tr>
<tr>
<td>81,812.0</td>
<td>76,938.0</td>
<td>R8,053.0</td>
<td>R121.69</td>
<td>R8,956</td>
</tr>
<tr>
<td>77,511.0</td>
<td>80,110.0</td>
<td>R7,606.0</td>
<td>R131.42</td>
<td>R8,998</td>
</tr>
<tr>
<td>76,606.0</td>
<td>81,053.0</td>
<td>R7,627,737</td>
<td>R124.85</td>
<td>R9,842</td>
</tr>
<tr>
<td>76,398.0</td>
<td>80,011.0</td>
<td>R6,762.0</td>
<td>R128.98</td>
<td>R8,882</td>
</tr>
<tr>
<td>81,053.0</td>
<td>730.2</td>
<td>R6,316.0</td>
<td>R10,665,840</td>
<td>R10,655</td>
</tr>
<tr>
<td>80,011.0</td>
<td>732.6</td>
<td>R6,367.0</td>
<td>R8,697.472</td>
<td>R8,636</td>
</tr>
</tbody>
</table>

6.7 Capital Expenditure and Major Expenditure

The only items identified at BML for Capital Expenditure for the plants are:

- New Consort
- Renovation of Leach tanks and retrofit carbon screens – Working Costs;
- Retreatment of the Calcine Dump when tailings dam reclamation is complete – Board Presentation to be done;
- Spare Mill motor (BML is contributing 25% of the cost of this motor, which will be kept at Metorex’s Chibuluma Mine in Zambia, as a spare for all Group operations).

Sheba – nil;
- Fairview
  - Wet screening at crusher plant;
  - Lime stone project;
  - Install return water columns for the Fairview tailings dam to the plant – not completed previously;
- Fairview
  - Change the deposition arrangements at the Fairview Dam to separate the cyanide and non-cyanide residues – not completed previously;
- Plant maintenance – mill bearings;
- Fairview Biox®
  - Maintenance items – Gearboxes;
  - Tailings Dam;

- Expansion at Fairview required as rate of rise is increasing.

There are some potential blue sky or possible projects including:

Upgrade Fairview Plant to treat all Sheba sulphide ore production; and
Process Royal Sheba ore (which is free milling, although low grade) at Sheba Plant with only the concentrate being leached – but mine flooded and very unlikely.

There are no current plans to expand the Biox® Plant.

Ongoing capital needs have been provided in the FM by way of a sustaining capital provision from F2012 onwards equal to 5% of the operating cost for a given year.

6.8 Concerns, Risks and Opportunities

The costs and recoveries included in the Business and five-year plan are seen to be reasonable.

The physical plant condition is fair and it is reasonable to anticipate that the plants will continue to operate for the projected life of the Ten-Year Plan, provided that adequate maintenance is performed. The incident at Sheba was well handled and is not expected to be repeated, provided that appropriate maintenance and operational control are maintained.

Security can be considered to be a risk area, with staff members having been arrested for theft of gold and gold concentrates. Mine management has been proactive with regard to security and the additional security measures installed as discussed previously.

A serious concern is the changes in the technical staff (particularly at the Fairview Biox® Plant). A number of technical people have been moved elsewhere and not replaced. The Biox® Plant is extremely technical and does require exceptional technical control, which is no longer the case. This situation needs to be reconsidered by the owners of the mine. The technical control of the flotation plants is adequate, although senior and supervisory management has been reduced.
Although some of the material from the 2,000-tonne arsenic trioxide stockpile at New Consort has been removed by Zincor near Springs, the situation is largely unchanged from the one that existed in 2005. BML expects that Zincor will take approximately five years to eliminate the stockpile and its existence will be a risk to BML until removed. As the material still in Qwe Qwe in Zimbabwe was sold to a Zambian company, Metorex believes there is no further risk attached to this material.
7. TAILINGS MANAGEMENT

7.1 Introduction

This section includes discussions and comments on the tailings disposal facilities at BML, as well as the tailings disposal aspects associated with the Ten-Year Plan. The comments are based on observations during a site visit conducted on
7.2 Overview of the Tailings Disposal Facilities at BML

7.2.1 Bramber Tailings Dam

The Bramber tailings dam was commissioned in 1987 and is currently operated and managed by Environmental, Civil and Mining Projects (Pty) Ltd (“ECMP”). ECMP has recently taken over the operating responsibilities at Fairview from Fraser Alexander Tailings.

The tailings dam is a twin compartment, unlined facility with tailings being pumped to the dam in two 100NB HDPE pipelines and deposited by means of open-ended discharge at a slurry density range of between 1.35 and 1.45. The outer walls of the tailings dam are formed through the day-wall hand packing method.

Biological oxidation residue and flotation is deposited in the larger compartment and carbon-in-pulp tailings in the smaller compartment. The tailings dam has an underdrainage system consisting of blanket drains and outlet pipes which discharge at specific locations into the solution trench. Currently, decant water from both compartments reports to the return water dam (“RWD”) through the common penstock decant conduit. The upper compartment of the RWD is lined with a HDPE plastic liner. Access to the tailings dam and RWD is good and the tailings dam complex is fenced with adequate safety signage. The current status of this tailings dam is considered to be adequate by SRK.

No untoward phenomena were seen with regard to the physical condition of the Bramber Tailings Dam. No toe-line seepage, or wet spots on the slopes were noted. No cracking, bulging or sagging due to differential settlement was seen. It is therefore concluded that the Bramber Tailings Dam is in a good condition. Nevertheless, continual good operational and monitoring procedures must be maintained at all times.

Based on a limiting rate of rise (“RoR”) of between 1.5 – 2.0m/yr, the final elevation projected at 1V:3H side slopes from the latest freeboard survey is 678.0mamsl. The total remaining capacity on Bramber is estimated to be 0.4Mt (0.516Mm³) based on an in situ dry density of 1.45t/m³. This implies a remaining life of 3 years at the maximum design tonnage of 13,000tpm.

It must be noted that an extension to the Bramber tailings dam is scheduled for construction in 2008, with an amount of R2.0 million allowed for in the current capital plan. The new extension will be able to accommodate the tailings arising from the Ten-Year Plan of approximately 156,000tpa once deposition on the Bramber tailings dam has stopped or is split between the Bramber tailings dam and Bramber tailings dam extension.

Capital requirements for the operation are given in Table 7.1 at an order-of-magnitude level of accuracy.

7.2.2 Other Tailings Dams at Fairview

A compartment of the Bramber East Tailings Dam is currently being used to deposit reworked tailings from Barberton Gold, a small gold tailings retreatment company. Barberton Gold is currently also retreating part of Bramber East (known as the Apex) as well as the Moon Tailings Dam in close proximity. Only one area of concern was noted, that being the almost vertical face left in-situ along the SE flank of the Bramber East Tailings Dam. This face needs to be battered back to a safe slope of 45°.

No untoward phenomena were seen with regard to the physical condition of the Bramber East Tailings Dam. No toe-line seepage, or wet spots on the slopes were noted. No cracking, bulging or sagging due to differential settlement was seen. It is therefore concluded that the Bramber East Tailings Dam is in a good condition. Nevertheless, continual good operational and monitoring procedures must be maintained at all times.

It is estimated that the remaining tailings to be retreated from Apex and Moon could be accommodated on Bramber East and by refilling Apex. This must however be confirmed by means of a capacity assessment and deposition strategy. No stability problems are foreseen on Bramber East and the Moon remining operation, provided that Barberton Gold and Fraser Alexander Tailings continue to manage the tailings disposal and tailings remining in a professional manner and according to the design requirements. This is also essential in order to prevent a collapse of the adjacent hillside tailings dams abutting Moon on its southern flank.

7.2.3 Segalla Tailings Dam

The Segalla tailings dam was designed by ECMP and was commissioned in August 1998.

The facility is a partly lined double-valley tailings dam overlying a saddle between two hills. The lined area covers a dyke which runs through the centre of the dam. As well as having blanket drains in the vicinity of the upstream toes of the starter walls, there is also additional underdrainage on the lined section, which minimises the ingress of process water into the sub-terranean region along the contact of the dyke. Tailings is pumped to the dam in a single unlined 150NB steel pipeline and deposited by means of the daywall method of deposition at a slurry density range of between 1.22 and 1.38t/m³. It should be noted that until June 2004, the tailings dam was developed using hydrocyclones. Grinker-LTA is
Currently continuing with the process of re-mining decommissioned tailings dams for retreatment purposes. The re-mined tailings is being deposited on the Segalla Tailings Dam. Free water on the dam is decanted by means of a penstock system. Water is released into a dissipator structure and then routed into a silt trap that overflows into the RWD. A fully lined RWD is situated downstream, south of the tailings dam. Access to the tailings dam is good and the tailings dam is fenced with adequate safety signage.

No untoward phenomena were seen with regard to the physical condition of the Segalla Tailings Dam. No toe-line seepage, or wet spots on the slopes were noted. No cracking, bulging or sagging due to differential settlement was seen. It is therefore concluded that the Segalla Tailings Dam is in good condition. Nevertheless, continual good operational and monitoring procedures must be maintained at all times.

Based on the original design final height of 47m, the remaining volume of Segalla is estimated to be 1.91Mm$^3$ (2.77Mt) based on an in situ dry density of 1.45t/m$^3$. This is sufficient to accommodate the envisaged remaining tailings to be re-mined at a rate of 60,000tpm, due for completion in October 2007, as well as a maximum design tonnage of 12,000tpm for the duration of the Ten-Year plan. It must be noted that at the current deposition rate including the re-mined and process tailings, the RoR of the Segalla tailings dam is 2.70m/yr on the current surface as per the latest freeboard survey. Ideally, for daywalls formed from hand packing, the rate of rise of the tailings dam should not exceed 2.0m/yr. Although not ideal, it is believed that with strict operational control and monitoring, the tailings dam should be able to accommodate the re-mining programme up until October 2007 as well as the underground mining Plan covering the next 10 years. The rate of rise will decrease to 0.52m/yr once the re-mining operation is completed.

Capital requirements for the operation are given in Table 7.1 at an order-of-magnitude level of accuracy.

7.2.4 Camelot Tailings Dam

The Camelot tailings dam was designed and constructed by ECMP and was commissioned in July 1997.

The facility is an unlined valley dam. Tailings is pumped to the dam in a single 125NB rubber lined steel pipeline and deposited by means of open-ended discharge within a slurry density range of between 1.40 and 1.45t/m$^3$. The outer wall of the tailings dam is constructed by the day-wall method. Free water on the dam is decanted by means of a penstock system. The decant water then discharges into a dissipator and then into the RWD. A clay lined RWD is situated downstream of the Camelot Tailings Dam. The tailings dam has been designed with blanket underdrains linked to a series of drain outlets which discharge into the dissipator structure situated at the downstream toe of the tailings dam. Access to the tailings dam is good and the tailings dam is fenced with adequate safety signage.

No untoward phenomena were seen with regard to the physical condition of the Camelot Tailings Dam. No toe-line seepage, or wet spots on the slopes were noted. No cracking, bulging or sagging due to differential settlement was seen. It is therefore concluded that the Camelot Tailings Dam is in good condition. Nevertheless, continual good operational and monitoring procedures must be maintained at all times.

Based on the original design final height of 53m, the estimated remaining volume of Camelot is about 2.63Mm$^3$ (3.82Mt) based on an in-situ dry density of 1.45t/m$^3$. This is more than sufficient to accommodate the envisaged tailings throughput from underground mining activities up until October 2007 as well as the underground mining Plan covering the next five years. The RoR for a monthly tonnage of 10,000tpm on the current surface area as per the latest freeboard survey is 0.60m/yr. This is a very low and safe RoR for gold tailings impoundments.

Capital requirements for the Camelot dam are given in Table 7.1 at an order-of-magnitude level of accuracy.

7.2.5 Sheba Tailings Dam

The Sheba tailings dam is an unlined valley dam impoundment and is situated upstream of the Camelot tailings dam.

Currently the Sheba tailings dam is decommissioned. Storm water on the dam is decanted by means of the existing penstock system, which is linked into the Camelot penstock system. The decant then spills into the Camelot RWD. Access to the tailings dam is good and the tailings dam is fenced with adequate safety signage.

Whilst the Sheba Tailings Dam is seen to be stable, re-mining activities have nevertheless left the outer perimeter wall in poor shape. ECMP are currently undertaking remedial works using current tailings to reinstate the perimeter wall which should be completed towards the end of 2007. Once the outer perimeter wall is reconstructed to acceptable conditions, ongoing monitoring procedures must be maintained at all times, typically weekly and quarterly inspections as necessary, and feedback reporting.

7.3 Operating Procedures

The present operating procedures for the tailings dam are considered to be in line with normal operating practice for gold tailings dams in South Africa. Minor remedial repair work is required in certain instances to ensure good house keeping and maintenance of the facility.
7.4 Additional Tailings Capital Costs

SRK has reviewed the capital cost requirements with regards to specific items that need to be included in the budget for the next five years. These costs are presented in Table 7.1, which in turn have been incorporated into the overall financial model.

It should be noted that vegetation, cladding and rehabilitation issues relating to the tailings dams in the Barberton area as well as related capital, are dealt with under the environmental section of this report.

7.5 SRK Comments

In conducting its technical audit, SRK has concluded that:

The present capacity and design of all the tailings dams is adequate to meet the total tonnage as discussed and defined in the Ten-Year Plan.

The rate of rise on the Segalla tailings dam will rise above acceptable limits once tailings material from the re-mining of the decommissioned tailings dam is deposited onto the Segalla tailings dam. This should be monitored regularly and reported on in the monthly reports.

The active tailings dams at Fairview, New Consort and Sheba are in good condition, and provided that they are operated, monitored and maintained in a responsible manner, no future problems are foreseen.

Table 7.1: Tailings Disposal Capital Requirements (all amounts in ZAR million)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bramber Tailings Dam</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return water dam</td>
<td>1.225</td>
<td>0.00</td>
<td>0.25</td>
<td>0.00</td>
<td>0.475</td>
<td>0.00</td>
<td>0.50</td>
</tr>
<tr>
<td>de-silt Upgrading toe paddocks and solution trenches Pipeline maintenance and replacement</td>
<td>0.40</td>
<td>0.75</td>
<td>0.075</td>
<td>0.25</td>
<td>0.40</td>
<td>0.075</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Sub-total Bramber Tailings Dam</strong></td>
<td>1.225</td>
<td>0.00</td>
<td>0.25</td>
<td>0.00</td>
<td>0.475</td>
<td>0.00</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Segalla Tailings Dam</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elevated Penstock</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RWD desilt and maintain Maintenance of stormwater diversion channels Maintenance of drains Pipeline maintenance and replacement</td>
<td>1.20</td>
<td>0.40</td>
<td>0.12</td>
<td>0.12</td>
<td>0.16</td>
<td>0.20</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Sub-total Segalla Tailings Dam</strong></td>
<td>2.00</td>
<td>1.20</td>
<td>0.00</td>
<td>0.48</td>
<td>0.00</td>
<td>0.00</td>
<td>0.32</td>
</tr>
<tr>
<td><strong>Camelot Tailings Dam</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance of stormwater diversion channels Pipeline maintenance and replacements</td>
<td>0.24</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Sub-total Camelot Tailings Dam</strong></td>
<td>0.24</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Sheba Tailings Dam</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline maintenance and replacement Maintenance of stormwater diversion channels</td>
<td>0.52</td>
<td>0.06</td>
<td>0.06</td>
<td>0.20</td>
<td>0.20</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Sub-total Sheba Tailings Dam</strong></td>
<td>0.52</td>
<td>0.06</td>
<td>0.06</td>
<td>0.20</td>
<td>0.20</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>(Total Tailings Capital (excluding VAT))</strong></td>
<td>3.985</td>
<td>1.32</td>
<td>0.45</td>
<td>0.54</td>
<td>0.595</td>
<td>0.20</td>
<td>0.88</td>
</tr>
</tbody>
</table>
8. SUPPORT INFRASTRUCTURE AND CAPITAL EXPENDITURE

8.1 Introduction

This section constitutes a confirmation and update of the 2005 CPR for the infrastructure and engineering at BML. The scope of the review included the shaft engineering and the general mine infrastructure. The review excluded the plant, tailings dams and mining operations which were handled separately and have been discussed in the previous
sections. The site was visited on 15 and 16 January 2007. The specific sites inspected included the Sheba surface operations, the Fairview surface and underground operations, the main offices and workshops.

Engineering infrastructure at BML comprises shaft complexes and associated services to access and service the underground mining and ancillary operations. Surface infrastructure comprises headgears and winding systems, main ventilation plant, an aerial ropeway, roads and stormwater drains, electrical and water supply and distribution, office blocks and training centres, workshops and stores, lamp rooms, change houses and hostels. This has been well established over a number of years. Underground infrastructure includes ore, men and material hoisting installations, chairlifts, ore and material tramming systems, water dams, pump stations, ore storage bins, ore passes, tips, conveyor belts and loading stations. Additionally, there are also a number of centrally placed services and supplies to individual shafts or adits within the mine complexes. These include compressed air supply stations as well as workshops for the repair of plant and equipment.

Technical information on site was provided by the Mine Engineer, Mr Dario Negri, and the Fairview general engineering supervisor, Mr Ian Ellis. The technical information was provided verbally with some printed control documents.

8.2 Surface Infrastructure

8.2.1 Water

Underground fissure water is used to supply all three shaft operations. The water is settled and recirculated within each operation. Conventional mining techniques are used to distribute the water. The water balance remains positive right through the year. Excess ground water is sealed off from the mining operations.

Pumps are maintained and upgraded when required to meet each operation's needs. SCADA systems are being introduced to control pump operation and dam levels.

The risks associated with the water supply and distribution are seen as typical of underground mining operations.

8.2.2 Electricity

Eskom supplies power via a ring feed to the Noord Kaap Substation at 132kV where it is transformed to 22kV. The substation is located approximately 4km from New Consort Shaft. Further distribution is via dual feed to the Eskom owned Sheba and Fairview Substations and single feed to the mine owned New Consort Substation. One line to Sheba and Fairview is dedicated for the BML's use. Fairview can operate with feed from the rural line in the event of the dedicated line failure, whereas Sheba could operate at reduced capacity. The power capacity and usage at each operation is summarised in Table 8.1.

**Table 8.1: Schedule of Power Capacity and Usage at the Barberton Mine Shafts**

<table>
<thead>
<tr>
<th>Item</th>
<th>Units</th>
<th>Sheba</th>
<th>Fairview</th>
<th>New Consort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformer Capacity (MVA)</td>
<td>3 x 2.5 2 x 10 2 x 5</td>
<td>Notified Max Demand (MVA) 5 10 5</td>
<td>Max Demand (MVA) 4.2 10 4</td>
<td>Power factor 0.98 0.84 0.98</td>
</tr>
</tbody>
</table>

The transformer capacity is adequate at each shaft as the loss of any one transformer will not reduce the production capacity. It was noted that the actual (recorded) maximum demand was on occasions equal to the notified maximum demand (“NMD”) at Fairview. BML should take steps to prevent usage exceeding the NMD. The other operations have spare capacity. Power factor correction is installed at Sheba and New Consort but not at Fairview Shaft.

Further transformation occurs at each shaft from 22kV to 11kV and then 525V for LT consumption. Power is measured at the Eskom incomer at each shaft. Eskom supply agreements are in place. A Ruralflex tariff structure is applied.

The Eskom power supply has proved reliable in the past. Few outages and dips have been recorded.

The electrical low voltage systems are reasonably designed and installed. Some of the equipment is old but has been maintained and is suitable for the needs of the operations. Cables are generally neatly tied and racked.

Substations comply with legal requirements in terms of signage, fencing, fire extinguishers, ventilation and security. They are not equipped with fire alarm or suppression systems. This is not unreasonable for small mining operations provided that the risk assessments have been completed and a suitable supply of critical replacement equipment established.

Standby power generation plant is installed at all operations. This is suited for shaft evacuation and running of key plant required during outages. BML’s generator sets are diesel powered and range between 500 and 800kVA.

The electrical systems suit the production requirement and include risks typical of the industry.
8.2.3 Compressed Air

The Mine has a compressed air installed capacity of 26,500cfm. The compressors are located at the three shaft heads.

The fleet is comprised of two main types of machinery, i.e.:

- piston type – Bellis and Morcom, Ingersol Rand and Atlas Copco ER8, ER6, ER5, ZR6 and ZR5; and
- electro-screw – Gardner Denver, Southern Denver and Jaguar. The capacity of the compressed air fleet is listed in Table 8.2.

Table 8.2: Schedule of Compressed Air Capacity and Usage at the Barberton Mine Shafts

<table>
<thead>
<tr>
<th>Item</th>
<th>Units</th>
<th>Sheba Fairview New Consort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (cfm)</td>
<td></td>
<td>7,500 14,000 5,000</td>
</tr>
<tr>
<td>Consumption (cfm)</td>
<td></td>
<td>6,000 8,000 to 10,000 4,000</td>
</tr>
</tbody>
</table>

The compressor fleet, particularly the piston type machinery, consists largely of older machinery. This approach has been reasonable due to the low capital cost of the machinery and the good availability of spares in the market. The compressor operations are relatively low risk as there are numerous smaller units. Spare compressor units allow any compressor to be taken off-line for maintenance without effecting production at Sheba or Fairview. Some effects are noticed at New Consort when the largest compressor is off-line, but these can reportedly be accommodated.

The compressors have been installed and maintained to a reasonable standard. The fleet has operated successfully for many years.

The compressed air pipelines are generally in fair to good condition. Periodic maintenance and replacement is completed on the pipelines as and when required.

8.2.4 Buildings and Workshops

The buildings on the mine are well constructed and suitably sized for the operations. The workshops are reasonably well equipped. Adequate cranage is installed.

8.3 Shafts and Winding Plant

Sheba and Fairview sections are long established operations with proven records of production. They are typical small shaft establishments with limited power requirement.

They have been producing a combined total of approximately 30,000tpm. Individual operations have over recent months peaked as follows:

- New Consort 7,500tpm.
- Fairview 13,000tpm
- Sheba 11,000tpm

Production is limited by plant capacity. Waste production is transported to surface at Fairview only (2,800tpm).

The skip payload on the shafts is 3 tonne.

8.3.1 Fairview Section

11 level:

The 11 level haulage was in good order and well maintained. Cables and piping are neatly installed.

The chairlifts between 11 and 42 levels were inspected and found in good order. They were well installed and maintained.

42 level:

The incline shafts are conventionally designed at 45.5°. Rail bound conveyances, including man, material and rock, are in use. Drop sets are used to deliver the material cars onto the individual levels. Shaft gates, signalling and other equipment is typical and in reasonable order. It was noted, however, that the drop sets used on each level do not have electrical interlocks. A mechanical lockout system was in place but some sets were not locked out. The risk of a drop set moving while the shift was in operation was seen to be 'high'. A thorough risk assessment by the mine is recommended. An electrical interlock of the drop sets is also recommended. This would ensure that the winding system would trip should any unplanned drop set movement take place.

The General Manager has proposed that “a concise risk assessment will be conducted and the outcome of the risk
assessments will determine how we eradicate, minimise or manage the risk”. The Engineer has suggested introducing drop set interlocks. This would ensure that the winding system would trip should any unplanned drop set movement take place. These approaches should reduce the identified risk to reasonable levels.

Improvements were being effected to the 42 level pump station. Mud pump capacity is being increased. The pumping operations have operated successfully for many years. The implications of electrical feed or panel failure in the pump stations were well understood. The shaft personnel have contingency plans for such an event.

The underground substations were in reasonable order. Oil transformers are used underground at the mine. It was not clear whether adequate steps are in place to address the risk of a transformer oil fire. The General Manager has subsequently advised that “the installations conform to a standard set out by Anglovaal” and that “site based risk assessments will be undertaken on units that are positioned in intake airways”.

This approach should reduce the identified risk to reasonable levels. It is noted that the risk would not be removed and would need to be carefully managed.

The sub-shaft winder was in fair condition and suited to the needs.

60 level:

The diesel workshop was inspected and found to be in reasonable condition. The ventilation was not good and could be improved to obtain more efficient output. A short inspection of the machinery in the workshop indicated that the machinery was indifferently maintained. Various poor maintenance techniques were observed. These included an absence of fuel and hydraulic strainers, oil exposure to direct dust and moisture ingress and poor hydraulic fitting control. This quality of maintenance will lead to reduced availability, reliability and machine life. The risk associated with the observed diesel maintenance operations was seen to be ‘medium’.

It is noted that a review and improvement process was actioned by the Barberton Mines directly after the site visit. This action should prevent any unnecessary losses and provide adequate reliability of machinery.

LHD canopies are not being used at Barberton Mines due to clearance reasons. The Mine engineer indicated that a risk assessment had been completed and found acceptable.

The settler construction was in progress and being completed to standard.

The conveyor belt and tips were being completed to standard.

8.3.2 Sheba Surface Section

The headgear and shaft systems were in fair condition and suited to the operations needs. The section’s compressor house, shaft offices, workshops, roads and bank area were also in good order.

The winders have been very well installed and maintained. Winder upgrades have been completed to suit the needs. The safety devices, permits, logbooks were in place. The machinery is of good quality.

8.4 Capital Expenditure Programmes

8.4.1 Project Capital Expenditure

SRK reviewed the capital expenditure schedule for BML. The capital schedule lists the approved expenditure budgets for the current year and planned projects for the remaining four years over a five-year period. The budgets for years 2 and 3 are accurately forecast; thereafter the schedule was described as ‘less definite’ by the engineer. The capital profiles within the five-year plan for BML include sufficient detail for the identified projects and are generally appropriate.

Two projects were visited, namely the mud pump installation project and the ‘life of mine’ 60/62 level infrastructure development. Both projects were in progress and reasonably executed.

8.4.2 Ongoing Capital

It is standard operating practice within the South African gold mining industry to have a detailed capital schedule for the first few years (<five years) of a life-of-mine ("LoM") Plan. Allowances for ongoing capital amounts are generally applied on the basis of a percentage of working costs or on a unit R/t milled. As no allowance was made for ongoing capital beyond F2011, SRK has added an amount of 5% of annual operating cost to the capital expenditure projections for the remaining part of the Ten-Year Plan. Experience in South Africa has shown that ongoing capital requirements average out to between 2% and 5% of the annual operating costs of a mine, with the percentage being higher on older mines.

8.5 Operational Costs

The engineering costs are managed against an annual budget. The budget is split into two main categories, i.e. LHD costs
and Total Engineering costs. The operating cost summary for engineering at end December 2006 is listed in Table 8.3.

**Table 8.3: Schedule of Engineering Operating Costs at end December 2006**

<table>
<thead>
<tr>
<th>Item</th>
<th>Units</th>
<th>YTD budget (ZAR'000)</th>
<th>YTD actual (ZAR'000)</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>LHD</td>
<td></td>
<td>9,775.2</td>
<td>9,918.1</td>
<td>–142.9</td>
</tr>
<tr>
<td>Total Engineering</td>
<td></td>
<td>5,032.0</td>
<td>5,484.8</td>
<td>–452.8</td>
</tr>
</tbody>
</table>

The Engineering operational costs are well controlled and in line to meet the year end budget. This is being achieved despite upward cost pressure through pricing increases in steel, copper and engineering supplies in general.

### 8.6 General Engineering

#### 8.6.1 Critical Spares

Legislated critical spares such as spare ropes, sheave wheels, humble hooks, etc. are on site. Most other critical spares are available. Machine redundancy ensures adequate spares for pumping purposes.

Critical spares not available include winder gearboxes and the 3 shaft winder motor. The Mine Engineer advised that that this risk was being managed.

#### 8.6.2 Maintenance Teams

The Engineering complement is made up of the typical mining disciplines, i.e. engineers, general engineering supervisors, foremen, charge hands, artisans and general assistants. Maintenance is undertaken on day shift only. Overtime is managed. The manning for the engineering sections is set out in Table 8.4. The complement, in general, is reasonable for the operations.

**Table 8.4: Engineering Complement**

<table>
<thead>
<tr>
<th>Category</th>
<th>Complement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineer</td>
<td>1 GES</td>
</tr>
<tr>
<td>Foreman</td>
<td>3</td>
</tr>
<tr>
<td>Charge hands</td>
<td>10</td>
</tr>
<tr>
<td>Artisans</td>
<td>76</td>
</tr>
<tr>
<td>Servicemen and assistants</td>
<td>150</td>
</tr>
</tbody>
</table>

One engineer is responsible for the three operational sections. The section is spread out with sub-shafts and has various winders. This makes it difficult for the engineer to complete his weekly and monthly examinations as well as his general engineering, legal and safety duties. It is recommended that a second engineer be sourced to assist in these duties. The risk of operating with one engineer is seen as high. This comment is made despite the fact that the engineer is energetically and competently completing his duties.

The General Manager has subsequently advised that they are planning to recruit a suitable certified Engineer. This would enable the Engineer to complete all the legal requirements and manage the engineering safely.

It was noted that the diesel maintenance is outsourced. The diesel fleet includes 41 load haul dumpers. The maintenance facilities include a surface refurbishment shop and an underground repair shop.

Skilled labour shortages are common both nationally and internationally. Some difficulties are being incurred at BML, which are typical of the industry. Measures are being taken to best overcome these difficulties.

Health issues are also typical of the industry.

### 8.7 Conclusions

The engineering infrastructure observed at BML is installed and maintained to a good standard. It is considered adequate to satisfy the requirements of the Ten-Year Plan. Further, the power generation and distribution systems, water sourcing and reticulation systems and planned maintenance programmes are appropriate for the operations as envisaged in the Ten-Year Plan.

No fatal flaws were observed.

The following risk areas have been identified:

- use of oil transformers underground;
- operating with one certified engineer;
- drop sets not interlocked with winding system on the Fairview incline shafts.

The General Manager is setting a suitable plan of action in motion to reduce these risks to reasonable mining levels. The plan includes the recruitment of an additional certified engineer, the completion of additional risk assessments and the execution of the resulting conclusions from the risk assessments. The plan can be executed at relatively low
9. ENVIRONMENTAL AND WATER MANAGEMENT

9.1 Introduction

The following section includes discussion and comment on the environmental and water management aspects of the material properties of BML. Specifically, detail and comment is included on the status of the environmental issues, environmental legislation and permitting and environmental liabilities.

Cost estimates provided by BML have been reviewed on the basis of expenditures deemed necessary to provide adequate environmental and water management, on-going remedial work, closure and post closure requirements. Such costs cannot be regarded as definitive owing to the uncertainties inherent in potential changes to the legislation and the fact that, in terms of current understanding of the environmental risks, certain long-term liabilities can only be addressed at conceptual level by the mines. Current cost estimates cannot accurately quantify environmental risks. Such risks are therefore discussed separately below.

9.2 Environmental Setting

The mines are situated in an area characterised by mountainous topography and numerous rivers and streams. Of these the most significant are the Suid Kaap River and the Noord Kaap River. The Suid Kaap River receives runoff from Fairview Mine via the Olifants Creek and Hyslops Creek. The Noord Kaap River flows through the New Consort mining area and also receives runoff from Sheba Mine via the Snymans Creek. The area has a history of environmental sensitivity predominantly related to the contamination of surface and ground water, as well as soil, by arsenic and other contaminants. In a recent audit by external consultants soil contamination was identified as being inadequately understood.

Other issues include:

- The existence of numerous holings to surface at all operations;
- The existence of numerous tailings dams and rock dumps adjacent to rivers;
- The reprocessing of tailings dams under contract by Grinaker-LTA at Sheba and New Consort, resulting in the creation of new larger tailings dams (the Camelot dam at Sheba and the Segalla dam at New Consort) and the removal of the tailings dam at Fairview Top;
- Other operations currently being undertaken under contract, notably the re-processing of several tailings dams at Fairview by Barberton Gold and removal and crushing of waste rock from the Fairview waste rock dump by Quickstone;
- The existence of the footprint area of an arsenic trioxide dump at Fairview and a remaining arsenic trioxide stockpile at New Consort; and
- The existence of a sulphur stockpile at New Consort.

All of these issues contribute to the complexity of the environmental setting and, in many cases, a degree of uncertainty regarding management requirements.

9.3 Current Legislation

Environmental legislation in South Africa, as specifically applied to mining operations, defines the relevant authorisation requirements as comprising mining authorisation; water use licenses; compliance with water pollution regulations; waste disposal permissions; air pollution registration certificates; control of hazardous substances; disturbance of archaeological resources; protection of forests and closure of mines by the issue of a mine closure certificate in terms of the MPRDA. It was necessary for the Old Order Mining Rights granted under the Minerals Act to be converted to New Order Mining Rights under the MPRDA, which has been in force since 1 May 2004. A critical component of authorisation is the requirement for an EIA and an EMP and evidence of financial provisioning for rehabilitation and final closure. The EMP is developed through the EIA process and is documented in an EMPR, the document required in terms of the old Minerals Act. In addition, however, the mine is required to compile a SLP as part of the conversion process. The DME is responsible for approval of the EMP and the SLP and ensuring that other regulatory authorities with an interest in the environment accept it. SLPs are in place and the need to convert to New Order Mining Rights does not represent a problem. In summary, the EMP contains the environmental conditions of authorisation of the development/operation. These are generally defined in the form of objectives, principles and key design criteria. Until 1 May 2004 the legislation under which EMPRs were required was the old Minerals Act.

Separate EMPR's under the Minerals Act exist for Fairview, New Consort and Sheba. The EMPR’s were approved by the DME on 27 October 2003 and form the basis for the legal right to mine. The mine reports that amendments to the EMPRs are now envisaged to take account of certain proposed changes including:

- Changes in the closure costs to take assets into account;
- To remove cost items for work completed;
- To change wording that commits the mine to impractical commitments with respect to environmental requirements;
To allow for a new proposal to deal with arsenic contamination at Fairview.

Although these proposals represent a significant potential for savings in the overall cost estimate they have not been taken into account in this assessment because they are dependent on approval from the regulatory authorities.

Water management remains a key focus, specifically in respect to the changed requirements as initiated by the NWA and the NEMA. The mines are currently operating in terms of water permits issued in terms of the old Water Act but water use on all mines has been registered as a required step in obtaining water licences as required in terms of the NWA.

Environmental liability provisioning in the South African mining industry is a condition of the EMP process that must be agreed with the relevant authorities as well as the South African Revenue Service (“SARS”). SARS in this instance approves annual contributions to an established trust fund (the “Trust Fund”) and requires that the annual contributions be estimated on the basis of the remaining liability divided by the expected remaining life of the mine. In recent developments with which SRK has had experience, the DME is enforcing a requirement that the mines provide some form of guarantee for the entire liability, to be available immediately, as opposed to the gradual provisioning of funds over the remaining life. BML reported that they have not yet been requested to do this.

9.4 Risks, liabilities and Opportunities

Risks and liabilities are discussed below for each operation excluding cost items relating to standard environmental practice, which are covered in the operating budgets of the mines. Risks identified, which would not be addressed in terms of generally accepted environmental practice with potentially significant cost implications are considered for each of the operations. Comments are made relating to the nature of the risk, the likelihood of its occurrence and the degree of uncertainty related to its extent.

Mining practices in South Africa are such that whilst individual operations are materially compliant, strict compliance can seldom be demonstrated. Where non-compliance occurs this is generally not material to the continuation of future operations.

9.4.1 Risks

Where risks cannot be quantified definitively SRK has identified the risk without quantifying the potential liability. These primarily relate to the following:

Water-related issues;
Arsenic stockpiles;
Rehabilitation requirements which may not be adequately catered for in current provisions; and
The financial risk that the DME will request a guarantee for the full amount of the closure liability.

These issues are discussed separately below:

Water-related issues

The areas in which the mines are situated are sensitive with respect to proximity to the river systems and the quality of water that is or will potentially be discharged. Concerns related to water quality relate primarily to arsenic contamination at the following sites:

The footprint of the arsenic trioxide stockpile at Fairview, where significant contamination of ground water has occurred which can seep into the Olifants Kloof Creek and subsequently flow into the Suid Kaap River;
The site of the old roaster at New Consort, where old infrastructure was demolished as part of the New Consort gold recovery operation involving the beneficiation of the concrete and underlying subsoil (“the sub-soiling operation”). This site is adjacent to the Noord Kaap River which will receive any runoff and near surface seepage from the site;
The site of the old Belfast mine at Fairview where residual arsenic in the mine workings enters the Olifants Kloof Creek under certain flow conditions;
The area downslope of the operational Bramber tailings dam at Fairview which currently receives tailings in which the arsenic is in a stable form, having been through the BIOX® process but where non-stabilised arsenic was present in tailings deposited in the early life of the dam; and
Following decommissioning of the mines and cessation of water use by the mine, decant water from adits at New Consort and Sheba.

Active intervention is proposed for all of these sites in the EMPRs with the exception of the possibility of decant from shafts and adits following cessation of mining. These measures, which are now being revisited as set out below, are anticipated to result in a reduction in arsenic levels with time, but this can not yet be confirmed in terms of current monitoring. At a monitoring point on the Hyslops Creek, downstream of the confluence of the Olifants Creek, which receives runoff from the Fairview adit, rock dump and other infrastructure, arsenic levels have shown an increase from 0.108 mg/l in September 2002 to 0.712mg/l in July 2004, with a marked increase to 5.2 mg/l in September 2006. The increasing trend from September 2002 remains a concern. The South African Water Quality Target values for domestic use are 0.01mg/l as a target value and 0.6 mg/l as a critical value. Information presently available does not allow for comment on the Arsenic speciation or its stability. The mine reports that it is
currently changing its monitoring procedures. The observation that arsenic concentrations are increasing is linked to the fact that at a number of sampling sites at Fairview general contamination levels have been increasing since 2002. The reasons for the trend are not clear. The extent of contamination from shafts and adits in the closure scenario remains inadequately understood.

Apart from arsenic there are other water quality concerns related to discharges from various sites including elevated nitrates, cadmium (at the New Consort roaster site) and cyanide downslope of the Camelot and Segalla return water dams. Proposed measures identified prior to 2005 at New Consort for the interception of seepage and at Fairview for the dealing with arsenic contamination from the old Belfast workings have not been implemented. A possible alternative approach at Fairview is being considered but there is no scientific or engineering investigation to support the proposed new measures.

From the above discussion, it is clear that there are unknown costs relating to water quality and water treatment possibly both in the operational and closure phases, with particular attention to arsenic although other concerns have been noted. Water treatment may be limited to recycling of water through the Biox plant. The need for post closure water treatment is therefore not a foregone conclusion but remains a risk. As an unquantified risk the costs of water treatment have not been included in SRK’s financial assessment. This view must be seen against the background of the need to negotiate appropriate water quality objectives on the basis of predicted impacts, future land and water use and economic realities (selection of the most cost-effective means of reducing impacts to acceptable levels). Dilution that will occur, even during periods of low flow in the Noord Kaap and Suid Kaap Rivers should be taken into account.

**Arsenic stockpiles**

In addition to possible water treatment, there is a liability associated with existing stockpiles of arsenic trioxide at New Consort. Investigation and implementation of options for addressing the liability associated with the stockpile at New Consort have been discontinued but water quality in the area appears to have stabilised or is showing slightly worsening trends. The arsenic trioxide stockpile at New Consort remains and although some of this material has been removed by Zincor, the situation is largely unchanged from the one that existed in 2005. The material is bagged in a shed with runoff protection in the form of a concrete slab, bunding, and provision to pump the water away.

**Rehabilitation requirements that may not be adequately catered for in current provisions**

Other environmental liabilities associated with BML are related to the requirements for final closure and rehabilitation, generally involving relatively standard and well understood practices. However, complicating factors at BML, which result in operational risks, not included in the SRK closure cost estimate, are:

- The steep and badly eroded state of tailings dams at Fairview;
- The steepness and length of the slopes of the Segalla tailings dam wall;
- The existence of numerous holings to surface at all mines, often in steep and relatively inaccessible terrain;
- The existence of waste rock dumps in or infringing on water courses at Sheba and Fairview;
- The existence of a sulphur stockpile at New Consort;
- The need to complete the removal of a gum tree plantation on the mountain above Fairview as required by the EMPR in the event that revenue generated does not cover the costs.

The likelihood and extent of these risks is a function of the extent to which the issues are addressed in terms of current operational management.

The mine intends to address the closure of holings using operational costs and amounts included by SRK in the cost assessment are therefore provisional. Illegal mining by small scale miners is occurring at the abandoned holings and the extent of the problem associated with these holings may increase as more holings are identified.

While recognised as a risk, the waste rock dumps may not represent a material liability and material from the Fairview dump continues to be removed under contract.

SRK understands that Metorex plans to transfer the sulphur stockpile to the Kabwe plant in Zambia once the acid plant has been constructed at fair market value.

The mine is working in very close consultation with a contractor regarding the remaining gum tress at Fairview as required in terms of the EMPR

**The possible requirement that a guarantee be provided for the full closure liability**

As already noted, it is possible that the DME could request a guarantee for the full closure liability, excluding the amount already available in the fund which amounted to ZAR23.1 million at 30 June 2006.

**9.4.2 Liabilities**

Numerous closure cost estimates have been undertaken historically for BML. However, these are all based on differing assumptions and interpretation of existing information and differing unit rates. There is therefore a high degree of variation between estimates, which reflects the significance of the operational risks described in Section 9.4.1. The current estimate provided to SRK at the time of the site visit amounts to a total of ZAR30.2 million, but based on the items identified above and discussions with mine management, SRK estimated in 2005 that ZAR41.7 million will be needed for
closure (Table 9.1). SRK recognises that considerable progress has been made in that the tailings dam at Fairview Top, and numerous tailings dams at New Consort have now been removed. It is also recognised that revegetation on these areas show promise in that grass species are colonising the area. However, all of these areas are still subject to erosion and active rehabilitation will still be required over much of the area. It is SRK's view that the total liability has not been significantly reduced. SRK's estimate is considerably more than the ZAR23.1 million already available in the fund at 30 June 2006. The difference has been provided in the financial evaluation of the mine.

Table 9.1: BML – Estimated Liabilities

<table>
<thead>
<tr>
<th>Mine</th>
<th>Closure Cost Estimate (ZAR million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview Sheba</td>
<td>13.9</td>
</tr>
<tr>
<td>New Consort Abandoned Mines and</td>
<td>10.2</td>
</tr>
<tr>
<td>workings</td>
<td>13.2</td>
</tr>
<tr>
<td></td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>41.7</td>
</tr>
</tbody>
</table>

It has been assumed in this cost estimate that certain infrastructure will have some post mining use and the associated demolition costs have therefore not been included. Since final closure measures are not fully understood and can still be negotiated, there is the potential for certain cost savings. But this must be viewed against the risks described in Section 9.4.1, which could result in as yet un-quantified liabilities, and, in some cases, the possible need to amend the EMPR. Costs for some of the closure items are presented in the EMPR as a range of possible costs, whereas the stated closure cost reflects the lower limits of the ranges. Detailed monitoring and additional investigative work, as well as predictive modeling, may be needed to form the basis of negotiations with the authorities. However, given the remaining life of the mine, contributions to the Rehabilitation Trust Fund should be limited to known costs based on the assumptions made above for evaluation purposes. This implies that negotiations regarding EMPR amendments and the envisaged investigative work will be required in the short term. Contributions will then have to be adjusted as more certainty regarding actual liabilities is obtained.

9.4.3 Opportunities Against the background described above the following opportunities exist:

- to optimise demolition and rehabilitation costs to ensure that all work is undertaken cost effectively;
- to negotiate standards and to work with other stakeholders, such as the Mpumalanga Parks Board in the case of the gum plantation at Fairview Top, to realise some economic benefit in the meeting environmental objectives;
- to undertake remedial work during the operational phase at each of the BML mines aimed at minimising sources of ongoing arsenic and other contamination as well as the rehabilitation of tailings dams and footprint areas; and
  - to reduce the closure cost identified by the mine but for which there is currently no finality such as remediation work which can be undertaken using operational costs, and costs for the rehabilitation of footprint areas where contractors such as Quickstone (who are removing rock from the Fairview dump), and Barberton Gold (who are re-processing tailings dams at Fairview). These costs could be transferred contractually.

  Evaluation of the success achieved in this way will include modeling surface runoff and seepage during the operational phase, taking remediation activities into account. Several years of monitoring prior to closure will be required to confirm or amend the predictions of the model. Post-closure monitoring will then have to continue long enough to confirm that:
  - the model is realistic;
  - risks to downstream users are acceptably low.

9.5 SRK Comments

There is, as yet, no definitive estimate of the environmental liability of BML. Given that many measures proposed for the mines are dependent on further investigative work and detailed design and costing a level of uncertainty regarding actual liability is inevitable. The cost estimates presented above
must therefore be considered to be rough estimates at best. There is a need to recognise this risk. BML will need to assess its financial liabilities associated with environmental issues in more detail than has been done to date.

10. HEALTH AND SAFETY

The management of BML is committed to an active Health and Safety Programme. The management also regards the safety and health of its employees as highest priority. Primary healthcare is provided at all its operations. A safety training induction programme is in place for both mine employees and contractors, as are the prescribed heat tolerance tests.

Metorex has developed a strategy for AIDS Awareness and the programme encompasses education and prevention via its clinics. Information regarding AIDS awareness as well as prevention and general health measures is distributed from the clinics, both to employees and the communities in the vicinity.

A monthly safety report is produced which analyses trends in lost day injuries by cause for each of the three mines. BML has shown significant decrease as regards the lost-time injury frequency rate since 2000 and this must be commended. Reportable (to the DME) incidents are reported on in detail with just eight such incidents recorded for F2006.

Statistics on cases of medical incapacitation are given in Table 2.1.

11. HUMAN RESOURCES

11.1 Legislation

Various regulatory authorities, in addition to mining and labour codes, govern labour legislation in South Africa. In general, these are well-established and in conjunction with the company’s operating policies, form the cornerstone of human resource management.

During 1999, many changes and initiatives took effect, primarily in response to the recently promulgated provisions of South African labour legislation. The Labour Relations Act regulates the relationship between employers and trade unions, establishes dispute resolution mechanisms, promotes collective bargaining and protects employees from unfair dismissal. Consultation with full disclosure of relevant information is required with trade unions prior to employers effecting separation programmes. The other major statutes in force in South Africa are:

- The Basic Conditions of Employment Act;
- The Occupational Diseases in Mines and Works Act;
- The Compensation of Occupational Injury and Diseases Act;
- The Occupational Health and Safety Act and Mine Health and Safety Act;
- The Employment Equity Act;
- The Skills Development Act.

BML has developed SLPs in support of its applications to convert “old order” rights to “new order” rights for each of its mining authorisations. BML advised SRK that issues relating to the procurement side of the SLP had been addressed and the SLP has been re-lodged for approval.

In terms of the above legislation, BML is required to submit annual status reports with respect to employment equity and skills development. BML advised SRK that the Employment Equity Report, Work Place Skills Plan and Annual Training Report for 2006 have been submitted to the Department of Labour.

11.2 Organisational Structure and Operational Manpower

The organisational structure has been left essentially unchanged, although some streamlining at the senior and middle management levels has occurred as shown in the organisational chart in Figure 11.1.

The mine has been operating successfully for many years and has the appropriate skills and experience in key positions.
11.3 Recruitment, Training, Productivity Initiatives and Remuneration Policies

Recruitment, training, productivity initiatives and remuneration policies at BML are typical of operating practices and strategies as implemented within the South African mining industry.

**Training:** Training initiatives at the operational level centre around BML’s Workplace Skills Plan and include mine management’s commitment to the Adult Basic Education and Training ("ABET") initiatives.

**Productivity Initiatives:** Mine management continually reviews and implements various productivity initiatives which reflect the operational conditions and remuneration policies within the labour market.

**Remuneration policies:** Levels generally comply with industry-wide salary scales.

11.4 Industrial Relations

Mine management involves all labour representatives through appropriate and timely interaction to resolve industrial relations issues, including communication and joint-decision making. Workers on the Mines are represented by the National Union of Mineworkers, while the United Association of South Africa represents the mine officials and artisans.

SRK considers that appropriate procedures are in place and industrial relations risks to be manageable.

11.5 Separation Benefit

The separation benefit for BML has been estimated by application of an average unit separation cost multiplied by the projected TEC at the end of the Ten-Year Plan on which this CPR has been based. A termination benefit of R29.6m is allowed in F2016 to compensate for the reduction in labour that would accompany the end of production.
12. TECHNICAL-ECONOMIC INPUT PARAMETERS

12.1 Introduction

This section includes discussion and comment on the technical-economic aspects of the Ten-Year Plan for BML. Specifically, comment is included on the basis of the projections, production
schedules, operating costs and capital expenditures. These have been compiled into detailed TEPs on an annual basis to derive the revenue and cost inputs necessary to generate the FMs. Key aspects associated with the generation of the TEPs are discussed.

12.2 Basis of the Technical-Economic Input Parameters

The valuation of BML as presented in Section 13, has, inter alia, been based on the 15-Year Forecast, the resulting production profiles and associated revenue streams from gold sales, operating costs and capital expenditure profiles as provided to SRK by BML and incorporated in the FM, reviewed and adjusted by SRK where appropriate. The generation of a LoM plan requires substantial technical input and detailed analysis and is critically dependent upon assumptions of the long-term commodity prices and sustained operating expenditure and the respective impact on cut-off-grades, potential expansion or reduction of the Mineral Resource and Mineral Reserve and the return on capital expenditure programmes.

The basis of forward projections of operating costs for mature mining and industrial operations are generally based on the previous financial year’s performance, with certain modifications for inflation, projected improvements in productivity and other cost-reduction initiatives.

Where warranted, following its independent review and after discussions with BML, SRK has adjusted the projections to account for future operating conditions.

Unless otherwise stated, operating costs comprise:

Cash Cost Components: namely direct mining costs, direct processing costs, direct general and administration costs, consulting fees, management fees, transportation, treatment charges, refining charges and profit sharing charges;

the incremental components, including royalties but excluding taxes paid, required to yield Total Cash Cost: Royalties in this regard include any potential new mineral royalties applicable to South African mining assets;

the incremental components, including terminal separation benefits, reclamation and mine closure costs (the net difference of the total environmental liability and the current trust fund provision) but excluding non cash items such as depreciation and amortisation. Incrementally these cash expenditures summate to yield Total Working Costs; and

Total Costs: the summation of total working costs, net movement in working capital and capital expenditure.

The capital profiles within the five-year plan for the Mines include sufficient detail for the identified projects and are generally appropriate. As there are no estimates for ongoing capital needs, SRK has added a sustaining capital provision from F2012 onwards equal to 5% of the operating cost for a given year. Environmental provisions have been added in the operating costs of BML to cover items identified during this review (see Section 9) and as necessary contributions to the environmental funds. SRK considers that there will be potential opportunities to realise salvage values on closure, although owing to the indeterminate nature of estimating such values these have been excluded from the projections included herein.

The Mineral Resource and Reserve statements as reported in this CPR are accurate at 30 June 2006 and have not been adjusted to take account of mining depletion for July to December 2006. SRK has not seen a formal LoM Plan for BML. Instead, SRK developed a Ten-Year Plan for the Mines based on assessment of actual performance for July to December 2006 and the 15-Year Forecast. The Ten-Year Plan for BML covers the period July 2006 to June 2016, although production from January 2007 onwards is only considered.

The FM contains projected inputs/tonnages, grades, plant recoveries and gold attributable to vamping which are in line with actual and predicted performance for F2007 and have been adjusted by SRK in accordance with comments given in the preceding chapters of this CPR.

The production and cost structures for the Ten-Year Plan are based on BML’s Business Plan, F2007 Budget and actual results to December 2006. The cost structures have been subjected to review by SRK to a level dependent on the detail of the data provided. The data have formed the basis of the
analyses and opinions expressed in this CPR. Where differences were found, these have been assessed for materiality and adjusted where appropriate. Further, all assumed costs (unless otherwise stated) including operating, capital and environmental costs are quoted in 1 July 2006 real terms.

A termination benefit of R29.6 million is allowed in F2016 to compensate for the reduction in labour that would accompany the end of production as given in the Ten-Year Plan.

In this CPR, SRK provides the necessary assurances to PAR that the technical and economic data as presented in this report, including revenues, operating costs, capital expenditure and production profiles, agree with the data as provided to SRK, except where these have been adjusted by SRK.

12.3 Technical-Economic Parameters

The TEPs include:

- Gold sales profiles as derived from all ore sources;
- Total working cost profiles as previously defined; and
- Capital expenditure profiles.

The TEPs for BML are detailed in Table 12.1. All expenditures are stated in financial years and in 1 July 2006 constant money (real) terms. F2007 represents the budget/forecast values for the six months January to June 2007, except where changed by SRK.

Table 12.1: BML – Technical-Economic Input Parameters

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Sales</th>
<th>Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tonnage (kt)</td>
<td>Head feed grade (g/t)</td>
<td>Gold sold (kg)</td>
</tr>
<tr>
<td>F2007-H2 (1)</td>
<td>201.0</td>
<td>8.92</td>
<td>1,642.5</td>
</tr>
<tr>
<td>F2008</td>
<td>354.9</td>
<td>9.09</td>
<td>2,957.9</td>
</tr>
<tr>
<td>F2009</td>
<td>355.2</td>
<td>9.08</td>
<td>2,959.6</td>
</tr>
<tr>
<td>F2010</td>
<td>351.9</td>
<td>9.00</td>
<td>2,904.6</td>
</tr>
<tr>
<td>F2011</td>
<td>351.9</td>
<td>9.00</td>
<td>2,904.2</td>
</tr>
<tr>
<td>F2012</td>
<td>349.8</td>
<td>9.01</td>
<td>2,889.2</td>
</tr>
<tr>
<td>F2013</td>
<td>344.7</td>
<td>9.02</td>
<td>2,851.1</td>
</tr>
<tr>
<td>F2014</td>
<td>355.3</td>
<td>8.99</td>
<td>2,929.9</td>
</tr>
<tr>
<td>F2015</td>
<td>355.3</td>
<td>8.99</td>
<td>2,929.9</td>
</tr>
<tr>
<td>F2016</td>
<td>355.3</td>
<td>8.99</td>
<td>2,929.9</td>
</tr>
<tr>
<td></td>
<td>3,375.4</td>
<td>9.01</td>
<td>27,899.0</td>
</tr>
</tbody>
</table>

1. The budget/forecast results for January to June 2007.

12.4 Production profiles for BML

The projected recovered gold and tonnes milled for BML for the Ten-Year Plan are shown in Figures 12.1 and 12.2, respectively. F2007 gold recovered and tonnes milled in these diagrams represents the actual values for F2007-H1 plus the forecast/budget.
12.5 Commodity Price and Macro-Economic Projections

BML, with an expected gold production of around 3,000kg per annum, will not have a significant impact on global and South Africa’s annual gold production and so will have no impact on the dollar gold price.

Forecasting the gold price has historically been notoriously difficult. PAR obtained projections for the ZAR:US$ exchange rate and RSA inflation rate (CPIX) for 2007 to 2009, and gold price forecasts for 2007 and 2008. SRK has assumed that the ZAR:US$ exchange rate in 2009 and the gold price in 2008 can be kept constant in real terms for the rest of the Ten-Year Plan. For evaluation purposes, SRK has assumed that the parameters in Table 12.2 are the average applicable for the financial year July to June. Assumed inflation rates for the USA are also shown in Table 12.2.

**Table 12.2: Macro-Economic and Commodity Price Assumptions**

<table>
<thead>
<tr>
<th>Year</th>
<th>(ZAR:US$) (Real)</th>
<th>(RSA CPI) (%)</th>
<th>(USA CPI) (%)</th>
<th>US$/oz</th>
<th>R/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>F2007</td>
<td>7.53</td>
<td>5.26</td>
<td>2.50</td>
<td>651</td>
<td>157,604</td>
</tr>
<tr>
<td>F2008</td>
<td>7.80</td>
<td>4.81</td>
<td>2.50</td>
<td>655</td>
<td>164,258</td>
</tr>
<tr>
<td>F2009</td>
<td>8.05</td>
<td>4.61</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2010</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2011</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2012</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2013</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2014</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2015</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
<tr>
<td>F2016</td>
<td>8.05</td>
<td>4.60</td>
<td>2.50</td>
<td>600</td>
<td>155,288</td>
</tr>
</tbody>
</table>
The gold price and exchange rate ruling at 1 January 2007 was US$635/oz and ZAR7.056=US$1.00, respectively.

BML has gold hedge contracts in place with ABSA and Investec, which are due to expire by November 2007. BML has been able to roll over delivery of gold into these contracts (originally due to expire in June 2005). At 31 December 2006, BML is still required to deliver 752.5kg of gold into these hedge contracts, at the volumes and prices as shown in Table 12.3. SRK has accepted these hedge prices for evaluation purposes.

Table 12.3: BML – Timed Delivery of Gold into Hedge Contracts

<table>
<thead>
<tr>
<th>Contract period</th>
<th>Contract delivered (kg)</th>
<th>Contract price (R/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>95,297.70</td>
</tr>
<tr>
<td>February 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>95,259.44</td>
</tr>
<tr>
<td>March 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>96,201.13</td>
</tr>
<tr>
<td>April 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>99,591.52</td>
</tr>
<tr>
<td>May 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>101,273.23</td>
</tr>
<tr>
<td>June 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>100,783.26</td>
</tr>
<tr>
<td>July 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>100,768.14</td>
</tr>
<tr>
<td>August 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>100,607.07</td>
</tr>
<tr>
<td>September 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>100,607.07</td>
</tr>
<tr>
<td>October 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>100,607.07</td>
</tr>
<tr>
<td>November 2007</td>
<td>70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0</td>
<td>100,607.07</td>
</tr>
</tbody>
</table>

752.5

12.6 Risks and Opportunities

12.6.1 Risks

The unpredictability of the orebodies causes uncertainties relating to the predicted tonnes and grade that are forecasted to be mined which are only to a relatively small degree based on known Mineral Reserves. This is a function of the unpredictability of the orebodies being exploited at BML and, as commented above, represents both opportunity and risk.

The sustainability of production from Sheba in the future remains a concern. However, BML made SRK aware of several exploitation plans of known mineralised zones, although the details have not yet been evaluated with feasibility-type studies. The absence of a formal LoM plan for BML needs to be addressed.

The profit derived from vamping is not supported by a defined resource and reserve.

Security of free gold can be considered to be a risk area. SRK believes that the security systems in place at BML are superior and does not envisage any changes being required. Theft of gold underground remains a risk area.

Concerns related to water quality and water treatment relate primarily to potential arsenic contamination at the following sites:

- The footprint of the arsenic trioxide stockpile at Fairview;
- The old Belfast mine site at Fairview;
- The area downslope of the operational Bramber tailings dam at Fairview;
- The site of the old roaster at New Consort; and
- Decant water from adits at New Consort and Sheba.

A number of contractors are currently removing and re-processing tailings and waste rock on the site. Should any of the contractors fail to meet their contractual obligations for the closure and rehabilitation work related to the respective operations, the cost of such work would revert to BML.

12.6.2 Opportunities
In SRK’s opinion, the most significant opportunity at BML is the potential for the delineation of further Mineral Resources, the generation from these of additional Mineral Reserves and the potential therefore for the operation to continue for longer than assumed by the current Ten-Year Plan. The nature of the orebodies at BML is such, however, that the potential is not possible to quantify. It is worth noting, however, that mining has been ongoing at BML for a substantial period of time. During most of this time, the known Mineral Reserves have been of the same order as those reported herein.

Other opportunities identified from SRK’s review of BML are:
- Gold recovery potential in the old plant sites around the BML property which could yield more than 0.1% of the total plant production;
- It should be possible for BML to convince DWAF that the dynamics of the arsenic in the decant water, the ambient levels of arsenic in the surrounding rivers and the dilution capability of the rivers and groundwater recharge systems are not properly understood. Accordingly, further investigation is warranted which may demonstrate that water retreatment is not necessary;
- Remedial work during the operational phase at each of the BML mines should be aimed at minimising sources of ongoing arsenic contamination;
- Additional mineable tonnage derived from exploration efforts.

13. MATERIAL ASSETS VALUATION

13.1 Introduction

The following section presents discussion and comment on the valuation of the Material Assets. Specifically, comment is included on the methodology used to generate the Financial Model (“FM”) for the Mines and to establish a Base Case including basis of valuation, valuation techniques and valuation results.

13.2 Valuation Methodology

The summary valuation for the Material Assets is based on a sum of the parts approach using:
- The discounted cash flow (“DCF”) technique applied on a post-tax pre-finance basis for the Mines.
- This is based on the Ten-Year Plan developed by SRK from the 15-Year Forecast and supplemental information as provided by BML including the resulting TEPs (Section 12);
- The value of contained gold in the Mineral Resources for the Mines that do not form part of the Ten-Year Plan is based on a SRK-preferred value taken from the value of in-situ gold, modified by the weighted effect of a range of technical issues, the net DCF value for the Mines converted to a US$/oz gold in head feed applied to the in-situ contained gold, and future exploration expenditure;
- The DCF technique applied to post-tax pre-finance basis for the Calcine Project;
- The value for the Prospecting Right derived from future exploration expenditure.

13.3 Bases of the Valuation of BML

13.3.1 The Mines

SRK has developed a FM for the Mines that is based on annual cash flow projections ending 30 June, TEPs stated in 1 July 2006 money terms and a valuation date of 1 January 2007. The results of post-tax pre-finance cash flows for the Mines have been extracted from this FM and are reported in Section 13 and 14.

At the time of writing no indication of the sensitivity of the Mineral Reserve or LoM plans to commodity prices was available. The impact on the valuation can be assessed through the sensitivity tables provided. In generating the FM and deriving the Base Case valuation for the Mines, SRK has:
- Used the exchange rates and gold price projections given in Table 12.2;
- Incorporated the value of the hedging contracts that expire at the end of November 2007 and accepted the hedge prices and delivery volumes as set out in Table 12.3;
- Relied upon BML and Metorex for all accounting inputs with respect to unredeemed capital, assessed tax loss, debtors, creditors and stores as required for the generation of the FM (Table 13.1);
- Relied upon BML that the calculation of the cash flows is in accordance with the fiscal regime.
within which it operates and are accurately reflected in the FM;
Developed a FM using all TEPs stated in nominal terms and de-escalated the resulting nominal cash flows into real terms;
Included any potential new order mineral royalties which may be applied to the Mines with effect from 1 May 2009, assumed to be levied at 1.5% of the gross revenue for refined gold, in terms of the definition in the New Royalty Bill, sold to the banks;
No Secondary Tax on Companies (“STC”) has been incorporated into the projections;
Applied the South African mining tax formula for a company liable for STC, which is expressed as \( y = a - \frac{b}{x} \), where “\( y \)” represents the rate of mining tax, \( x \) is expressed as a percentage of the ratio between taxable income and taxable revenue from gold mining, and the \( a \) and \( b \) factors for BML are 37 and 185, respectively. If the calculated tax rate falls below the standard South African company tax of 29%, then this rate is applied;
Reported a DCF valuation, dated 1 January 2007 for the Ten-Year Plan;
Performed sensitivity analyses to ascertain the impact of discount factors, commodity prices, total working costs and capital expenditures;
No salvage value has been included for plant and equipment on cessation of operations.

Table 13.1: Taxation and Working Capital Input Parameters at 1 January 2007

<table>
<thead>
<tr>
<th>Tax entity</th>
<th>Units</th>
<th>Unredeemed capex</th>
<th>Assessed losses</th>
<th>Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>BML</td>
<td>(Rm)</td>
<td>7.2</td>
<td>0.0</td>
<td>29%</td>
</tr>
<tr>
<td>Working capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debtors</td>
<td>(ZARm) (days)</td>
<td>23.0</td>
<td>23.9 15</td>
<td>3.0 15</td>
</tr>
<tr>
<td>Creditors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13.3.2 Unused Resources
The valuation of the remaining Resources not used in the Ten-Year Plan for the Mines is based on SRK’s preferred value derived from one of:
the gold price and exchange rate ruling at 1 January 2007 of US$635/oz and ZAR7.056=US$1.00 respectively. A percentage of the gold price is applied to the contained gold, suitably modified by the weighted affect of a range of technical issues on the risk or likelihood of the resources being mined;
the net present value of the cash flows for the Mines, converted to a US$/oz of gold contained in the ore milled;
exploration programmes for the Mines for F2007 to F2011, adjusted by a prospectivity enhancement multiplier.

13.3.3 Calcine Project In generating an model and deriving a valuation for the Calcine Project, SRK has:
Used the exchange rates and gold price projections given in Table 12.2;
Developed a FM using all TEPs stated in nominal terms, and de-escalated the resulting nominal cash flows into real terms;
Included any potential new order mineral royalties which may be applied to the Mines with effect from 1 May 2009, assumed to be levied at 1.5% of the gross revenue for refined gold, in terms of the definition in the New Royalty Bill, sold to the banks;
No Secondary Tax on Companies (“STC”) has been incorporated into the projections;
Applied the South African mining tax formula for a company liable for STC, which is expressed as \( y = a - \frac{b}{x} \), where “\( y \)” represents the rate of mining tax, \( x \) is expressed as a percentage of the ratio between taxable income and taxable revenue from gold mining, and the \( a \) and \( b \) factors for BML are 37 and 185, respectively. If the calculated tax rate falls below the standard South African company tax of 29%, then this rate is applied;
Reported a DCF valuation, dated 1 January 2007;
No salvage value has been included for plant and equipment on cessation of operations.

13.3.4 Exploration Properties
The value for the Prospecting Right was derived from future exploration expenditure to be incurred in F2007 to F2011, adjusted by a prospectivity enhancement multiplier.

13.4 Limitations and Reliance on Information

The cash flow projections and valuation reported for the Mines at the date hereof are contingent upon the current and anticipated performance of operational management, as well as the expected achievement of the operating parameters as provided to and reviewed by SRK and set out in this CPR. The FM includes forward-looking statements that are not historical facts. These forward-looking statements are necessarily estimates and involve a number of risks and uncertainties that could cause actual results to differ. Notwithstanding the aforementioned comments, SRK considers that at the time of compilation, the cash flow projections are appropriate and technically and economically achievable.

It should be understood that unforeseen developments might affect SRK's opinion, or the reasonableness of any assumptions or basis used.

It should be understood that unforeseen developments might affect our opinion, or the reasonableness of any assumptions or basis used.

However it must be noted that SRK does consider that a certain amount of upside potential is already built into the projections that fundamentally rely on the existing management performance to implement and sustain recent initiatives to ensure that the projected cash flows are realised within the anticipated timeframe.

13.5 Valuation for the Mines

13.5.1 Post-Tax – Pre-Finance Cash Flows

Table 13.2 presents the post-tax pre-finance cash flows for the Mines, inclusive of the Used Resources, as incorporated into the Ten-Year Plan. The TEP entries in Table 13.2 are all presented in nominal terms with the resultant cash flows given in both nominal and real terms. The FM for the Mines is based on annual cash flow projections for financial years from 1 July to 30 June, TEPs stated in 1 July 2006 money terms and a valuation date of 1 January 2007. The projected cash flows commence 1 January 2007. The period January to June 2007 uses the latest forecast/budget figures for the Mines, as provided by BML, except where adjusted by SRK. The remaining years of the Ten-Year Plan shown in Table 13.2 use a combination of results for July to December 2006 and the forecast/budget for January to June 2007 applied to the production plan incorporated into the Ten-Year Plan.

Note that this table is not representative of financial statements as may be customary for determining the consolidated cash flow positions for companies. Further, no account is taken of deferrals of tax liabilities between accounting periods, as may be the case in the generation of such financial statements.

BML is still required to deliver 752.5kg of gold into its hedge contracts up to November 2007 (see Table 12.3).

Two valuations are thus provided for the Mines for the period 1 January 2007 to 30 June 2016:— one which includes Resources not converted into Reserves; and— one based on the stated Mineral Reserves only.

Table 13.2: BML: FM for Ten-Year Plan, Inclusive of the Used Resources

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining: RoM ore including vamping (kt)</td>
<td>3,375 201 355 355 352 352 350 345 355 355</td>
<td>Head Grade (g/t) 9.01 8.92 9.09 9.08 9.00 9.00 9.01 9.02 8.99 8.99</td>
<td>9.99</td>
</tr>
<tr>
<td>Processing: Feed Tonnage (kt)</td>
<td>3,375 201 355 355 352 352 350 345 355 355 355 355 355 355 355 355 355 355 355 355</td>
<td>Feed Metal (kg)</td>
<td>30,429 1,792 3,225 3,227 3,168 3,168 3,168 3,168 3,168 3,168 3,168 3,168 3,168 3,168 3,168 3,168 3,168 3,168 3,168 3,168 Overall Metallurgical Recovery (%)</td>
</tr>
<tr>
<td>Sales</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note that Table 13.2 is not representative of financial statements as may be customary for determining the consolidated cash flow positions for companies. Further, no account is taken of deferrals of tax liabilities between accounting periods, as may be the case in the generation of such financial statements.
Gold hedge contract (kg) 753 420 333 0 0 0 0 0 0 0 0 0
Spot sales (kg) 27,147 1,223 2,625 2,960 2,905 2,904 2,889 2,851 2,930 2,930

Gold Price
Hedge Price (ZAR/kg) 98,068 100,641
Spot price (Nominal) (ZAR/kg) 157,604 172,159 170,261 178,093 186,285 194,854 203,817 213,193 223,000 233,258
Exchange Rate (ZAR:US$) 7.53 7.98 8.40 8.57 8.75 8.93 9.11 9.30 9.49 9.68

Revenue – Nominal
Gold sales – hedge contract (ZARm) 5312.4 41.2 33.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Gold sales – spot (ZARm) 5,312.4 192.7 452.0 503.9 517.3 541.0 563.0 581.1 624.6 653.4
Sundry income (ZARm) 9.9 5.4 4.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Total Working Costs (Nominal) (ZARm) (3,845.5) (154.7) (319.3) (333.9) (354.1) (414.6) (402.1) (419.5) (442.9) (463.9) (540.6)
Mining (ZARm) (1,884.4) (82.2) (166.4) (174.1) (181.7) (189.0) (198.5) (208.9) (218.3) (228.0) (238.5)
Processing (ZARm) (999.3) (44.5) (88.3) (92.4) (96.2) (100.6) (105.0) (109.1) (115.7) (121.0) (126.6)
Overheads (ZARm) (685.4) (28.9) (60.5) (63.3) (66.2) (69.3) (72.5) (75.8) (79.3) (82.9) (86.7)
Mineral Royalty (ZARm) (80.0) (0.0) (0.0) (0.0) (0.0) (0.0) (0.0) (0.0) (0.0) (0.0) (0.0)
Environmental (ZARm) (23.2) (1.3) (2.0) (2.1) (2.2) (2.3) (2.4) (2.5) (2.6) (2.7) (2.8)
Management fees (ZARm) (64.3) (2.7) (5.7) (5.9) (6.2) (6.5) (6.8) (7.1) (7.4) (7.7) (8.1)
Exploration/OFF-mine costs (ZARm) (66.6) (44.6) (94.7) (98.8) (102.9) (107.1) (112.3) (117.5) (122.8) (128.1) (133.3)
Terminal Benefits (ZARm) (44.4) (44.4) (44.4) (44.4) (44.4) (44.4) (44.4) (44.4) (44.4) (44.4) (44.4)
Change in working capital (ZARm) 2.0 9.8 9.5 9.8 10.6 (29.6) 0.4 0.4 0.4 0.5 (9.8)
Tax Liability (ZARm) (444.0) (21.3) (48.0) (49.7) (47.5) (34.8) (47.1) (47.0) (53.4) (55.7) (39.5)
Capital Expenditure (Nominal) (ZARm) (76.1) (7.7) (12.0) (10.6) (9.1) (6.6) (5.5) (5.6) (6.1) (6.3) (6.6)
Project (ZARm) (45.1) (7.7) (12.0) (10.6) (9.1) (5.8) 0.0 0.0 0.0 0.0 0.0
Sustaining (ZARm) (31.0) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Final Net Free Cash – Nominal (ZARm) 1,031.4 55.5 110.6 109.8 106.7 85.1 108.3 109.0 122.2 127.5 96.7
Final Net Free Cash – Real (ZARm) 832.3 55.5 101.2 100.1 93.0 86.3 83.1 89.0 88.8 64.4

Reporting Statistics – Real

13.5.2 Net Present Values and Sensitivities
The following tables present the Net Present Values (“NPV”) of the real cash flow as derived from the FM for the Mines. In summary they include the following:

– The variation in NPV with discount factors for the Ten-Year Plan (Table 13.3). The effect on the NPV for the Mines if only the stated Mineral Reserves are used, i.e. excluding the Resources in the Ten-Year Plan not converted to Reserves, is also shown in Table 13.3. The discount rate of 8% has been selected as this is equivalent to the risk-free interest rate in South Africa, as seen in long-term government bonds;

– The variation in NPV based on single parameter sensitivities (Table 13.4);

– The variation in NPV based on twin (revenue and operating expenditure) sensitivities (Table 13.5).

Table 13.3: BML Mines: Variation of Real NPV with Discount Factors

<table>
<thead>
<tr>
<th>Discount factor</th>
<th>NPV (Mineral Reserves only) (Rm)</th>
<th>NPV (including resources) (Rm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0% 832.3 448.6 4% 673.8 365.8 8% 555.9 303.8 12% 466.5 256.6 16% 397.3 219.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) If gold from flooding is excluded from the FM, the NPV at 8% discount would reduce by R252 million.

Table 13.4: BML Mines (Including the Used Resources): Real NPV – Single Parameter Sensitivity

Sensitivity Range – Revenue (30%) (20%) (10%) 0% 10% 20% 30% Sensitivity Range – Working Costs (15%) (10%) (5%) 0% 5% 10% 15% Sensitivity Range – Capital (15%) (10%) (5%) 0% 5% 10% 15%

Table 13.5: BML Mines (Including the Used Resources): Real NPV Sensitivity – Varying Twin Parameter at 8% Discount

NPV (Rm) Revenue Sensitivity(30%) (20%) (10%) 0% 10% 20% 30%
13.6 BML – Valuation of the Unused Resources

It can be seen from Table 4.3 and Table 5.2 that there are certain Mineral Resources that are not included in the Ten-Year Plan for the Mines. These unused Resources have been valued based on SRK’s preferred value derived from:

- an in situ value of metal in the ground approach, after applying a percentage of the base gold price on the contained gold, modified by assessing the weighted effect of a range of technical issues on the risk or likelihood of the resources being mined. The issues considered and their relative weightings are set out in Table 13.6. The base gold price used is US$635/oz and the exchange rate used is ZAR7.056=US$1.00, the price and exchange rate ruling at 1 January 2007.

Table 13.6: Risk-Impact Matrix for Adjusting Gold Price Percentage

<table>
<thead>
<tr>
<th>Risk associated with:</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade not present/Grade not economic</td>
<td>0.1</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Geotechnical aspects</td>
<td>0.1</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Technical mining conditions</td>
<td>0.1</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Ease of mining and access</td>
<td>0.1</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Cost of mining</td>
<td>0.1</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Capital considerations</td>
<td>0.1</td>
<td>0.5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

The impact of each of the factors in Table 13.6 was assessed for the unused Mineral Resources. Given the nature of the production profile in the Ten-Year Plan and BML’s 15-Year Forecast, it is difficult to separate the unused Resources into Indicated and Inferred categories. Typical percentage ranges applicable for Indicated and Inferred Resources are 2.5% – 4.5% and 1% – 2.5%, respectively. To accommodate the uncertainties in the classification of the unused Resources, SRK has used a range of percentages of 1% – 3%. The product of these percentages, the gold price and the risk-adjusted matrix factor for each mine gives a risk-weighted gold price which is then applied to the unused ounces of gold derived from the difference between Table 4.3 and Table 5.2. The resultant value ranges for the Mines are summarised in Table 13.7.

Table 13.7: Risk-Adjusted Value Ranges for Unused Resources

<table>
<thead>
<tr>
<th>Mine</th>
<th>Contained Gold in unused resources ('000 kg)</th>
<th>Weighting</th>
<th>Value range (ZARm)</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>2.9</td>
<td>0.33</td>
<td>2.7</td>
<td>5.3</td>
<td></td>
</tr>
<tr>
<td>New Consort</td>
<td>11.0</td>
<td>0.75</td>
<td>11.0</td>
<td>20.1</td>
<td></td>
</tr>
<tr>
<td>Sheba</td>
<td>1.5</td>
<td>0.38</td>
<td>0.8</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Outside sections</td>
<td>19.3</td>
<td>0.30</td>
<td>17.6</td>
<td>35.3</td>
<td></td>
</tr>
</tbody>
</table>

34.8 22.6

The NPV for the Mines of ZAR556 million (at 8% discount) and the 30,429kg of gold contained in the head feed, converted to a value ZAR18,269/kg of gold contained in the ore milled and applied to the in-situ gold in the Resources. Weightings of 5% to 10% have been applied to the unused Mineral Resource ounces (Table 13.8).

Table 13.8: Value for Unused Resources from NPV of the Mines

<table>
<thead>
<tr>
<th>Mine</th>
<th>Contained Gold in unused resources ('000 kg)</th>
<th>Value range (ZARm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>2.9</td>
<td>2.7</td>
</tr>
<tr>
<td>New Consort</td>
<td>11.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Sheba</td>
<td>1.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Outside sections</td>
<td>19.3</td>
<td>17.6</td>
</tr>
</tbody>
</table>

34.8 31.8 63.5

- Exploration expenditures for the Mines for F2007 to F2011, adjusted by a probability factor (probability of money being expended) and a prospectivity enhancement multiplier. BML anticipates spending approximately R20 million on exploration on the Mines up to F2011. SRK has extended the exploration budget, using the cost for F2011 for each subsequent year out to F2016. This is aimed to increase the confidence in existing areas, identify extensions to known ore bodies and locate additional mineralised...
zones. Given the relative nature of the resource base and the need to improve the confidence and extent in known orebodies and locate or prove additional ore zones to maintain the production levels as set out in the Ten-Year Plan, SRK believes it is highly probable that BML will spend the total annual sums allocated in the time period shown (Table 13.9). The NPV of these exploration expenditures for January 2007 to June 2016 calculated using an 8% discount factor is R26.9 million.

### Table 13.9: Exploration Budgets for Fairview, New Consort and Sheba Mines

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairview</td>
<td>(ZAR’000)</td>
<td>1,329 1,107</td>
<td>1,980</td>
<td>2,150</td>
<td>1,250</td>
<td>1,500</td>
<td>1,500 2,100 250</td>
</tr>
<tr>
<td>New Consort</td>
<td>(ZAR’000)</td>
<td>1,738 1,280</td>
<td>1,550</td>
<td>2,100</td>
<td>2,100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheba</td>
<td>(ZAR’000)</td>
<td>4,174 4,150</td>
<td>3,850</td>
<td>3,850</td>
<td>3,850</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. The budget shown represents the revised forecast/budget for January to June 2007.

Given the geological experience at BML and its operating history of over more than 100 years, SRK believes there is a good chance that the exploration budget in Table 13.9 will identify and prove up additional mineralised zones that can be economically extracted. Accordingly, SRK believes it is appropriate to use a prospectivity enhancement multiplier between 1.5 and 2.0. Thus, SRK’s value range for the unused Resources, based on the exploration budget, is R40.3 million to R53.7 million.

The three alternative methods used for deriving a value for the unused Resources of the Mines gives the results as summarised in Table 13.10.

### Table 13.10: Alternative Values for the Unused Resources

<table>
<thead>
<tr>
<th>Valuation method</th>
<th>Value (ZARm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-adjusted gold in-situ value</td>
<td>22.6 to 67.7</td>
</tr>
<tr>
<td>NPV value from the Mines</td>
<td>31.8 to 63.5</td>
</tr>
<tr>
<td>Exploration expenditure</td>
<td>40.3 to 53.7</td>
</tr>
</tbody>
</table>

SRK’s preferred value for the unused Resources at BML is ZAR46.6 million, which is the mean within the range for all the three methods in Table 13.10.

### 13.7 Calcine Project

The only specific project for New Consort is the reclamation and retreatment of the calcine dump. The resource is said to contain 353kt at a grade of 10.6g/t.

Operation of the Segalla Plant by Grinaker-LTA will continue until November 2007, by which time processing of the S&T dumps will be completed. At that time, the Segalla Plant will be fully depreciated and BML will take over the plant at zero cost.

BML has investigated a number of processing options which comprise essentially two process routes, viz. either ultrafine milling and CIL treatment, or CIL treatment without milling. While the ultrafine milling resulted in considerable improvements in plant recovery (up to 48% after grinding to −3 micron, versus 22% for no milling), it came at the cost of significantly higher capital costs (up to ZAR62 million vs ZAR9 million for no milling). BML elected to proceed with the no-milling option due to its lower capital risk, which is now awaiting Board approval.

The Segalla leach plant is being repaired to include a CIL circuit. The Segalla tailings dam will need to be modified to accept the combined calcine and current arisings from New Consort. This forms part of the project planning and capital costs.

Treatment will be at a rate of approximately 19,000tpm with a 72-hour residence time. For evaluation purposes, SRK has assumed that the first calcine dump material is processed in January 2008.

Table 13.11 presents the post-tax pre-finance cash flows for the Calcine Project. The values presented are for financial years from 1 July to 30 June and stated in 1 July 2006 money terms. The calculations use the same macro-economic and price projections presented in Section 12 and Table 13.2.
Table 13.11: BML – FM for Calcine Project

Financial year Units Totals F2007 F2008 F2009

**Production**
Tonnes processed (kt) 353 0.0 117.7 235.3 Contained gold (kg) 3,745.3 0.0 1,248.4 2,496.9 Recovered gold (kg) 0.0 0.0 274.7 549.3

**Revenue – nominal**
Spot revenue (ZAR’m) 140.8 0.0 47.3 93.5

**Operating cost – nominal (ZARm)** (49.7) – (16.6) (33.1)
Segalla fixed cost (ZARm) (16.4) – (5.9) (10.5) Variable costs (ZARm) 0.0 Cyanide (ZARm) (18.3) – (5.9) (12.4) Lime (ZARm) (2.2) – (0.7) (1.5) Segalla opex (ZARm) (12.6) – (4.1) (8.5) Royalties (ZARm) (0.2) – – (0.2)

**Operating profit** (ZARm) 91.1 – 30.7 60.4

**Capital – nominal (ZARm)** (10.9) – (10.0) (1.0)
Project (ZARm) (9.5) – (9.5) – Ongoing (ZARm) (1.4) – (0.5) (1.0)
Taxable income (ZARm) 80.2 0.0 20.7 59.4 Mining tax (ZARm) (30.5) – (7.9) (22.6)

**Final Net Free Cash – nominal (ZARm)** 49.7 – 12.8 36.9

**Final Net Free Cash – real (ZARm)** 45.9 0.0 12.3 33.6

The NPVs of the real cash flows in Table 13.11 at a range of discount factors are shown in Table 13.12.

Table 13.12: BML – variation of Real NPV for Calcine Project

<table>
<thead>
<tr>
<th>Discount Factor</th>
<th>NPV (ZARm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>45.9</td>
</tr>
<tr>
<td>4%</td>
<td>38.7</td>
</tr>
<tr>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>12%</td>
<td>33.0</td>
</tr>
</tbody>
</table>

The NPV value of ZAR38.7 million at 8% discount has been assigned to the Calcine Project.

13.8 Valuation of the Prospecting Right

According to the exploration budget which was submitted as part of the application for the Prospecting Right (Table 3.1), BML anticipates spending some R5.6 million on the property during a five-year period. Although the exploration budget could be viewed as an “agreement” with the DME, BML is not obligated to incur the exploration costs in the time and quantum shown. SRK has thus considered the probability that the expenditure will be incurred in the time period shown and reduced the budgeted figures accordingly (Table 13.11). The NPV of these probability-adjusted expenditures has then been calculated using an 8% discount factor. As little is known regarding the prospectivity of the area covered by the Prospecting Right, SRK considers that a prospectivity enhancement multiplier greater than 1.0 is inappropriate.

Table 13.13: Probability-Adjusted Exploration Budget for Prospecting License Area

<table>
<thead>
<tr>
<th>Activity</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 Desktop studies</td>
<td>206.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 1 Regional mapping</td>
<td>226.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 2 Target generation and structural analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geophysical surveys</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 3 Geochemical surveys</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Percussion drilling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The NPV of the probability-adjusted exploration expenditures using an 8% discount factor is ZAR2.6 million.

13.9 Risks

There are a number of risks associated with the cash flows and resulting NPVs reported above:

There is no formal LoM plan for BML. The production schedule in the Ten-Year Plan is derived from a depletion schedule of resource blocks. Management described several plans to SRK, but none of these have been documented;

The use of Resources which accounts for 40% of the tonnage included in the production plan of the Ten-Year Plan. If the FM is based on Reserves only, the NPV at 8% discount extracted from Table 13.3 would reduce by approximately ZAR250 million. Given the long mining history associated with the BML mines, this risk is perceived to be low;

The profit derived from gold recovered via vamping is not supported by a defined resource and reserve. If this gold source is excluded from the FM, the NPV reported in Table 13.3 reduces by some ZAR252 million. Given the long mining history associated with the BML mines, this risk is perceived to be low.

13.10 SRK Comments

Gold recovered per the VTN vamping contract was 430kg in F2004, 634kg in F2005, 655kg in F2006 and 331kg for F2007–H1. For the Ten-Year Plan, vamping gold recovered is projected to be 659kg per year. Given the long mining history associated with the BML mines, SRK believes that this projection should be reasonably attainable.

BML will deliver 753kg of gold into the remaining hedge contracts up to November 2007, whereafter all gold sales will be at the ruling spot price. Hedge contracts have been in place at BML since Metorex acquired the company in June 2003. It was only during F2006 and the period July to December 2006 that the hedge contract prices were below the ruling spot prices and impacted adversely on BML’s results (as shown in Table 2.1).

14. SUMMARY VALUATION AND CONCLUDING REMARKS

14.1 Summary Valuation

This section provides a summary valuation for BML based on an aggregation of the following:

NAV for the Mines as represented by the NPVs determined in Section 13.5;

Valuation of the unused Mineral Resources discussed in Section 13.6;

Valuation of the Prospecting Right discussed in Section 13.7;

Unallocated corporate expenses valued on the basis of a DCF approach for the projected Ten-Year Plan; and

Balance sheet adjustments to account for debt and cash position at 1 January 2007.

The summary equity valuation for BML, which excludes any impact of Secondary Taxation on Companies (“STC”), is presented in Table 14.1.

Table 14.1: BML – Summary Valuation at 1 January 2007

<table>
<thead>
<tr>
<th>Asset/Adjustment</th>
<th>Unit</th>
<th>Value of BML</th>
<th>Value attributable to PAR after transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Mines(1)</td>
<td>(ZARm)</td>
<td>555.9</td>
<td>411.4</td>
</tr>
</tbody>
</table>
14.2 Concluding Remarks

The physical plant condition is fair and it is reasonable to anticipate that the plants will continue to operate for the projected life of the mine, provided that adequate maintenance is performed.

A serious concern is the changes in the technical staff (particularly at the Fairview Biox® Plant). A number of technical people have been moved elsewhere and not replaced. The Biox® Plant is extremely technical and requires exceptional technical control, which is no longer the case. This situation needs to be reconsidered by the owners of the mine. The technical control of the flotation plants is adequate, although senior and supervisory management has been reduced.

Security can be considered to be a risk area, with staff members having been arrested for theft of gold and gold concentrates.

Given the unpredictability of the orebodies being mined, the historical environmental impacts built up over a long period of mining and the use of semi-mechanised mining methods, BML will require good management if the projected performance is to be achieved.

The observations, comments and conclusions presented in this report represent SRK’s opinion at 1 January 2007 and are based on visits to the operation, discussions with Metorex, BML and its consultants and a review of reports/data provided to SRK by Metorex and BML.

The views expressed by SRK in this report are based on the assumption that the Ten-Year Plan presented in this CPR is adhered to and that the required management, resources and capital are made available. Further, while SRK has reviewed the information provided in detail for appropriateness, accuracy and viability, a certain amount of information has been accepted in good faith.

In considering the valuation as derived herein, SRK notes the sensitivity of BML to both macroeconomic and commodity price forecasts. Non-achievement of the forecasted gold prices will have a significant impact on the valuation of BML.

SRK has conducted a comprehensive review and assessment of all material issues likely to influence the future operations and/or exploration of the Material Assets. The production plans for BML, as provided to and taken in good faith by SRK, have been reviewed in detail for appropriateness, reasonableness and viability. Where material differences were found, these were discussed with BML and adjusted where considered appropriate. In the absence of a formal LoM plan for the Mines, SRK developed a Ten-Year Plan which takes account of actual results and current projections. SRK considers that the resulting TEPs are based on sound reasoning, engineering judgement and technically achievable plans, within the context of the risks associated with the South African mining industry.

SRK has assigned an equity value to BML of ZAR630.8 million.

Mr H G Waldeck PrEng Mr A Goldschmidt PrSciNat Partner and Principal Mining Engineer, Senior Geologist, For and behalf of SRK Consulting SRK Consulting (CP for Reserves and CPR) (CP for Resources)

Mr G Cunningham PrEng Mr A Smithen PrEng Associate Principal Metallurgist, Partner & Principal Environmental Engineer, SRK Consulting SRK Consulting
Appendix 1

SOURCES OF DATA

Business plan and current operating and capital budgets for July 2006 to June 2007, Barberton Mines (Pty) Limited.
Mineral and Petroleum Resources Royalty Bill, issued by the Department of the National Treasury, Republic of South Africa, 11 October 2006.
Organogram (senior and middle management), December 2006, Barberton Mines (Pty) Limited.
Latest resource and reserve statement.
Recent rock engineering reviews with regards to underground support.
15-Year Forecast resource depletion plan and five-year business plan.
Status of environmental trust funds.
15-Year forecast, Barberton Mines Limited.
Legal opinion report on BML by Tabacks Inc.
Copies of Mining Licences for Consort, Fairview and Sheba Mines.
Status of gold hedge contracts.
Balance sheet at 31 December 2006.

Appendix 2

GLOSSARY, ABBREVIATIONS AND UNITS

GLOSSARY

Adit
A horizontal passage from the surface into a mine. It is commonly called a tunnel, although in strict usage a tunnel is open at both ends. Also called a drift or adit level.

Agglomerate
A volcanic breccia formed by disruption of a solidified crust or hardened plug of lava. Blocks may fit together as a loose mosaic or be completely disordered.

Amygdaloidal
An amygdaloid is a general name for a volcanic rock (ordinarily basalt or andesite) that contains numerous amygdules.
Amphibole
A mineral group with the general formula A₂B₅(Si,Al)₈O₂₂(OH)₂, where A is mainly Mg, Fe, Ca or Na and B is mainly Mg, Fe²⁺, Al and Fe³⁺. The most common amphibole minerals are hornblende, tremolite-actinolite and cummingtonite-grunerite.

Arcuate
Curved or bowed.

Arenites
A general name for consolidated sedimentary rocks composed of sand sized fragments irrespective of composition. The term is used for a major category of sandstone, as distinguished from wacke.

Arsenic
A hexagonal mineral of the native metallic element As. It is brittle and commonly occurs in steel-gray and granular or kidney-shaped masses.

Andesite
A gray, fine-grained volcanic rock, chiefly plagioclase and feldspar.

Anticline
A fold with strata sloping downward on both sides from a common crest.

Archean
Of or belonging to the earlier of the two divisions of Precambrian time, from approximately 3.8 to 2.5 billion years ago, marked by an atmosphere with little free oxygen, the formation of the first rocks and oceans and the development of unicellular life.

Arenite
A general name for sedimentary rocks composed of sand-sized fragments irrespective of composition; e.g., sandstone, graywacke, arkose and calcarenite.

Arsenopyrite
A silver-white to gray arsenic ore, essentially FeAsS.

Assay
the chemical analysis of ore samples to determine their metal content.

Batholith
A large generally discordant plutonic mass that has more than 1 000 km² of surface exposure and no known floor.

Biotite
A common rock forming mineral of the mica group: K(Mg,Fe²⁺)(Al,Fe³⁺)Si₃O₁₀(OH)₂. It is black in hand specimen, brown or green in thin section and has perfect basal cleavage.

Biox®
A registered term for a bio-oxidation process which uses thiobacillus ferro-oxidans bacteria to decompose and subsequently oxidise sulphides containing gold. The resulting oxidised ore can then be treated with conventional cyanidation.

Breccia
A coarse-grained clastic rock composed of angular broken rock fragments held together by a mineral cement or a fine grained matrix.

Calcareous
Containing calcium carbonate. When applied to a rock name, it implies that as much as 50% of the rock is calcium carbonate.

Clastic
Pertaining to a rock or sediment composed principally of fragments derived from pre-existing rocks or minerals and transported some distance from their places of origin. Also said of the texture of such a rock.

Chalcopyrite
A bright brass-yellow tetragonal mineral: CuFeS₂. It is generally found massive and constitutes the most important ore of copper.

Cadmium
Cadmium (Cd) is a metal and occurs associated with zinc ores such as sphalerite (zinc sulphide, ZnS). Greenockite (CdS) is the only mineral of any consequence which contains cadmium. Most cadmium is produced as a by-product from the extraction of zinc, copper, and lead ores.

Cyanidation
Cyanide has a natural affinity for gold, which dissolves in it just as sugar would in a hot drink. Cyanidation has been the principal method of extracting gold from ore since approximately 1887.
Diapiric
A diapir is a dome or anticlinal fold where the overlying rocks have been ruptured by the squeezing-up of the plastic core material. Diapirs in sedimentary strata usually contain cores of soft material such as shale. Igneous intrusions may also show diapiric structure.

Disseminated
Scattered distribution of generally fine-grained metal-bearing minerals throughout a rock body.

Dichotomous
Divided or dividing into two sharply distinguished parts or classifications.

Detrital
Disintegrated or eroded matter.

Dip
Inclination of geological features from the horizontal.

Dolerite
Any dark, igneous rock composed chiefly of silicates of iron and magnesium with some feldspar.

Dyke
Thick, tabular vertical or near-vertical bodies of igneous rock formed by magmatic injection into planar zones of weakness such as faults or fractures.

Epigenetic
Change in the mineral content of a rock because of outside influences.

Felsic
An adjective applied to igneous rocks having abundant light-coloured minerals; Also applied to those minerals, i.e. quartz, feldspars and feldspathoids as a group. Is the complement of mafic.

Footwall
The underlying side of a stope or orebody.

Fuchsite
Fuchsite is a dark green variety of muscovite, the green colour is the result of chromium impurities.

Greywacke
A dark gray firmly indurated coarse-grained sandstone that consists of poorly sorted angular to subangular grains of quartz and feldspar, with a variety of dark rock and mineral fragments embedded in a compact matrix. Commonly believed to have been deposited by submarine turbidity currents.

Galena
A gray metallic mineral, PbS. It has a perfect cubic cleavage and is the principal ore of lead.

Gangue
The valueless rock or mineral aggregates in an ore; that part of an ore that is not economically desirable but can not be avoided in mining.

Geostatistics
Geostatistics is a collection of statistical methods which are traditionally used in geo-sciences. These methods describe spatial autocorrelation among sample data and use it in various types of spatial models.

Haloes
A circular or crescentic distribution pattern about the source or origin of a mineral, ore mineral association or petrographic feature.

Hangingwall
The overlying side of an orebody or stope.

Igneous
Derived from molten rock that originated beneath the earth’s surface and solidifies at or near the earth’s surface.

Indicated Mineral Resource
That portion of a Mineral Resource for which quantity and quality are estimated with a lower degree of certainty than for a Measured Mineral Resource. The sites used for inspection, sampling, and measurement are too widely or inappropriately spaced to enable the material or its continuity to be defined or its grade throughout to be established.

Inferred Mineral Resource
That part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or...
grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that may be limited, or of uncertain quality and reliability.

**Intercalated**
Said of layered material that exits or is introduced between layers of a different character. Typically of thin strata of one kind that alternate with strata of another kind.

**Jasperites**
A rock consisting essentially of jasper and iron oxides in alternating bands.

**Lenticular**
Resembling in shape the cross section of a lens, i.e. double convex sides.

**Leptite**
Fine-grained gneissose to granulose metamorphic rocks of sedimentary origin mainly composed of feldspar and quartz with subordinate mafic minerals.

**Mafic**
Said of igneous rock composed chiefly of dark, ferromagnesian minerals; also said of those minerals. It is the complement of felsic.

**Meta-volcanics**
Volcanic rocks that show evidence of having been subjected to metamorphism.

**Magmatic**
Of, pertaining to, or derived from magma.

**Meta-sedimentary**
Sedimentary rocks that show evidence of having been subjected to metamorphism.

**Mylonite**
A compact, chertlike rock with a streaky or banded structure, produced by the extreme granulation and shearing of rocks that have been pulverised and rolled during over-thrusting or intense dynamic metamorphism.

**Measured Mineral Resource**
That portion of a Mineral Resource for which the tonnage or volume is calculated from dimensions revealed in outcrops, pits, trenches, drill-holes, or mine workings, supported where appropriate by other exploration techniques. The sites used for inspection, sampling and measurement are so spaced that the geological character, continuity, grades and nature of the material are so well defined that the physical character, size, shape, quality and mineral content are established with a high degree of certainty.

**Metamorphism**
The process by which rocks are altered in composition, texture, or internal structure by extreme heat, pressure, and the introduction of new chemical substances.

**Mineral Reserve**
The economically mineable material derived from a Measured and/or Indicated Mineral Resource. It is inclusive of diluting materials and allows for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified.

**Mineral Resource**
A concentration (or occurrence) of material of economic interest in or on the Earth’s crust in such a form, quality, and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated from specific geological knowledge, or interpreted from a well constrained and portrayed geological model.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overburden</td>
<td>Material overlying a useful mineral deposit.</td>
</tr>
<tr>
<td>Overturned</td>
<td>Said of a fold, or the limb of a fold, that has tilted beyond the perpendicular. The sequence of strata thus appears reversed.</td>
</tr>
<tr>
<td>Pelitic</td>
<td>Pertaining to or derived from pelite; esp. said of a sedimentary rock composed of clay, such as a pelitic tuff, or a metamorphic rock derived from a pelite.</td>
</tr>
<tr>
<td>Pegmatite</td>
<td>An exceptionally coarse-grained igneous rock, with interlocking crystals, usually found as irregular dykes, lenses, or veins, especially at the margins of batholiths.</td>
</tr>
<tr>
<td>Penstock</td>
<td>A sluice or gate used to control a flow of water.</td>
</tr>
<tr>
<td>Pericline</td>
<td>A general term for a fold in which the dip of the beds has a central orientation; beds dipping away from a centre form a dome and beds dipping toward a centre form a basin.</td>
</tr>
<tr>
<td>Pyrite</td>
<td>Common iron sulphide mineral.</td>
</tr>
<tr>
<td>Reef</td>
<td>A precious metal bearing stratiform tabular orebody.</td>
</tr>
<tr>
<td>Resource</td>
<td>A tonnage or volume of rock or mineralisation or other material of intrinsic economic interest, the grades, limits and other appropriate characteristics of which are known with a specified degree of knowledge.</td>
</tr>
<tr>
<td>RoM</td>
<td>Run-of-Mine.</td>
</tr>
<tr>
<td>Refractory</td>
<td>Ore from which it is difficult to recover the valuable constituents or said of a substance that is notably resistant to heat.</td>
</tr>
<tr>
<td>Recumbent</td>
<td>A recumbent fold is one in which that axial surface is more or less horizontal.</td>
</tr>
<tr>
<td>Roasting</td>
<td>For those instances in which a metal-bearing compound is not in a chemical form that permits the metal to be easily and economically removed, it is necessary first to change it into some other compound. The preliminary treatment that is commonly used to do this is roasting.</td>
</tr>
<tr>
<td>Sialic</td>
<td>Adj: Sialic. Sial is a petrologic name for the upper layer of the earth's crust, composed of rocks that are rich in silica and alumina.</td>
</tr>
<tr>
<td>Schist</td>
<td>A strongly foliated crystalline rock, formed by dynamic metamorphism, that has well developed parallelism of more that 50% of the minerals present, particularly these of lamellar or elongate prismatic habit.</td>
</tr>
<tr>
<td>Rhythmically banded</td>
<td>Igneous, but particularly sedimentary rocks that are banded in a repetitive sequence.</td>
</tr>
<tr>
<td>Serpentinite</td>
<td>A rock consisting almost holly of serpentine-group minerals, e.g. antigorite and chrysotile, commonly derived from the alteration of peridotite.</td>
</tr>
<tr>
<td>Stratigraphically</td>
<td>Associated with strata. Part of a chronologic succession of sedimentary rocks from older below to younger above.</td>
</tr>
<tr>
<td>Splay</td>
<td>To split from. Often used to describe faults branching off another (host) fault.</td>
</tr>
<tr>
<td>Stope</td>
<td>Underground excavation created by mining.</td>
</tr>
<tr>
<td>Synclinal</td>
<td>Pertaining to a syncline.</td>
</tr>
</tbody>
</table>
Tailings
Refuse or dross remaining after ore has been processed.

Talc
An extremely soft, light green or gray monoclinic mineral. Has a characteristic soapy feel and has a hardness of 1 on the Mohs scale of hardness.

Tuff
A general term for all consolidated pyroclastic rocks.

Turbidite
Sediment deposited from turbidity currents. It is characterised by graded bedding, moderate sorting and well-developed primary laminations.

Terrigenous clastics
Clastic sediment derived from the land or from a continent.

Unconformities
A surface between successive strata representing a missing interval in the geologic record of time and produced either by an interruption in deposition or by the erosion of depositionally continuous strata followed by renewed deposition.

Ultramafic
Volcanic rocks composed chiefly of mafic minerals, e.g. monomineralic rocks composed of hypersthene, augite or olivine.

Volcanoclastics
Pertaining to a clastic rock containing volcanic material in whatever proportion, and without regard to its origin or environment.

ABBREVIATIONS

Ag chemical symbol for silver
AIM Alternative Investment Market of the LSE
Au chemical symbol for gold
As chemical symbol for arsenic
BEE Black Economic Empowerment
BGB Barberton Greenstone Belt
BML Barberton Mines Limited
CAD Computer Aided Draughting
CIL Carbon in Leach
CP Competent Person
CPR Competent Persons' Report
DCF Discounted Cash Flow
DME Department of Minerals and Energy
DWAF Department of Water Affairs and Forestry
ECSA Engineering Council of South Africa
EIA Environmental Impact Assessment
ETC Eastern Transvaal Consolidated Mines Limited; the ETC Division of Avgold
ECMP Environmental, Civil and Mining Projects (Pty) Limited
EMP Environmental Management Programme
EMPR Environmental Management Programme Report
EMS Environmental Management System
EPCM  Engineering Procurement and Construction Management
F2005  Financial year ending 30 June 2005
Fe  chemical symbol for iron
FM  Financial Model
HDSA  Historically Disadvantaged South Africans
JSE  JSE Limited
LSE  London Stock Exchange plc
LHD  Load-haul-dump
LoM  Life-of-Mine
MPRDA  Mineral and Petroleum Resources Development Act
MWP  Mine Work Programme
MRC  Main Reef Complex, a mineralised shear zone
MRT  Main Reef Thrust, a mineralised shear zone
NPV  Net Present Value
NWA  National Water Act
Opex  Operating Expenditure
RoM  Run of Mine
RWD  Return Water Dam
SACNASP  South African Council for Natural Scientific Professions
SANAS  South African National Accreditation Scheme
SG  Specific Gravity
SARS  South African Revenue Services
SRK  SRK Consulting (South Africa) (Pty) Limited
SRK Group  SRK Global Limited
TEC  Total Employees Costed
TEP's  Technical-Economic Projections
TWC  Total Working Cost
ZK  Zwartkoppie orebody

UNITs

cm  a centimetre

grammes

g/t  grammes per metric tonne – metal concentration

ha  a hectare

kg  a kilogramme, equal to one thousand grammes

km  a kilometre
koz a thousand ounces
kt a thousand metric tonnes
m a metre
m/yr metres per year
mg/l milligrammes per litre, measure of concentration of contaminants in water
Ma million years before present
Mt a million metric tonnes
oz a fine troy ounce equalling 31.10348 grammes
R, ZAR South African Rand
Rm, ZARm million Rand
R/kg Rand per kilogram
R/t Rand per tonne
tpa tonnes per annum
tpd tonnes per day
tpm tonnes per month
t a metric tonne
t/m³ density measured as metric tonnes per cubic metre
US$ United States Dollar
° degrees
‘ minutes
% percentage