HARMONY GOLD MINING CO LTD Form 20-F October 08, 2004

As filed with the Securities and Exchange Commission on October 5, 2004

SECURITIES AND EXCHANGE COMMISSION

**WASHINGTON, D.C. 20549** 

Form 20-F

ANNUAL REPORT PURSUANT TO SECTION 13 OF THE

**SECURITIES EXCHANGE ACT OF 1934,** 

for the fiscal year ended June 30, 2004 Commission File Number: 001-31545

Harmony Gold Mining Company Limited

(Exact name of registrant as specified in its charter)

Republic of South Africa

(Jurisdiction of incorporation or organization)

Suite No. 1

**Private Bag X1** 

Melrose Arch, 2076

**South Africa** 

(Address of principal executive offices)

Securities registered or to be registered pursuant to Section 12(b) of the Act: None

Securities registered or to be registered pursuant to Section 12(g) of the Act:

Ordinary shares, with nominal value Rand 50 cents per share\*

(Title of Class)

American Depository Shares (as evidenced by American Depository Receipts), each representing one ordinary share

(Title of Class)

\* Not for trading, but only in connection with the registration of American Depository Shares, pursuant to the requirements of the Securities and Exchange Commission.

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

The number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the last full fiscal year covered by this Annual Report was:

320,819,739 ordinary shares, with nominal value of Rand 50 cents per share

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days:

Yes

X

No

Indicate by check mark which financial statement item the registrant has elected to follow:

Item 17

Item 18

X

#### TABLE OF CONTENTS

Page

#### **PART I**

Item 1. Identity of Directors, Senior Management and Advisers

5

Item 2. Offer Statistics and Expected Timetable

5

Item 3. Key Information

5

SELECTED FINANCIAL DATA

5

Income statement data

6

Balance sheet data

7

**EXCHANGE RATES** 

7

**CAPITALIZATION AND INDEBTEDNESS** 

8

REASONS FOR THE OFFER AND USE OF PROCEEDS

8

**RISK FACTORS** 

8

Item 4. Information on the Company

17

**BUSINESS** 

17

Introduction

17

History

18

Strategy

22

Hedge Policy

25

**Description of Mining Business** 

26

Harmony's Management Structure

29

Capital Expenditures

30

**Description of Property** 

30

Geology

31

Reserves

32

Harmony's Mining Operations

34

**REGULATION** 

# Mineral Rights 77 **Environmental Matters** Health and Safety Matters Item 5. Operating and Financial Review and Prospects **OVERVIEW** 81 CRITICAL ACCOUNTING POLICIES AND ESTIMATES **RESULTS OF OPERATIONS** Years ended June 30, 2004 and 2003 Years ended June 30, 2003 and 2002 94 RECENT ACCOUNTING PRONOUNCEMENTS LIQUIDITY AND CAPITAL RESOURCES 100 Cash Resources 100 Sales of Equity Securities **Contractual Obligations and Commercial Commitments** 103 **Trend Information** 104 Working Capital and Anticipated Financing Needs OTHER FINANCIAL INFORMATION 105 **Export Sales** 105

Page Item 6. Directors, Senior Management and Employees 105 **DIRECTORS AND SENIOR MANAGEMENT** 106 **BOARD PRACTICES** 112 COMPENSATION OF DIRECTORS AND SENIOR MANAGEMENT 115 **EMPLOYEES** 118 General 118 **Unionized Labor** 118 **Share Option Scheme** 120 Share Purchase Scheme 120 Item 7. Major Shareholders and Related Party Transactions **MAJOR SHAREHOLDERS** 121 RELATED PARTY TRANSACTIONS INTERESTS OF EXPERTS AND COUNSEL 123 Item 8. Financial Information 123 **CONSOLIDATED STATEMENTS** 123 **Legal Proceedings** 123 Dividends and Dividend Policy 123 **Recent Developments** 124 Item 9. The Offer and Listing 124 **MARKETS** 124 OFFERING AND LISTING DETAILS 124 THE JSE SECURITIES EXCHANGE SOUTH AFRICA 125 PLAN OF DISTRIBUTION 126 **SELLING SHAREHOLDERS** 126

**DILUTION** 

### **EXPENSES OF THE ISSUE** 126 Item 10. Additional Information 126 SHARE CAPITAL 126 MEMORANDUM AND ARTICLES OF ASSOCIATION General 126 Objects and Purposes 127 **Directors** 127 **Share Capital** 128 Variation of Rights 131 Changes in Capital or Objects and Powers of Harmony Meetings of Shareholders 132 Title to Shares 133 Non-South African Shareholders 133 Disclosure of Interest in Shares 133 Changes in Control 134 Register of Members 134 **Annual Report and Accounts** 134 MATERIAL CONTRACTS 134 **EXCHANGE CONTROLS** 134 CERTAIN SOUTH AFRICAN TAX CONSIDERATIONS CERTAIN UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS 137 **DIVIDENDS AND PAYING AGENTS** 138 STATEMENTS BY EXPERTS 138 **DOCUMENTS ON DISPLAY** 138 SUBSIDIARY INFORMATION 139

Item 11. Quantitative and Qualitative Disclosures About Market Risk

139
Item 12. Description of Securities Other than Equity Securities 144
GLOSSARY OF MINING TERMS 145

Page

#### **PART II**

150

Item 13. Defaults, Dividend Arrearages and Delinquencies

150

Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds

150

Item 15. Controls and Procedures

151

Item 16A. Audit Committee Financial Expert

151

Item 16B. Code of Ethics

152

Item 16C. Principal Accountant Fees and Services

152

**AUDIT FEES** 

152

**AUDIT-RELATED FEES** 

152

TAX FEES

152

**ALL OTHER FEES** 

152

#### AUDIT COMMITTEE APPROVAL

153

Item 16D. Exemptions from Listing Standards for Audit Committees

153

Item 16E. Purchases of Equity Securities by the Issuer

153

Item 17. Financial Statements

153

Item 18. Financial Statements

153

Item 19. Exhibits

153

#### **Use of Terms and Conventions in this Annual Report**

Harmony Gold Mining Company Limited is a corporation organized under the laws of the Republic of South Africa. As used in this Annual Report on Form 20-F, or this annual report, unless the context otherwise requires, the term "Harmony" refers to Harmony Gold Mining Company Limited; the term "South Africa" refers to the Republic of South Africa; the terms "we," "us" and "our" refer to Harmony and, as applicable, its direct and indirect subsidiaries as a group; the terms "South African Government" and "Government" refer to the government of South Africa and, where the context requires, include the South African state.

In this annual report, references to "R", "Rand", and "c", "cents" are to the South African Rand, the lawful currency of South Africa, "A\$" refers to Australian dollars, "C\$" refers to Canadian dollars, "GBP" refers to British Pounds Sterling and references to "\$" and "U.S. dollars" are to United States dollars.

This annual report contains information concerning the gold reserves of Harmony. While this annual report has been prepared in accordance with the definitions contained in Securities and Exchange Commission Guide 7, it is based on assumptions which may prove to be incorrect. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production conditions than Harmony currently estimates."

This annual report contains descriptions of gold mining and the gold mining industry, including descriptions of geological formations and mining processes. We have explained some of these terms in the glossary included in this annual report beginning on page 145. This glossary may assist you in understanding these terms.

#### **Presentation of financial information**

Harmony is a South African company and the majority of its operations are located there. Accordingly, its books of account are maintained in South African Rand and its annual and interim financial statements are prepared in accordance with South African Statements of Generally Accepted Accounting Practice, or S.A. GAAP, as prescribed by law and are based on International Financial Reporting Standards, Harmony also prepares annual financial statements in accordance with generally accepted accounting principles in the United States or U.S. GAAP, which are translated into U.S. dollars. The financial information included in this annual report has been prepared in accordance with U.S. GAAP and is presented in U.S. dollars. Unless otherwise stated, balance sheet item amounts are translated from Rand to U.S. dollars at the exchange rate prevailing on the last business day of the period (Rand 6.23 per \$1.00 as at June 30, 2004), except for specific items included within shareholders' equity that are converted at the exchange rate prevailing on the date the transaction was entered into, and income statement item amounts are translated from Rand to U.S. dollars at the average exchange rate for the period (Rand 6.89 per \$1.00 for fiscal 2004). For the convenience of the reader, certain information in this annual report presented in Rand, A\$, C\$ and has been translated into U.S. dollars. By including convenience currency translations in this annual report, we are not representing that the Rand, A\$, C\$ and amounts actually represent the U.S. or Australian dollar amounts, as the case may be, shown or that these amounts could be converted in U.S. or Australian dollars, as the case may be, at the rates indicated. Unless otherwise stated, the conversion rate for translations from Rand amounts into U.S. dollar amounts is Rand 6.23 per \$1.00, which was the noon buying rate on June 30, 2004.

### **Forward-looking statements**

This annual report contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 with respect to Harmony's financial condition, results of operations, business strategies, operating efficiencies, competitive positions, growth opportunities for existing services, plans and objectives of management, markets for stock and other matters. In particular, among other statements, certain statements in Item 4. "Information on the Company," Item 5. "Operating and Financial Review and Prospects" and Item 11. "Quantitative and Qualitative Disclosures About Market Risk" are forward-looking in nature. Statements in this annual report that are not historical facts are "forward-looking statements" for the purpose of the safe harbor provided by Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended.

These forward-looking statements, including, among others, those relating to the future business prospects, revenues and income of Harmony, wherever they may occur in this annual report and the exhibits to this annual report, are necessarily estimates reflecting the best judgment of the senior management of Harmony and involve a number of risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. As a consequence, these forward-looking statements should be considered in light of various important factors, including those set forth in this annual report. Important factors that could cause actual results to differ materially from estimates or projections contained in the forward-looking statements include, without limitation:

**&#183** overall economic and business conditions in South Africa and elsewhere;

**&#183** the ability to achieve anticipated efficiencies and other cost savings in connection with past and future acquisitions;

**&#183** decreases in the market price of gold;

&#183 the occurrence of hazards associated with underground and surface gold mining;

**&#183** the occurrence of labor disruptions;

&#183 availability, terms and deployment of capital;

&#183 changes in government regulation, particularly mining rights and environmental regulation;

**&#183** fluctuations in exchange rates;

&#183 currency devaluations and other macroeconomic monetary policies; and

**&#183** socio-economic instability in South Africa and regionally.

Harmony undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date of this annual report or to reflect the occurrence of unanticipated events.

#### **PART I**

Item 1. Identity of Directors, Senior Management and Advisers

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information

#### SELECTED FINANCIAL DATA

The selected consolidated financial data below should be read in conjunction with, and are qualified in their entirety by reference to, our consolidated financial statements and the notes thereto and with Item 5. "Operating and Financial Review and Prospects", both included elsewhere in this annual report.

#### **Selected Historical Consolidated Financial Data**

The following selected historical consolidated financial data for the last five fiscal years has been extracted from the more detailed information and financial statements, including Harmony's audited consolidated financial statements for each of the years in the three years ended June 30, 2004 and at June 30, 2004 and 2003 and the related notes, which appear elsewhere in this annual report. The historical consolidated financial data at June 30, 2002, 2001 and 2000, and for each of the years in the two years ended June 30, 2000 and 2001, has been extracted from Harmony's audited consolidated financial statements not included in this annual report.

Edgar Filing: HARMONY GOLD MINING CO LTD - Form 20-F The audited financial information included in this annual report has been prepared in accordance with U.S. GAAP. FISCAL YEAR ENDED JUNE 30, 2004 2003 2002 2001 2000 (in \$ thousands, except per share amounts) **Income statement data** Revenues 1,283,056 782,945 696,840 607,220 490,651 Operating income 71,975 182,046 206,375 88,424 72,971 Equity income of joint venture 7,918 52,843 13,176 Equity income/(loss) of associate companies 2,020 (1,233)(473)1,401 Income before taxes and minority interests (74,568)97,515 103,659 29,804 73,489 Minority interests 1,281 (468)(1,575)(349)(2,910)Income/ (loss) before cumulative

effect of change in accounting

principles (31,403)71,792

```
87,716
14,830
57,030
Cumulative effect of change in
accounting principles, net of tax
14,770
(5,822)
Net income
(31,403)
86,562
87,716
9,008
57,030
Basic earnings per share ($)
before cumulative effect of
change in accounting principles
(0.12)
0.40
0.57
0.15
0.68
Basic earnings per share ($)
(0.12)
0.49
0.57
0.09
0.68
Diluted earnings per share
before cumulative effect of
change in accounting principles
(0.12)
0.39
0.53
0.14
0.67
Diluted earnings per share
(0.12)
0.47
0.53
0.09
0.67
Weighted average number of
shares used in the computation
of basic earnings per share
254,240,500
177,954,245
153,509,862
```

```
102,156,205
83,593,424
Weighted average number of
shares used in the computation
of diluted earnings per share
254,240,500
182,721,629
165,217,088
105,504,328
85,590,876
Cash dividends per share ($)
0.26
0.57
0.07
0.16
0.19
Cash dividends per share (R)
0.70
5.50
0.75
1.20
1.20
Other financial data
Cash dividends per share ($)
2
0.05
0.20
0.41
Cash dividends per share (R)
0.30
1.50
4.25
Cash cost per ounce
of gold ($/oz)
3
362
253
196
234
245
1
```

As discussed in the consolidated financial statements appearing elsewhere in this annual report, the company changed its method of accounting for mineral and surface use rights during the 2004 fiscal year, its accounting for environmental obligations during the 2003 fiscal year, and its method of accounting for share based compensation during the 2002 fiscal year.

Reflects dividends related to fiscal 2004, 2003 and 2002 that were declared on July 30, 2004, August 1, 2003 and August 2, 2002, respectively.

3

Harmony has calculated cash costs per ounce by dividing total cash costs, as determined using the Gold Institute industry standard, by gold ounces sold for all periods presented. The Gold Institute is a non-profit international association of miners, refiners, bullion suppliers and manufacturers of gold products that has developed a uniform format for reporting production costs on a per ounce basis. The standard was first adopted in 1996 and was revised in November 1999. Cash costs, as defined in the Gold Institute standard, include mine production costs, transport and refinery costs, general and administrative costs, costs associated with movements in production inventories and ore stockpiles, costs associated with transfers to deferred stripping and costs associated with royalties. Cash costs have been calculated on a consistent basis for all periods presented. Changes in cash costs per ounce are affected by operational performance, as well as changes in the currency exchange rate between the Rand and the U.S. dollar, Cash costs per ounce is not a U.S. GAAP measure. Cash costs per ounce should not be considered by investors in isolation or as an alternative to net income, income before tax, operating cash flows or any other measure of financial performance presented. While the Gold Institute has provided a definition for the calculation of cash costs per ounce, the calculation of cash costs per ounce may vary from company to company and may not be comparable to other similarly titled measures of other companies. However, Harmony believes that cash costs per ounce is a useful indicator to investors and management of a mining company's performance as it provides (1) an indication of a company's profitability and efficiency, (2) the trends in costs as the company's operations mature, (3) a measure of a company's gross margin per ounce, by comparison of cash costs per ounce to the spot price of gold and (4) an internal benchmark of performance to allow for comparison against other companies. 6

```
AT JUNE 30,
2004
2003
2002
2001
2000
(in $ thousands)
Balance sheet data
Cash and cash equivalents
217,022
189,040
90,223
144,096
77,942
Other current assets
223,370
146,709
109,397
136,794
59,582
Property, plant and equipment - net
3,636,773
1,121,592
812,753
667,113
557,725
Goodwill
32,480
Restricted cash
9,922
7,310
Investments in associates
19,908
63,782
42,791
Investment in joint venture
272,754
102,578
```

Other long-term assets

```
451,216
89,183
137,399
81,822
69,629
Total assets
4,590,691
1,883,060
1,295,141
1,029,825
772,188
Current liabilities
322,632
173,890
138,677
152,886
150,148
Provision for environmental rehabilitation
125,917
62,977
63,125
53,136
52,525
Provision of social plan
1,958
Deferred income and mining taxes
558,812
209,628
99,789
47,050
48,686
Provision for post-retirement benefits
1,584
1,017
737
1,002
3,709
Deferred financial liability
91,513
37,228
87,226
49,374
40,174
Long-term loans
509,195
301,572
```

152,461

151,466 46,635 Preference shares 681 Minority interest 18,408 331 Shareholders' equity 2,979,080 1,078,340 573,126 573,899 430,311 Total liabilities and shareholders' equity 4,590,691 1,883,060 1,295,141 1,029,825

#### **EXCHANGE RATES**

772,188

Unless otherwise stated, balance sheet item amounts are translated from Rand to U.S. dollars at the exchange rate prevailing on the last business day of the period (Rand 6.23 per \$1.00 as at June 30, 2004), except for specific items included within shareholders' equity that are converted at the exchange rate prevailing on the date the transaction was entered into, and income statement item amounts are translated from Rand to U.S. dollars at the average exchange rate for the period (Rand 6.89 per \$1.00 for fiscal 2004).

As of September 29, 2004 the noon buying rate per \$1.00 was Rand 6.445.

The following table sets forth, for the past five fiscal years, the average and period end noon buying rates in New York City for cable transfers in Rand and, for the past six months, the high and low noon buying rates in New York City for cable transfers in Rand, in each case, as certified for customs purposes by the Federal Reserve Bank of New York for Rand expressed in Rand per \$1.00.

### Fiscal year ended June 30,

### Average

1

#### **Period End**

2000

6.35

6.79

2001

7.61

7.01

8.04

2002

10.20

10.39

9.13 7.51 2004 6.89 6.23 Month of High Low **April 2004** 6.94 6.27 May 2004 7.05 6.52 June 2004 6.64 6.17 July 2004 6.34 5.91 August 2004 6.74 6.09 September 2004 (through September 29, 2004)

6.68 6.40

Fluctuations in the exchange rate between Rand and the U.S. Dollar will affect the Dollar equivalent of the price of ordinary shares on the Johannesburg Stock Exchange, which may affect the market price of the ADSs on the New York Stock Exchange. These fluctuations will also affect the Dollar amounts received by owners of ADSs on the conversion of any dividends paid in Rand on ordinary shares.

The average of the noon buying rates on the last day of each full month during the relevant period. 7

#### CAPITALIZATION AND INDEBTEDNESS

Not applicable.

#### REASONS FOR THE OFFER AND USE OF PROCEEDS

Not applicable.

#### **RISK FACTORS**

In addition to the other information included in this annual report and the exhibits to this annual report, you should carefully consider the following factors related to an investment in Harmony's ordinary shares and ADSs. There may be additional risks that Harmony does not currently know of or that Harmony currently deems immaterial based on information currently available to it. Any of these risks could have a materially adverse affect on Harmony's business, financial condition or results of operations, resulting in a decline in the trading price of Harmony's ordinary shares (or ADSs).

Due to the fact that the majority of Harmony's production costs are incurred in Rand and that gold is sold in US Dollars, Harmony's results of operations could be materially harmed by an appreciation in the value of the Rand. Gold is sold throughout the world in US Dollars, but the majority of Harmony's operating costs are incurred in Rand. As a result, any significant and sustained appreciation of Rand against the US Dollar will serve materially to reduce Harmony's Rand revenues and overall net income.

The Rand appreciated significantly against the U.S. dollar during 2003 and most of calendar 2004 following significant depreciation against the U.S. dollar since 1997. Harmony's operating environment has been severely influenced by the strong Rand particularly during fiscal 2004, which has impacted on the company's short-term profitability. See Item 5. "Operating and Financial Review and Prospects."

The profitability of Harmony's operations, and the cash flows generated by those operations, are affected by changes in the market price for gold, which in the past has fluctuated widely.

Substantially all of Harmony's revenues come from the sale of gold. Historically, the market price for gold has fluctuated widely and has been affected by numerous factors over which Harmony has no control, including:

**&#183** the demand for gold industrial uses and for use in jewelry;

**&#183** international or regional political and economic trends;

**&#183** the strength of the U.S. dollar (the currency in which gold prices generally are quoted) and of other currencies;

&#183 financial market expectations regarding the rate of inflation;

**&#183** interest rates;

**&#183** speculative activities;

**&#183** actual or expected purchases and sales of gold bullion holdings by central banks or other large gold bullion holders or dealers;

&#183 forward sales by gold producers; and

&#183 the production and cost levels for gold in major gold-producing nations, such as South Africa.

In addition, the current demand for and supply of gold affects the price of gold, but not necessarily in the same manner as current demand and supply affect the prices of other commodities. Historically, gold has tended to retain its value in relative terms against basic goods in times of inflation and monetary crisis. As a result, central banks, financial institutions and individuals hold large amounts of gold as a store of value and production in any given year constitutes a very small portion of the total potential supply of gold. Since the potential supply of gold is large relative to mine production in any given year, normal variations in current production will not necessarily have a significant effect on the supply of gold or its price.

The volatility of gold prices is illustrated in the following table, which shows the annual high, low and average of the afternoon London Bullion Market fixing price of gold in U.S. dollars for the past ten years:

#### **Price per Ounce**

Year

High

Low

**Average** 

**(\$)** 

**(\$)** 

(\$)

On June 30, 2004, the afternoon fixing price of gold on the London Bullion Market was \$395.80 per ounce. On September 29, 2004, the afternoon fixing price of gold on the London Bullion Market was \$412.95 per ounce. While the aggregate effect of these factors is impossible for Harmony to predict, if gold prices should fall below Harmony's cost of production and remain at such levels for any sustained period, Harmony may experience losses and may be forced to curtail or suspend some or all of its operations. In addition, Harmony would also have to assess the economic impact of low gold prices on its ability to recover any losses it may incur during that period and on its ability to maintain adequate reserves. Harmony's average cash cost of production per ounce of gold sold was approximately \$362 in fiscal 2004, \$242 in fiscal 2003 and \$196 in fiscal 2002.

Actual or expected sales of gold by central banks have had a significant impact on the price of gold.

Over the past several years, one of the most important factors influencing the gold price has been actual or expected sales of gold reserves by central banks. Since 1997, a number of central banks, including the central banks of Australia, Switzerland and the United Kingdom, have announced plans to sell significant gold reserves, and, more recently, the International Monetary Fund has discussed selling significant gold reserves to fund international debt relief. The gold price has declined following each such announcement and sale, culminating in a drop in the gold price to its lowest level in at least twenty years in July 1999, after the Bank of England completed the first part of its announced sale of more than half of its gold reserves. In September 1999, the central banks of fifteen European countries agreed to limit sales of gold reserves for the next five years to sales announced at that time and to limit gold lending and derivative operations for five years. The announcement of this agreement led to an immediate increase in the price of gold, although the gold price was subsequently subject to downward pressure, around the time of the periodic auctions held by the Bank of England. The agreement by the central banks is voluntary and there are a number of central banks with significant gold reserves that are not subject to the agreement. Any future sales or publicly announced proposed sales by central banks of their gold reserves are likely to result in a decrease in the price of gold.

Because Harmony does not use commodity or derivative instruments to protect against low gold prices with respect to most of its production, Harmony is exposed to the impact of any significant drop in the gold price.

As a general rule Harmony sells its gold production at market prices. Since 2001, there have been two instances in which Harmony has made use of gold price hedges: Harmony's forward sale of a portion of the production at Bissett at a set gold price and put options relating to 1 million ounces of Harmony's production at Elandskraal. Both of these hedges were affected by Harmony in order to secure loan facilities and have since been closed out. A significant proportion of the production at Randfontein was already hedged when acquired by Harmony, and these hedges have since been closed out. In addition, a substantial proportion of the production at each of New Hampton and Hill 50 was also hedged when acquired by Harmony and remains hedged. During fiscal 2004 a significant portion, amounting to 500,000 ounces, of these inherited hedge agreements were closed out, at a cost of US\$15 million. The outstanding agreements do not meet the criteria for hedge accounting and the mark-to- market movement will be reflected in the income statement. Harmony also inherited forward exchange contracts with the acquisition of Avgold in May 2004. Harmony generally does not enter into forward sales, derivatives or other hedging arrangements to establish a price in advance for the sale of its future gold production. See Item 4. "Information on the Company - Business - Hedge Policy" and Item 11. "Quantitative and Qualitative Disclosures About Market Risk - Commodity Price Sensitivity." In general, hedging in this manner reduces the risk of exposure to volatility in the gold price. Because Harmony does not generally establish a future price for hedged gold, Harmony can realize the positive impact of any increase in the gold price. However, this also means that Harmony is not protected against decreases in the gold price and if the gold price decreases significantly, Harmony runs the risk of reduced revenues in respect of gold production that is not hedged. Harmony's gold reserve figures are estimated based on a number of assumptions, including assumptions as to mining and recovery factors, future production costs and the price of gold and may yield less gold under actual production conditions that currently estimated.

The ore reserve estimates contained in this annual report are estimates of the mill delivered quantity and grade of gold in Harmony's deposits and stockpiles. They represent the amount of gold which Harmony believes can be mined, processed and sold at prices sufficient to recover its estimated future total costs of production, remaining investment and anticipated additional capital expenditures. Harmony ore reserves are estimated based upon a number of factors, which have been stated in accordance with SEC Industry Guide 7. See Item 4. "Information on the Company - Business - Reserves".

As Harmony's ore reserve estimates are calculated based on estimates of future production costs, future gold prices and, because of the fact that Harmony's gold sales are primarily in US Dollar and Harmony incurs most of its production costs in Rand, the exchange rate between the Rand and the US Dollar and, in the case of Harmony's Australian operations, the Australian Dollar. As a result, the reserve estimates contained in this annual report should not be interpreted as assurances of the economic life of Harmony's gold deposits or the profitability of its future operations.

Since ore reserves are only estimates that Harmony makes based on the above factors, Harmony may in future need to revise these estimates. In particular, if Harmony's production costs increase (whether in Rand terms, in Australian Dollar terms, or in relative terms due to appreciation of the Rand or the Australian Dollar against the US Dollar) or the gold price decreases, a portion of Harmony's ore reserves may become uneconomical to recover. This will force Harmony to lower its estimated reserves.

# Harmony's strategy depends on its ability to make additional acquisitions.

In order to increase Harmony's gold production and to acquire additional reserves, Harmony continuously explores opportunities to expand its production base by acquiring selected gold producers and mining operations. However, Harmony cannot guarantee that:

&#183 it will be able to identify appropriate acquisition candidates or negotiate acquisitions on favorable terms;

&#183 it will be able to obtain the financing necessary to complete future acquisitions; or

**&#183** the issuance of Harmony's ordinary shares or other securities in connection with any future acquisition will not result in a substantial dilution in ownership interests of holders of Harmony's ordinary shares.

As at June 30, 2004, Harmony's mining operations reported total proven and probable reserves of 62,3 million ounces. If Harmony is unable to acquire additional gold producers or generate additional proven and probable reserves at Harmony's existing operations or through its exploration activities, Harmony cannot be certain that it will be able to expand or replace its current production with new reserves in an amount sufficient to its mining operations beyond the current life of its reserves.

To maintain gold production beyond the expected lives of Harmony's existing mines or to increase production materially above projected levels, Harmony will need to access additional reserves through development or discovery.

Harmony's operations have limited proven and probable reserves and exploration and discovery is necessary to maintain current gold production levels at these operations. Exploration for gold and other precious metals is speculative in nature, is frequently unsuccessful and involves many risks, including risks related to:

**&#183** locating ore bodies;

**&#183** identifying the metallurgical properties of ore bodies;

**&#183** estimating the economic feasibility of mining ore bodies;

**&#183** developing appropriate metallurgical processes;

&#183 obtaining necessary governmental permits; and

**&#183** constructing mining and processing facilities at any site chosen for mining.

Harmony's exploration efforts might not result in the discovery of mineralization and any mineralization discovered might not result in an increase in Harmony's proven and probable reserves. To access additional reserves in South Africa, Harmony will need to successfully complete development projects, including extending existing mines and, possibly, developing new mines. Development projects would also be necessary to access any mineralization discovered through exploration in Australia, Papua New Guinea, Peru or elsewhere. Harmony typically uses feasibility studies to determine whether or not to undertake significant development projects. Feasibility studies include estimates of expected or anticipated economic returns, which are based on assumptions about:

**&#183** future gold and other metal prices;

&#183 anticipated tonnage, grades and metallurgical characteristics of ore to be mined and processed;

&#183 anticipated recovery rates of gold and other metals from the ore, and

&#183 anticipated total costs of the project, including capital expenditure and cash operating costs.

Actual costs, production and economic returns may differ significantly from those anticipated by Harmony's feasibility studies. Moreover, it can take a number of years from the initial feasibility studies until development is completed and during that time, the economic feasibility of production may change. In addition, there are a number of uncertainties inherent in the development and construction of an extension to an existing mine or any new mine, including:

&#183 the availability and timing of necessary environmental and governmental permits;

&#183 the timing and cost necessary to construct mining and processing facilities, which can be considerable;

&#183 the availability and cost of skilled labor, power, water and other materials;

&#183 the accessibility of transportation and other infrastructure, particularly in remote locations;

&#183 the availability and cost of smelting and refining arrangements; and

**&#183** the availability of funds to finance construction and development activities.

Harmony has addressed growth through the recent expansion of its exploration activities. The company currently maintains a range of focused exploration programs, concentrating on areas not too distant from its operation mines, as well as a number of prospective known gold mineralized regions around the world. During 2004, the bulk of exploration expenditure was allocated to activities in Australia, Papua New Guinea, South Africa and Peru with subordinate expenditure in West Africa and Madagascar. In fiscal 2005, Harmony intends to carry out exploration in South Africa, West Africa, Australia, South America and Papua New Guinea.

However, there is no assurance that any future development projects will extend the life of Harmony's existing mining operations or result in any new commercial mining operations.

# Harmony may experience problems in managing new acquisitions and integrating them with its existing operations.

Acquiring new gold mining operations involves a number of risks including:

&#183 difficulties in assimilating the operations of the acquired business;

**&#183** difficulties in maintaining the financial and strategic focus of Harmony while integrating the acquired business;

**&#183** problems in implementing uniform standards, controls, procedures and policies;

&#183 increasing pressures on existing management to oversee a rapidly expanding company; and

**&#183** to the extent Harmony acquires mining operations outside South Africa or Australia encountering difficulties relating to operating in countries in which Harmony has not previously operated.

Any difficulties or time delays in achieving successful integration of new acquisitions could have a material adverse effect on Harmony's business, operating results, financial condition and share price.

# Due to the nature of mining and the type of gold mines it operates, Harmony faces a material risk of liability, delays and increased production costs from environmental and industrial accidents and pollution.

The business of gold mining by its nature involves significant risks and hazards, including environmental hazards and industrial accidents. In particular, hazards associated with underground mining include:

&#183 rock bursts;

**&#183** seismic events;

&#183 underground fires;

**&#183** cave-ins or falls of ground;

**&#183** discharges of gases and toxic chemicals;

**&#183** release of radioactive hazards;

**&#183** flooding;

&#183 accidents; and

**&#183** other conditions resulting from drilling, blasting and removing and processing material from a deep level mine.

Hazards associated with open cast mining (also known as open pit mining) include:

**&#183** flooding of the open pit;

**&#183** collapse of the open pit walls;

&#183 accidents associated with the operation of large open pit mining and rock transportation equipment; and

&#183 accidents associated with the preparation and ignition of large scale open pit blasting operations.

Hazards associated with waste rock mining include:

&#183 accidents associated with operating a waste dump and rock transportation; and

**&#183** production disruptions due to weather.

Harmony is at risk of experiencing any and all of these environmental or other industrial hazards. The occurrence of any of these hazards could delay production, increase production costs and result in liability.

# Harmony's land and mineral rights in South Africa could be subject to land restitution claims which could impose significant costs and burdens.

Harmony's privately held land and mineral rights could be subject to land restitution claims under the Restitution of Land Rights Act 1994, or the Land Claims Act. Under this Act, any person who was dispossessed of rights in land in South Africa as a result of past racially discriminatory laws or practices without payment of just and equitable compensation is granted certain remedies, including the restoration of the land. Under the Land Claims Act, persons entitled to institute a land claim were required to lodge their claims by December 31, 1998. Harmony has not been notified of any land claims, but any claims of which it is notified in the future could have a material adverse effect on Harmony's right to the properties to which the claims relate and, as a result, on Harmony's business, operating results and financial condition.

The Restitution of Land Rights Amendment Bill, or the Amendment Bill, was published on August 16, 2003. Under the Land Claims Act, the Minister for Agriculture and Land Affairs, or the Land Minister, may not acquire ownership of land for restitution purposes without a court order unless an agreement has been reached between the affected parties. As proposed, the Amendment Bill would entitle the Land Minister to acquire ownership of land for the purpose of restitution or for the benefit of claimants who do not qualify for restitution under the Land Claims Act without a court order and without obtaining the agreement of the affected parties. The state would be required to pay just and equitable compensation to the owner of land thus acquired. If the Amendment Bill becomes effective, there is no guarantee that any of Harmony's privately held land rights could not become subject to acquisition by the state without Harmony's agreement, or that Harmony would be adequately compensated for the loss of its land rights, which could have a negative impact on Harmony's South African operations and therefore an adverse effect on its business, operating results and financial condition.

#### Harmony's insurance coverage may prove inadequate to satisfy future claims against it.

Harmony has third party liability coverage for most potential liabilities, including environmental liabilities. While Harmony believes that its current insurance coverage for the hazards described above is adequate and consistent with industry practice, Harmony may become subject to liability for pollution or other hazards against which it has not insured or cannot insure, including those in respect of past mining activities. Further, Harmony maintains and intends to continue to maintain, property and liability insurance consistent with industry practice, but such insurance contains exclusions and limitations on coverage. In addition, there can be no assurance that insurance will continue to be available at economically acceptable premiums. As a result, in the future Harmony's insurance coverage may not cover the extent of claims against it for environmental or industrial accidents or pollution.

## The results of Harmony's South African operations may be negatively impacted by inflation.

Harmony's operations have not in recent years been materially affected by inflation, however, Harmony's profits and financial condition could be affected adversely in the absence of a concurrent devaluation of the Rand and an increase in the price of gold and, in fact, inflation has had an impact on Harmony's supply contracts. See Item 5. "Operating and Financial Review and Prospects."

# Socio-economic instability in South Africa or regionally may have an adverse effect on Harmony's operations and profits.

Harmony is incorporated and owns significant operations in South Africa. As a result, it is subject to political and economic risks relating to South Africa, which could affect an investment in Harmony. South Africa was transformed into a democracy in 1994, with successful rounds of democratic elections held during 1999 and 2004. Harmony fully supports government policies aimed at redressing the disadvantages suffered by the majority of citizens under previous governments and recognizes that in order to implement these policies, Harmony's operations and profits may be impacted. In addition to political issues, South Africa faces many challenges in overcoming substantial differences in levels of economic development among its people. While South Africa features highly developed and sophisticated business sectors and infrastructure at the core of its economy, large parts of the population do not have access to adequate education, health care, housing and other services, including water and electricity.

The South African government has committed itself to creating a stable, democratic, free-market economy, which it has achieved to a great extent in the past 10 years since the first democratic elections in 1994. It remains cumbersome however, to predict the future political, social and economic direction of South Africa or the manner in which government will attempt to address the country's inequalities. It is also difficult to predict the impact of addressing these inequalities on Harmony's business. Furthermore, there has been regional political and economic instability in countries north of South Africa, which may have a negative impact on Harmony's ability to manage and operate its South African mines.

### Harmony's financial flexibility could be materially constrained by South African currency restrictions.

South Africa's exchange control regulations provide for restrictions on exporting capital from South Africa. As a result, Harmony's ability to raise and deploy capital outside South Africa is restricted. In particular, Harmony: **&#183** is generally not permitted to export capital from South Africa or to hold foreign currency without the approval of the South African exchange control authorities;

**&#183** is generally required to repatriate to South Africa profits of foreign operations; and **&#183** is limited in its ability to utilize profits of one foreign business to finance operations of a different foreign business.

These restrictions could hinder Harmony's normal corporate functioning. While exchange controls have been relaxed in recent years and are continuing to be so relaxed, it is difficult to predict whether or how the South African government will further relax the exchange control regulations in the future.

Since Harmony's South African labor force has substantial trade union participation, Harmony faces the risk of disruption from labor disputes and new South African labor laws.

Despite the history of engagement with the unions, there are periods during which the various stakeholders are unable to agree on dispute resolving processes. Labor disruptive activities, which normally differ in intensity, then become unavoidable. Due to the high level of union membership among Harmony's employees, Harmony is at risk of having, and has experienced in the past, its production stopped for indefinite periods due to strikes and other labor disputes. Significant labor disruptions may have a material adverse effect on our operations and financial condition and we are not able to predict whether we will experience significant labor disputes in the future.

Our production may also be materially affected by labor laws. Since 1995, South African laws relating to labor have changed significantly in ways that affect Harmony's operations. In particular, laws enacted since then which regulate work time, provide for mandatory compensation in the event of termination of employment for operational reasons, and impose large monetary penalties for non-compliance with administrative and reporting requirements in respect of affirmative action policies, could result in significant costs. In addition, future South African legislation and regulations relating to labor may further increase our costs or alter our relationship with our employees. Harmony may continue to experience significant changes in labor law in South Africa over the next several years. For example, the introduction of continued operations, or CONOPS, has led to increased cash costs in certain operations. See Item 6. "Directors, Senior Management and Employees - Employees - Unionized Labor."

### HIV/AIDS poses risks to Harmony in terms of productivity and increase costs.

The incidence of HIV/AIDS in South Africa, which is forecast to increase over the next decade, poses risks to Harmony in terms of potentially reduced productivity and increased medical and other costs. Harmony expects that significant increases in the incidence of HIV/AIDS infection and HIV/AIDS-related diseases among the workforce over the next several years may adversely impact on Harmony's operations and financial status. This expectation, however, is based on assumptions about, among other things, infection rates and treatment costs which are subject to material risks and uncertainties beyond Harmony's control. As a result, actual results may differ from the current estimates.

#### The cost of occupational healthcare services may increase in the future.

Occupational healthcare services are available to Harmony's employees from its existing healthcare facilities. There is a risk that the cost of providing such services could increase in future depending on changes in the nature of underlying legislation and the profile of Harmony's employees. This increased cost, should it transpire, is currently indeterminate. Harmony has embarked on a number of interventions focused on improving the quality of life of Harmony's work force, however, there can be no guarantee that such initiatives will not be adversely affected by increased costs.

# Laws governing mineral rights ownership have changed in South Africa recently.

On May 1, 2004, the South African parliament promulgated the Mineral and Petroleum Resources Development Act. The principal objectives set out in the Act are:

**&#183** to recognize the internationally accepted right of the state of South Africa to exercise full and permanent sovereignty over all the mineral and petroleum resources within South Africa;

**&#183** to give effect to the principle of the State's custodianship of the nation's mineral and petroleum resources; **&#183** to promote equitable access to South Africa's mineral and petroleum resources to all the people of South

African and redress the impact of past discrimination;

**&#183** to substantially and meaningfully expand opportunities for historically disadvantaged persons, including women, to enter the mineral and petroleum industry and to benefit from the exploitation of South Africa's mineral and petroleum resources;

&#183 to promote economic growth and mineral and petroleum resources development in South Africa;

&#183 to promote employment and advance the social and economic welfare of all South Africans;

&#183 to provide security of tenure in respect of prospecting, exploration, mining and production operations;

&#183 to give effect to Section 24 of the South African Constitution by ensuring that South Africa's mineral and

petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development;

**&#183** to follow the principle that mining companies keep and use their mineral rights, with no expropriation and with guaranteed compensation for mineral rights; and

**&#183** to ensure that holders of mining and production rights contribute towards socio-economic development of areas in which they are operating.

Under the Act, tenure licenses over established operations will be secure for 30 years (and renewable for 30 years thereafter), provided that mining companies obtain new licenses over existing operations within five years of the date of enactment of the Act and fulfill requirements specified in the Broad-Based Socio-Economic Empowerment Charter for the South African mining industry, or the Mining Charter.

The principles contained in the Mining Charter relate to the transfer of 26 percent of South Africa's mining assets to historically disadvantaged South Africans, over a 10-year period, as defined in the Mining Charter. Under the Mining Charter, the South African mining industry has committed to securing financing to fund participation of historically disadvantaged South Africans in an amount of R100 billion within the first five years of the Mining Charter's tenure. The Mining Charter provides for the review of the participation process after five years to determine what further steps, if any, are needed to achieve the 26 percent target participation. The Mining Charter requires programs for black economic empowerment and the promotion of value-added production, such as jewelry-making and other gold fabrication, in South Africa. The Mining Charter also sets out targets for broad-based black economic empowerment in the areas of human resources, skill development, employment equality, procurement and beneficiation. In addition, the Mining Charter addresses other socio-economic issues, such as migrant labor, housing and living conditions. Harmony actively carries out mining and exploration activities in all of its material mineral rights areas. Accordingly, we will be eligible to apply for new licenses over its existing operations, provided that we comply with the Mining Charter. Harmony has taken steps to comply with the expected provisions of the Mining Charter, such as promoting value-added production, exploring black empowerment initiatives and increasing worker participation. We expect more costs involved in complying with the Mining Charter, which may have an adverse impact on the profits generated by Harmony's operations in South Africa.

The Act also makes reference to royalties payable to the state in terms of an Act of Parliament, known as the Money Bill, which has been available for public comment, but is not yet in effect. The introduction of the Money Bill will have an adverse impact on the profits generated by Harmony's operations in South Africa. In terms of the draft regulations, royalties would be payable starting in 2009.

In Australia, most mineral rights belong to the government, and mining companies already pay royalties to government based on production. There are, however, limited areas where government granted freehold estates without reserving mineral rights. Harmony's subsidiary, New Hampton, has freehold ownership of its Jubilee mining areas, but the other mineral rights in Harmony's Australian operations belong to the Australian government and are subject to royalty payments. In addition, current Australian law generally requires native title approval to be obtained before a mining license can be granted and mining operations can commence. New Hampton and Hill 50 have approved mining leases for most of their reserves, including all reserves that are currently being mined, and Bendigo has an approved mining license for its current development area. Should New Hampton, Hill 50 or Bendigo desire to expand operations into additional areas under exploration, these operations would need to convert the relevant exploration licenses prior to commencing mining, and that process could require native title approval. There can be no assurance that any approval would be received.

# Harmony is subject to extensive environmental regulations.

As a gold mining company, Harmony is subject to extensive environmental regulation. Harmony has experienced and expects to continue to experience increased costs of production arising from compliance with South African environmental laws and regulations where it operates, principally in South Africa and Australia. The Minerals and Petroleum Resources Development Act 28 of 2002, certain other environmental legislation and the administrative policies of the South African government regulate the impact of Harmony's prospecting and mining operations on the environment.

Pursuant to these regulations, upon the suspension, cancellation, termination or lapsing of a prospecting permit or mining authorization in South Africa, Harmony will remain liable for compliance with the provisions of the Minerals and Petroleum Resources Development Act 28 of 2002, including any rehabilitation obligations. This liability will continue until such time as the South African Department of Minerals and Energy certifies that Harmony has complied with such provisions.

In the future, Harmony may incur significant costs associated with complying with more stringent requirements imposed under new legislation and regulations. This may include the need to increase and accelerate expenditure on environmental rehabilitations and alter provisions for this expenditure, which could have a material adverse effect on Harmony's results and financial condition.

The South African government has reviewed requirements imposed upon mining companies to ensure environmental restitution. For example, with the introduction of an environmental rights clause in South Africa's constitution, a number of environmental legislative reform processes have been initiated. Legislation passed as a result of these initiatives has tended to be materially more onerous than laws previously applied in South Africa. Examples of such legislation include the Minerals and Petroleum Resources Development Act 28 of 2002, the National Nuclear Regulator Act 47 of 1999, the National Water Act 36 of 1998 and the National Environmental Management Act 107 of 1998, which include stringent "polluter-pays" provisions. The adoption of these or additional or more comprehensive and stringent requirements, in particular with regard to the management of hazardous wastes, the pollution of ground and ground water systems and the duty to rehabilitate closed mines, may result in additional costs and liabilities.

# Because the principal non-United States trading market for Harmony's ordinary shares is the JSE Securities Exchange South Africa, investors face liquidity risk in the market for Harmony's ordinary shares.

The principal non-United States trading market for Harmony's ordinary shares is the JSE Securities Exchange South Africa, or the JSE. Historically, trading volumes and liquidity of shares listed on the JSE have been low in comparison with other major markets. The ability of a holder to sell a substantial number of Harmony's ordinary shares on the JSE in a timely manner, especially with regard to a large block trade, may be restricted by the limited liquidity of shares listed on the JSE.

## Harmony may not pay cash dividends to its shareholders in the future.

It is the current policy of Harmony's Board to declare and pay cash dividends if profits and funds are available for that purpose. Whether or not funds are available depends on a variety of factors, including the amount of cash available and on capital expenditures and other cash requirements existing at that time. Under South African law, cash dividends may only be paid out of the profits of Harmony. No assurance can be given that cash dividends will be paid in the future.

# Harmony non-South African shareholders face additional investment risk from currency exchange rate fluctuations since any dividends will be paid in Rand.

Dividends or distributions with respect to Harmony's ordinary shares have historically been paid in Rand. The US Dollar equivalent of any dividends or distributions with respect to Harmony's ordinary shares would be adversely affected by potential future decreases in the value of the Rand against the US Dollar. In fiscal 2004, the value of the Rand relative to the US Dollar increased by approximately 17 percent.

# Because Harmony has a significant number of outstanding options, Harmony's ordinary shares are subject to dilution.

On June 30, 2004, Harmony had an aggregate of 350,000,000 ordinary shares authorized to be issued and, at that date, an aggregate of 320,741,577 ordinary shares were issued and outstanding. In addition, Harmony has employee share option schemes. The employee share option schemes came into effect in 1994, 2001 and 2003 respectively. At June 30, 2004, options to purchase a total of 5,855,300 ordinary shares were outstanding. The exercise prices of these options vary between R11.70 and R93.00. As a result, shareholders' equity interests in Harmony are subject to dilution to the extent of the future exercises of the options.

Investors in the United States may have difficulty bringing actions, and enforcing judgments, against Harmony, its directors and its executive officers based on the civil liabilities provisions of the federal securities laws or other laws of the United States or any state thereof.

Harmony is incorporated in South Africa. All of Harmony's directors and executive officers (and certain experts named herein) reside outside of the United States. Substantially all of the assets of these persons and substantially all of the assets of Harmony are located outside the United States. As a result, it may not be possible for investors to enforce against these persons or Harmony a judgment obtained in a United States court predicated upon the civil liability provisions of the federal securities or other laws of the Unites States or any state thereof. A foreign judgment is not directly enforceable in South Africa, but constitutes a cause of action which will be enforced by South African courts provided that:

**&#183** the court that pronounced the judgment had jurisdiction to entertain the case according to the principles recognized by South African law with reference to the jurisdiction of foreign courts;

&#183 the judgment is final and conclusive (that is, it cannot be altered by the court which pronounced it);

**&#183** the judgment has not lapsed;

**&#183** the recognition and enforcement of the judgment by South African courts would not be contrary to public policy, including observance of the rules of natural justice which require that the documents initiating the United States proceeding were properly served on the defendant and that the defendant was given the right be heard and represented by counsel in a free and fair trial before an impartial tribunal;

&#183 the judgment does not involve the enforcement of a penal or revenue law; and

**&#183** the enforcement of the judgment is not otherwise precluded by the provisions of the Protection of Business Act 99 of 1978, as amended, of the republic of South Africa.

It is the policy of South African courts to award compensation for the loss or damage actually sustained by the person to whom the compensation is awarded. Although the award of punitive damages is generally unknown to the South African legal system, that does not mean that such awards are necessarily contrary to public policy. Whether a judgment was contrary to public policy depends on the facts of each case. Exorbitant, unconscionable, or excessive awards will generally be contrary to public policy. South African courts cannot enter into the merits of a foreign judgment and cannot act as a court of appeal or review over the foreign court. South African courts will usually implement their own procedural laws and, where an action based on an international contract is brought before a South African court, the capacity of the parties to the contract will usually determined in accordance with South African law.

It is doubtful whether an original action based on United States federal securities laws may be brought before South African courts. A plaintiff who is not resident in South Africa may be acquired to provide security for costs in the event of proceedings being initiated in South Africa. Furthermore, the Rules of the High Court of South Africa require that documents executed outside South Africa must be authenticated for the purpose of use in South Africa.

#### Item 4. Information on the Company

#### **BUSINESS**

#### Introduction

Harmony and its subsidiaries conduct underground and surface gold mining and related activities, including exploration, processing, smelting and refining. Harmony is currently the largest producer of gold in South Africa, producing some 30% of the country's gold, and the sixth largest gold producer in the world. As at June 30, 2004 Harmony's mining operations reported total proven and probable reserves of approximately 62.3 million ounces. In fiscal 2004, Harmony processed approximately 33.955 million tons of ore and sold 3,225,187 ounces of gold, which includes gold production from ARMgold for nine months from October 1, 2003 and Avgold for two months from May 1, 2004.

The gold market is relatively deep and liquid, with the price of gold generally quoted in U.S. dollars. The demand for gold is primarily for fabrication purposes and bullion investment. The purchase and sale of gold takes place around the globe in all sizes and forms.

Harmony's principal mining operations are located in South Africa and Australia, with development and exploration operations in Papua New Guinea and Peru.

Harmony conducts its mining operations through various subsidiaries. As of June 30, 2004, Harmony's principal subsidiaries were Randfontein Estates Limited, Evander Gold Mines Limited, ARMgold/Harmony Freegold Joint Venture Company (Pty) Ltd, ARMgold Limited, Avgold Limited, Kalahari Goldridge Mining Company Limited and Harmony Gold (Australia) (Pty) Limited. All are wholly-owned direct subsidiaries incorporated in South Africa, save for Harmony Gold (Australia) (Pty) Limited, a direct subsidiary incorporated in Australia.

Harmony has made several strategic investments in mining companies within and outside South Africa. In fiscal 2004, we made a successful bid to the minority shareholders of Abelle Limited and Avgold Limited, which are now wholly-owned subsidiaries of Harmony. In fiscal 2002, we acquired ordinary shares representing approximately 31.6% of Bendigo, a single project Australian gold mining development company. In fiscal 2003, Harmony also acquired stakes in Highland Gold, a company that held gold mining assets and mineral rights in Russia, and in High River, a company that held gold mining assets in Russia, Canada and West Africa. We sold our interests in Highland Gold and High River during fiscal 2004 for a combined pre-tax gain of approximately R528.2 million.

In South Africa, Harmony and its subsidiaries have nineteen operating shafts in the Free State Province, five operating shafts at Evander in the Mpumalanga Province, four operating shafts at Randfontein in the Gauteng Province, an open cast mine at Kalgold and two operating shafts in Orkney in the North West Province, and two production shaft units at Elandskraal (one of which was closed on June 30, 2004) in the North West and Gauteng provinces. Free Gold (in which Harmony had a 50 percent interest as of the end of fiscal 2003 and which became a wholly-owned subsidiary of Harmony since the merger with ARMgold was concluded on September 22, 2003) has eleven operating shafts in the Free State Province.

Harmony's Australian operations currently include two operations in Western Australia: Mt. Magnet (acquired in the Hill 50 transaction), South Kalgoorlie (including Jubilee, acquired in the New Hampton transaction, and New Celebration, acquired in the Hill 50 acquisition). Underground and surface mining is conducted at each of these Australian operations, with underground access through two declines at Mt. Magnet and one decline at South Kalgoorlie and surface access principally through open pits. The underground operations of Big Bell operations (acquired in the New Hampton transaction) ceased in fiscal 2004.

Ore from the shafts and surface material are treated at twelve metallurgical plants in South Africa (three at the Free State operations, one at Elandskraal, two at Evander, two at Randfontein, one at Kalgold and three at the Free Gold Company) and at three metallurgical plants in Australia (one at Mt. Magnet and two at South Kalgoorlie). Harmony received regulatory approval in 1997 to market its own gold, a function that was previously the sole preserve of the SARB. A refinery was commissioned by Harmony during fiscal 1997 in the Free State Province at South Africa. Harmony increased the capacity of this refinery in fiscal 2002, as a result of which Harmony has the capacity to refine all of its gold produced in South Africa. In fiscal 2004, the capacity of the refinery was 100 tonnes.

## History

Harmony Gold Mining Company Limited was incorporated and registered as a public company in South Africa on August 25, 1950. Harmony's principal executive offices are located at 4 The High Street, First Floor, Melrose Arch, Melrose North 2196, South Africa and the telephone number at this location is +27-11-684-0140. Harmony operates under a variety of statutes and regulations. To learn more about these statutes and regulations, see Item 4. "Information on the Company - Regulation" and Item 10. "Additional Information - Memorandum and Articles of Association."

Commercial gold mining in South Africa evolved with the establishment of various mining houses at the beginning of the 1900s by individuals who bought and consolidated blocks of claims until sufficient reserves could be accumulated to sustain underground mining. The mines were then incorporated, but it was not the practice of the founding mining house to retain a majority shareholding. Instead, the mining house would enter into a management agreement with the mine pursuant to which the mining house would carry out certain managerial, administrative and technical functions pursuant to long-term contracts. Fees were generally charged based on revenues, working costs or capital expenditures, or a combination of all three, without regard to the cost or the level of services provided.

Harmony was operated as a mining operation in this manner and the mining house Randgold & Exploration Company Limited, or Randgold, retained the management agreement. In late 1994, Randgold cancelled the management agreement and entered into a service agreement with Harmony to supply executive and administrative services at market rates. In 1997, Harmony and Randgold terminated their service agreement and Harmony began operating as a completely independent gold mining company.

Harmony's operations have grown significantly since 1995. Since 1995, Harmony has expanded from a lease-bound mining operation into an independent, world-class gold producer. Harmony increased its gold sales from 650,312 ounces of gold in fiscal 1995 to approximately 3.2 million ounces of gold in fiscal 2004.

In fiscal 2004, approximately 90% of Harmony's gold production took place in South Africa and 10% in Australia. In fiscal 2004, approximately 89% of Harmony's gold came from underground mines and 11% came from its surface mines. For more detailed geographical information about Harmony's activities, see Item 4. "Information on the Company - Business - Harmony's Mining Operations" and "Geographical and Segment Information" in note 37 to the consolidated financial statements.

## South African Operations

Harmony acquired additional mineral rights in the Free State, Mpumulanga, Gauteng and North West provinces in South Africa when it acquired Lydex in 1997, Evander in 1998, Kalgold in 1999, Randfontein in 2000, ARMgold in 2003 and Avgold in 2004.

On November 21, 2001, Harmony and ARMgold reached an agreement in principle with AngloGold to purchase the Free Gold assets, subject to specified conditions. Pursuant to the subsequently executed definitive agreements, the Free Gold assets were purchased by the Free Gold Company (in which Harmony and ARMgold each has a 50% interest) for Rand 2.2 billion (\$206.8 million at an exchange rate of R10.64 per \$1.00), plus an amount equal to any liability for taxes payable by AngloGold in connection with the sale. For purposes of U.S. GAAP, Harmony equity accounted for its interest in the Free Gold Company with effect from May 1, 2002 and the purchase price of the Free Gold assets was determined to be Rand 2.264 billion. See Item 5. "Operating and Financial Review and Prospects - Overview."

In connection with the acquisition of the Free Gold assets, Harmony and ARMgold entered into a formal joint venture and shareholders' agreement relating to the Free Gold Company. The agreement provided that Harmony and ARMgold were each responsible for 50% of the expenses associated with operating the Free Gold assets. The Free Gold operations are now wholly-owned by Harmony following the merger with ARMgold which was completed on September 22, 2003.

On May 24, 2002, Harmony, ARMgold and Gold Fields, through its subsidiary, St. Helena Gold Mines Limited, announced that an agreement in principle had been reached under which St. Helena Gold Mines Limited would sell the St. Helena gold mining assets to the Free Gold Company for Rand 120 million (\$13.7 million), plus a royalty equal to one percent of revenue for a period of 48 months beginning on the effective date of the sale. The sale was completed on October 30, 2002, and the Free Gold Company assumed management control on that date.

On May 2, 2003, Harmony and ARMgold appropried details of their 50/50 joint acquisition of a 34.5% stake in

On May 2, 2003, Harmony and ARMgold announced details of their 50/50 joint acquisition of a 34.5% stake in Anglovaal Mining Limited, previously known as Avmin and now African Rainbow Minerals Limited, or ARM. Based on a value of R43.50 per share, the transaction was valued at Rand 1.687 billion and was paid for in cash, which was funded by a long term loan from Nedcor Bank which is repayable by November, 2004.

On July 15, 2003, Harmony announced that it had entered into an agreement with Anglo South Africa (Pty) Limited ("Anglo SA") whereby it acquired 77,540,830 ordinary shares in Avgold Limited ("Avgold") or 11.5% of Avgold's outstanding share capital from Anglo SA, in exchange for 6,960,964 new Harmony ordinary shares issued to Anglo SA. The agreement with Anglo SA provides that should the Company make an offer to acquire the other Avgold shareholders' interest, the consideration payable to Anglo SA will be adjusted to reflect the amounts paid to the other Avgold shareholders. Harmony acquired the remaining stake in Avgold in April/May 2004 (see below).

On September 22, 2003, Harmony and ARMgold consummated a merger, the terms of which were announced on May 2, 2003. Pursuant to the merger agreement, following the respective company shareholder approvals, Harmony issued 2 ordinary shares for every 3 ARMgold ordinary shares acquired. ARMgold also paid its shareholders a special dividend of R6.00 per ordinary share (\$0.84) prior to the consummation of the merger. Harmony issued 63,670,000 ordinary shares to ARMgold's shareholders which resulted in ARMgold becoming a wholly-owned subsidiary of Harmony. For U.S. GAAP purposes, the merger was accounted for as a purchase by Harmony of ARMgold for a purchase consideration of approximately \$697 million. The results of ARMgold have been included in those of Harmony from October 1, 2003.

On November 7, 2003, Harmony entered into an agreement to dispose of its wholly-owned subsidiary Kalgold to The Afrikander Lease Limited ("Aflease") for a total consideration of \$39.0 million. The consideration comprised of a cash payment of \$19.5 million and the balance through the issue by Aflease of new ordinary shares valued at \$19.5 million. Although all the other conditions precedent to the agreement were met, Aflease could not provide appropriate funding and the contract was subsequently cancelled on March 15, 2004.

Following the Harmony merger with ARMgold, on November 13, 2003, Harmony announced that it reached an agreement in principle with ARM and African Rainbow Minerals & Exploration Investments (Pty) Ltd whereby it would enter into a number of transactions which would restructure ARM. The first transaction involved Harmony acquiring ARM's 286,305,263 ordinary shares in Avgold, or 42.2% of Avgold's outstanding share capital, in exchange for 28,630,526 new Harmony ordinary shares to be issued to ARM. The acquisition of ARM 's interest in Avgold became unconditional in April 2004, when Harmony was required to make a mandatory offer to the Avgold minority shareholders on the same terms as which it acquired ARM 's interest in Avgold. Harmony and ARM have cross shareholdings in each other whereby Harmony owns a 19% interest in ARM, and ARM owns a 19.84% interest in Harmony. See Item 7. "Major shareholders and Related Party Transactions'.

On April 15, 2004, ARM shareholders approved the disposal of their entire shareholding of 286,305,263 ordinary shares in Avgold Limited to Harmony. By way of share exchange, ARM Limited received 1 Harmony share for every 10 Avgold shares held. On May 11, 2004 Harmony announced that its mandatory offer to Avgold minorities was successful and that a total of 62,204,893 Harmony shares were issued to acquire the entire shareholding in Avgold. Avgold owns the Target mine in the Free State. Harmony also disposed of its Kalplats platinum project and associated mineral rights to ARM in exchange for 2 million new ARM ordinary shares issued to Harmony. All of the above described transactions were consummated during May 2004, which resulted in Avgold becoming a wholly- owned subsidiary of Harmony. As of June 30, 2004 Harmony owned 19% of ARM.

On May 21, 2004, Harmony announced that it had raised R1.7 billion by way of an issue of convertible bonds to international investors, which reduced Harmony's South African interest payments by approximately R85 million per year. In addition to these cost benefits, it also allowed Harmony to consolidate its short term debt. The convertible bonds are Rand denominated and interest is payable semi-annually in arrears at a rate of 4.875% per annum. The convertible bonds may be converted into ordinary shares at a price, including premium of R121.00 per share, from July 1, 2004, until the seventh day prior to the maturity date, which is expected to be on May 15, 2009.

## Australian Operations

Harmony presently conducts Australian operations through three acquired Australian gold mining companies: New Hampton, acquired with effect from April 1, 2001, Hill 50, acquired with effect from April 1, 2002 and Abelle, acquired with effect from May 1, 2003.

Harmony made its first investment in the Australian gold mining industry in February 2000, by acquiring a stake in Goldfields (Australia), an independent gold production and exploration company. Effective December 31, 2001, Delta Gold Limited, or Delta, completed a merger with Goldfields (Australia). In connection with the merger, holders of Delta shares received 187 Goldfields (Australia) shares in exchange for every 200 Delta shares held. Harmony's stake in Goldfields (Australia) following the merger was diluted to approximately 9.8%. In February 2002, Goldfields (Australia) changed its name to AurionGold Limited. On May 25, 2002, Harmony and Placer Dome entered into an agreement under which Harmony accepted Placer Dome's offer to acquire all of Harmony's interest in AurionGold. As a result of this transaction, Harmony obtained a 1.9% interest in Placer Dome, which was disposed of during fiscal 2003.

In fiscal 2002 Harmony closed the acquisition of 96.2% of New Hampton's shares and 95% of New Hampton's warrants for cash valued at approximately A\$56.3 million (R228.2 million at an exchange rate of R4.05 per A\$1.00,

or \$28.5 million at an exchange rate of R8.00 per \$1.00). Harmony subsequently completed a compulsory acquisition of the remaining shares and warrants.

On December 11, 2001, Harmony commenced a conditional cash offer for all of the outstanding ordinary shares and listed options of Hill 50. The total cash bid valued Hill 50 at approximately A\$233 million (R1.419 billion at an exchange rate of R6.09 per A\$1.00, or \$124.8 million at an exchange rate of R11.37 per \$1.00). The offer closed on May 3, 2002, at which time shareholders holding 98.57% of Hill 50's shares and 98.76% of Hill 50's listed options had accepted Harmony's offer and this offer had become unconditional. Harmony subsequently completed a compulsory acquisition of the remaining shares and options under the rules of the Australian Stock Exchange. See Item 4. "Information on the Company - Business - Harmony's Mining Operations-Australian Operations." Harmony financed the Hill 50 offer from existing cash resources and borrowings, including a syndicated loan facility entered into on February 28, 2002, with Citibank, N.A., as lead arranger. In an effort to increase efficiency and reduce corporate expenditures, in the quarter ended June 30, 2002 Harmony integrated New Hampton's Jubilee operations with Hill 50's New Celebration operations to form the South Kalgoorlie operations and combined the corporate offices of New Hampton and Hill 50 in Perth. Harmony reports the New Hampton and Hill 50 operating results together within an "Australian Operations" segment.

On February 26, 2003, Harmony announced that it would subscribe for new shares in Abelle Limited and the intention to make a public offer for ordinary shares and options in Abelle for A\$0.75 per ordinary share and A\$0.45 per option. The offer closed on March 26, 2003, and as at June 30, 2003, Harmony owned 87% of Abelle's outstanding shares and 65% of the listed options which were acquired for a total consideration of \$105.4 million. Harmony has since acquired the remaining interest in Abelle as of May 2004 (see below). Abelle is an Australian company listed on the Australian Stock Exchange, with interests in mining and exploration projects in Australia and Papua New Guinea. From May 1, 2003, Harmony reports the results of Abelle, together with those of New Hampton and Hill 50 in the "Australian Operations" segment. See Item 4. "Information on the Company - Business - History" and Item 4. "Information on the Company - Business - Harmony's Mining Operations - Australian Operations."

On September 25, 2001, Harmony announced that it had reached an agreement in principle with Bendigo, to acquire 294 million shares of Bendigo for a total purchase price of approximately A\$50 million (R292 million at an exchange rate of R5.84 per A\$1.00, or \$22.8 million at an exchange rate of R12.80 per \$1.00). On December 13, 2001, shareholders of Bendigo approved this subscription and Harmony acquired ordinary shares representing approximately 31.8% of the outstanding share capital of Bendigo. On that date, Harmony was also granted options to acquire 360 million additional shares of Bendigo at any time before December 31, 2003, at a price of A\$0.30 per share for a maximum consideration of A\$108 million (R630.7 million at an exchange rate of R5.84 per A\$1.00, or \$72.2 million). Bendigo is a single project Australian gold mining development company that controls the New Bendigo Gold Project in the historic Bendigo goldfields. Bendigo controls all of the mining and exploration rights beneath and in the vicinity of the city of Bendigo in Victoria. Bendigo has reported that it is using the funds it received from Harmony's investment in a project with the goal of developing and bringing into production a high grade, mechanized underground mine. Following completion of a feasibility study in fiscal 2004, Harmony informed Bendigo that it would not be participating in a capital fund raising. The board of Bendigo have pursued other funding options and raised A\$105 million from capital markets by the issue of new shares. Harmony's shareholding is currently 11.63% as a result of the dilution from the capital raise and additional shares issued by Bendigo for a share purchase plan. Also on November 7, 2003, Abelle announced that it had entered into negotiations with Legend Mining Limited, whereby Legend offered to purchase the Gidgee gold project. Legend made an offer to buy Abelle's 100% legal and beneficial interest in the project for a consideration of A\$6.5 million (subject to certain adjustments) comprising approximately 600 square kilometers of mining and exploration tenements together with project infrastructure including the CIP gold treatment plant, haul roads and access infrastructure, underground mine and associated infrastructure as well as stockpiles, reserves and resources. This transaction closed in December 2003 for a consideration of A\$6.3 million.

On March 15, 2004 Harmony announced an offer to holders of ordinary shares, listed options and unlisted options in Abelle Limited ("Abelle") that Harmony does not already own. The acquisition of the Abelle minorities is valued at approximately R620 million or A\$125 million (US\$85.2 million). On May 19, 2004, the Company announced that its bid for all the outstanding securities in Abelle was unconditional and proceeded with a compulsory acquisition of all the securities in Abelle, which resulted in Abelle becoming a wholly-owned subsidiary of Harmony.

## **Canadian Operations**

In 1998, Harmony acquired its first production facility outside South Africa by purchasing the mining assets in the Bissett area of Manitoba in Canada from the liquidators of the Rea Gold Corporation. Harmony completed the capital expenditure and development programs required to establish a production unit capable of producing over 65,000 ounces per year on this property. In fiscal 2001, due to the mining operations being uneconomical at then-current gold prices, Harmony decided to suspend production at the Bissett mine, and placed the operations on a care and maintenance program during the quarter ended September 30, 2001. On December 2, 2003, Harmony signed a letter of intent regarding the sale of its interest in Bissett to San Gold Resources Corporation for C\$7.5 million, subject to certain conditions. On March 17, 2004, Harmony completed the disposal of 100% of the issued and outstanding shares of Bissett to Rice Lake Joint Venture Inc, a joint venture between San Gold Resources Corporation and Gold City Industries Limited, for C\$7,625,000 (US\$5.6 million), which was made up of C\$3,625,000 (US\$2.6 million) in cash plus C\$4,000,000 (US\$3 million) in shares of San Gold and Gold City. Rice Lake is owned jointly by San Gold and Gold City.

## Other Strategic Investments

On January 21, 2003, Randfontein Estates Limited ("Randfontein"), a wholly-owned subsidiary of Harmony, entered into an agreement with Africa Vanguard Resources (Proprietary) Limited ("Africa Vanguard"), pursuant to which Randfontein sold 26% of its mineral rights in respect of the Doornkop Mining Area to Africa Vanguard for a purchase price of R250 million plus VAT. Randfontein and Africa Vanguard also entered into a Joint Venture Agreement on the same day, pursuant to which they agreed to jointly conduct a mining operation in respect of the Doornkop Mining Area. The Agreements were subject to the fulfillment of certain conditions precedent, the last of which was fulfilled on August 12, 2003. The Agreements were implemented, and the initial purchase price of \$19 million was paid on August 15, 2003. For US GAAP purposes, Harmony did not account for this transaction as a sale, but have consolidated the results of Africa Vanguard and the Doornkop Joint Venture, as both these entities have been determined to be variable interest entities, with Harmony as the primary beneficiary of both variable interest entities. On April 28, 2004, Harmony announced that it had entered into a joint venture with Network Healthcare Holdings (Netcare). The joint venture company is known as Health-Manco and has been formed for the purpose of managing the provision of healthcare services of the Harmony Group. The agreement between Harmony and Netcare forms the first part of a deal that is expected to eventually see the complete outsourcing of the management of Harmony's healthcare.

## **Strategy**

Harmony is an independent growth oriented company in the gold production business and is distinguished by the focused operational and management philosophies that it employs throughout the organization. Harmony's growth strategy is focused on building a leading international gold mining company through acquisitions, organic growth and focused exploration. Harmony is currently expanding in South Africa and Australia, building on Harmony's position as a leading cost-effective South African gold company in order to enhance Harmony's position as one of the world's premier international gold producers. During fiscal 2004, Harmony also invested funds in mining opportunities in exploration and development projects in Papua New Guinea and Peru.

The international and South African gold mining industries have been in the recent past and continue to be affected by structural and investment trends moving toward the consolidation of relatively smaller operations into larger, more efficient gold producers with lower, more competitive cost structures. This consolidation enables gold producers to be more competitive in pursuing new business opportunities and creates the critical mass (measured by market capitalization) necessary to attract the attention of international gold investment institutions. Harmony's current strategy is predominantly influenced by these investment trends, which have already resulted in significant restructuring and rationalization in the South African, Australian and North American gold mining industries. Harmony believes these trends will continue to lead to significant realignments in the international gold production business. Harmony intends to continue to participate in the South African and international restructuring activity to continue to achieve its growth objectives.

Since undergoing a change in management in 1995, Harmony has employed a successful strategy of growth through a series of acquisitions and through the evolution and implementation of a simple set of management systems and philosophies, which Harmony refers to as the "Harmony Way," and which Harmony believes are 22

unique in the South African gold mining industry. A significant component of the success of Harmony's strategy to date has been its ability to acquire under-performing mining assets, mainly in South Africa, and in a relatively short time frame to transform these mines into cost-effective production units. The execution of Harmony's strategy between fiscal 1995 and fiscal 2004 has resulted in the growth of Harmony's annual gold sales from approximately 650,000 ounces in fiscal 1995 to approximately 3.2 million ounces in fiscal 2004. Despite increased cash operating costs, Harmony has expanded its proven and probable ore reserve base and, as at June 30, 2004, Harmony's mining operations reported total proven and probable reserves of approximately 62.3 million ounces.

Harmony is managed according to the philosophy that its shareholders have invested in Harmony in order to own a growth stock, which will also participate in movements in the gold price. Accordingly, Harmony has consistently maintained a policy of generally not hedging its future gold production. Harmony's policy is to eliminate any hedging positions existing within the companies that it acquires as soon as opportunities can be created to do so in sound, commercially advantageous transactions. There may, however, be instances where certain hedge positions in acquired companies need to be kept in place for contractual or other reasons.

The major components of Harmony's strategy include:

## Continuing to implement Harmony's unique management structure and philosophy.

Harmony implements a simple set of management systems and philosophies, which Harmony refers to as the "Harmony Way", and which it believes are unique to the South African gold mining industry. This "Harmony Way" is underpinned by the following concepts:

## &#183

**Empowered management teams.** At each mining site Harmony has established small, multi-disciplinary, focused management teams responsible for planning and implementing the mining operations at the site. Each of these teams is accountable for the results at its particular site and reports directly to Harmony's executive committee.

#### &#183

Active strategic management by the Board. Annual operational goals and targets, including cost, volume and grade targets are established in consultation with the Harmony's executive committee for each mining site. Each management team develops an operational plan to implement the goals and targets for its mine site. Harmony's executive committee reviews and measures the results at each mining site on a regular basis throughout the year.

#### &#183

**Increased productivity.** Gold mining in South Africa is very labor intensive with labor accounting for approximately 50% of Harmony's costs. To control these costs, Harmony structures its operations to achieve maximum productivity with the goal of having 60% of Harmony's workforce directly engaged in stoping, or underground excavation, and development rock breaking activities. In addition, Harmony has implemented productivity-based bonuses designed to maximize productivity.

## &#183

A no-frills, low cost ethic. Harmony has an obsession about lowering its cost base and, to this end, Harmony extensively benchmarks its costing parameters both internally between operations within Harmony and externally against other gold producers.

#### &#183

**Systems.** Harmony has implemented sophisticated cost accounting systems and strict ore accounting and ore reserve management systems to measure and track costs and ore reserve depletion accurately, so as to enable it to be proactive in its decision making.

Harmony has implemented the "Harmony Way" at its original mining operations and at each mining property Harmony has acquired since 1995, and is currently implementing the "Harmony Way" at the Australian operations acquired through the acquisitions of New Hampton and Hill 50. By implementing this process, Harmony generally has been able to reduce unit costs significantly while increasing production and extending mine life. Harmony and ARMgold share similar management philosophies, which Harmony took into consideration in deciding on the merger with ARMgold, which was completed in September 2003. The Free Gold Company has begun implementing measures to reduce costs while increasing production and extending mine life, in a manner that Harmony believes is consistent with the "Harmony Way."

## Growing through acquisitions in South Africa and internationally.

Harmony's acquisition strategy in South Africa has been, and will continue to be, mainly to pursue mature, underperforming gold mining operations in which it believes it can successfully introduce the "Harmony Way" to increase productivity, reduce costs and extend mine life. The advantage to acquiring mature, underperforming operations is that they tend to be cheaper to acquire and, particularly for underground operations, much of the required capital expenditure has already been made. Harmony's corporate strategy with respect to acquisition targets is as follows:

**&#183** to make acquisitions in addition to pursuing greenfield and brownfield developments when it is economical to do so;

**&#183** to acquire mature assets with turnaround potential;

&#183 to acquire assets that fit Harmony's management model; and

**&#183** to acquire assets that enhance Harmony's overall resource base.

In South Africa, Harmony continues to explore a number of potential acquisitions. The South African gold mining industry has undergone a significant restructuring since 1990 with the result that a number of gold mining companies owned principally by mining houses have been sold to other gold operators. Harmony believes that this restructuring process has not yet been completed and that there will continue to be opportunities for further acquisitions in South Africa.

Outside of South Africa, Harmony intends to leverage the broad gold mining experience it has gained through acquisitions and existing operations. Through Harmony's existing operations, Harmony has gained extensive underground mining experience. Harmony has also gained extensive experience in surface mining by open cast methods through its acquisition of Kalgold and the open cast operations of Randfontein, New Hampton and Hill 50 and in mechanized mining of greenstone orebodies through Harmony's acquisitions of Bissett, New Hampton and Hill 50. These types of mining are more typical outside of South Africa. Harmony believes that these skills should position it to be able to pursue a broad range of acquisition opportunities. Harmony continues to explore new business opportunities both inside and outside of South Africa including exploration projects gained through its aquisition of Abelle. Harmony may in the future pursue additional suitable potential acquisitions in South Africa or internationally. *Expanding Harmony's exploration and development activities to increase its reserve base*.

Harmony intends to continue to support and expland exploration activities as another important avenue for increasing the size of its reserve base. Exploration projects involve material risks and uncertainties, however, and Harmony cannot be sure these projects will be successful. See Item 3. "Key Information - Risk Factors - To maintain gold production beyond the expected lives of Harmony's existing mines or to increase production materially above projected levels, Harmony will need to access additional reserves through development or discovery." Harmony is engaging in, and investigating possibilities for, organic growth through targeted development projects. Harmony is pursuing substantial projects to deepen the Elandskraal operations and improve the Masimong shaft system. Harmony is also currently conducting feasibility studies for shallow and medium-depth capital projects in the vicinity of Harmony's existing Randfontein and Evander operations. See Item 4. "Information on the Company -Harmony's Mining Operations - Elandskraal Operations," Item 4. "Information on the Company - Harmony's Mining Operations - Randfontein Operations," Item 4. "Information on the Company - Harmony's Mining Operations - Free State Operations" and Item 4. "Information on the Company - Harmony's Mining Operations - Evander Operations." In evaluating and pursuing these projects, Harmony's goal is to achieve organic growth in South Africa. Capital development projects of this type involve material risks and uncertainties, however, and Harmony cannot be sure its development efforts will be successful. See Item 3. "Key Information - Risk Factors - To maintain gold production beyond the expected lives of Harmony's existing mines or to increase production materially above projected levels, Harmony will need to access additional reserves through development or discovery." 24

#### **Hedge Policy**

As a general rule Harmony sells its gold production at market prices. Harmony generally does not enter into forward sales, derivatives or hedging arrangements to establish a price in advance for the sale of its future gold production. As a result of this policy, Board approval is required when hedging arrangements are to be entered into to secure loan facilities. Any change to this policy requires ratification by the Board. Currently, Harmony's hedge book is managed by a risk and treasury management services company, which is a joint venture between a major South African bank and a black economic empowerment company.

Harmony does not trade in derivatives for its own account. In the past three years, there have been two instances in which Harmony has made use of gold price hedges: Harmony's forward sale of a portion of the production at Bissett at a set gold price and put options relating to 1 million ounces of Harmony's production at Elandskraal. Both of these hedges were entered into in order to secure loan facilities and have since been closed out.

Harmony inherited the following forward exchange contracts with the acquisition of Avgold in May 2004.

June 30, 2005

June 30, 2006

**Total** 

Forward exchange contracts & calls sold US\$ million

79.4

39.5

118.9

Average Strike US\$/R

9.073

9.543

9.229

The contracts do not meet the criteria for hedge accounting and the mark-to-market movement is reflected in the income statement. The mark-to-market of these contracts was a negative R300 million (US\$48 million) as at June 30, 2004. These values were based upon a spot price of US\$1/R6.44 (as of September 29, 2004) and prevailing market interest rates at the time. Independent risk and treasury management experts provided these valuations. The forward exchange contracts mature on a monthly basis, resulting in cash inflow or outflow, equal to the difference between the strike price of the contracts and the spot price on the particular day. The average strike price of the contracts, are significantly higher that the spot price of US\$1/R6.44 (as of September 29, 2004), resulting in significant cash outflows.

A significant proportion of the production at Randfontein was already hedged when acquired by Harmony. On April 12, 2002, Harmony had closed out all of the Randfontein hedge positions, including closing forward sale contracts and call options covering a total of 490,000 ounces and forward purchases covering a total of 200,000 ounces. In addition, a substantial proportion of the production of both New Hampton and Hill 50 was already hedged when acquired by Harmony. These hedge agreements were accounted for as speculative contracts. In fiscal 2002, in line with Harmony's strategy of being generally unhedged, Harmony reduced New Hampton's hedge book by over 900,000 ounces and combined and restructured the remainder of the hedge portfolio of Harmony's Australian operations (including New Hampton and Hill 50) to normal purchase and sale agreements, under which Harmony had to deliver a specified quantity of gold at a future date subject to agreed-upon prices. In fiscal 2003, a significant portion of the inherited hedge book was closed out. As a result the remaining hedge agreements does not meet hedge accounting criteria for accounting purposes and the mark-to-market movements in these contracts are reflected in the income statement. During fiscal 2004, a further 500,000 ounces of the inherited hedge books of both New Hampton and Hill 50 were closed out at a cost of Rand 105 million (US\$14.4 million). As of June 30, 2004, the resulting hedge portfolio covered 495,000 ounces over a five-year period at an average strike price of A\$518 per ounce (\$363 at an exchange rate of A\$0.70 per \$1.00). Harmony has reduced the remaining hedge positions of the Australian operations gradually by delivering gold pursuant to the relevant agreements as well as through the close out of these hedge agreements. In December 2001, in response to significant depreciation in the Rand and to protect itself against possible appreciation of the Rand against the U.S. dollar, Harmony entered into Rand-U.S. dollar currency forward exchange contracts intended to cover estimated revenues from the Free State operations' planned production for calendar 2002. Harmony fixed the Rand-U.S. dollar exchange rate for a total of \$180 million at an average exchange rate of Rand

11.20 per U.S. dollar. These forward exchange contracts expired on December 31, 2002, and were not renewed. Harmony has not renewed or entered into any forward exchange contracts since then, although it has inherited such contracts in connection with its acquisition of Avgold in May 2004.

## **Description of Mining Business**

## **Exploration**

Exploration activities are focused on the extension of existing orebodies and identification of new orebodies both at existing sites and at undeveloped sites. Once a potential orebody has been discovered, exploration is extended and intensified in order to enable clearer definition of the orebody and the potential portions to be mined. Geological techniques are constantly refined to improve the economic viability of prospecting and mining activities. Harmony conducts exploration activities by itself or with joint venture partners. Harmony's prospecting interests in South Africa measure approximately 100,000 hectares. The area has been reduced, from 382,000 hectares, as regional exploration identified focused areas of mineralization, requiring more detailed investigation. Harmony's Australian operations also control prospecting interests, as described below. In addition to ongoing mine site exploration, Harmony has a program of investment in regional exploration. The exploration strategy on these greenstone belts uses geological, geophysical and geochemical techniques to identify broad systems of anomalous gold and associated rock alteration within which gold deposits typically occur as clusters.

Harmony spent approximately R108.87 million, excluding contributions from joint venture partners, on exploration in fiscal 2004 and the bulk of exploration expenditure was allocated to activities in Australia, Papua New Guinea South Africa and Peru with smaller expenditures in West Africa and Madagascar. In fiscal 2005, Harmony intends to carry out exploration in South Africa, West Africa, Australia, South America and Papua New Guinea.

Harmony disposed of its interest in the Kalplats projects during the year and is currently assessing the most appropriate route to be taken on its non-core mineral rights in South Africa.

Harmony's exploration activity in West Africa and South America, excluding Peru, was restricted to project generation and reconnaissance sampling. Site visits and negotiations with potential joint venture partners are ongoing. During 2004, Harmony continued to evaluate numerous projects in Peru. Two joint venture agreements were entered into with local partners, whereby Harmony could earn-in to prospective projects by undertaking phased exploration expenditure. Both of the projects are focused on areas with demonstrated potential to host epithermal gold mineralization. Analytical results from drilling of the first project and sampling of the second, suggested that they did not conform to Harmony's investment criteria and the joint ventures were terminated.

In addition to these joint ventures, Harmony has undertaken a comprehensive target generation program in Peru, supported by surface sampling programs. New projects generated by this program, or coming under negotiation, shall form the focus of an accelerated exploration program in 2005. For this reason, Harmony established a small exploration office in Peru during 2004.

Harmony's Australian operations conduct prospecting at various sites within their exploration mineral right areas, which include various types of property rights recognized in Australia covering a total area of approximately 298,355 hectares (737,250 acres). Harmony's exploration strategy in Australia includes exploration on greenstone belts using aeromagnetics, ground magnetics, geochemical, regolith and geotechnical techniques to identify broad systems of anomalous gold and associated rock alteration within which gold mineralization typically occurs. Thereafter, promising targets are drilled to test geological structures and establish the presence of gold mineralization. Should this process be successful in discovering ore, the deposits are then drilled and sampled systematically to determine ore reserves and metallurgical characteristics. Exploration of priority targets within Harmony's holdings, continued to be the focus of regional exploration over the 2004 fiscal year.

Harmony currently has a 11.63% stake in Australian-listed Bendigo Mining NL, an Australian listed company that controls a large tenement holding in the Bendigo goldfield of Victoria (Australia). It has been estimated that 18 million ounces of gold have historically been produced from underground operations on the numerous reefs in the Bendigo goldfield. Bendigo Mining management consider that the goldfield has the potential to host a further 12 million ounce resource below the historic mine workings. The coarse grain size and erratic distribution of the gold in the Bendigo reefs ("nugget effect") precludes the use of drilling as a reliable reserve definition tool. During 2003, a production size decline was sunk to access several reefs that had previously been defined by drilling. The objective was to establish ore-body geometry and grades as well as to gain further confidence in the proposed mining methods and process metallurgy. Bendigo's management have announced that nine of the seventeen targeted reefs had been evaluated by August 2003. The feasibility study was completed in fiscal 2004.

Following the acquisition of Hill 50, Harmony integrated Hill 50's exploration program on the properties south of Kalgoorlie with New Hampton's programs in that area. These programs involve exploration on a combination of freehold title and mineral leases forming an east-west belt extending from Lake Roe to Coolgardie, south of Kalgoorlie. The tenements span a number of geological domains including the Kalgoorlie-Kambalda Belt and the Boulder-Lefroy structure, the Zuleika Shear, the Coolgardie Belt and the Yilgarn-Roe structures. A comprehensive structural-geological and regolith-geochemical review was completed in July 2001 for the Southeast Goldfields area. This review outlined priority targets within Harmony's holdings, which were the focus of regional exploration over the 2002 fiscal year and continued to be the focus of regional exploration during the 2003 and 2004 fiscal years. Hill 50's exploration has also continued to focus on brownfield and greenfield opportunities at Mt. Magnet and on regional targets.

Through the Hill 50 transaction, Harmony also acquired two development projects in the Northern Territory of Australia: the Maud Creek project and the Brocks Creek project. Maud Creek is an advanced greenfield project based on a recent discovery located close to the historic Yeuralba gold field in the Pine Creek district. The Maud Creek project faces a metallurgical risk associated with the extraction of gold from the ore. The Maud Creek orebody is partially refractory in nature and specific (yet to be finalized) ore processing routes would be required to liberate the gold. The contemplated processes are expected to result in higher capital and operating costs, but are not expected to involve significant technical risk. Brocks Creek is an effort to bring mines formerly operated by AngloGold and Dominion Mining back into production. The Brocks Creek area includes shallow open pits located at Rising Tide, and rights to develop the underground Zapopan and Cosmo Deeps sites. In fiscal 2004, Harmony had a total expenditure of A\$8.4 million in combined levels of exploration at New Hampton and Hill 50.

On February 26, 2003 Harmony made an offer to subscribe for new shares as well as a public offer for the ordinary shares and options in Abelle Limited and as of May 2004, Abelle is a wholly-owned subsidiary of Harmony. Abelle owns 100% of the Hidden Valley and Wafi deposits in Papua New Guinea. The Hidden Valley project has an estimated mineral resource of 73.9 million tons at 2.2 grams per ton gold and 30 grams per ton silver for 5.2 million ounces of gold and 71 million ounces of silver. A feasibility study completed by Lycopodium of Australia in October 2002 envisaged a single open pit containing 2.8 million ounces of gold and 48 million ounces of silver. A new feasibility study completed by Abelle in December 2003, envisaged construction of a smaller but more profitable mine, which will produce 1.9 million ounces of gold and 25.5 million ounces of silver in phase one. The Wafi project is situated 60 kilometers from Morobe and is an advanced exploration project. Wafi consists of two deposits situated 1 kilometer apart. The Golpu deposit is a porphyry copper-gold deposit. The resource estimate for Golpu is 100 million tons at 1.3% copper and 0.6 grams per ton gold for 1.3 million tons of copper and 2.3 million ounces of gold. The second deposit (the Wafu gold deposit) is a high sulphidation gold deposit that contains an inferred resource of 53.3 million tons at 2.5 grams per ton for 4.3 million ounces gold. A 5,000 meter diamond drill program is currently underway at the recently discovered, high grade "link zone" of the Wafi gold deposit.

With the exception of the Burnside Joint Venture, which Hill 50 and Northern Gold NL formed in March 2002 to develop the Brocks Creek project, Harmony's exploration and development projects in Australia are wholly-owned. *Mining* 

The mining process can be divided into two main phases: (i) creating access to the orebody and (ii) mining the orebody. This basic process applies to both underground and surface operations.

#### &#183

Access to the orebody. In Harmony's underground mines, access to the orebody is by means of shafts sunk from the surface to the lowest economically and practically mineable level. Horizontal development at various intervals of a shaft (known as levels) extends access to the horizon of the reef to be mined. On-reef development then provides specific mining access. In Harmony's open pit mines, access to the orebody is provided by overburden stripping, which removes the covering layers of topsoil or rock, through a combination of drilling, blasting, loading and hauling, as required.

#### &#183

**Mining the orebody.** The process of ore removal starts with drilling and blasting the accessible ore. The blasted faces are then cleaned and the ore is transferred to the transport system. In open pit mines, gold-bearing material may require drilling and blasting and is usually collected by bulldozers or shovels to transfer it to the ore transport system. 27

In Harmony's underground mines, once ore has been broken, train systems collect ore from the faces and transfer it to a series of ore passes that gravity feed the ore to hoisting levels at the bottom of the shaft. The ore is then hoisted to the surface in dedicated conveyances and transported either by conveyor belts directly or via surface railway systems or roads to the treatment plants. In addition to ore, waste rock broken to access reef horizons must similarly be hoisted and then placed on waste rock dumps. In open pit mines, ore is transported to treatment facilities in large capacity vehicles.

## **Processing**

Harmony currently has twelve metallurgical plants in South Africa and three in Australia that treat ore to extract the gold. The principal gold extraction processes used by Harmony are carbon in leach, or CIL, carbon in pulp, or CIP, and carbon in solution, or CIS, although Harmony also has an old filter plant processing low grade waste rock. The gold plant circuit consists of the following:

#### &#183

**Comminution.** Comminution is the process of breaking up the ore to expose and liberate the gold and make it available for treatment. Conventionally, this process occurs in multi-stage crushing and milling circuits, which include the use of jaw and gyratory crushers and rod and tube and ball mills. Harmony's more modern milling circuits include semi or fully autogenous milling where the ore itself is used as the grinding medium. Typically, ore must be ground to a minimum size before proceeding to the next stage of treatment.

#### &#183

Treatment. In most of Harmony's metallurgical plants, including the plants at the Free Gold operations and at Hill 50, gold is extracted into a leach solution from the host ore by leaching in agitated tanks. Gold is then extracted onto activated carbon from the solution using the CIL, CIP or CIS process. In addition, each of Harmony and the Free Gold Company has one metallurgical plant that uses the zinc precipitation filter process to recover gold in solution. Harmony's Saaiplaas plant also used the zinc precipitation filter process prior to fiscal 2002, but it was converted to the CIS process during fiscal 2002. During fiscal 2003, however, the Saaiplaas plant was converted to the CIL process thereby lowering costs and improving extraction efficiency. Harmony will consider a similar conversion for the remaining Harmony zinc precipitation plant depending on the properties of the materials to be processed. Gold in solution from the filter plants is recovered using zinc precipitation. Recovery of the gold from the loaded carbon takes place by elution and electro-winning. Because cathode sludge produced from electro-winning is now sent directly to Harmony's refinery, most of the plants no longer use smelting to produce rough gold bars (dor). Harmony's zinc precipitation plant, however, and the zinc precipitation plant used by the Free Gold Company continue to smelt precipitate to produce rough gold bars. These bars are then transported to Harmony's refinery, which is responsible for refining the bars to a minimum of good delivery status.

Harmony operates the only independent gold refinery in South Africa. In fiscal 2004, all of Harmony's South African gold production was refined at Harmony's refinery. In fiscal 2003, approximately 85% of Harmony's South African gold production was refined at Harmony's refinery and the remainder was refined at the Rand Refinery, which is owned by a consortium of the major gold producers in South Africa. In April 2002, Harmony sold its ownership interest in the Rand Refinery back to the Rand Refinery. Harmony received approximately Rand 6.4 million (\$0.6 million at an exchange rate of R10.66 per \$1.00) from this sale.

Harmony produces its own branded products at its refinery, including various sizes of gold bars. This has allowed Harmony to sell to markets such as India, the Middle East and East Asia. Harmony's refinery supplies gold alloys and associated products to jewelry manufacturers in South Africa and internationally. In fiscal 2004, Harmony had refinery capacity of 100 tonnes per year. Harmony spent approximately Rand 4.8 million (compared to Rand 4.6 million (\$0.67 million) in fiscal 2003) on capital expenditures at its refinery in fiscal 2004.

28

The South African government has emphasized that the production of value-added fabricated gold products, such as jewelry, is an important means for creating employment opportunities in South Africa and has made the promotion of these beneficiation activities a requirement of the Mining Charter described in Item 4. "Information on the Company - Regulation-Mineral Rights." Harmony's beneficiation initiatives have benefited from the expansion and improvement of Harmony's refinery. Harmony supports jewelry ventures in South Africa, including providing facilities for a jewelry school and, in fiscal 2002, Harmony acquired rights to manufacture and distribute a range of jewelry based on the "Lord of the Rings" trilogy in South Africa, the United States and Canada. On December 11, 2002, Harmony and Mintek, a South African government research and development organization, signed a memorandum of understanding to create Musuku Beneficiation Systems, or Musuku, an integrated manufacturing and technology group focusing on the beneficiation of precious metals. Musuku will provide management, operational and technical to integrate value-added processes into the gold mining industry. On June 20, 2004, the Competition Commission approved the Musuku transaction.

### Services and Supplies

Mining activities require extensive services, located both on the surface and underground. These services include mining-related services such as mining engineering (optimizing mining layouts and safe mining practices), planning (developing short-term and long-term mining plans), ore reserve management (to achieve optimal orebody extraction), ventilation (sustaining operable mining conditions underground), provision of supplies and materials, and other logistical support. In addition, engineering services are required to ensure equipment operates effectively. Unlike many other South African gold producers, Harmony generally provides only those services directly related to mining. In some cases, other services are provided by outside contractors. Harmony provides medical services to employees at its Free State, Evander and Randfontein hospitals. During fiscal 2004, Harmony entered into a joint venture agreement with Netcare Healthcare Holdings to outsource the management of Harmony's healthcare.

The Mining Charter described in Item 4. "Information on the Company - Regulation - Mineral Rights" establishes a policy of preferred supplier status according to enterprises controlled by members of historically disadvantaged groups when those enterprises are able to offer goods and services at competitive prices and quality levels. Harmony believes that its procurement policy is consistent with this policy.

#### Harmony's Management Structure

As part of the "Harmony Way," Harmony structures its mining operations in a way that it considers to be unique in the South African gold mining industry. Harmony's operational structure is based on small empowered management teams at each production site, which may include one or more underground mine shafts or open cast sites. These management teams are fully responsible for planning and executing the mining at the production site and report directly to Harmony's Executive Committee. Each management team consists of an ore reserve manager, a mining manager, a financial manager, an engineering manager and a human relations manager. Each member of the management team has an individual area of responsibility: the mining manager is responsible for rock breaking and safety; the ore reserve manager is responsible for geology and ore reserves; the financial manager is responsible for financial management; the engineering manager is responsible for maintaining equipment; and the human relations manager is responsible for manpower issues. One of the managers is appointed as the team captain. Financial incentives are provided for the production team at each site based on the production and efficiency at the site. Placing management power at the level of the actual production sites has resulted in greater flexibility, innovation and quicker decision-making than the more traditional management structures at South African gold mines. It also means that Harmony operates without multiple levels of management. This contributes to decreased overhead costs, which has a positive impact on the payable portion of Harmony's mineral resources. In addition, the reduced management structure is important in facilitating Harmony's goal of having 60% of its work force being directly involved in actual mining as opposed to the industry standard of 40%. Harmony believes that this initiative has resulted in increased productivity.

In addition, Harmony and the United Association of South Africa have signed an agreement to redefine the traditional role of shift boss, or supervisor, to that of a coach. This initiative, which Harmony has implemented at its South African operations, re-aligns features of Harmony's operational-level organization. The principal features of this initiative are to allow coaches to focus on safety promotion by transferring line supervision duties to the mine overseers (whose technical expertise will be available to blasting crews) and changing the compensation structure so that coaches will not receive incentive compensation based on production levels. In addition, coaches spend the entire eight-hour working shift underground with the mining team, in contrast with the four hours shift bosses typically spent with the mining team. Harmony believes that this initiative will promote a safe production environment for the blasting crew and enhance career development for previously disadvantaged individuals.

## **Capital Expenditures**

Capital expenditures, including the non-cash portion, incurred for fiscal 2004 totalled approximately \$126.5 million, compared with \$209 million for fiscal 2003 and \$59.0 million for fiscal 2002. The focus of Harmony's capital expenditures in recent years has been underground development and plant improvement, upgrades and acquisitions, and management currently expects this focus to continue in fiscal 2005. The decrease in capital expenditure in fiscal 2004 compared with fiscal 2003 was as a result of downscaling at the Elandskraal and Australian operations as well as the appreciation of the Rand against the U.S. dollar. The increase in capital expenditures in fiscal 2003 compared with fiscal 2002 was due to the acquisition of Abelle in March 2003 and the development of projects such as Tshepong and Bambanani. Harmony has budgeted approximately \$144.1 million for capital expenditures in fiscal 2005. Details regarding the capital expenditures for each operation are found in the individual mine sections under "Business - Harmony's Mining Operations." Harmony currently expects that its planned capital expenditures will be financed from operations and existing cash on hand. However, if Harmony decides to expand major projects such as the Poplar Project and the Rolspruit Project at Evander beyond its current plans, Harmony may consider alternative financing sources described below. See Item 4. "Information on the Company - Business - Harmony's Mining Operations - Evander Operations."

## **Description of Property**

Harmony's operational mining areas in South Africa comprise the Free State operations of 55,801 acres, the Evander area of 91,178 acres the Randfontein area of 41,026 acres, the Kalgold area of 5,259 acres, the Elandskraal area of 22,864 acres, the Free Gold's area of 35,582 acres and the Target area 10,469 acres. Harmony's operational mining areas (granted tenements) in Australia comprise the combined Mt. Magnet - Big Bell area of 252,114 acres, the South Kalgoorlie area of 222,647 acres and active holdings in the Northern Territories Joint Venture that total 288,083 acres. Harmony furthermore owns, controls or shares in mineral rights that have not been brought to production. In line with the rest of the South African mining industry, Harmony has been rationalizing its mineral rights holdings in recent years. Accordingly, over the past three years, Harmony disposed of its shares and its participation rights in areas in as well as outside of South Africa in which it has not actively pursued mining. Harmony may continue to investigate further disposals.

The following pages contain maps of Harmony's South African and worldwide operations and interests.

#### **WORLDWIDE OPERATIONS**

#### Geology

The major portion of Harmony's South African gold production is derived from mines located in the Witwatersrand Basin in South Africa. The Witwatersrand Basin is an elongate structure that extends approximately 300 kilometers in a northeast-southwest direction and approximately 100 kilometers in a northwest-southeast direction. It is an Archean sedimentary basin containing a 6 kilometers thick stratigraphic sequence consisting mainly of quartzites and shales with minor volcanic units.

Conglomerate layers occur in distinctive depositional cycles or packages within the upper, arenaceous portion of the sequence, known as the Central Rand Group. It is within these predominately conglomeratic units that the gold-bearing alluvial placer deposits, termed reefs, are located.

The differences in the morphology and gold distribution patterns within a single reef, and from one reef to the next, are a reflection of the different sedimentary processes at work at the time of placer deposition on erosional surfaces in fluvial and littoral environments.

Within the various goldfields of the Witwatersrand Basin there are major and minor fault systems, and some of the normal faults have displaced basin-dipping placers upwards in a progressive step-like manner, enabling mining to take place at accessible depths.

The majority of Harmony's South African gold production is derived from auriferous placer reefs situated at different stratigraphic positions and at varying depths below surface in three of the seven defined goldfields of the Witwatersrand Basin.

Harmony's production from the Australian operations and South African Kalgold operations are sourced from Archaean greenstone gold deposits. These types of deposits are formed by the interaction of gold-bearing hydrothermal fluids with chemically or rheologically suitable rock types. The hydrothermal fluids are typically focused along conduits termed shear zones. The nature of the shear zone and the host rock determines the style of the mineralization, which may be narrow veins with high gold grades or wide disseminated mineralization with low-medium grades. Frequently the two styles occur together.

At Harmony's Papua New Guinea operations, the sedimentary/volcaniclastic rocks of the Owen Stanley Formation that surround the Wafi Diatreme, host the gold mineralization at the Wafi project. Gold mineralization occurs as extensive high-sulphidation epithermal alteration overprinting porphyry mineralization and epithermal style vein-hosted and replacement gold mineralization with associated wall-rock alteration. The Golpu Copper-Gold project is located about 1kilometer northeast of the Wafi gold orebody. It is a porphyri (Diorite) copper-gold deposit. The host lithology is a diorite that exhibits a typical zoned porphyry copper alteration halo and the mineralized body can be described as a porphyry copper-gold `pipe'. Harmony's Hidden Valley project comprise low sulphidation carbonate-base metal-gold epithermal deposits within the Morobe Goldfield, in the Morobe Province of Papua New Guinea. In the Hidden Valley project area a batholith of Morobe Granodiorite (locally a coarse grained monzogranite) is flanked by fine metasediments of the Owen Stanley Metamorphics. Both are cut by dykes of Pliocene porphyry ranging from hornblende-biotite to feldspar-quartz porphyries. A number of commonly argillic altered and gold anomalous breccias are known, including both hydrothermal and over printing structural breccias. The Hidden Valley deposit area is dominated by a series of post Miocene faults controlling the gold mineralization, including an early north trending set and the main NW faulting.

#### Reserves

Harmony applies an ore reserve management system that emphasizes effective geological control of the orebody. In addition, ongoing management of the ore reserves is decentralized to each production site where management applies site-specific technical and working cost parameters to determine the optimal cut-off grade. This cut-off grade is defined as the grade at which the total profits from mining the orebody, under a specific set of mining parameters, is maximized and, therefore, optimizes exploitation of the orebody. The use of a cut-off grade attempts to account for all the ore tons that make a marginal contribution to the profitability of the mine.

Historically, South African gold mining companies have not been required to follow any particular standard for reporting ore reserves. Consequently, Harmony inherited a number of different standards for reporting ore reserves as it acquired mining operations.

The JSE requires that all gold mining companies listed on the JSE must report ore reserves on the basis of the South African Mineral Resource Committee code of practice, or SAMREC. The Harmony ore reserves as at June 30, 2004 have been reported in accordance with this ruling. In addition, the ore reserve information for Harmony's Australian operations is reported on the basis of the Australian Code for Reporting of Mineral Resources and Ore Reserves, or JORC Code. The JORC Code is consistent with SAMREC, although the JORC code focuses more specifically on open cast mining, which is more common in Australia. Only the reserves which qualify as proven and probable reserves for purposes of the SEC's industry guide number 7 at each of Harmony's mining operations are presented in this annual report. See "Glossary of Mining Terms."

As at June 30, 2004, Harmony's mining operations reported total proven and probable reserves of approximately 62.3 million ounces, which includes Avgold, as set forth in the following table:

### Ore reserve statement as at June 30, 2004

Gold sales

in the fiscal

year ended

Proven Reserves

**Probable Reserves** 

**Total Reserves** 

June 30,

Tons

Grade Gold oz

1

Tons

Grade Gold oz

1

Tons

Grade Gold oz

1

2004

(million)

(oz/ton) (million) (million)

(oz/ton) (million) (million)

(oz/ton) (million)

(oz)

### **South African**

### **Operations**

S.A. Underground

Elandskraal

12.75

0.24

3.06

23.99

0.24

5.69

36.74

0.24

8.75

318,708

Free State

27.83

0.14

3.82

21.04

0.13

2.71

48.87

0.13

6.53

654,420

Randfontein

- 9.91 0.16 1.61
- 6.14
- 0.16
- 0.99
- 16.05
- 0.16
- 2.60
- 394,166
- Evander
- 12.24
- 0.20
- 2.42
- 66.83
- 0.20
- 13.39
- 79.07
- 0.20
- 15.81
- 359,733
- Avgold
- 8.59
- 0.22
- 1.88
- 18.12
- 0.20
- 3.56
- 26.71
- 0.20
- 5.44
- 53,434
- 7
- Free Gold
- 26.19
- 0.22
- 5.78
- 57.12
- 0.20
- 11.47
- 83.31
- 0.21
- 17.25
- 959,367
- 8
- ARMgold
- 3.52
- 0.23
- 0.82
- 0.61
- 0.22

0.13 4.13 0.23 0.95 215,015 Total S.A. Underground 101.03 0.19 19.39 193.85 0.20 37.94 294.88 0.19 57.33 2,954,843 S.A. Surface Elandskraal 5,301 Avgold 3.80 0.02 0.07 3.80 0.02 0.07 Free State 13.76 0.01 0.13 6.64 0.02 0.10 20.40 0.01 0.23 26,732 Randfontein

33.76

```
0.01
0.47
0.05
0.24
0.01
33.81
0.01
0.49
18,872
Evander
1,961
Kalgold (open cast)
6.14
0.06
0.38
6.14
0.06
0.38
82,756
Free Gold
2.79
0.01
0.04
23.64
0.02
0.38
26.44
0.02
0.42
73,122
8
Total S.A. Surface
56.45
0.02
1.02
34.13
0.02
0.56
```

90.59

```
0.02
1.59
208,744
Australian Operations
Australian Operations
Northern Territory
0.06
0.41
0.02
0.88
0.08
0.08
0.94
0.10
0.10
Mt. Magnet
2.71
0.05
0.15
5.78
0.14
0.78
8.49
0.11
0.92
173,228
South Kalgoorlie
3
1.65
0.08
0.13
1.28
0.11
0.14
2.94
0.09
0.27
120,532
Big Bell
4
```

```
11,574
Gidgee
5
32,954
Total Australian
Operations
4.42
0.07
0.30
7.94
0.13
1.00
12.37
0.10
1.30
338,288
Papua New Guinea
6
2.23
0.09
0.20
21.43
0.09
1.84
23.66
0.09
2.04
32,954
TOTAL
164.1
20.91 257.35
41.35 421.50
62.26
3,501,875
"Gold oz" figures are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tons
and head grades. Metallurgical recovery factors have not been applied to the reserve figures. Approximate
metallurgical recovery factors are set forth below.
Includes reserves from underground and surface mining at each of the Australian operations.
3
```

The South Kalgoorlie operations include Jubilee, acquired in the New Hampton transaction, and New Celebration, acquired in the Hill 50 transaction.

4

Operations ceased in July 2003.

5

.Represents sales for five months up to November 2003.

6

Includes reserves from underground and surface mining at the operations.

7

Represents sales for two months from May 1, 2004 for the Avgold operations.

8

Represents Free Gold sales for fiscal year 2004 without taking into account equity accounting for the first three months.

The numbers shown in the table above are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tons and head grades. Metallurgical recovery factors have not been applied to the reserve figures stated above. The approximate metallurgical recovery factors for the table above are as follows: (a) Elandskraal 95.6%; (b) Free State 95%; (c) Randfontein 96.5%; (d) Evander 96.7%; (e) Kalgold 82%; (f) the Free Gold assets 97%; (g) Target 97.5%, (h) Big Bell 86%; (i) Mt. Magnet 93%; (j) South Kalgoorlie 92%. A gold price of Rand 92,000 per kilogram was applied in calculating the ore reserve figures. The gold price on September 29, 2004 was approximately R84,500 per kilogram. Harmony's standard for narrow reef sampling with respect to both proven and probable reserve calculations for underground mining operations at Elandskraal, Free State, Evander, Randfontein, Free Gold and Target is applied on a 6 meter by 6 meter grid. Average sample spacing on development ends is at 2 meter intervals in development areas. For the massive mining at the Target operations, the Harmony standard for sampling with respect to both proven and probable reserves are fan drilling with "B" sized diamond drill holes (43mm core) sited at 50 meter spaced sections along twin access drives. Harmony's standard for sampling with respect to both proven and probable reserves at its Australian underground operations include sampling development drives and crosscuts at intervals of up to 4 meters, drilling fans of diamond drill boreholes with a maximum spacing of 20 meters in any orientation within the ore bodies, and assaying core at 1 meter intervals. The Kalgold open cast operations are sampled on diamond drill and reverse circulation drill spacing of no more than 25 meters on average. Surface mining at South African operations other than Kalgold involves recovering gold from areas previously involved in mining and processing, such as metallurgical plants, waste rock dumps and tailings dams (slimes and sand) for which random sampling is used. Australian surface operations are sampled on diamond drill and reverse circulation drill spacing of no more than 20 meters on average.

In calculating proven and probable reserves, Harmony applies a cut-off grade. The cut-off grade is determined for each shaft using Harmony's optimizer computer program, which takes account of a number of factors, including grade distribution of the orebody, an assumed gold price, planned production rates, planned working costs and mine recovery factors. Harmony's optimizer computer program determines the total profits that can be made from mining blocks of various grades. The point of maximum total profit is used to determine the cut-off grade. Mining the blocks at and above the cut-off grade will be profitable if the assumptions underlying the cut-off grade hold true. Blocks below the cut-off grade are not included in Harmony's reserve estimates. Harmony generally aims to mine above the cut-off grade. This can be contrasted with the so-called "pay limit" approach for determining reserve estimates, which identifies the grade at which revenues and costs are equal and then determines the portion below this break-even grade that can be mined together with portions above the break-even grade to remain profitable. Harmony believes the cut-off grade methodology defines more precisely which blocks should be mined for profitable operations.

#### **Harmony's Mining Operations**

In South Africa, Harmony and its subsidiaries conduct underground mining at seven sites-Elandskraal, the Free State, Randfontein, Evander, Free Gold, ARMgold and Avgold and surface mining at four sites- the Free State, Randfontein, Free Gold and Kalgold. Surface mining conducted at the South African operations other than Kalgold involves recovering gold from areas previously involved in mining and processing, such as metallurgical plants, waste rock dumps and tailings dams (slimes and sand). Harmony has also conducted open cast mining at Randfontein, but these open cast operations were downscaled and discontinued during fiscal 2002 because the open cast mine had reached the end of its useful life.

In Australia, Harmony and its subsidiaries presently conduct mining principally at two sites, the Mt. Magnet operations (which were acquired in the Hill 50 transaction) and the South Kalgoorlie operations (which include the Jubilee operations acquired in the New Hampton transaction and the New Celebration operations acquired in the Hill 50 transaction). During fiscal 2003 the Gidgee gold mine was an additional site acquired in the Abelle transaction, but Abelle disposed of its Gidgee underground operations in December 2003. Underground and surface mining is conducted at each of the remaining operations, with underground access through two declines at Mt. Magnet and one decline at South Kalgoorlie and surface access principally through open pits. Underground operations at Big Bell ceased in July 2003 as mining there had become uneconomical due to low grade and the Big Bell plant was sold in December 2003. Surface mining will, however, continue in certain areas of the Big Bell tenements, with ore to be processed at the Mt. Magnet plant.

#### South African Underground Operations

The following chart details the operating and production results from underground operations in South Africa for the past three fiscal years:

#### Fiscal year ended June 30,

2004

1

2003

1

2002

1

#### **Production**

Tons ('000)

17,613

12,294

13,368

Recovered grade (ounces/ton)

0.153

0.142

0.149

Gold sold (ounces)

2,702,015

1,701,367

1,988,320

#### **Results of operations (\$)**

Product sales ('000)

1,037,867

578,764

567,006

Cash cost ('000)

993,270

425,323

384,434

Cash profit ('000)

44,597

139,775

182,607

#### **Cash costs**

Per ounce of gold (\$)

368

250

193

Excludes Harmony's interest in gold sales by the Free Gold Company for the first three months of fiscal 2004 and for the full fiscal years of 2003 and 2002.

Tons milled from underground operations in South Africa increased to 17,613,000 in fiscal 2004, compared with 12,294,000 in fiscal 2003, due to the acquisition of ARMgold, resulting in the inclusion of Free Gold as a subsidiary, as well as the acquisition of Avgold consisting of the Target operations. See "- ARMgold Operations", "- Free Gold Operations" and "- Avgold Operations" below. Recovered grade increased 8% in fiscal 2004, compared with fiscal 2003, due primarily to inclusion of the high-grade Free Gold and Avgold operations.

Cash costs for underground operations in South Africa were \$368 per ounce of gold in fiscal 2004, compared \$250 per ounce of gold in fiscal 2003. This increase was attributable primarily to the appreciation of the Rand against the U.S.

dollar, which caused a significant increase when these costs were translated into U.S. dollars. See Item 5. "Operating and Financial Review and Prospects - Exchange Rates." If expressed in Rand terms, costs per ounce would have increased in fiscal 2004, due primarily to the increases in the costs of labor and supplies due to the implementation of collective bargaining agreements and the effect of inflation on supply contracts.

#### South African Surface Operations

The following chart details the operating and production results from Harmony's surface operations in South Africa for the past three fiscal years (with historic figures adjusted to reflect the segmentation of the Elandskraal operations described above):

## Fiscal year ended June 30, 2004 1 2003 2002 **Production** Tons ('000) 9,813 5,799 4,198 Recovered grade (ounces/ton) 0.019 0.027 0.033 Gold sold (ounces) 184,884 155,095 138,882 **Results of operations (\$)** Product sales ('000) 71,000 51,344 40,034 Cash cost ('000) 64,404 35,615 24,037 Cash profit ('000) 6,596 15,729 16,003 Cash costs Per ounce of gold (\$) 348 230 173

Excludes Harmony's interest in gold sales by the Free Gold Company for the first three months of fiscal 2004 and the full fiscal years of 2003 and 2002.

The amount of gold sold from surface operations in South Africa increased in fiscal 2004 due primarily to the inclusion of Free Gold for nine months of the fiscal year as well as increased production from the Free State and Kalgold. This was partially offset by the fact that the treatment of surface sources from Evander and Elandskraal was discontinued during January 2004 and December 2003 respectively. The amount of gold sold from surface operations

in South Africa increased in fiscal 2003 due primarily to the increased production from the Free State 35

and Randfontein. The amount of gold sold from surface operations in South Africa increased in fiscal 2002, due

primarily to the inclusion of surface sources from Elandskraal for a full fiscal year, the improved recovered grades from Kalgold's surface sources and the treatment of Free State surface sources during the year. These factors more than offset decreased production from Randfontein surface sources as a result of the closure of Randfontein's open pit. In light of the higher prevailing market price for gold in fiscal 2002, and in order to maximize use of the Free State plants, Harmony began processing materials from secondary surface sources, primarily waste rock dumps and tailings dams (slimes and sand), at the Free State operations in the quarter ended March 31, 2002. This production is included in South African surface operations for the quarter ended March 31, 2002 and all subsequent periods.

Tons milled from surface operations in South Africa were 9,813,000 in fiscal 2004, compared with 5,799,000 in fiscal 2003. This increase was primarily due to the increase in tons at the Free State and the inclusion of tons from Free Gold for nine months during fiscal 2004. These increases were offset by the discontinuation of the treatment of surface sources from Elandskraal and Evander. Recovered grade from surface operations in South Africa was 0.019 ounces per ton in fiscal 2004, compared with 0.027 ounces per ton in fiscal 2003, as a result of lower grade surface sources

Cash costs for surface operations in South Africa were \$348 per ounce of gold in fiscal 2004, compared with \$230 per ounce of gold in fiscal 2003. This increase was attributable primarily to appreciation of the Rand against the U.S. dollar, which caused a significant increase when these costs were translated into U.S. dollars. See Item 5. "Operating and Financial Review and Prospects - Exchange Rates." If expressed in Rand terms, costs per ounce would have increased in fiscal 2004, due primarily to the increases in the costs of labor and supplies due to the implementation of collective bargaining agreements and the effect of inflation on supply contracts.

Introduction. On January 31, 2001, Harmony entered into an agreement to purchase the assets and liabilities of the

### **Elandskraal Operations**

being treated at the Free State and Randfontein operations.

Elandskraal mines in the North West and Gauteng provinces of South Africa for approximately Rand 1 billion. Harmony and AngloGold jointly managed the Elandskraal mines between February 1, 2001 and April 9, 2001 and Harmony completed the purchase on April 9, 2001. In fiscal 2004, the Elandskraal operations accounted for approximately 10% of Harmony's total gold sales. The assets and liabilities of the Elandskraal mines include the mineral rights and mining title (excluding a portion of the Carbon Leader Reef horizon, which AngloGold continues to mine), mining equipment, metallurgical facilities, underground and surface infrastructure necessary for the continuation of mining, ore treatment and gold extraction at Elandskraal as a going concern, and contributions to a rehabilitation trust fund equivalent to the current rehabilitation liability of this operation. The addition of Elandskraal to Harmony's operations increased Harmony's reserves by approximately 9.9 million ounces. On April 24, 2001, Harmony entered into an agreement with Randfontein and Open Solutions, pursuant to which the parties agreed to associate together in a joint venture related to the business of the Elandskraal mines, or the Elandskraal Venture. Open Solutions, an empowerment group, undertook to purchase a 10% participation interest in the Elandskraal Venture for cash consideration equal to 10% of the historical acquisition costs (including all transaction costs but excluding loan financing costs) of the Elandskraal mines, in an amount estimated to be approximately Rand 114 million. Randfontein retained the remaining 90% participation interest in the Elandskraal Venture, continued to own and operate the Elandskraal mines, and had the sole discretion to manage the Elandskraal Venture (but was required to consult with Open Solutions prior to effecting a sale or disposal of the material portion of the assets of the Elandskraal mines). Under the agreement, Randfontein also undertook to loan the purchase price to Open Solutions at an interest rate equal to the prime rate less 1%, to be repaid by Open Solutions from the benefits accruing to Open Solutions attributable to its 10% participation interest. As security for the repayment of this loan, Open Solutions ceded and assigned to Randfontein all its right, title and interest in and to its participation interest (other than the right to appoint the representatives described below) until the loan was repaid in full. Under the agreement, Randfontein agreed to accept liability, as to third parties, for all obligations and liabilities of the Elandskraal Venture and Open Solutions agreed to indemnify Randfontein in respect of a pro rata portion of these obligations and liabilities. Open Solutions could not dispose of its participation interest without the prior written consent of Randfontein, or encumber its participation interest other than as provided in the agreement. Pursuant to the agreement, Open Solutions was granted the right, at any time prior to the repayment in full of Randfontein's loan, to require Randfontein to acquire Open Solution's participation interest at a price equal to the 36

then-outstanding loan balance. With effect from April 1, 2002, Randfontein reacquired this 10% participation interest in the Elandskraal Venture from Open Solutions. The aggregate consideration paid by Randfontein to Open Solutions was Rand 210 million (\$18.5 million at an exchange rate of R11.35 per \$1.00). This aggregate consideration included the cancellation of the remaining Rand 91 million (\$8.0 million at an exchange rate of R11.35 per \$1.00) due to Randfontein under its loan of April 24, 2001 to Open Solutions.

History. Gold mining began at Elandskraal in 1978 following approval of the project in 1974 by Elandsrand Gold Mining Company for the Elandsrand operations and by Gold Fields of South Africa Ltd. for the Deelkraal operations. Two surface shafts and two adjoining sub-vertical shafts were sunk at Elandsrand and Deelkraal. The sub-vertical shafts at Elandsrand were completed in 1984, which accessed a deeper reef in the lease area. The sub shaft deepening project, or SSDP, the deepening of the sub-vertical shafts to approximately 3,400 meters below surface, is an on-going project to access and exploit a portion of the mine. Harmony believes that the SSDP will enable Elandskraal to produce approximately 350,000 ounces per year over the life of the mines. Sinking of a third surface shaft commenced at Deelkraal in 1988. However, this shaft was not completed and is now flooded. In 1997, Gold Fields of South Africa Ltd. sold Deelkraal to Elandsrand, which later was incorporated into AngloGold.

*Geology*. Elandskraal contains three identified main reef groupings, the Ventersdorp Contact Reef, or VCR, the Carbon Leader Reef, or CLR and the Mondeor Reef. Only the VCR is economic to mine and has been mined at depths below surface between 1,600 and 2,800 meters with future production to 3,300 meters below surface at the Elandsrand operations and at depths below surface of 2,750 meters at the Deelkraal operations. The VCR and CLR consist of narrow (20 centimeters to 2 meters) tabular orebodies of quartz pebble conglomerates hosting gold, with extreme lateral continuity.

At the Elandsrand operations, the vertical separation between the VCR and CLR increases east to west from 900 meters to 1,300 meters as a result of the relative angle of the VCR unconformity surface to the regional stratigraphic strike and dip. The CLR strikes west-southwest and dips to the south at 25 degrees. The VCR strikes east-northeast and has a regional dip of 21 degrees to the south-southeast. Local variations in dip are largely due to the terrace-and-slope palaeotopography surface developed during VCR deposition.

The dip of the VCR at the Deelkraal operations is relatively consistent at 24 degrees, although there is some postulation of a slight flattening of dip at depth. The VCR has a limit of deposition running roughly north-south through the center of the lease area. The VCR is not developed to the west of this line. Some stoping has occurred to the west of this limit, but this was to exploit reefs from the Mondeor Conglomerates, stratigraphically underlying the VCR.

Mining Operations. The Elandskraal operations are divided into the Elandsrand and the Deelkraal mines. The Elandsrand mine engaged in both underground and waste rock mining. The Deelkraal mine engaged in underground mining but as a result of the lower gold price in Rand terms (taking into account the stronger Rand as against the U.S. dollar) during fiscal 2004, the production was stopped during June 2004. Vamping and reclamation operations are ongoing at this time. These operations are subject to all of the underground and waste rock mining risks detailed in the Risk Factors section.

Due to the operating depths of the Elandskraal underground operations, seismicity and pressure related problems are a risk. In December 2001, a seismic event at the Deelkraal operations caused the deaths of six workers. Another seismic event at Deelkraal in July 2002 fatally injured two workers. Although these types of events are tragic in nature and disrupting on production, it should not affect the longer term production achievements. Harmony regularly revisits its mining strategy and management procedures at all of its deeper mining operations in connection with its efforts to mitigate this risk. The primary challenges facing the Elandskraal operations are the lowering of working costs, increasing mining flexibility, controlling capital expenditure and the timely completion of the SSDP. Harmony expects that the SSDP will be completed by the middle of fiscal 2006.

Following the acquisition, Harmony has implemented the "Harmony Way" at Elandskraal in an effort to cut costs and increase productivity. This has improved the overall cost structure, which has enabled Harmony to pursue capital development. Harmony also completed restructuring of the Elandskraal operations, which resulted in the retrenchment of approximately 1,450 employees.

The Elandsrand mine, a mature mine with a declining production profile, has the challenge of a new mine being developed underneath the old mine. The nature of the different activities underway negatively impacted on the performance of the shaft during fiscal 2004. Due to scaling of the waste and reef orepasses, a program to rehabilitate

the orepass system was put in place. This resulted in the temporary tipping of waste into the reef orepass system, which typically results in dilution in recovery grade and a distorted cash cost/ton profile. The problem was finally resolved in February 2004, and resulted in an improvement in recovery grade. A fire during the 37

quarter ended September 30, 2003 resulted in the loss of three working shifts. Production was also affected by a blockage in the orepass during the quarter ended June 30, 2004. Seismic events during the quarters ending September 30, 2003 and June 30, 2004 resulted in three fatalities. Development was delayed as a result. Although this had an impact on the development for the period, it did not impact on the longer term production plan. The first raise line on the 102 level project commenced production in January 2004. The 105 level intersected the reef during May 2004 on the 105-33 cross cut. The project is expected to be completed by the middle of fiscal 2006 and is expected to have a life of mine of 17 years.

An agreement for the implementation of CONOPS at Deelkraal was reached with the respective unions on December 19, 2003. Due to delays, it was only fully operational by April 2004. Despite this, production at the Deelkraal mine was stopped in June 2004 as a result of the reduction in the Rand-denominated price of gold which made mining at the shaft uneconomical.

During fiscal 2004, the safety record at the Elandskraal mines in terms of lost time frequency rate (22.51) compared unfavorably with the group average of 19.22. The fatality frequency rate (0.65) was also higher than the group average mainly as a result of the seismic event described above. Significant work is being done to address this. Safety standards from other Harmony operations are being applied at Elandskraal and receive constant and high-level attention. Where problems are identified steps are being taken to address the situation. The Executive for Sustainable Development, is responsible for leading initiatives to improve workplace health and safety at the South African operations. See Item 6. "Directors and Senior Management - Board Practices."

*Underground Operations*. Detailed below are the operating and production results from underground operations at Elandskraal for fiscal 2004, 2003 and 2002:

## Fiscal year ended June 30,

2004

2003

2002

#### **Production** Tons ('000)

1,959

2,066

2,420

Recovered grade (ounces/ton)

0.163

0.168

0.183

Gold sold (ounces)

318,708

347,276

442,715

#### **Results of operations (\$)** Cash cost ('000)

138,453

95,941

88,425

Cash profit ('000)

(15,416)

18,505

35,683

#### Cash costs Per ounce of gold (\$)

434

276

200

Tons milled from Elandskraal's underground operations were 1,959,000 in fiscal 2004, compared with 2,066,000 in fiscal 2003, and ounces sold were 318,708 in fiscal 2004, compared with 347,276 in fiscal 2003. This decrease in tons milled and ounces sold was due to the problems experienced with the orepass system at the Elandsrand operation,

which resulted in waste rock diluting the recovery grade and reduced flexibility in the old mine area. This reduction in ounces produced, together with the appreciation of the Rand against the U.S. dollar were the main contributors to the increase in cash cost from \$276 per ounce in fiscal 2003 to \$434 per ounce in fiscal 2004. See Item 5. "Operating and Financial Review and Prospects Exchange Rates" to see the effect that the appreciation of the Rand, against the U.S. dollar had on the dollar costs of the company. If expressed in Rand terms, costs would have increased by 8.9% in fiscal 2004 due to the reduction in ounces due to problems with the ore pass system, increases in the costs of labor and supplies due to the implementation of collective bargaining agreements and the effect of inflation on supply contracts.

Elandskraal currently operates two production shaft units, comprised of four surface shafts and two sub-vertical shafts. Set out below are the rock hoisting capacities of Elandskraal's production shafts.

#### **Hoisting Capacity**

Shaft

(tons/month)

Elandsrand No. 2 shaft and sub-vertical shaft

365,000

Deelkraal No. 1 shaft and sub-vertical shaft

206,000

On a simplistic basis (and assuming that no additional reserves are identified), at the production level achieved in fiscal 2004, the June 30, 2004 reported proven and probable ore reserves of 36.74 million tons will be sufficient for the Elandskraal operations to maintain underground production until approximately calendar year 2020. However, because the Elandskraal operations consist of several different mining sections that are at various stages of maturity, it is expected that some sections will decrease production earlier than others. In addition, any future changes to the assumptions upon which the ore reserves are based, as well as any unforeseen events affecting production levels, could have a material effect on the expected period of future operations. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production conditions than Harmony currently estimates."

Elandsrand New Mine Project. The project, initiated by AngloGold in 1991, was intended to increase the life of mine by exploiting the southern portion of the lease area between 3,000 - 3,600 meters below surface. This will be achieved by deepening the sub-vertical and ventilation shafts. During fiscal 2004, the payshoot, which was mined on the shallower levels of the old mine, was exposed on levels 102 and 105. Production from level 102 started in January 2004. Development continues on 109 and 113 levels and is expected to be completed by the middle of fiscal 2006. Surface Operations. Following the completion of the Elandskraal acquisition, Harmony increased the processing of ore from numerous secondary surface sources located in close proximity to the Elandskraal shafts, including low grade rock dumps. Given the significance of the surface production as a proportion of Elandskraal's total production, Harmony began to segment Elandskraal's production figures into underground and surface production in the quarter ended December 31, 2001. It was also decided to dedicate the Deelkraal metallurgical plant to only treat surface sources, that way ensuring that it is treated as a stand alone business which could be measured as such. AngloGold, the previous owner of the Elandskraal assets, had not focused on this type of production and, accordingly, had not reported such production from secondary sources at Elandskraal. The treatment of the surface sources became uneconomical and was discontinued during the quarter ended December 31, 2003 as a result of decreased efficiency, the low recovery grades and the reduction in the Rand gold price. The production from surface sources was stopped in the quarter ended December 31, 2003 and the Deelkraal plant reverted back to treating Deelkraal shaft ore. Detailed below are the operating and production results from surface operations at Elandskraal for fiscal 2004, 2003 and 2002.

## Fiscal year ended June 30,

2004

2003

2002

**Production** Tons ('000)

451

1,228

1,197

Recovered grade (ounces/ton).

0.012

0.016

0.028

Gold sold (ounces)

5,301

19,323

### 33,344

# **Results of operations (\$)**

Cash cost ('000)

2,616

4,518

4,744

Cash profit ('000)

(568)

1,924

4,984

### **Cash costs**

Per ounce of gold (\$)

493

233

142

Tons milled from the Elandskraal surface operations were 451,000 in fiscal 2004, compared with 1,228,000 in fiscal 2003. This decrease was attributable to the discontinuation of treatment of surface sources in December 2003. Cash costs per ounce of gold were \$493 per ounce in fiscal 2004, compared with \$233 per ounce in fiscal 2003. This increase was attributable to decreased production, lower recovery grade and the stronger Rand, which caused 39

a significant increase when these costs were translated into U.S. dollars. The lower recovery grade was as a result of lower grade material being treated from the rock dump. The treatment of the rock dump was completed during the quarter ended December 31, 2003.

Plants. Commissioned in 1978, the Elandsrand Plant has milling in closed circuit with primary and secondary hydrocyclones, secondary ball milling in closed circuit with hydrocyclones, thickening and cyanide leaching in a CIP pump cell carousel circuit. The CIP was commissioned after an upgrade of the facility in 1999. Following post-acquisition capital improvements, loaded carbon milled at the Elandsrand Plant is transported by road to the Cooke Plant at Randfontein for elution, electro-winning and smelting to produce gold. Residues from the CIP are pumped either to a backfill plant or directly to the tailings facility. Ore from Elandsrand underground operations are delivered to the plant for treatment.

Commissioned in 1978, the Deelkraal plant has milling in closed circuit with primary and secondary hydrocyclones, thickening, cyanide leaching, filtration, zinc precipitation and smelting to produce gold. Residues from the re-pulped filtercake are pumped either directly to a backfill preparation plant or directly to the tailings facilities. The current operating capacity of 116,000 tons/month when processing waste differs from the design capacity of 149,000 tons/months as it is limited by the condition of the filter plant. The Deelkraal plant was used primarily for the treatment of waste rock. During December 2003, the plant was converted back to treating Deelkraal underground ore. As production from the Deelkraal mine was stopped in June 2004, the plant was closed at the end of June 2004 and clean up operations are in progress.

The following table sets forth processing capacity and average tons milled during fiscal 2004 for each of the plants:

**Average** 

milled for the

**Processing** 

fiscal year

Capacity June 30, 2004

**Plant** 

(tons/month)

(tons/month)

**Elandsrand Plant** 

209,000

112,500

Deelkraal Plant

149,000

51,700

In fiscal 2004, the Elandsrand Plant recovered approximately 96% of the gold contained in the ore delivered for processing and the Deelkraal Plant recovered approximately 92% of the gold contained in the ore delivered for processing.

Capital Expenditure. Harmony incurred approximately Rand 121.2 million in capital expenditures at the Elandskraal operations in fiscal 2004, principally for the SSDP, which amounted to approximately Rand 105.2 million. Harmony has budgeted Rand 111.4 million (\$17.9 million, using the closing rate at balance sheet date) for capital expenditures at the Elandskraal operations in fiscal 2005, primarily for the SSDP.

## Randfontein Operations

Introduction. The Randfontein gold mine is located in the Gauteng Province of South Africa, approximately thirty kilometers west of Johannesburg. The Randfontein mine currently operates under a mining authorization with a total area of 17,753 hectares. The Randfontein mine has both underground and surface mining operations, and has two metallurgical plants. Underground mining is conducted at Randfontein at depths ranging from 500 meters to 2,500 meters. Harmony has also historically conducted open cast mining at Randfontein, however, these open cast operations were downscaled and discontinued in the six months ended December 31, 2001, as the open cast mine had reached the end of its useful life. In fiscal 2004, Harmony's Randfontein operations accounted for approximately 12% of Harmony's total gold sales.

*History*. Gold mining began at the Randfontein mine in 1889. Since the commencement of mining operations to June 30, 2004, Randfontein has sold approximately 54.8 million ounces of gold at an average recovered grade of 0.163

ounces per ton. Harmony obtained management control of Randfontein in January, 2000 and by June 30, 2000 had acquired 100% of Randfontein's outstanding ordinary share capital and 96.5% of the warrants to purchase ordinary shares of Randfontein. See Item 4. "Information on the Company - Business - History."

Since acquiring Randfontein, Harmony has implemented the "Harmony Way" at Randfontein. Harmony has reduced the number of senior managers, has sold off non-core assets and has implemented management teams.

*Geology*. The Randfontein mine is situated in the West Rand Goldfield of the Witwatersrand Basin, the structure of which is dominated by the Witpoortjie and Panvlakte Horst blocks, which are superimposed over broad folding associated with the southeast plunging West 50 Rand Syncline. The structural geology in the north section of the Randfontein mine is dominated by a series of northeast trending dextral wrench faults.

The Randfontein mine contains six identified main reef groupings: the Black Reef; the Ventersdorp Contact Reef; the Elsburg Formations; the Kimberleys; the Livingstone Reefs; and the South Reef. Within these, several economic reef horizons have been mined at depths below surface between 600 and 1,260 meters.

The reefs comprise fine to coarse grained pyritic mineralization within well developed thick quartz pebble conglomerates or narrow single pebble lags, which in certain instances are replaced by narrow carbon seams. *Mining Operations*. The Randfontein operations are engaged in both underground and waste rock mining. These operations are subject to all of the underground and waste rock mining risks detailed in the Risk Factors section, and have historically also been subject to the open pit mining risks. The open cast operations were downscaled and discontinued in the six months ended December 31, 2001, as the mine had reached the end of its useful life. Due to the shallow to moderate depths of the operations, seismicity and pressure related problems are infrequent. There is a risk of subterranean water and/or gas intersections in some areas of the mine. However, this risk is mitigated by active and continuous management and monitoring, which includes the drilling of boreholes in advance of faces. Where water and/or gas is indicated in the drilling, appropriate preventative action is taken.

The Doornkop South Reef Project was announced on January 22, 2003. It is estimated that the South Reef project has an in situ resource of 6.6 million ounces. For project purposes, it is estimated that 129 tons or 3.75 million ounces of gold will be recovered from the resource at a recovery grade of 0.186 ounces per ton.

Currently, the Kimberley Reef is mined on the upper levels of the Doornkop Shaft. The South Reef on the lower levels is the target of the proposed shaft-deepening project. The main shaft is to be commissioned in July 2006 and production of 135,000 ounces per month is expected by October 2008. To access the South Reef resource the main shaft will be deepened to a depth of 2,034 meters and the spillage incline shaft extended to a depth of 2,082 meters below surface.

Randfontein entered into an agreement with Africa Vanguard Resources (Doornkop) (Pty) Limited on January 21, 2003, pursuant to which Randfontein sold 26% of its mineral rights in respect of the Doornkop Mining Area to Africa Vanguard for a consideration of Rand 250 million. The consideration comprised cash of Rand 140 million and Rand 110 million in call options on 290,000 ounces of gold, being equal to 16% of the gold produced at Doornkop during the first 10 years of operation. Randfontein and Africa Vanguard also entered into a joint venture agreement on the same day, pursuant to which they agreed to jointly conduct a mining operation in respect of the Doornkop Mining Area. The profits will be shared 84% to Randfontein and 16% to Africa Vanguard. The agreements were subject to the fulfillment of certain conditions precedent, the last of which was fulfilled on August 12, 2003. The agreements were implemented and the purchase price paid on August 15, 2003. For US GAAP purposes, Harmony will not account for this transaction as a sale, but will consolidate the results of Africa Vanguard and the Doornkop Joint Venture, as both these entities have been determined to be variable interest entities with Harmony as the primary beneficiary of both variable interest entities.

Mining at the South Reef at Doornkop was temporarily suspended during the fourth calendar quarter of 2003 to allow for the upgrade of the ventilation with respect to increasing both hoisting capacity and ventilation intake. This caused the overall recovery on Doornkop to drop. This situation continued until mining commenced in January 2004. The safety record at the Randfontein operations during fiscal 2004 in terms of lost time frequency rate (25.48) compared unfavorably with the group average while the fatality frequency rate (0.27) compared favorably with the group average. Lost time frequency rate at the plants in operation was 2.81, which compared unfavorably with the group average of 2.58. There were no fatalities during fiscal 2004. Nevertheless, safety at the operations receives constant and high-level attention and where problems are identified steps are taken to address the situation. The Executive for Sustainable Development, is responsible for leading initiatives to improve workplace health and safety at Harmony's South African operations. See Item 6. "Directors, Senior Management and Employees - Directors and Senior Management - Board Practices."

*Underground Operations*. Detailed below are the operating and production results from underground operations at Randfontein for the past three fiscal years:

### Fiscal year ended June 30,

2004

2003

2002

#### **Production** Tons ('000)

2,920

3,162

3,606

Recovered grade (ounces/ton)

0.135

0.144

0.147

Gold sold (ounces).

394,166

454,917

531,588

# Results of operations (\$) Cash cost ('000)

138,984

96,190

93,324

Cash profit ('000)

11,851

53,166

57,781

Per ounce of gold (\$)

353

211

176

Tons milled from Randfontein's underground operations were 2,920,000 in fiscal 2004, compared with 3,162,000 in fiscal 2003, and ounces sold were 394,166 in fiscal 2004, compared with 454,917 in fiscal 2003. This decrease in ounces sold was primarily due to the lower recovery grade. Cash costs per ounce of gold were \$353 in fiscal 2004, compared with \$211 in fiscal 2003. This increase was attributable primarily to the lower ounces produced, due to lower volumes and grade from Cooke 3 shaft and the appreciation of the Rand against the U.S. dollar, which caused a significant increase when these costs were translated into U.S. dollars. See Item 5. "Operating and Financial Review and Prospects - Exchange Rates." If expressed in Rand terms, costs per ounce would have increased in fiscal 2004, due primarily to the lower grade in volumes produced, as well as increases in the costs of labor and supplies due to the implementation of collective bargaining agreements and the effect of inflation on supply contracts.

The underground operations at Randfontein are comprised of the underground sections of the Cooke shafts No. 1, 2, and 3, shaft 4 and the Doornkop shaft.

Set out below are the hoisting capacities of Randfontein's shafts:

# **Hoisting Capacity**

**Shaft** 

#### (tons/month)

Cooke 1

1

194,450

Cooke 2

206,600

Cooke 3

291,700 Cooke 4 2 164,200 Doornkop 54,700

Currently operating at a rate of 50,000 tons per month in connection with the extraction of the shaft pillar.

The shaft was closed during April 2002.

On a simplistic basis (and assuming that no additional reserves are identified), at the production level achieved in fiscal 2004, the June 30, 2004 reported proven and probable underground ore reserves of 16.05 million tons will be sufficient for the Randfontein underground operations to maintain production until approximately fiscal 2009. However, because the Randfontein operations consist of several different mining sections that are at various stages of maturity, it is expected that some sections will decrease production earlier than others. In addition, any future changes to the assumptions upon which the reserves are based, as well as any unforeseen events affecting production levels, could have a material effect on the expected period of future operations. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production conditions than Harmony currently estimates."

Surface Operations. Open cast operations at Randfontein, which exploited the open pit operations of the Lindum mine, were downscaled and discontinued in the six months ended December 31, 2001, as the mine had reached the end of its useful life. Currently, Randfontein's surface operations are focused on the recovery of gold from areas previously involved in processing, including waste rock dumps and tailings dams (slimes and sand). Detailed below are the operating and production results from surface operations at Randfontein for the past three fiscal years:

# Fiscal year ended June 30, 2004 2003 2002 **Production** Tons ('000) 2,428 2,212 1,687 Recovered grade (ounces/ton) 0.008 0.017 0.018 Gold sold (ounces) 18,872 36,973 30,050 **Results of operations (\$)** Cash cost ('000) 6,555 7,995 5,952 Cash profit ('000) 720 4,304 2,568 Cash costs Per ounce of gold (\$) 347 216

198

Open cast operations were downscaled and discontinued in the six months ended December 31, 2001 and current surface operations exploit waste rock dumps and tailings dams (slimes and sand).

Tons milled from Randfontein's surface operations were 2,428,000 in fiscal 2004, compared with 2,212,000 in fiscal 2003, and ounces sold were 18,872 in fiscal 2004 compared with 36,973 in fiscal 2003, recovered grade was 0.008 in fiscal 2004, compared with 0.017 in fiscal 2003. The surface sources are run as a separate business with dedicated management staff. The ore is fed to a separate metallurgical plant (Doornkop plant) and is not mixed with any underground ore. The significant decrease in recovery grades was due to the change in feed material as tonnages from the Lindium Reefs section were depleted. In fiscal 2004, cash operating costs increased to \$347 per ounce from \$216 per ounce in fiscal 2003. This increase was attributable primarily to the decrease in recovery grade as well as the appreciation of the Rand against the U.S. dollar, which caused a significant increase when these costs were translated into U.S. dollars. See Item 5. "Operating and Financial Review and Prospects - Exchange Rates." If expressed in Rand terms, costs per ounce would have increased in fiscal 2004, due primarily to the decrease in recovery grade and the reduction of relatively lower-cost, higher-grade production from the open cast operations.

On a simplistic basis (and assuming that no additional reserves are identified), at the production level achieved in fiscal 2004, the June 30, 2004 reported proven and probable surface reserves of 33.81 million tons would be sufficient for the Randfontein operations to maintain surface production until approximately the end of fiscal 2005. Future changes to the assumptions upon which the reserves are based, as well as any unforeseen events affecting production levels, could have a material effect on the expected period of future operations. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production conditions than Harmony currently estimates".

*Plants*. The processing facilities at the Randfontein mine presently comprise two operating plants: the Cooke metallurgical plant and the Doornkop metallurgical plant, both of which are serviced by a surface rail network. The Cooke metallurgical plant, commissioned in 1977, is a hybrid CIP/CIL plant, which processes the underground ore from the Randfontein operations. The Doornkop metallurgical plant, commissioned in 1985, is a conventional CIP plant, which is used to treat waste rock and other surface accumulations.

The following table sets forth processing capacity and average tons milled during fiscal 2004 for the Cooke and Doornkop plants:

**Average** 

milled

for the fiscal

**Processing** 

year ended

Capacity June 30, 2004

**Plant** 

(tons/month)

(tons/month)

Cooke

308,600

199,600

Doornkop

242,500

167,000

In fiscal 2004, the Cooke plant recovery has been in the range of 96% to 97%, while Doornkop plant recovered approximately 90% of the gold contained in the ore delivered for processing.

Capital Expenditure. Harmony incurred approximately Rand 159.2 million in capital expenditures at the Randfontein operations in fiscal 2004, of which Rand 98.1 million was for the development of the Doornkop project. Harmony has budgeted Rand 154.3 million (\$24.77 million calculated at the closing rate at balance sheet date) for capital expenditures at the Randfontein operations in fiscal 2005, primarily for the continued development of the Doornkop shaft.

### Free State Operations

Introduction. Harmony's Free State operations are comprised of the original Harmony mines, the Unisel mine, Saaiplaas shaft 3, the Masimong shaft complex (comprised of Masimong shafts 4 and 5), Brand shafts 2, 3 and 5, and the Vermeulenskraal North mineral rights area. Mining is conducted at Harmony's Free State operations at depths ranging from 500 meters to 2,500 meters. In fiscal 2004, Harmony's Free State operations accounted for approximately 21% of Harmony's total gold sales.

*History*. Harmony's Free State operations began with the Harmony mine, which is an amalgamation of the Harmony, Virginia and Merriespruit mines. Beginning in 1996, Harmony began purchasing neighboring mine shafts. The Unisel mine was purchased in September 1996, the Saaiplaas mine shafts 2 and 3 were purchased in April 1997, the Brand mine shafts 2, 3 and 5 were purchased in May 1998 and the Masimong complex (formerly known as Saaiplaas shafts 4 and 5) was purchased in September 1998.

Geology. Harmony's Free State operations are located in the Free State goldfield on the southwestern edge of the Witwatersrand Basin. Within this area, the operations are located on the southwestern and southeastern limb of a synclinal closure, with the Brand, Saaiplaas and Masimong shafts occupying northerly extensions of the same structure. The reefs dip inwardly from their sub-outcrop positions in the east and south of the mine to a position close to the western boundary of the original Harmony mine, where the reefs abut against the DeBron fault. To the west of the De Bron faulted zone, faulting is generally more intense, resulting in structurally more complex mining conditions. Mining Operations. The Free State operations are engaged in both underground and waste rock mining. These operations are subject to all of the underground and waste rock mining risks detailed in the Risk Factors section. Due to the shallow to moderate depths of the underground operations, seismicity and pressure related problems are relatively infrequent with the exception of the Brand shafts where these problems receive constant attention. Harmony regularly revisits its mining strategy and management procedures in connection with its efforts to mitigate risks of these problems. There is a risk of subterranean water and/or gas intersections in some areas of the mine. However, this risk is mitigated by active and continuous management and monitoring, which includes the drilling of boreholes in advance of faces. Where water and/or gas is indicated in the drilling, appropriate preventative action is taken. The principal challenges at the Free State operations of achieving optimal volumes and grades of ore production are addressed by stringent ore reserve management. In 2002, Harmony began implementing the Masimong Expansion Project, which includes developing the Basal and B-Reef orebodies in the Masimong shaft area and equipping the shaft. The estimated final cost is R152.6 million, with R89.6 million spent as of June 30, 2004. The Virginia 2 shaft was closed at the end of 2001, and is currently used only as a service shaft. Harmony also closed

the Harmony 4 shaft in the quarter ended September 30, 2002, following the partial extraction of the shaft pillar. Mining personnel from the Harmony 4 shaft have been transferred to other shafts. The Harmony 3 shaft is currently used only as a service shaft for pumping, although some of its reserves are mined through the adjacent Harmony 2 shaft. In conjunction with the development of the hoisting operations at Masimong 5 shaft, Harmony downscaled the Masimong 4 shaft to a service and small mining shaft in the quarter ended June 30, 2001. In the quarter ended June 30, 2002, however, Harmony determined that additional production at the Masimong 4 shaft had become uneconomical under current market conditions. Additional personnel have been redeployed as and when additional areas of the Masimong 4 shaft are accessed to permit further production in the future. Under market conditions prevailing in the quarter ended June 30, 2002, Harmony also decided to commence extraction of the shaft pillar at Saaiplaas 3, which previously operated as a service shaft. The project is currently under review as the current market conditions make the project uneconomical. Merriespruit 3 is nearing the end of its economical life and has been earmarked for closure. Production is being downscaled and will eventually be discontinued all together. Harmony also decided to place the Brand 2 shaft on care and maintenance. During the quarter ended September 30, 2003, Harmony decided to put the Brand 5 shaft on care and maintenance and to continue with exploration development only, which is being managed from the Unisel shaft. This development was also discontinued during the quarter ended September 30, 2003. Care and maintenance will remain in place until market conditions are more favorable or more economical

parts of the orebody are discovered. All labor has been transferred to other Harmony operations, where they have augmented natural attrition positions or displaced contractor labor.

44

The safety record at the Free State operations during fiscal 2004 in terms of lost time frequency rate (17.71) was lower than the group average while the fatality frequency rate (0.25) compares favorably with the group average. Safety at the operations receives constant and high-level attention and where problems are identified steps are taken to address the situation. The Executive for Sustainable Development leads initiatives to improve workplace health and safety at Harmony's South African operations. See Item 6. "Directors, Senior Management and Employees - Directors and Senior Management - Board Practices."

*Underground Operations.* Detailed below are the operating and production results from the Free State underground operations for the past three fiscal years:

### Fiscal year ended June 30,

2004

2003

2002

#### **Production** Tons ('000)

4,856

4,721

4,748

Recovered grade (ounces/ton)

0.135

0.124

0.126

Gold sold (ounces)

654,420

538,990

598,635

#### **Results of operations (\$)** Cash cost ('000)

253,162

146,079

131,817

Cash profit ('000)

(1,434)

38,300

43,238

### **Cash costs**

Per ounce of gold (\$)

387

271

220

Tons milled from the Free State underground operations were 4,856,000 in fiscal 2004, compared with 4,721,000 in fiscal 2003, and ounces sold were 654,420 in fiscal 2004, compared with 538,990 in fiscal 2003, primarily because of the increase in production from the Masimong complex.

Recovered grade was 0.135 in fiscal 2004, compared with 0.124 in fiscal 2003, mainly as a result of higher grade ore from the Masimong shaft complex. Cash costs were \$253,162,000 in fiscal 2004 compared with \$146,079,000 in fiscal 2003. This increase was attributable primarily to the appreciation of the Rand against the U.S. dollar as well as the increased cost from the Masimong Expansion project. Cash costs per ounce were \$387 in fiscal 2004, compared with \$271 in fiscal 2003. This increase was attributable primarily to the appreciation of the Rand against the U.S. dollar, which caused a significant increase when these costs were translated into U.S. dollars but was offset in part by an increase in recovered grade. See Item 5. "Operating and Financial Review and Prospects - Exchange Rates." If expressed in Rand terms, costs per ounce would have increased in fiscal 2004, due primarily to increases in the costs of labor and supplies due to the implementation of collective bargaining agreements and the effect of inflation on supply contracts.

Harmony currently has nine shafts at its Free State operations and three service shafts. The total shaft hoisting capacity is detailed below:

**Hoisting Capacity** 

**Shaft** 

(tons/month)

Harmony shaft 2

250,000

Harmony shaft 3

1

99,200

Harmony shaft 4

2

161,000

Merriespruit shaft 1

142,200

Merriespruit shaft 3

217,200

Virginia shaft 2

3

113,500

Unisel

151,000

Saaiplaas 3

4

194,000

Brand shaft 2

5

132,300

Brand shaft 3

132,300

Brand shaft 5

7

166,400

Masimong shaft complex

6

164,200

45

1 Integrated with Harmony shaft 2 during fiscal 2002 and currently operating as a service shaft. 2 Closed in the quarter ended June 30, 2002 and currently operating as a service shaft. 3

Closed in the quarter ended December 31, 2001 and currently operating as a service shaft.

4

Previously operated as a service shaft. Limited extraction of the shaft pillar commenced in the quarter ended September 30, 2002 and mined as a production unit with Masimong 5.

5

Production suspended in the quarter ending March 31, 2002 pending consideration of this shaft's future. Contract mining is being considered for vamping.

6

Includes the Masimong 4 and 5 shafts.

7

Closed in the September, 2003 quarter. Limited development is taking place to explore some virgin areas on the shaft. On a simplistic basis (and assuming that no additional reserves are identified), at the production level achieved in fiscal 2004, the June 30, 2004 reported proven and probable ore reserves of 48.87 million tons will be sufficient for the Free State operations to maintain underground production until approximately fiscal 2012. However, because Harmony's Free State operations consist of several different mining sections that are at various stages of maturity, it is expected that some sections will decrease production earlier than others and it is currently envisaged that a decrease of production in certain sections will commence in the near term. In addition, any future changes to the assumptions upon which the reserves are based, as well as any unforeseen events affecting production levels, could have a material effect on the expected period of future operations. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production conditions than Harmony currently estimates." Surface operations. In light of the higher prevailing market price for gold in fiscal 2002 and 2003, and in order to maximize use of the Free State plants, Harmony began processing materials from secondary surface sources, primarily waste rock dumps and tailings dams (slimes and sand), at the Free State operations in the quarter ended March 31, 2002. The reduction in the Rand denominated market price for gold during fiscal 2004 resulted in the treatment of surface sources being scaled down significantly. Detailed below are the operating and production results from the Free State surface operations for the fiscal years ended June 30, 2004 and June 30, 2003 and the six months ended June 30, 2002, which is the first period during which Harmony processed significant amounts of these secondary surface materials at the Free State operations:

Six months ended June 30, ended June 30, 2004 2003 2002 **Production** Tons ('000) 2,368 1,164 Recovered grade (ounces/ton) 0.11 0.21 0.052 Gold sold (ounces). 26,732 24,209

Fiscal year

13,309

# **Results of operations (\$)** Cash cost ('000)

9,343

6,550

613

Cash profit ('000)

869

1,517

3,673

#### **Cash costs**

Per ounce of gold (\$)

350

271

46

46

1

Includes 8,808 ounces of low-cost production from clean-up of the plant and refinery.

Tons milled from the Free State surface operations were 2,368,000 in fiscal 2004, compared with 1,164,000 in fiscal 2003. Ounces sold were 26,732 in fiscal 2004, compared with 24,209 in fiscal 2003. The increase in tonnages were primarily due to the treatment of the H1 Slimes dam that was started in fiscal 2004. This also had the effect of reducing the recovery grade significantly as this is a very low grade source. Even though the tons milled increased significantly, the lower recovery grade had an adverse effect on the ounces sold and the cash cost per ounce. On a simplistic basis (and assuming that no additional reserves are identified), at the production level achieved during the 2004 fiscal year, the June 30, 2004 reported proven and probable ore reserves of 20.4 million tons will be sufficient for the Free State operations to maintain surface production until approximately fiscal 2009. However, any future changes to the assumptions upon which the reserves are based, as well as any unforeseen events affecting production levels, could have a material effect on the expected period of future operations. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production

conditions than Harmony currently estimates." Plants. There are three metallurgical plants at the Free State operations, namely the Central, Virginia and the Saaiplaas plants. The Central and Virginia plants employ CIP/CIL hybrid technology. The Saaiplaas plant has been converted from the zinc precipitation filter process to the CIL. After the year end for fiscal 2004, the Virginia plant was closed and clean up operations are in progress.

The following table sets forth processing capacity and average tons milled during fiscal 2004 for each of the plants:

Average

milled

for the fiscal

**Processing** 

year ended

Capacity June 30, 2004

**Plant** 

(tons/month)

(tons/month)

Central

264,600

178,700

Virginia

198,400

128,800

Saaiplaas

242,500

144,200

In fiscal 2004, Harmony's plants at its Free State operations recovered approximately 95% of the gold contained in the ore delivered for processing. Harmony's refinery is also located at its Free State operations.

Capital Expenditure. Harmony incurred approximately Rand 58.4 million in capital expenditures at the Free State operations in fiscal 2004, principally for shaft development at Saaiplaas 3, Unisel, Merriespruit 1 and the Masimong shaft complex. Harmony has budgeted Rand 38.4 million (\$6.2 million at the closing rate on balance sheet date) for capital expenditures at the Free State operations in fiscal 2005, primarily for development of the Masimong shaft complex with smaller development projects at Unisel and Merriespruit 1 shafts and secondarily to upgrade hostels.

### **Evander Operations**

*Introduction*. Harmony's Evander operations are located in the province of Mpumalanga in South Africa and are comprised of an amalgamation of the former Kinross, Bracken, Leslie and Winkelhaak mines and 26,952 hectares of mineral rights adjacent to these mines. Mining at Harmony's Evander operations is conducted at depths ranging from 300 meters to 2,100 meters. In fiscal 2004, Harmony's Evander operations accounted for approximately 11% of Harmony's total gold sales.

*History.* Gold mining in the Evander Basin began in 1955. Eventually, four mining operations were established at Evander. In 1996, as a result of depletion of ore reserves, all four mining areas were merged to form Evander. In August 1998, Harmony acquired Evander as a wholly-owned subsidiary. Since then, Harmony has implemented the "Harmony Way" management process at Evander.

*Geology*. The area covered by Evander's mining authorization and mineral rights is situated within the Evander basin, a geologically discrete easterly extension of the main Witwatersrand Basin. Only one economic placer unit, the Kimberley Reef, is mined at Evander. In addition to the faulting of the reef horizon, there are numerous dykes and sills that complicate the mining layouts, the most significant of which is an extensively developed dolerite footwall sill that occasionally intersects the Kimberley Reef, causing displacements within it.

Mining Operations. The Evander operations are primarily engaged in underground mining. The Evander operations also process a limited amount of waste rock as and when necessary to allow the plants to operate efficiently. These operations are subject to all of the underground mining risks detailed in the Risk Factors section. Due to the shallow to moderate depths of the Evander underground operations, seismicity and pressure related problems are relatively infrequent. There is a risk of subterranean water and/or gas intersections in some areas of the mine. However, this risk is mitigated by active and continuous management and monitoring, which includes the drilling of boreholes in

advance of faces. Where water and/or gas is indicated in the drilling, appropriate preventative action is taken. Evander was affected by two underground fires and the flooding of parts of the mine during fiscal 2000, both of which had a negative impact on production during fiscal 2000. Such incidents are generally infrequent and there were no significant incidents in fiscal 2003 or 2004. On July 12, 2002, a seismic event at the Evander 8 shaft caused injuries to four workers (but no fatalities), significant infrastructure damage and an interruption in production for three weeks. The damage from this incident adversely impacted on the performance of these operations over the 2003 fiscal year due to the fact that 8 shaft is the highest grade operation at Evander, so production and overall recovery grade was significantly affected. The operational performance has now returned to the pre-seismic event levels since the quarter ended June 30, 2003. During the quarter ended March 31, 2004, an agreement was reached with the unions for the implementation of CONOPS at Evander. To date, it has been fully implemented at

Evander 7. Due to an initial lack of mining flexibility, CONOPS has only been partially introduced at Evander 8. The introduction at Evander 2 is progressing well but results from this shaft have been inconsistent to date. The full benefit of the implementation are expected to become more evident during the next six months. For a description of CONOPS, see Item 6. "Directors, Senior Management and Employees - Unionized Labor".

The safety record at the Evander operations in terms of lost time frequency rate (29.33) during fiscal 2004 is higher than the group average. The fatality frequency rate (0.21) during fiscal 2004 is lower than the group average. The lost time frequency rate at the plants and surface operations (3.61) is higher than the group average. There were no fatalities during fiscal 2004. Significant work is being done to address this. Safety at the operations receives constant and high-level attention and where problems are identified steps are taken to address the situation. Underground falls of ground have historically been the biggest cause of fatal injuries at Evander. Roofbolting has been implemented at Evander in an effort to address this risk. The Executive for Sustainable Development, is responsible for leading initiatives to improve workplace health and safety at Harmony's South African operations. See Item 6. "Directors, Senior Management and Employees - Directors and Senior Management - Board Practices."

Detailed below are the operating and production results at Evander for the past three fiscal years:

## Fiscal year ended June 30,

2004

2003

2002

#### **Production** Tons ('000)

2,286

2,345

2,594

Recovered grade (ounces/ton)

0.158

0.154

0.160

Gold sold (ounces)

361,694

360,184

415,382

#### **Results of operations (\$)** Cash cost ('000)

130,733

87,113

70,867

Cash profit ('000)

8,389

29,804

45,905

#### Cash costs

Per ounce of gold (\$)

362

242

171

Tons milled from the Evander operations were 2,286,000 in fiscal 2004, compared with 2,345,000 in fiscal 2003, and ounces sold were 361,694 in fiscal 2004, compared with 360,184 in fiscal 2003. This decrease in tons milled was due to the discontinuation of the treatment of surface sources during January 2004. The increase in ounces was due to the slightly higher recovery grade. Recovered grade was 0.158 in fiscal 2004, compared with 0.154 in fiscal 2003. This slight increase was due to the discontinuation of surface sources as well as an increase in recovery grade from the 7 and 8 shafts.

The increase in cash costs from \$242 per ounce in fiscal 2003 to \$362 per ounce in fiscal 2004 was attributable primarily to the appreciation of the Rand against the U.S. dollar, which caused a significant increase when these costs

were translated into U.S. dollars. See Item 5. "Operating and Financial Review and Prospects - Exchange Rates." Additional costs incurred in repairing the infrastructure of Evander 2 shaft also impacted on the increase in cash cost. If expressed in Rand terms, costs per ounce would have increased in fiscal 2004, due primarily to increases in the costs of labor and supplies due to the implementation of collective bargaining agreements and the effect of inflation on supply contracts.

Harmony currently has five operating shafts and one service shaft at its Evander operations. The total shaft hoisting capacities are detailed below:

# **Hoisting Capacity**

**Shaft** 

#### (tons/month)

Evander No. 2 shaft

75,800

Evander No. 3 shaft

1

21,800

Evander No. 5 shaft

103,300

Evander No. 7 shaft

116,600

Evander No. 8 shaft

161,600

Evander No. 9 shaft

2

91,200

1

Mining at this shaft has ceased.

2

Downscaled beginning in the quarter ended September 30, 2002 and currently only small scale mining is taking place here.

48

On a simplistic basis (and assuming that no additional reserves are identified), at the production level achieved in fiscal 2004, the June 30, 2004 reported proven and probable ore reserves of 79.07 million tons will be sufficient for the Evander operations to maintain production until approximately fiscal 2018. However, because Harmony's Evander operations consist of several different mining sections that are at various stages of maturity, it is expected that some sections will decrease production earlier than others. In particular, Harmony downscaled shaft 9 in the quarter ended September 30, 2002, following the final extraction of the shaft pillar in the quarter ended June 30, 2002. Small scale mining is continuing in this area and Harmony will do further prospect work to ensure there are no more economical areas to extract. Production at shaft 3 had also been halted when Harmony acquired the Evander operations, and Harmony recommenced limited production from this shaft in the quarter ended December 31, 2001. Due to the current economic climate, mining operations at shaft 3 has been ceased during the quarter ended December 31, 2003. Harmony currently expects that production at shafts 2, 5 and 7 will end between 2009 and 2010. Although production increases are planned at other production shafts and total production is expected to remain generally constant in the foreseeable future, some uncertainty about longer-term production exists because infrastructure for the subsequent years has not been planned to the same degree of detail as in the years 2001 through 2010. In addition, any future changes to the assumptions upon which the reserves are based, as well as any unforeseen events affecting production levels, could have a material effect on the expected period of future operations. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production conditions than Harmony currently estimates."

*Plants*. There are currently two operating metallurgical plants at Evander. The bulk of the mine's ore production is treated at the Kinross plant, which is a CIP/CIL hybrid plant. The Winkelhaak plant mills all of the ore from shafts 2 and 5, and pumps the slurry to the Kinross plant for further processing.

The following table sets forth processing capacity and average tons milled during fiscal 2004 for each of the operating plants:

Average

milled

for the fiscal

**Processing** 

year ended

Capacity June 30, 2004

Plant

(tons/month)

(tons/month)

Kinross

218,300

172,800

Winkelhaak

79,400

53,700

In fiscal 2004, Harmony's plants at its Evander operations recovered approximately 96% of the gold contained in the ore delivered for processing.

Capital Expenditure. Harmony incurred approximately Rand 93.7 million in capital expenditures at the Evander operations in fiscal 2004, principally for underground declines at shafts 7 and 8. Harmony has budgeted Rand 58.9 million (\$9.3 million at the closing rate at the balance sheet date) for capital expenditures at the Evander operations in fiscal 2005, primarily for development of the decline shaft at 7 and 8 shaft.

#### **Kalgold Operations**

*Introduction.* Harmony conducts a surface mining operation at the Kalgold gold mine near Mafikeng in the North West Province of South Africa. Through Kalgold, Harmony also controls extensive mineral rights on the Kraaipan Greenstone Belt in the North West Province of South Africa. Harmony purchased Kalgold on July 1, 1999. In fiscal 2004, the Kalgold operations accounted for approximately 3% of Harmony's total gold sales.

On November 7, 2003 Harmony announced its intent to sell Kalgold to The Afrikaner Lease Limited (Aflease) for a consideration of R250 million. Although all the other conditions precedent were met, Aflease could not provide

appropriate funding and the contract was cancelled on March 15, 2004. Kalgold experienced operational difficulties normally associated with a changeover of management and control and this was reflected in the production figures. *History*. Harmony acquired Kalgold on July 1, 1999 and fully incorporated Kalgold into its operations in October 1999. Prior to Harmony's acquisition, the Kalgold mine had operated for more than three years. *Geology*. The Kalgold operations are situated on the Kraaipan granite-greenstone belt, which is a typical gold-bearing greenstone formation. It has undergone intense structural deformation that has led to its dislocation into separate units.

Within the mining lease area, six steeply dipping zones of mineralization have been identified. Several additional zones of mineralization have been located within this area and are being evaluated. The first zone to be exploited by open cast mining has been an area known as the D-Zone. The D-Zone orebody has a strike length of 1,400 meters, varying in width between 40 meters in the south and 15 meters in the north.

Gold mineralization is associated with pyrite and pyrrohotite, which was developed as a replacement mineral within a banded ironstone formation and also within extensional, cross-cutting quartz veins within the ironstone.

Mining Operations. The Kalgold operations are engaged in open pit mining. This operation is subject to all of the

open cast mining risks detailed in the Risk Factors section. Small subterranean water intersections in the pit are common and are actively managed and appropriate action is taken when necessary. The primary mining challenges at the Kalgold operations of achieving optimal volumes and grades of ore production are addressed by stringent ore reserve management.

While there is no reliable industry benchmark for safety at South African surface mining operations, the Kalgold operations had a lost time injury frequency rate of 4.93 per million hours worked in fiscal 2004, and recorded no fatal accidents in fiscal 2004. During fiscal 2003, refurbishment activities at Kalgold's CIL plant resulted in some safety related incidents, which contributed to the increased lost time injury frequency rate. Harmony has, however, addressed these issues and does not expect them to have a material impact on long-term production. Safety at the operations receives constant and high-level attention and where problems are identified steps are taken to address the situation. Kalgold achieved 1,000,000 fatal free shifts during the quarter ended September 30, 2003 and no employee has lost his life on the mine since the commissioning of this mine. The Executive for Sustainable Development, is responsible for leading initiatives to improve workplace health and safety at Harmony's South African operations. See Item 6. "Directors, Senior Management and Employees - Directors and Senior Management - Board Practices."

Detailed below are the operating and production results from open cast operations at Kalgold for the past three fiscal years:

### Fiscal year ended June 30,

2004

2003

2002

#### **Production** Tons ('000)

1,530

1,195

1.060

Recovered grade (ounces/ton)

0.054

0.062

0.059

Gold sold (ounces)

82,756

74,590

62,179

### **Results of operations (\$)** Cash cost ('000)

28,510

16,552

12,727

Cash profit ('000)

3,022

7,984

4,778

### **Cash costs**

Per ounce of gold (\$)

345

222

205

Ounces sold were 82,756 in fiscal 2004, compared with 74,590 in fiscal 2003. This increase (and the increase in tons milled) was due to the increased capacity as a result of the introduction of a third mill at the Kalgold plant. Recovered grade was 0.054 in fiscal 2004, compared with 0.062 in fiscal 2003. The decrease in recovered grade was due to the treatment of lower grade strategic ore due to the increased capacity of the plant.

Cash costs at Kalgold were \$345 per ounce in fiscal 2004, compared with \$222 per ounce in fiscal 2003. This increase was attributable primarily to the appreciation of the Rand against the U.S. dollar, which caused a significant increase when these costs were translated into U.S. dollars. See Item 5. "Operating and Financial Review and Prospects - Exchange Rates." If expressed in Rand terms, costs per ounce would have increased in fiscal 2004, due primarily to the decreased ore grade, increases in the global price of oil and the implementation of collective bargaining agreements and the effect of inflation on supply contracts.

On a simplistic basis (and assuming that no additional reserves are identified), at the production level achieved in fiscal 2004, the June 30, 2004 reported proven and probable ore reserves of 6.14 million tons will be sufficient for the Kalgold operations to maintain production until approximately fiscal 2008. However, any future changes to the assumptions upon which the reserves are based, as well as any unforeseen events affecting production levels, 50

could have a material effect on the expected period of future operations. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production conditions than Harmony currently estimates."

*Plants.* During fiscal 2001, Kalgold had a CIL plant and a heap leach operation. Harmony discontinued the active use of Kalgold's heap leach operation in July 2001 and no gold was recovered through heap leaching in fiscal 2002. Over time, however, small amounts of gold normally can be recovered from ore remaining on the leach pads. Harmony expects to apply leaching solution occasionally in the future to recover any available gold. Ore is trucked from the pit and stockpiled according to grade categories. Higher grade ore is processed in the CIL plant. Lower grade ore is dumped on heap leach pads. Following the recent commissioning of the pre-primary crusher, the ore now undergoes a four phase crushing process. An additional ball mill and additional leach tanks have been commissioned, which increased the capacity to 140,000 tons/month.

The following table sets forth processing capacity and average tons milled during fiscal 2004 for each of the plants:

Average

milled

for the fiscal

**Processing** 

year ended

Capacity June 30, 2004

**Plant** 

(tons/month)

(tons/month)

CIL

140,000

105,200

Heap Leach

-

\*

Active use of heap leaching was discontinued in July 2001; however, Harmony expects to apply leaching solution occasionally in the future to recover any available gold.

In fiscal 2004, Harmony's plants at its Kalgold operations recovered approximately 82% of the gold contained in the ore delivered for processing.

*Capital Expenditure.* Harmony incurred approximately Rand 2 million in capital expenditures at the Kalgold operations during fiscal 2004, principally for mining operations. Harmony has not budgeted for capital expenditure at the Kalgold operations in fiscal 2005.

#### **Free Gold Operations**

Introduction. On November 21, 2001, Harmony and ARMgold reached an agreement in principle with AngloGold to purchase the Free Gold assets, subject to specified conditions. Pursuant to the subsequently executed definitive agreements, the Free Gold assets were purchased by the Free Gold Company (in which Harmony and ARMgold each has a 50% interest) for Rand 2.200 billion (\$206.8 million at an exchange rate of R10.64 per \$1.00), plus an amount equal to any liability for taxes payable by AngloGold in connection with the sale. The Free Gold Company assumed management control of the Free Gold assets from January 1, 2002, and completed the acquisition on April 23, 2002. Rand 1.8 billion (\$169.2 million at an exchange rate of R10.64 per \$1.00) of the purchase price, plus accrued interest, was paid by the Free Gold Company in April 2002 following the fulfillment of all conditions precedent and Rand 400 million (\$37.5 million at an exchange rate of R10.64 per \$1.00) is payable by the Free Gold Company under an interest-free loan due January 1, 2005. The additional amount relating to taxes was paid by the Free Gold Company when the tax liability became payable by AngloGold. The amount of Rand 682 million (\$90.8 million at an exchange rate of R7.51 per \$1.00) was paid in June 2003. The Free Gold Company expects that approximately 80% of this amount will provide the Free Gold Company with a capital expense deduction against its taxable income from the Free Gold assets. For purposes of U.S. GAAP, Harmony accounted for its equity interest in the Free Gold Company with effect from May 1, 2002 and the purchase price of the Free Gold assets was determined to be Rand 2.264 billion

(\$239.4 million).

In connection with the acquisition of the Free Gold assets, on April 5, 2002 Harmony and ARMgold entered into a formal joint venture and shareholders' agreement relating to the Free Gold Company. The agreement provided that Harmony and ARMgold were each responsible for 50% of the expenses associated with operating the Free Gold assets. Pursuant to the agreement, an interim executive committee composed of an equal number of representatives appointed by Harmony and ARMgold managed the Free Gold Company until the acquisition was 51

completed. Following completion of the acquisition, management of the Free Gold Company was vested in a board, which initially was composed of an equal number of Harmony and ARMgold representatives. Since Harmony acquired ARMgold in September 2003, the Free Gold Company has been accounted for as a wholly owned subsidiary. Therefore Harmony's interest in the Free Gold Company was equity accounted for the first three months of the year, and then consolidated for the remaining nine months. In fiscal 2004, the Free Gold operations accounted for approximately 23% of Harmony's total gold sales

The Free Gold assets consist of the Joel, Tshepong, Matjhabeng and Bambanani mines, associated infrastructure and other mineral rights in the Free State Province of South Africa. Production from the underground mines and adjacent surface sources is processed through three processing facilities (the Free State 1, or FS1, Plant, the Free State 2, or FS2, Plant and the Joel Plant). Because Harmony equity accounted for its 50% interest in the Free Gold Company for the first three months of the year, sales from the Free Gold assets are not included in Harmony's sales figures for that period. The sales from the remaining nine months were included in the total sales figures for the year. For more information on Harmony's consolidation policy, see note 2(b) to the consolidated financial statements.

On May 24, 2002, Harmony, ARMgold and Gold Fields, through its subsidiary St. Helena Gold Mines Limited, announced that an agreement in principle had been reached under which St. Helena Gold Mines Limited would sell the St. Helena gold mining assets to the Free Gold Company for Rand 120 million (\$13.7 million), plus a royalty equal to one percent of revenue for a period of 48 months beginning on the effective date of the sale. St. Helena Gold Mines Limited and the Free Gold Company concluded a final agreement of sale on July 1, 2002. The sale was completed on October 30, 2002, and the Free Gold Company assumed management control on that date. Under the terms of the agreement of sale the Free Gold Company agreed to assume specified environmental liabilities relating to the operation of the St. Helena mine.

History. Exploration, development and production history in the area of the Free Gold assets dates from the early 1900's, leading to commercial production by 1932. Subsequent consolidation and restructuring led to the formation of Free State Consolidated Gold Mine (Operations) Limited, which became a wholly-owned subsidiary of AngloGold in June 1998. AngloGold also owned the Joel mine, which, although it was not a part of this AngloGold subsidiary, is now included within the Free Gold assets owned by the Free Gold Company. The Free Gold Company also acquired the St. Helena gold mine in October 2002. St. Helena was the first gold mine to be established in the Free State. Geology. The Free Gold Company's mines are located in the Free State goldfield, which is on the southwestern edge of the Witwatersrand basin. The Bambanani, Tshepong, Matjhabeng and St. Helena mines are located in and around Welkom, while the Joel mine is approximately 30 kilometers south of Welkom. Mining at Bambanani, Tshepong and Matjhabeng is primarily conducted in the Basal reef, with limited exploitation of secondary reefs. Mining at Joel is primarily conducted in the Beatrix-VS5 Composite Reef. The reefs generally dip towards the east or northeast while most of the major faults strike north-south, with the most intense faulting in evidence at Matjhabeng. Mining Operations. The Free Gold Company is engaged in both underground and waste rock mining. These operations are subject to all of the underground and waste rock mining risks detailed in the Risk Factors section. The Free Gold Company regularly revisits its mining strategy and management procedures at the Free Gold operations in connection with its effort to minimize risks. Mining depths range from shallow-intermediate at the Joel mine to deep at the Bambanani mine. The primary mining challenges at the Free Gold operations are seismic risks, ventilation and fire avoidance. Both the Bambanani mine and the Matjhabeng mine are classified as seismically active operations with seismic monitoring systems installed to do active seismic risk evaluation, generally located in the vicinity of remnant operations and/or geological structures. Seismic systems are managed by external specialists. Current ventilation and refrigeration systems were evaluated and improved at take-over which Harmony believes will improve productivity and safety. Plans to this effect are being implemented by the Free Gold Company. Refrigeration plants are installed at the Bambanani and Tshepong Mines. Following underground fires during the second half of 1999 at the Bambanani mine, mine management reviewed and modified working practices and the efficiency of the overall fire management system.

Mining is conducted at depths ranging from 1,200 and 3,000 meters at Bambanani, at an average depth of approximately 1,925 meters at Tshepong, at an average depth of approximately 1,700 meters at Matjhabeng, at an average depth of approximately 1,000 meters at Joel and at an average depth of 1,489 meters at St. Helena. Production at Matjhabeng, which is a mature mine nearing closure, is currently focused on the extraction of

remnant pillars and shaft pillars, specifically at the Eland Shaft. Due to the increased operating costs in dollar terms, the decision was taken to scale down the Eland shaft and then close it down. The Nyala shaft was placed on a 60-day review during the quarter ended March 31, 2004.

The Free Gold Company is conducting a development program at the Bambanani shaft. Harmony expects this program to allow access to additional mining areas, which would reduce overall grade but increase overall production and life of mine. CONOPS was introduced at the shafts during the quarter ended December 31, 2003. Cash costs were affected by the additional cost involved in the implementation. Four fires in the higher grade sections during the second half of fiscal 2004 had a negative impact on productivity at Bambanani. They were all contained and have been extinguished.

The Tshepong Decline project, which started in April 2003, is proceeding on schedule. This project will add two additional operating levels below the present level of the Tshepong North Shaft. At fiscal 2004 year end, R100.9 million has been expended. A further R 164.9 million has been budgeted to complete the project. The Free Gold Company estimates that the project will be completed by July 2006 and will add 150,000 ounces of gold per year to current production. CONOPS was introduced at Tshepong during the quarter ended December 31, 2003. This has increased production, breaking records in May and June 2004. In line with this increase, the cash costs also rose. For a description of CONOPS, see Item 6. "Directors, Senior Management and Employees-Unionized Labor".

The Phakisa Shaft Project is also proceeding on schedule. Phakisa shaft, a surface shaft, was sunk to access the ore reserve to a depth of 2,241 meters below surface. It is estimated that the area will yield 18 million tons, recovering 136 tons of gold over a project life of 20 years. Project completion requires sinking (75 meters), the sinking of a decline shaft, equipping and commissioning of the shaft with access development and stoping to maximum production build-up at a capital cost of Rand 612.9 million. To date, R 124.3 million has already been expensed. The project is expected to, at full production in 2010, achieve rates of 280,000 ounces per annum. The introduction of the decline shaft concept has reduced the vertical shaft sinking requirement and has increased the net present value of the project by R95 million.

Shaft 2 at St Helena mine was closed during the quarter ended December 31, 2003. This had a positive effect on the production figures for the rest of the shafts at the mine. CONOPS was introduced on November 10, 2003. Excess metallurgical plant capacity at the FS1 and FS2 plants has been filled by exploiting surface sources, including waste rock dumps, slimes dams, and general clean-up material mined as part of the environmental rehabilitation process. These surface operations include free digging of waste rock dumps and hydraulic mining of slimes dams, which are either transported by the surface rail network or by dedicated pipelines to the individual plants. The majority of surface sources at the Free Gold assets were treated at the FS2 Plant, however with the current high level of operating costs in Rand terms, this is no longer a viable option. As there is additional treatment capacity in the Free State, it was decided to stop treatment at this plant and start with a total clean up operation.

During Harmony's fiscal 2004, the lost time frequency rate at the Free Gold operations (19.46) compared favorably with the group average, as did the fatality frequency rate of 0.17. The lost time frequency rate at the plants and surface operations was 6.30, which is higher than the group average for these types of operations. The fatality frequency rate at the surface operations was 0.18, which was higher than the group average. The Free Gold Company applies safety standards similar to safety standards for Harmony operations and safety standards receive constant and high-level attention. Where problems are identified, the Free Gold Company takes steps to address the situation. The Free Gold Company has begun implementing measures to reduce costs while increasing production and extending mine life, in a manner that Harmony believes is consistent with the "Harmony Way."

*Underground Operations.* Detailed below are the operating and production results from underground mining at the Free Gold assets for the six months ended June 30, 2002 and the fiscal years ended June 30, 2003 and June 30, 2004. The reporting periods differ as the year end was changed to bring it in line with Harmony's reporting period. 53

Fiscal year Fiscal vear Six months ended ended ended **June 30**, June 30, **June 30**, 2004 2003 2002 **Production** Tons ('000) 5,426 5,178 2,179 Recovered grade (ounces/ton) 0.177 0.206 0.228 Gold sold ('000 ounces) 959,367 1,066,564 497,080 **Results of operations (\$)** Cash cost ('000) 319,841 213,668 77,108 Cash profit ('000) 49,958 136,810 83,380 Cash costs Per ounce of gold (\$) 333

200155

Tons milled from the Free Gold underground operations were 5,426,000 in fiscal 2004, compared with 5,178,000 in fiscal 2003. Ounces sold were 959,367 in fiscal 2004, compared with 1,066,564 in fiscal 2003. The decrease in ounces sold is primarily attributed to the lower recovery grade at Bambanani.

Harmony's 50% interest in the sale of gold from the Free Gold Company that was excluded as a result of equity accounting amounted to 126,414 ounces in fiscal 2004.

Cash costs for Free Gold underground operations were \$319,841,000 in fiscal 2004, compared with \$213,668,000 in fiscal 2003. This increase was primarily attributed to the appreciation of the Rand against the U.S. dollar and also due to development rates associated with the introduction of CONOPS and an increase in production. Cash costs per ounce were \$333 in fiscal 2004, compared with \$200 in fiscal 2003. This increase was attributable primarily to the reduction in the recovered grade as well as the appreciation of the Rand against the U.S. dollar and the introduction of CONOPS.

On a simplistic basis (and assuming no additional reserves are identified) at the production level achieved at the Free Gold operations in the fiscal 2004, the June 30, 2004 reported proven and probable ore reserves of 83.31 million tons will be sufficient for the Free Gold operations to maintain underground production until approximately 2015. However, because the Free Gold operations consist of several different mining sections that are at various stages of maturity, it is expected that some sections will decrease production earlier than others. In addition, any future changes to the assumptions upon which the ore reserves are based, as well as any unforeseen events affecting production levels, could have a material effect on the expected period of future operations. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production conditions than Harmony currently estimates."

The Free Gold Company has eleven operating shafts, the rock hoisting capacities of which are set forth below.

### **Hoisting Capacity**

#### **Shaft**

#### (tons/month)

Tshepong North shaft

1

181,800

Bambanani East shaft

215,000

West shaft

88,200

Joel North and South shafts

2

385,000

Matjhabeng Eland shaft

77,200

Matjhabeng Sable and Kudu shafts

132,300

Matjhabeng Nyala shaft

308,600

St. Helena No. 2 shaft

3

82,700

St. Helena No. 4 shaft

4

88,200

St. Helena No. 8 shaft

5

110,200

St. Helena No. 10 shaft

6

165,300

54

1

Currently operating at a rate of 136,000 tons per month while upgrades in the shaft to facilitate increased production are in progress.

2

Currently operating at a rate of 40,000 tons per month, in line with the shaft's current mining plan.

3

Closed during the December 2003 quarter.

1

Currently operating at a rate of 15,000 tons per month due to the reduction of mining operations by GoldFields prior to the sale of St. Helena to the Free Gold Company.

5

Currently operating at a rate of 36,000 tons per month due to the reduction of mining operations by GoldFields prior to the sale of St. Helena to the Free Gold Company.

6

Currently closed due to the reduction of mining operations by GoldFields prior to the sale of St. Helena to the Free Gold Company.

Surface Operations. Detailed below are the operating and production results from the Free Gold Company's surface operations for the six months ended June 30, 2002 and the fiscal years ended June 30, 2003 and June 30, 2004. The reporting periods differ as the year end was changed to bring it in line with Harmony's reporting period.

Fiscal vear

Fiscal year

Six months

ended

ended

ended

June 30,

**June 30,** 

**June 30,** 

2004

2003

2002

#### **Production**

Tons ('000)

4,148

5,146

2,641

Recovered grade (ounces/ton)

0.018

0.017

0.0233

Gold sold (ounces)

73,122

88,864

61,086

#### **Results of operations (\$)**

Cash cost ('000)

23,972

19,108

7,526

Cash profit ('000)

4,535

9,816 11,980`

#### Cash costs

Per ounce of gold (\$)

328

215

123

Tons milled from surface operations were 4,148,000 in fiscal 2004, compared with 5,146,000 in fiscal 2003, and ounces sold were 73,122 in fiscal 2004, compared with 88,864 in fiscal 2003. These decreases were attributable primarily to the decision to discontinue treating surface sources as a result of the prevailing gold price. Ounces attributable to Harmony's 50% interest in the Free Gold Company that were not included as a result of equity accounting amounted to 11,930 ounces for the 3 months ended September 30, 2004.

Cash costs were \$23,972,000 in fiscal 2004, compared with \$19,108,000 in fiscal 2003. This increase is attributable primarily to the appreciation of the Rand against the U.S. dollar. Cash costs per ounce were \$328 in fiscal 2004, compared with \$215 in fiscal 2003.

On a simplistic basis (and assuming no additional reserves are identified) at the production level achieved at the Free Gold operations in the fiscal 2004 year, the June 30, 2004 reported proven and probable ore reserves of 26.44 million tons will be sufficient for the Free Gold assets to maintain surface production until approximately 2015. However, because the Free Gold assets consist of several different mining sections that are at various stages of maturity, it is expected that some sections will decrease production earlier than others. In addition, any future changes to the assumptions upon which the ore reserves are based, as well as any unforeseen events affecting production levels, could have a material effect on the expected period of future operations. See Item 3. "Key Information - Risk Factors - Harmony's gold reserve figures may yield less gold under actual production conditions than Harmony currently estimates."