

# Mineral Resources and Ore Reserves





*Target, South Africa*



*Hidden Valley, Papua New Guinea*



*Tshepong, South Africa*

As of 30 June 2008, Harmony reported Ore Reserves of 50.5 million ounces and Mineral Resources of 256.3 million ounces. The Measured and Indicated Mineral Resources are inclusive of those resources modified to produce the Ore Reserves. Ore Reserves are reported as mill delivered tonnes at the grade delivered to the mill. Of the company's 50.5 million ounces of Ore Reserves, 12.1 million ounces are classified as below infrastructure, i.e. reserves for which capital expenditure has yet to be approved.

We use certain terms in this report such as 'measured', 'indicated' and 'inferred' resources, which the SEC guidelines strictly prohibit US-registered companies from including in their filings with the SEC. US investors are urged to consider closely the disclosure in our Form 20-F.

#### Commodity prices

A gold price of \$750/oz was used for the conversion of Mineral Resources to Ore Reserves at our South African and Papua New Guinea operations. An exchange rate of \$/R7.46 for South Africa and A\$/0.80 for Papua New Guinea has been used, resulting in a gold price of R180 000/kg and A\$850/oz respectively.

#### Auditing

The Harmony Mineral Resources and Ore Reserves have been comprehensively audited by a team of internal competent persons that operates independently of the operating units. The internal audit team verifies compliance with the Harmony Code of Resource blocking, valuation, classification, cut-off calculations, development of life of mine plans and SAMREC sheets which support Harmony's Annual Mineral Resource and Ore Reserve statement. This audit process is specifically designed to be aligned with compliance requirements for internationally recognised procedures and standards such as:

- South African Code for Reporting Mineral Resources and Mineral Reserves – SAMREC Code
- Australian Code for Reporting Mineral Resources and Ore Reserves - JORC Code

- Industry Guide 7 of the United States Securities Exchange Commission

- Sarbanes-Oxley requirements

In addition to the internal audits, Harmony made use of independent consultants to verify Resources and Reserves at certain of its operations for the period under review.

#### Competent person's declaration

Harmony employs an ore reserve manager at each of its operations who takes responsibility for the reporting of the Mineral Resources and Ore Reserves of the mines for which they are responsible.

The competent person responsible for the overall preparation and reporting of the company's Mineral Resources and Ore Reserves in South Africa is Jaco Boshoff (BSc (Hons), MSc (Geology), MBA. Pri.Sci.Nat) who has 13 years' relevant experience, and is registered with the South African Council for Natural Scientific Professions (SACNASP).

The competent person responsible for Papua New Guinea and Australia is Greg Job (BSc, MSc (Min Econ), MAusIMM). Greg has 20 years' experience in mine and resource geology, and is a member of the Australian Institute of Mining and Metallurgy.



Jaco Boshoff



Greg Job



*Hidden Valley, Papua New Guinea*



*Hidden Valley, Papua New Guinea*



*Eddie Creek, Papua New Guinea*

# Mineral Resources and Ore Reserves (continued)

## Summary of Mineral Resources and Ore Reserves

### Mineral Resources Statement (Metric)

OPERATIONS	MEASURED RESOURCES			INDICATED RESOURCES			INFERRED RESOURCES			TOTAL RESOURCES		
	Tonnes (million)	Grade (g/t)	Gold kg (000)	Tonnes (million)	Grade (g/t)	Gold kg (000)	Tonnes (million)	Grade (g/t)	Gold kg (000)	Tonnes (million)	Grade (g/t)	Gold kg (000)
<b>GOLD</b>												
<b>SA Underground</b>												
<b>Elandsdraal</b>												
<b>Total</b>	<b>11.9</b>	<b>7.90</b>	<b>94</b>	<b>34.4</b>	<b>9.49</b>	<b>327</b>	-	-	-	<b>46.4</b>	<b>9.08</b>	<b>421</b>
<b>Free State</b>												
Masimong 5	16.0	6.58	105	22.0	5.38	118	140.0	5.27	738	178.0	5.40	961
Virginia Operations	84.0	4.00	336	85.9	3.44	296	192.0	3.29	632	361.9	3.49	1 264
<b>Total</b>	<b>100.0</b>	<b>4.41</b>	<b>441</b>	<b>107.9</b>	<b>3.84</b>	<b>414</b>	<b>332.1</b>	<b>4.13</b>	<b>1 370</b>	<b>540.0</b>	<b>4.12</b>	<b>2 225</b>
<b>Doornkop</b>												
<b>Total</b>	<b>8.1</b>	<b>3.32</b>	<b>27</b>	<b>8.4</b>	<b>3.10</b>	<b>26</b>	<b>272.7</b>	<b>2.27</b>	<b>619</b>	<b>289.2</b>	<b>2.32</b>	<b>672</b>
<b>Evander</b>												
Evander Operations	40.3	6.10	246	22.6	7.26	164	94.5	7.60	718	157.3	7.16	1 127
Evander (below infrastructure)	-	-	-	72.4	8.83	640	73.3	3.42	251	145.7	6.11	890
<b>Total</b>	<b>40.3</b>	<b>6.10</b>	<b>246</b>	<b>95.0</b>	<b>8.46</b>	<b>804</b>	<b>167.8</b>	<b>5.77</b>	<b>968</b>	<b>303.1</b>	<b>6.66</b>	<b>2 017</b>
<b>Target</b>												
<b>Total</b>	<b>15.6</b>	<b>7.87</b>	<b>122</b>	<b>13.6</b>	<b>6.68</b>	<b>91</b>	<b>6.5</b>	<b>6.40</b>	<b>41</b>	<b>35.6</b>	<b>7.15</b>	<b>254</b>
<b>Free Gold</b>												
Bambanani	14.7	10.18	149	5.8	9.33	54	1.6	8.31	13	22.0	9.82	216
Phakisa	0.1	11.25	1	23.3	12.10	282	92.0	5.60	515	115.4	6.91	798
Tshepong	7.7	11.45	88	22.5	11.24	252	19.3	7.55	146	49.5	9.83	486
Joel	5.3	5.48	29	4.1	5.93	24	6.6	7.48	49	16.0	6.42	103
Nyala	4.9	6.58	32	4.0	4.62	19	-	-	-	8.9	5.69	51
<b>Total</b>	<b>32.6</b>	<b>9.19</b>	<b>299</b>	<b>59.6</b>	<b>10.58</b>	<b>631</b>	<b>119.5</b>	<b>6.05</b>	<b>723</b>	<b>211.7</b>	<b>7.81</b>	<b>1 654</b>
<b>Total SA Underground</b>	<b>208.5</b>	<b>5.90</b>	<b>1 230</b>	<b>318.9</b>	<b>7.19</b>	<b>2 292</b>	<b>898.5</b>	<b>4.14</b>	<b>3 722</b>	<b>1 425.9</b>	<b>5.08</b>	<b>7 243</b>
<b>S.A. Surface</b>												
Kalgold	40.6	1.01	41	44.9	1.00	45	32.0	0.98	31	117.5	1.00	117
Free Gold	770.1	0.24	184	94.5	0.38	36	306.3	0.24	74	1 170.9	0.25	293
<b>Total SA Surface</b>	<b>810.7</b>	<b>0.28</b>	<b>225</b>	<b>139.4</b>	<b>0.58</b>	<b>81</b>	<b>338.3</b>	<b>0.31</b>	<b>105</b>	<b>1 288.3</b>	<b>0.32</b>	<b>411</b>
<b>Papua New Guinea <sup>1</sup></b>												
Hidden Valley and Kaveroi	3.7	2.19	8	32.5	1.89	61	20.8	1.52	32	57.0	1.77	101
Hamata	-	-	-	5.7	2.33	13	0.9	2.54	2	6.5	2.36	15
Wafi	-	-	-	44.6	1.97	88	27.7	1.73	48	72.2	1.88	136
Golpu	-	-	-	61.3	0.63	39	52.8	0.49	26	114.2	0.57	65
<b>Total Papua New Guinea</b>	<b>3.7</b>	<b>2.19</b>	<b>8</b>	<b>144.0</b>	<b>1.40</b>	<b>201</b>	<b>102.2</b>	<b>1.05</b>	<b>108</b>	<b>249.9</b>	<b>1.27</b>	<b>317</b>
<b>GRAND TOTAL</b>	<b>1 023.0</b>		<b>1 463</b>	<b>602.3</b>		<b>2 573</b>	<b>1 338.9</b>		<b>3 934</b>	<b>2 964.2</b>		<b>7 971</b>
<b>SILVER</b>												
<b>Papua New Guinea</b>												
Hidden Valley and Kaveroi	3.7	39.67	149	32.5	33.99	1 103	20.8	27.44	571	57.0	31.97	1 823
<b>Total Papua New Guinea</b>	<b>3.7</b>	<b>39.67</b>	<b>149</b>	<b>32.5</b>	<b>33.99</b>	<b>1 103</b>	<b>20.8</b>	<b>27.44</b>	<b>571</b>	<b>57.0</b>	<b>31.97</b>	<b>1 823</b>
<b>COPPER</b>												
<b>Papua New Guinea</b>												
Golpu	-	-	-	61.3	1.39	853	52.8	0.72	380	114.2	1.08	1 233
<b>Total Papua New Guinea</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>61.3</b>	<b>1.39</b>	<b>853</b>	<b>52.8</b>	<b>0.72</b>	<b>380</b>	<b>114.2</b>	<b>1.08</b>	<b>1 233</b>
<b>MOLYBDENUM</b>												
<b>Papua New Guinea</b>												
Golpu	-	-	-	61.3	110.00	7	52.8	157.00	8	114.2	131.75	15
<b>Total Papua New Guinea</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>61.3</b>	<b>110.00</b>	<b>7</b>	<b>52.8</b>	<b>157.00</b>	<b>8</b>	<b>114.2</b>	<b>131.75</b>	<b>15</b>
<b>URANIUM</b>												
<b>SA Surface</b>												
Free State Region	316.8	0.09	29	24.7	0.10	2	67.5	0.06	4	409.0	0.09	36
<b>Total SA Surface</b>	<b>316.8</b>	<b>0.09</b>	<b>29</b>	<b>24.7</b>	<b>0.10</b>	<b>2</b>	<b>67.5</b>	<b>0.06</b>	<b>4</b>	<b>409.0</b>	<b>0.09</b>	<b>36</b>

<sup>1</sup> Represents Harmony's equity portion of 69.9%

NB Rounding of numbers may result in slight computational discrepancies

Note: 1 tonne = 1 000 kg = 2 204 lbs

## Mineral Resources Statement (Imperial)

OPERATIONS	MEASURED RESOURCES			INDICATED RESOURCES			INFERRED RESOURCES			TOTAL RESOURCES		
<b>GOLD</b>	Tons	Grade	Gold oz	Tons	Grade	Gold oz	Tons	Grade	Gold oz	Tons	Grade	Gold oz
<b>SA Underground</b>	(million)	(oz/t)	(million)	(million)	(oz/t)	(million)	(million)	(oz/t)	(million)	(million)	(oz/t)	(million)
<b>Elandsdraal</b>												
<b>Total</b>	<b>13.17</b>	<b>0.231</b>	<b>3.04</b>	<b>37.95</b>	<b>0.277</b>	<b>10.50</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>51.11</b>	<b>0.265</b>	<b>13.54</b>
<b>Free State</b>												
Masimong 5	17.64	0.192	3.39	24.25	0.157	3.80	154.37	0.154	23.72	196.26	0.157	30.91
Virginia Operations	92.61	0.117	10.81	94.68	0.100	9.50	211.68	0.096	20.33	398.97	0.102	40.64
<b>Total</b>	<b>110.25</b>	<b>0.129</b>	<b>14.19</b>	<b>118.93</b>	<b>0.112</b>	<b>13.30</b>	<b>366.05</b>	<b>0.120</b>	<b>44.04</b>	<b>595.23</b>	<b>0.120</b>	<b>71.54</b>
<b>Doornkop</b>												
<b>Total</b>	<b>8.98</b>	<b>0.097</b>	<b>0.87</b>	<b>9.23</b>	<b>0.090</b>	<b>0.83</b>	<b>300.58</b>	<b>0.066</b>	<b>19.90</b>	<b>318.79</b>	<b>0.068</b>	<b>21.60</b>
<b>Evander</b>												
Evander Operations	44.40	0.178	7.90	24.91	0.212	5.28	104.14	0.222	23.07	173.45	0.209	36.24
Evander (below infrastructure)	-	-	-	79.83	0.258	20.56	80.82	0.100	8.06	160.65	0.178	28.62
<b>Total</b>	<b>44.40</b>	<b>0.178</b>	<b>7.90</b>	<b>104.74</b>	<b>0.247</b>	<b>25.84</b>	<b>184.96</b>	<b>0.168</b>	<b>31.13</b>	<b>334.10</b>	<b>0.194</b>	<b>64.86</b>
<b>Target</b>												
<b>Total</b>	<b>17.15</b>	<b>0.229</b>	<b>3.94</b>	<b>14.95</b>	<b>0.195</b>	<b>2.91</b>	<b>7.12</b>	<b>0.187</b>	<b>1.33</b>	<b>39.23</b>	<b>0.209</b>	<b>8.18</b>
<b>Free Gold</b>												
Bambanani	16.17	0.297	4.80	6.34	0.272	1.73	1.77	0.242	0.43	24.28	0.286	6.96
Phakisa	0.10	0.329	0.03	25.69	0.353	9.07	101.41	0.163	16.55	127.20	0.202	25.65
Tshepong	8.50	0.334	2.84	24.75	0.328	8.12	21.27	0.220	4.68	54.53	0.287	15.64
Joel	5.81	0.160	0.93	4.50	0.173	0.78	7.29	0.218	1.59	17.60	0.187	3.30
Nyala	5.35	0.192	1.03	4.46	0.135	0.60	-	-	-	9.81	0.166	1.63
<b>Total</b>	<b>35.93</b>	<b>0.268</b>	<b>9.63</b>	<b>65.74</b>	<b>0.309</b>	<b>20.29</b>	<b>131.75</b>	<b>0.176</b>	<b>23.25</b>	<b>233.42</b>	<b>0.228</b>	<b>53.17</b>
<b>Total S.A. Underground</b>	<b>229.88</b>	<b>0.172</b>	<b>39.56</b>	<b>351.54</b>	<b>0.210</b>	<b>73.68</b>	<b>990.46</b>	<b>0.121</b>	<b>119.65</b>	<b>1 571.87</b>	<b>0.148</b>	<b>232.88</b>
<b>S.A. Surface</b>												
Kalgold	44.76	0.029	1.31	49.45	0.029	1.45	35.26	0.029	1.01	129.48	0.029	3.77
Free Gold	848.92	0.007	5.92	104.18	0.011	1.15	337.61	0.007	2.37	1 290.70	0.007	9.44
<b>Total S.A. Surface</b>	<b>893.68</b>	<b>0.008</b>	<b>7.23</b>	<b>153.63</b>	<b>0.017</b>	<b>2.60</b>	<b>372.87</b>	<b>0.009</b>	<b>3.38</b>	<b>1 420.18</b>	<b>0.009</b>	<b>13.21</b>
<b>Papua New Guinea<sup>1</sup></b>												
Hidden Valley and Kaveroi	4.13	0.064	0.26	35.79	0.055	1.97	22.93	0.044	1.02	62.84	0.052	3.25
Hamata	-	-	-	6.24	0.068	0.42	0.97	0.074	0.07	7.21	0.069	0.50
Wafi	-	-	-	49.15	0.057	2.82	30.48	0.050	1.54	79.63	0.055	4.36
Golpu	-	-	-	67.60	0.018	1.24	58.24	0.014	0.83	125.84	0.016	2.07
<b>Total Papua New Guinea</b>	<b>4.13</b>	<b>0.064</b>	<b>0.26</b>	<b>158.78</b>	<b>0.041</b>	<b>6.46</b>	<b>112.62</b>	<b>0.031</b>	<b>3.46</b>	<b>275.53</b>	<b>0.037</b>	<b>10.19</b>
<b>GRAND TOTAL</b>	<b>1 127.68</b>		<b>47.05</b>	<b>663.94</b>		<b>82.74</b>	<b>1 475.95</b>		<b>126.49</b>	<b>3 267.58</b>		<b>256.28</b>
<b>SILVER</b>	Tons	Grade	<sup>1</sup> Silver oz	Tons	Grade	<sup>1</sup> Silver oz	Tons	Grade	<sup>1</sup> Silver oz	Tons	Grade	<sup>1</sup> Silver oz
<b>Papua New Guinea</b>	(million)	(oz/t)	(million)	(million)	(oz/t)	(million)	(million)	(oz/t)	(million)	(million)	(oz/t)	(million)
Hidden Valley and Kaveroi	4.13	1.157	4.78	35.79	0.991	35.48	22.93	0.800	18.35	62.84	0.933	58.60
<b>Total Papua New Guinea</b>	<b>4.13</b>	<b>1.157</b>	<b>4.78</b>	<b>35.79</b>	<b>0.991</b>	<b>35.48</b>	<b>22.93</b>	<b>0.800</b>	<b>18.35</b>	<b>62.84</b>	<b>0.933</b>	<b>58.60</b>
<b>COPPER</b>	Tons	Grade	Cu lbs	Tons	Grade	Cu lbs	Tons	Grade	Cu lbs	Tons	Grade	Cu lbs
<b>Papua New Guinea</b>	(million)	(%)	(million)	(million)	(%)	(million)	(million)	(%)	(million)	(million)	(%)	(million)
Golpu	-	-	-	67.61	1.261	1 879.00	58.24	0.653	838.44	125.86	0.980	2 717.45
<b>Total Papua New Guinea</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>67.61</b>	<b>1.261</b>	<b>1 879.00</b>	<b>58.24</b>	<b>0.653</b>	<b>838.44</b>	<b>125.86</b>	<b>0.980</b>	<b>2 717.45</b>
<b>MOLYBDENUM</b>	Tons	Grade	Mo lbs	Tons	Grade	Mo lbs	Tons	Grade	Mo lbs	Tons	Grade	Mo lbs
<b>Papua New Guinea</b>	(million)	(lbs/t)	(million)	(million)	(lbs/t)	(million)	(million)	(lbs/t)	(million)	(million)	(lbs/t)	(million)
Golpu	-	-	-	67.61	0.220	14.87	58.24	0.314	18.28	125.86	0.263	33.15
<b>Total Papua New Guinea</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>67.61</b>	<b>0.220</b>	<b>14.87</b>	<b>58.24</b>	<b>0.314</b>	<b>18.28</b>	<b>125.86</b>	<b>0.263</b>	<b>33.15</b>
<b>URANIUM</b>	Tons	Grade	U <sub>3</sub> O <sub>8</sub> lbs	Tons	Grade	U <sub>3</sub> O <sub>8</sub> lbs	Tons	Grade	U <sub>3</sub> O <sub>8</sub> lbs	Tons	Grade	U <sub>3</sub> O <sub>8</sub> lbs
<b>SA Surface</b>	(million)	(lbs/t)	(million)	(million)	(lbs/t)	(million)	(million)	(lbs/t)	(million)	(million)	(lbs/t)	(million)
Free State Region	349.26	0.185	64.76	27.23	0.199	5.43	74.41	0.122	9.05	450.90	0.176	79.23
<b>Total SA Surface</b>	<b>349.26</b>	<b>0.185</b>	<b>64.76</b>	<b>27.23</b>	<b>0.199</b>	<b>5.43</b>	<b>74.41</b>	<b>0.122</b>	<b>9.05</b>	<b>450.90</b>	<b>0.176</b>	<b>79.23</b>

<sup>1</sup> Represents Harmony's equity portion of 69.9%

NB Rounding of numbers may result in slight computational discrepancies

Note: 1 ton = 907 kg = 2 000 lbs

# Mineral Resources and Ore Reserves (continued)

## Ore Reserves Statement (Metric)

### Gold

OPERATIONS	PROVEN RESERVES			PROBABLE RESERVES			TOTAL RESERVES		
	Tonnes (million)	Grade (g/t)	<sup>1</sup> Gold kg (000)	Tonnes (million)	Grade (g/t)	<sup>1</sup> Gold kg (000)	Tonnes (million)	Grade (g/t)	<sup>1</sup> Gold kg (000)
<b>SA Underground</b>									
<b>Elandskraal</b>									
<b>Total</b>	<b>4.4</b>	<b>6.37</b>	<b>28</b>	<b>35.9</b>	<b>6.70</b>	<b>240</b>	<b>40.3</b>	<b>6.66</b>	<b>268</b>
<b>Free State</b>									
Masimong 5	3.6	5.03	18	1.0	5.30	5	4.6	5.08	23
Virginia Operations	5.4	4.34	23	2.4	4.93	12	7.8	4.52	35
<b>Total</b>	<b>9.0</b>	<b>4.62</b>	<b>42</b>	<b>3.4</b>	<b>5.04</b>	<b>17</b>	<b>12.4</b>	<b>4.73</b>	<b>59</b>
<b>Doornkop</b>									
<b>Total</b>	<b>0.3</b>	<b>3.98</b>	<b>1</b>	<b>1.0</b>	<b>4.27</b>	<b>4</b>	<b>1.3</b>	<b>4.20</b>	<b>6</b>
Evander									
Evander Operations	2.8	6.91	19	7.4	5.57	41	10.2	5.94	60
Evander (below infrastructure)	–	–	–	51.9	7.31	380	51.9	7.31	380
<b>Total</b>	<b>2.8</b>	<b>6.91</b>	<b>19</b>	<b>59.3</b>	<b>7.10</b>	<b>421</b>	<b>62.1</b>	<b>7.09</b>	<b>440</b>
<b>Target</b>									
<b>Total</b>	<b>8.4</b>	<b>7.32</b>	<b>61</b>	<b>11.5</b>	<b>6.15</b>	<b>71</b>	<b>19.9</b>	<b>6.64</b>	<b>132</b>
<b>Free Gold</b>									
Bambanani	2.9	9.71	28	1.0	9.20	9	3.8	9.58	37
Phakisa	0.1	7.31	1	19.8	8.32	165	19.9	8.31	166
Tshepong	6.0	6.07	37	17.5	6.02	106	23.6	6.03	142
Joel	0.7	4.88	4	1.9	5.10	10	2.7	5.04	13
Nyala	0.1	3.44	0	–	–	–	0.1	3.44	0
<b>Total</b>	<b>9.8</b>	<b>7.03</b>	<b>69</b>	<b>40.3</b>	<b>7.19</b>	<b>290</b>	<b>50.1</b>	<b>7.15</b>	<b>358</b>
<b>Total SA Underground</b>	<b>34.7</b>	<b>6.35</b>	<b>220</b>	<b>151.4</b>	<b>6.89</b>	<b>1 043</b>	<b>186.1</b>	<b>6.79</b>	<b>1 263</b>
<b>S.A. Surface</b>									
Kalgold	11.3	0.90	10	1.6	1.27	2	12.9	0.95	12
Free Gold	728.6	0.24	177	70.2	0.35	25	798.8	0.25	201
<b>Total SA Surface</b>	<b>739.9</b>	<b>0.25</b>	<b>187</b>	<b>71.8</b>	<b>0.37</b>	<b>27</b>	<b>811.7</b>	<b>0.26</b>	<b>213</b>
<b>Papua New Guinea<sup>2</sup></b>									
Hidden Valley and Kaveroi	3.3	2.29	8	22.2	2.04	45	25.5	2.07	53
Hamata	–	–	–	3.9	2.55	10	3.9	2.55	10
Golpu	–	–	–	49.6	0.61	30	49.6	0.61	30
<b>Total Papua New Guinea</b>	<b>3.3</b>	<b>2.29</b>	<b>8</b>	<b>75.7</b>	<b>1.13</b>	<b>86</b>	<b>79.0</b>	<b>1.18</b>	<b>93</b>
<b>GRAND TOTAL</b>	<b>777.9</b>		<b>414</b>	<b>298.9</b>		<b>1 155</b>	<b>1 076.8</b>		<b>1 570</b>
<b>SILVER</b>									
<b>Papua New Guinea</b>	<b>Tonnes (million)</b>	<b>Grade (g/t)</b>	<b><sup>1</sup>Silver kg (000)</b>	<b>Tonnes (million)</b>	<b>Grade (g/t)</b>	<b><sup>1</sup>Silver kg (000)</b>	<b>Tonnes (million)</b>	<b>Grade (g/t)</b>	<b><sup>1</sup>Silver kg (000)</b>
Hidden Valley and Kaveroi	3.3	41.04	136	22.2	36.94	820	25.5	37.47	955
<b>Total Papua New Guinea</b>	<b>3.3</b>	<b>41.04</b>	<b>136</b>	<b>22.2</b>	<b>36.94</b>	<b>820</b>	<b>25.5</b>	<b>37.47</b>	<b>955</b>
<b>COPPER</b>									
<b>Papua New Guinea</b>	<b>Tonnes (million)</b>	<b>Grade (%)</b>	<b>Cu t (000)</b>	<b>Tonnes (million)</b>	<b>Grade (%)</b>	<b>Cu t (000)</b>	<b>Tonnes (million)</b>	<b>Grade (%)</b>	<b>Cu t (000)</b>
Golpu	–	–	–	49.6	1.13	560	49.6	1.13	560
<b>Total Papua New Guinea</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>49.6</b>	<b>1.13</b>	<b>560</b>	<b>49.6</b>	<b>1.13</b>	<b>560</b>
<b>MOLYBDENUM</b>									
<b>Papua New Guinea</b>	<b>Tonnes (million)</b>	<b>Grade (ppm)</b>	<b>Mo t (000)</b>	<b>Tonnes (million)</b>	<b>Grade (ppm)</b>	<b>Mo t (000)</b>	<b>Tonnes (million)</b>	<b>Grade (ppm)</b>	<b>Mo t (000)</b>
Golpu	–	–	–	49.6	121.00	6	49.6	121.00	6
<b>Total Papua New Guinea</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>49.6</b>	<b>121.00</b>	<b>6</b>	<b>49.6</b>	<b>121.00</b>	<b>6</b>

1. Metal figures are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tonnes and head grades. Metallurgical recovery factors have not been applied to the reserve figures.

2. Represents Harmony's equity portion of 69.9%

NB Rounding of numbers may result in slight computational discrepancies

Note: 1 tonne = 1 000 kg = 2 204 lbs

## Red Reserves Statement (Imperial)

### Gold

OPERATIONS	PROVEN RESERVES			PROBABLE RESERVES			TOTAL RESERVES		
	Tons (million)	Grade (oz/t)	<sup>1</sup> Gold oz (million)	Tons (million)	Grade (oz/t)	<sup>1</sup> Gold oz (million)	Tons (million)	<sup>1</sup> Grade (oz/t)	Gold oz (million)
<b>SA Underground</b>									
<b>Elandskraal</b>									
<b>Total</b>	<b>4.83</b>	<b>0.186</b>	<b>0.90</b>	<b>39.56</b>	<b>0.195</b>	<b>7.73</b>	<b>44.39</b>	<b>0.194</b>	<b>8.63</b>
<b>Free State</b>									
Masimong 5	4.01	0.147	0.59	1.09	0.155	0.17	5.09	0.148	0.76
Virginia Operations	5.92	0.127	0.75	2.63	0.144	0.38	8.54	0.132	1.13
<b>Total</b>	<b>9.92</b>	<b>0.135</b>	<b>1.34</b>	<b>3.71</b>	<b>0.147</b>	<b>0.55</b>	<b>13.64</b>	<b>0.138</b>	<b>1.88</b>
Doornkop									
<b>Total</b>	<b>0.37</b>	<b>0.118</b>	<b>0.04</b>	<b>1.11</b>	<b>0.124</b>	<b>0.14</b>	<b>1.48</b>	<b>0.123</b>	<b>0.18</b>
<b>Evander</b>									
Evander Operations	3.08	0.202	0.62	8.12	0.163	1.32	11.20	0.173	1.94
Evander (below infrastructure)	–	–	–	57.24	0.213	12.21	57.24	0.213	12.21
<b>Total</b>	<b>3.08</b>	<b>0.202</b>	<b>0.62</b>	<b>65.36</b>	<b>0.207</b>	<b>13.53</b>	<b>68.45</b>	<b>0.207</b>	<b>14.15</b>
<b>Target</b>									
<b>Total</b>	<b>9.22</b>	<b>0.214</b>	<b>1.97</b>	<b>12.72</b>	<b>0.179</b>	<b>2.28</b>	<b>21.94</b>	<b>0.194</b>	<b>4.25</b>
<b>Free Gold</b>									
Bambanani	3.15	0.283	0.89	1.09	0.268	0.29	4.24	0.279	1.18
Phakisa	0.10	0.217	0.02	21.87	0.243	5.30	21.97	0.242	5.33
Tshepong	6.64	0.177	1.18	19.32	0.176	3.39	25.96	0.176	4.57
Joel	0.81	0.143	0.12	2.14	0.149	0.32	2.95	0.147	0.43
Nyala	0.09	0.105	0.01	–	–	–	0.09	0.105	0.01
<b>Total</b>	<b>10.78</b>	<b>0.205</b>	<b>2.21</b>	<b>44.42</b>	<b>0.210</b>	<b>9.31</b>	<b>55.21</b>	<b>0.209</b>	<b>11.52</b>
<b>Total SA Underground</b>	<b>38.21</b>	<b>0.185</b>	<b>7.08</b>	<b>166.90</b>	<b>0.201</b>	<b>33.54</b>	<b>205.11</b>	<b>0.198</b>	<b>40.62</b>
<b>S.A. Surface</b>									
Kalgold	12.46	0.026	0.33	1.79	0.037	0.07	14.25	0.028	0.39
Free Gold	803.16	0.007	5.68	77.39	0.010	0.80	880.55	0.007	6.47
<b>Total SA Surface</b>	<b>815.62</b>	<b>0.007</b>	<b>6.00</b>	<b>79.18</b>	<b>0.011</b>	<b>0.86</b>	<b>894.80</b>	<b>0.008</b>	<b>6.86</b>
<b>Papua New Guinea <sup>2</sup></b>									
Hidden Valley and Kaveroi	3.64	0.067	0.24	24.46	0.059	1.46	28.10	0.060	1.70
Hamata	–	–	–	4.33	0.074	0.32	4.33	0.074	0.32
Golpu	–	–	–	54.63	0.018	0.97	54.63	0.018	0.97
<b>Total Papua New Guinea</b>	<b>3.64</b>	<b>0.067</b>	<b>0.24</b>	<b>83.42</b>	<b>0.033</b>	<b>2.75</b>	<b>87.06</b>	<b>0.034</b>	<b>2.99</b>
<b>GRAND TOTAL</b>	<b>857.48</b>		<b>13.33</b>	<b>329.50</b>		<b>37.15</b>	<b>1 186.97</b>		<b>50.47</b>
<b>SILVER</b>									
<b>Papua New Guinea</b>	<b>Tons (million)</b>	<b>Grade (oz/t)</b>	<b><sup>1</sup> Silver oz (million)</b>	<b>Tons (million)</b>	<b>Grade (oz/t)</b>	<b><sup>1</sup> Silver oz (million)</b>	<b>Tons (million)</b>	<b>Grade (oz/t)</b>	<b><sup>1</sup> Silver oz (million)</b>
Hidden Valley and Kaveroi	3.64	1.197	4.36	24.46	1.077	26.35	28.10	1.093	30.71
<b>Total Papua New Guinea</b>	<b>3.64</b>	<b>1.197</b>	<b>4.36</b>	<b>24.46</b>	<b>1.077</b>	<b>26.35</b>	<b>28.10</b>	<b>1.093</b>	<b>30.71</b>
<b>COPPER</b>									
<b>Papua New Guinea</b>	<b>Tons (million)</b>	<b>Grade (%)</b>	<b>Cu lbs (million)</b>	<b>Tons (million)</b>	<b>Grade (%)</b>	<b>Cu lbs (million)</b>	<b>Tons (million)</b>	<b>Grade (%)</b>	<b>Cu lbs (million)</b>
Golpu	–	–	–	54.63	1.025	1 234.00	54.63	1.025	1 234.00
<b>Total Papua New Guinea</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>54.63</b>	<b>1.025</b>	<b>1 234.00</b>	<b>54.63</b>	<b>1.025</b>	<b>1 234.00</b>
<b>MOLYBDENUM</b>									
<b>Papua New Guinea</b>	<b>Tons (million)</b>	<b>Grade (lbs/t)</b>	<b>Mo lbs (million)</b>	<b>Tons (million)</b>	<b>Grade (lbs/t)</b>	<b>Mo lbs (million)</b>	<b>Tons (million)</b>	<b>Grade (lbs/t)</b>	<b>Mo lbs (million)</b>
Golpu	–	–	–	54.63	0.238	13.00	54.63	0.238	13.00
<b>Total Papua New Guinea</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>54.63</b>	<b>0.238</b>	<b>13.00</b>	<b>54.63</b>	<b>0.238</b>	<b>13.00</b>

1. Metal figures are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tonnes and head grades. Metallurgical recovery factors have not been applied to the reserve figures.

2. Represents Harmony's equity portion of 69.9%

NB Rounding of numbers may result in slight computational discrepancies

Note: 1 ton = 907 kg = 2 000 lbs



# Mineral Resources and Ore Reserves (continued)

Relationship between Harmony's Mineral Resources and Ore Reserves according to the SAMREC Code

## Underground and open pits

Increasing level of geoscientific knowledge and confidence	Mineral Resources (total)				Ore Reserves (total)			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
	1 648	4.12	6 787.4	218 220	226.0	4.37	988.8	31 790
	<i>Reported as in situ mineralisation estimates</i>				<i>Reported as mineable production estimates</i>			
	<b>Inferred</b>				<b>Probable</b>			
Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	
959	3.76	3 609.9	116 063	176.8	4.25	750.8	24 138	
<b>Indicated</b>				<b>Proven</b>				
Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	
435	4.36	1 898.0	61 023	49.3	4.83	237.9	7 652	
<b>Measured</b>				<b>Proven</b>				
Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	
253	5.06	1 279.4	41 134	49.3	4.83	237.9	7 652	
<i>Consideration of mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors (the modifying factors).</i>								

## Surface stockpiles

Increasing level of geoscientific knowledge and confidence	Mineral Resources (total)				Ore Reserves (total)			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
	1 171	0.25	293.5	9 436	798.8	0.25	201.2	6 470
	<i>Reported as in situ mineralisation estimates</i>				<i>Reported as mineable production estimates</i>			
	<b>Inferred</b>				<b>Probable</b>			
Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	
306	0.24	73.7	2 370	70	0.35	24.7	795	
<b>Indicated</b>				<b>Proven</b>				
Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	
95	0.38	35.8	1 151	729	0.24	176.5	5 675	
<b>Measured</b>				<b>Proven</b>				
Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	
770	0.24	184.0	5 915	729	0.24	176.5	5 675	
<i>Consideration of mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors (the modifying factors).</i>								



Elandsrand, South Africa



Doornkop, South Africa

Projects (below infrastructure)

Mineral Resources (total)

Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
146	6.11	890.2	28 620

*Reported as in situ mineralisation estimates*

Ore Reserves (total)

Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
52	7.31	379.9	12 212

*Reported as mineable production estimates*

Increasing level of geoscientific knowledge and confidence

Inferred

Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
73	3.42	250.6	8 056

Indicated

Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
72	8.83	639.6	20 564

Probable

Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
52	7.31	379.9	12 212

Measured

Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
-	-	-	-

Proven

Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
-	-	-	-

*Consideration of mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors (the modifying factors).*

# Mineral Resources and Ore Reserves (continued)

## Reconciliation FY07/FY08

### Mineral Resources

The Mineral Resources shows a year-on-year negative variance of 25 million ounces mainly as a result of corporate activity and classifying operations as discontinued. The Resources of the discontinued operations total 32.6 million ounces.

### Ore Reserves

There is a year-on-year negative variance of 3.2 million ounces. Corporate activity and discontinued operations contributed to a significant portion of this variance. Table 1 shows more detail of the year on year reserve variance.

As indicated in the table below, Harmony's Ore Reserves as at 30 June 2008 reflect a year-on-year depletion of 1.9 million ounces. Corporate activity, discontinued operations, the restructuring of certain shafts and geological-related changes account for a

further decrease of 5.7 million ounces of Reserves. On the positive side there was a net addition of 4.4 million ounces of Reserves from surface stockpiles.

## Witwatersrand Basin, South Africa

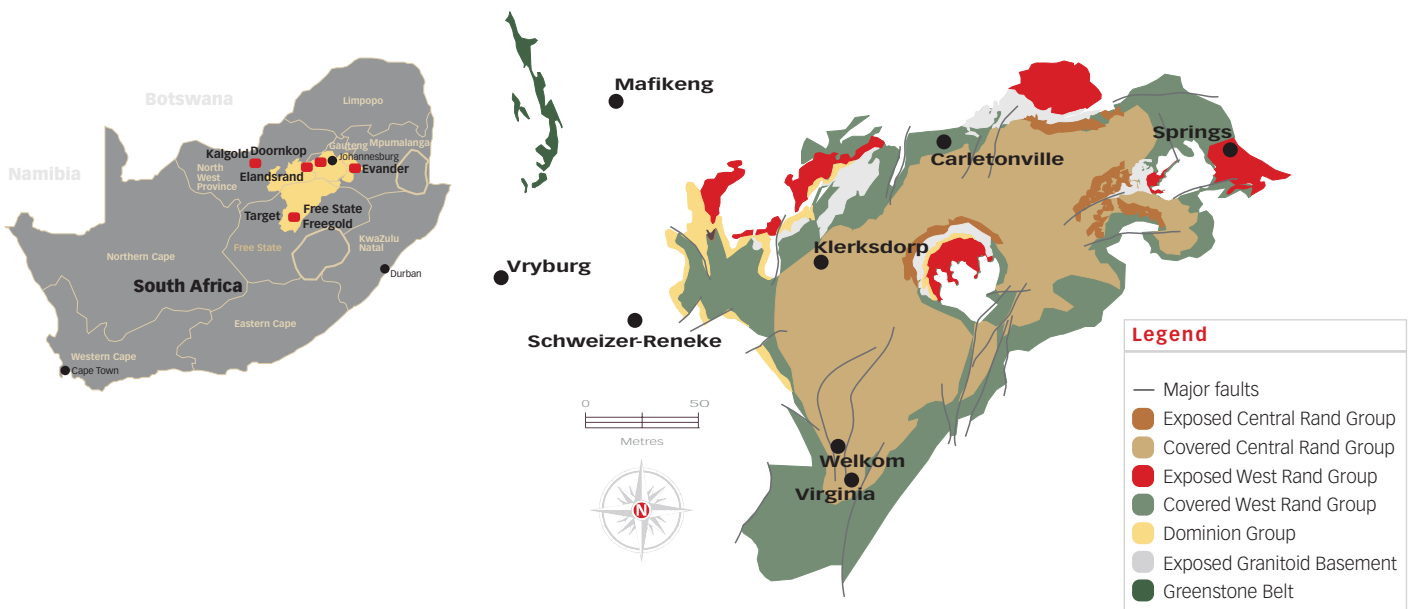
The Witwatersrand Basin, situated on the Kaapvaal Craton, has been filled by a 6-kilometre thick succession of sedimentary rocks, which extends laterally for hundreds of kilometres. Most of the Ore Resource tends to be concentrated in reef bands located on one or two distinct unconformities. A minority of the Resources is located on other unconformities. Mining that has taken place is mostly deep-level underground mining, exploiting the narrow, generally shallow dipping tabular reefs.

### Mineral Resources and Ore Reserves Statement per region

The tables in this section report the company's Mineral Resources and Ore Reserves per operation as at 30 June 2008.

Table 1 Ore Reserve reconciliation: FY07 to FY08

		Gold (tonnes)	Gold (Moz)
	<b>Balance at June 2007</b>	<b>1 666</b>	<b>53.7</b>
<b>Reductions</b>	Mined during FY08	(62)	(1.9)
	Corporate activity and discontinued operations	(93)	(3.0)
	Restructuring	(28)	(0.9)
	Other adjustments	(53)	(1.8)
	Total	1430	46.1
<b>Additions</b>	Free State Surface Sources	140	4.4
	<b>Balance at June 2008</b>	<b>1 570</b>	<b>50.5</b>





Wafi-Golpu, Papua New Guinea



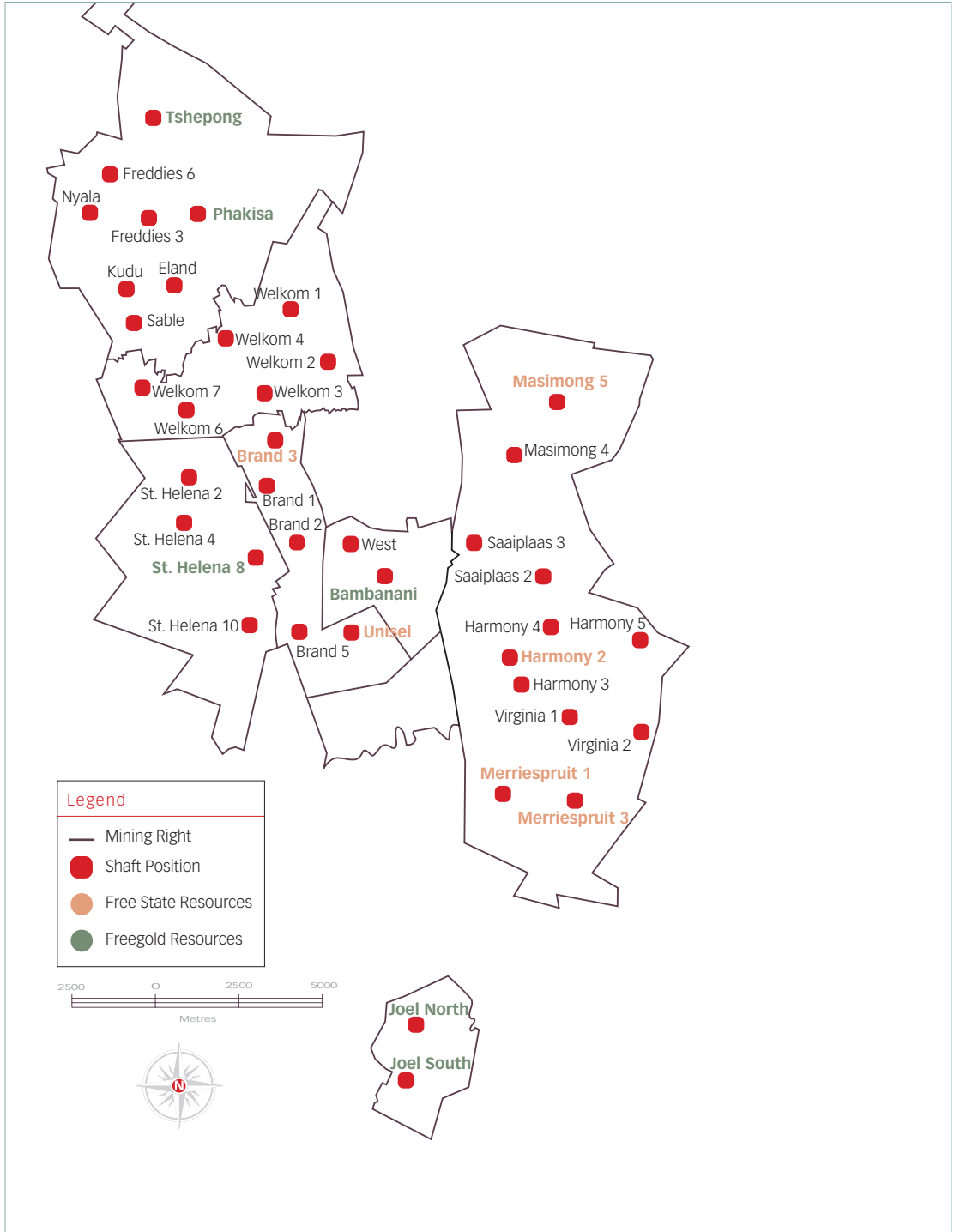
Hidden Valley, Papua New Guinea



Underground Phakisa, South Africa

# Mineral Resources and Ore Reserves (continued)

## Free State and Fregold operations



## Free State – Masimong and Virginia operations

**Geology:** These operations, which originally exploited the Basal Reef, are also mining secondary reefs, most notably the Leader Reef (15-20m above the Basal Reef), the B Reef (100m above the Basal Reef) and the A Reef (40m above the B Reef). Harmony 2 is continuing to mine high grade Basal Reef pillars, as well as Leader Reef, but the majority of its production comes from the A Reef. The A Reef is highly channelised and mining is confined to these distinct channels. Dips are shallow towards the east, becoming steeper approaching the De Bron Fault in the west. Merriespruit 1 and 3 are exploiting the Basal and Leader reefs, as well as locally developed high grade Middle Reef pockets. Dips tend to be at 20° to the north with very little structure apart from the De Bron Fault in the west. At Unisel, the Basal, Middle and Leader Reefs are mined, with reefs dipping 30° to the east. The structure is complex due to a number of north-south trending faults as well as sills close to the Basal Reef. Brand 1/3 is mining Basal pillars together with the A Reef. The structure is dominated by north-south trending faults, often with lateral shift. Brand 2 and 5, currently on care and maintenance, have mined mostly Basal and Leader Reefs.

## Mineral Resources

Shaft	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>																
Harmony 2	26.9	3.12	83.9	2 698	39.4	2.97	117.1	3 765	43.7	2.78	121.8	3 915	110.0	2.93	322.8	10 378
Merriespruit 1	17.9	4.18	74.9	2 408	12.7	3.13	39.9	1 283	8.3	3.03	25.2	809	39.0	3.59	140.0	4 500
Merriespruit 3	22.5	3.96	89.1	2 864	9.3	3.66	34.1	1 096	20.1	3.83	76.9	2 473	51.9	3.86	200.1	6 433
Unisel	11.7	4.44	52.1	1 674	18.5	3.74	69.3	2 230	98.8	3.21	317.5	10 208	129.0	3.40	438.9	14 112
Brand 3	5.0	7.18	36.2	1 163	5.9	5.96	35.0	1 127	21.1	4.31	90.9	2 922	32.0	5.06	162.1	5 212
Masimong 5	16.0	6.58	105.3	3 386	22.0	5.38	118.3	3 803	140.0	5.27	737.7	23 717	178.0	5.40	961.3	30 906
<b>GRAND TOTAL</b>	<b>100.0</b>	<b>4.41</b>	<b>441.5</b>	<b>14 193</b>	<b>107.9</b>	<b>3.84</b>	<b>413.8</b>	<b>13 304</b>	<b>332.1</b>	<b>4.13</b>	<b>1 369.9</b>	<b>44 044</b>	<b>540.0</b>	<b>4.12</b>	<b>2 225.2</b>	<b>71 541</b>

## Modifying factors

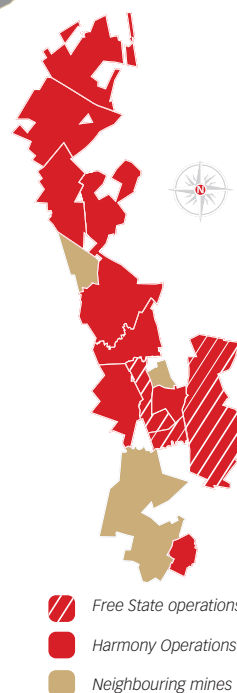
Shaft	(R/kg)	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Harmony 2	180 000	68	151	171	95.1
Merriespruit 1	180 000	65	160	192	95.0
Merriespruit 3	180 000	65	203	234	95.2
Unisel	180 000	82	165	179	92.7
Brand 3	180 000	95	175	214	94.6
Masimong 5	180 000	62	133	148	95.8

MCF = Mine call factor    MW = Milling width    SW = Stopping width  
PRF = Plant recovery factor



## Ore Reserves

Shaft	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>												
Harmony 2	0.6	3.67	2.3	75	0.2	3.55	0.9	28	0.9	3.63	3.2	103
Merriespruit 1	1.4	4.09	5.7	184	0.2	4.00	1.0	31	1.6	4.08	6.7	215
Merriespruit 3	1.0	3.48	3.4	109	0.2	3.25	0.5	16	1.1	3.44	3.9	125
Unisel	1.8	5.38	9.6	309	1.6	5.44	8.5	272	3.3	5.41	18.1	581
Brand 3	0.6	3.94	2.2	72	0.2	5.14	0.9	30	0.8	4.23	3.2	102
Masimong 5	3.6	5.03	18.3	587	1.0	5.30	5.2	168	4.6	5.08	23.5	755
<b>GRAND TOTAL</b>	<b>9.0</b>	<b>4.62</b>	<b>41.6</b>	<b>1 336</b>	<b>3.4</b>	<b>5.04</b>	<b>17.0</b>	<b>545</b>	<b>12.4</b>	<b>4.73</b>	<b>58.5</b>	<b>1 881</b>

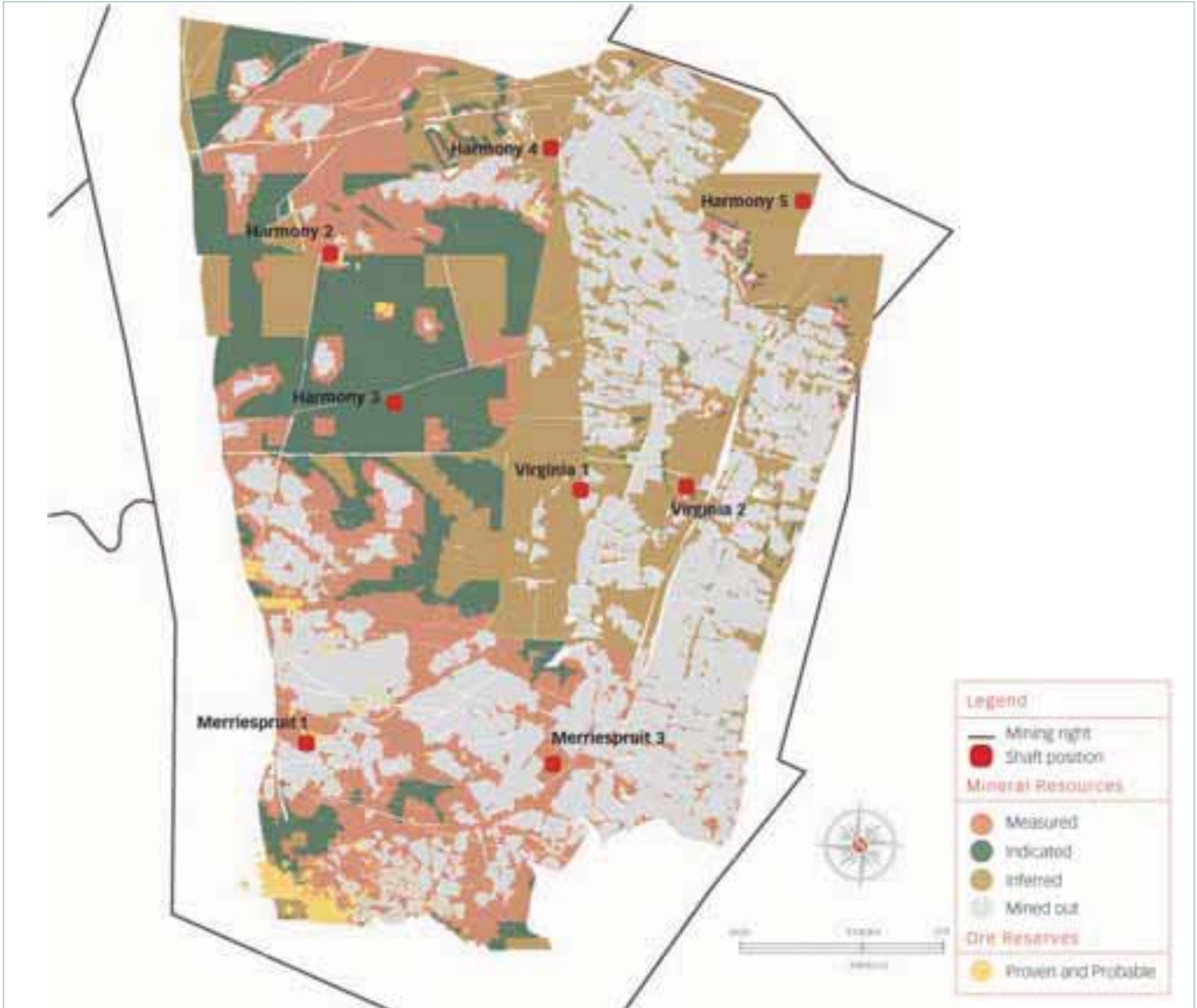


- Free State operations
- Harmony Operations
- Neighbouring mines

# Mineral Resources and Ore Reserves (continued)

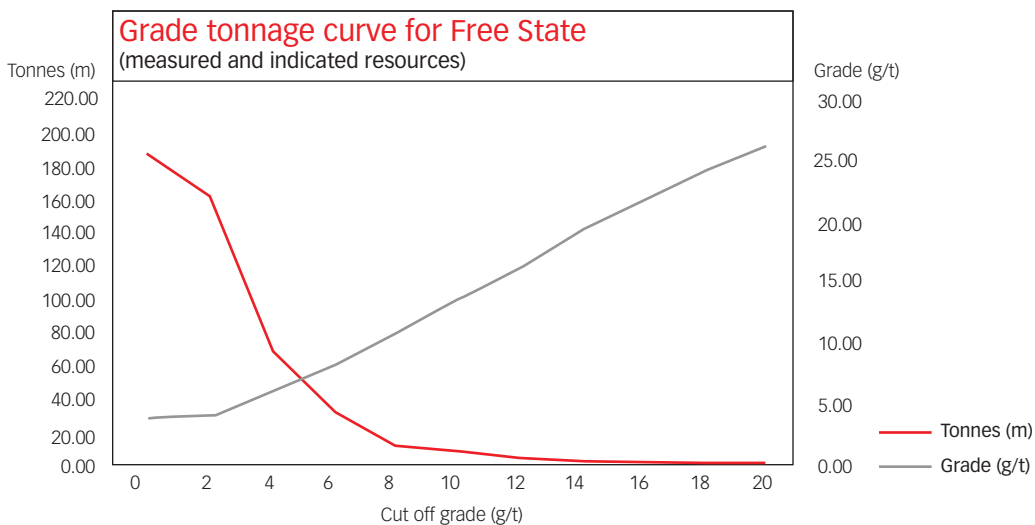
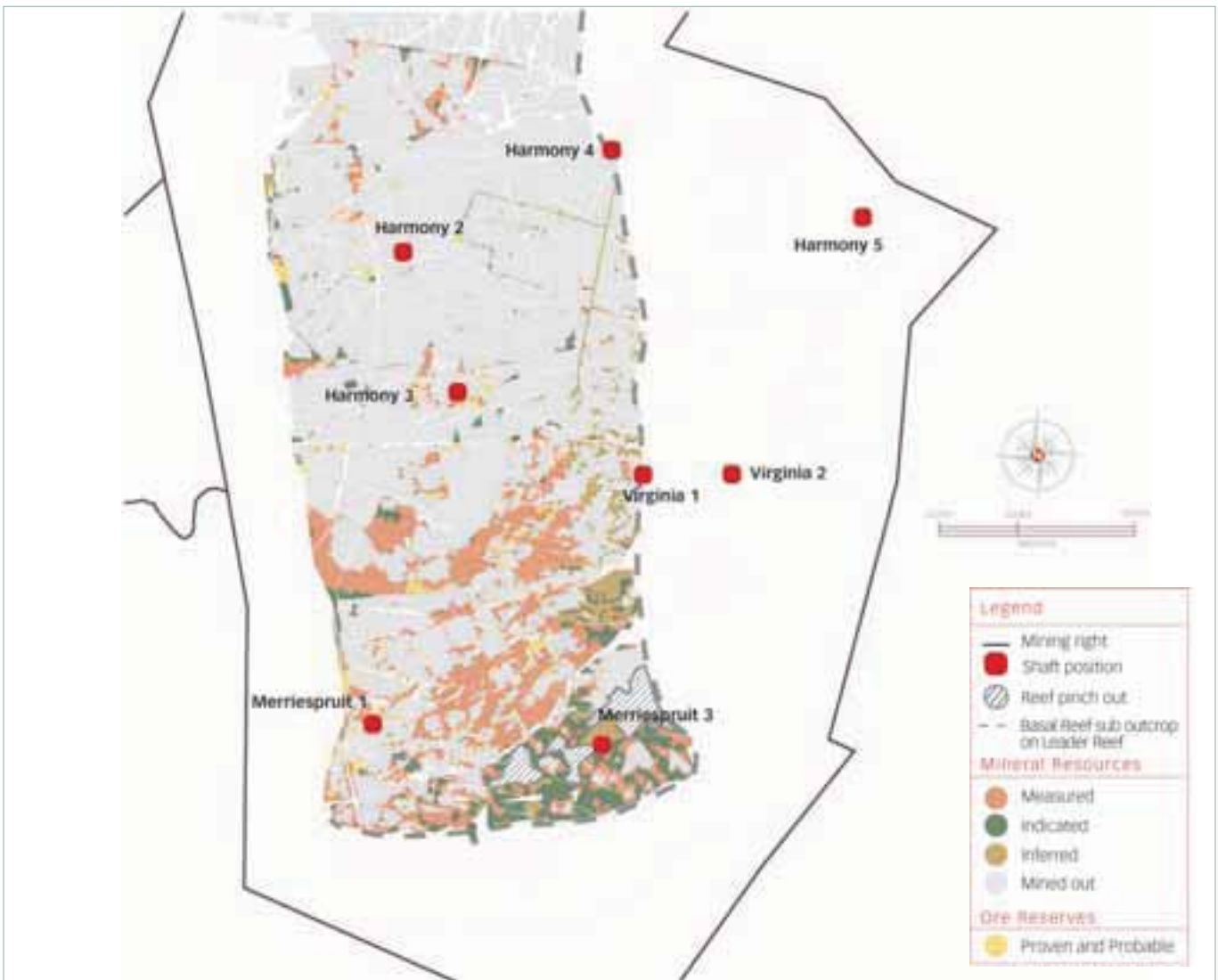
## Free State Shafts

### Leader Reef



Target, South Africa

**Free State: Merriespruit 1, 3 and Harmony 2 Shafts**  
**Basal Reef**



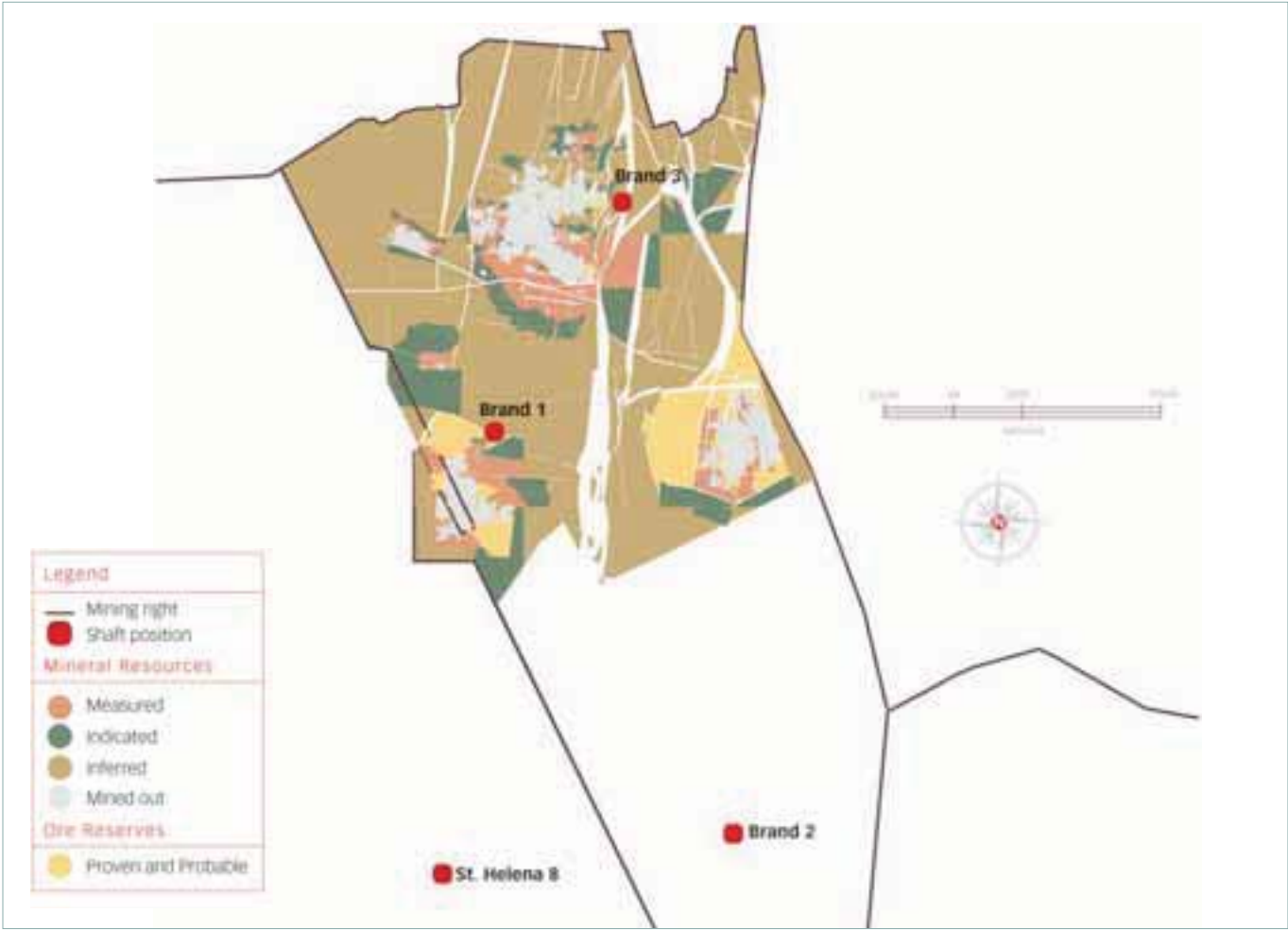


## Mineral Resources and Ore Reserves (continued)

**Free State:** Masimong 4 and Masimong 5 Shafts  
**Basal Reef**



**Free State: Brand 3 Shaft**  
**A Reef**

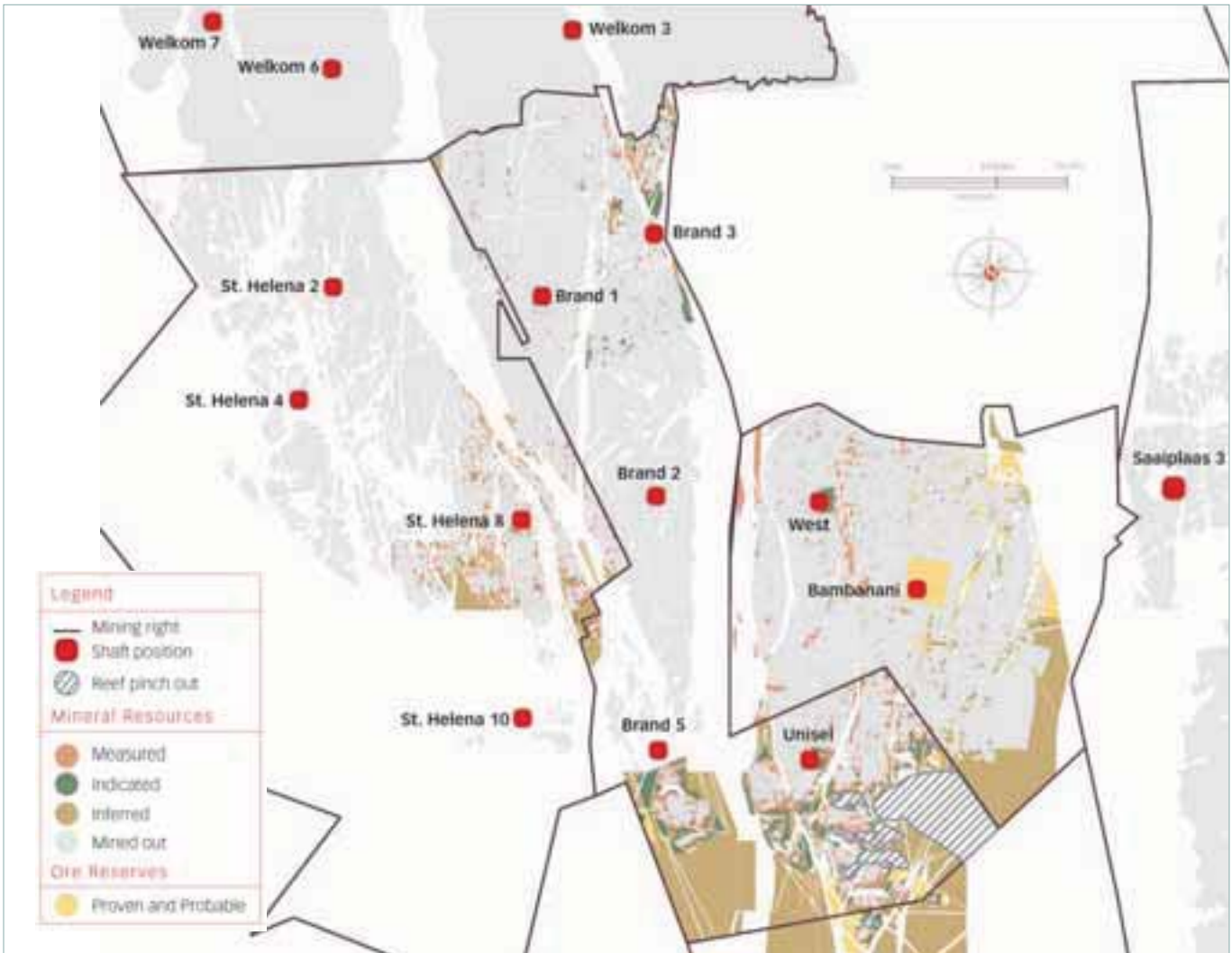


Doornkop, South Africa

# Mineral Resources and Ore Reserves (continued)

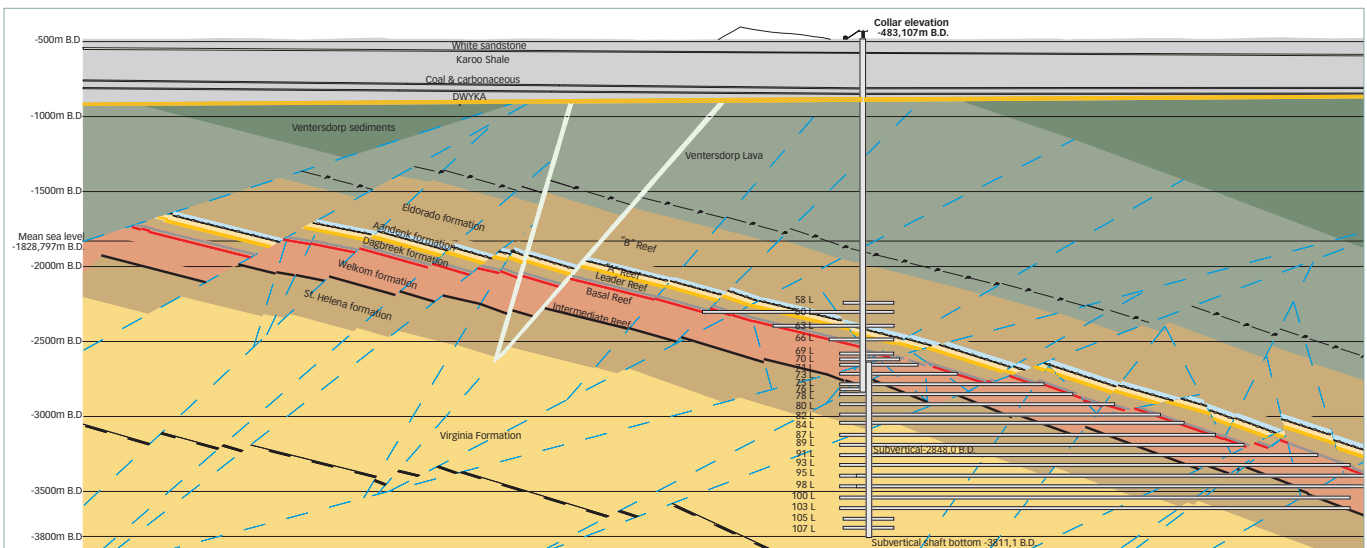
## Free State and Freegold Shafts

### Basal Reef



## Bambanani mine geological section looking north

### Not to scale



## Freegold operations

**Geology:** The mines of the Freegold operations – Tshepong, Phakisa, Bambanani, West, Kudu, Sable, Nyala, Eland and St Helena – are located to the north and west of Welkom, while Joel is situated 30km to the south. Joel is mining the shallow flat-dipping Beatrix/VS5 Reef, while the other mines primarily exploit the Basal Reef. Limited mining has taken place on Leader Reef, A Reef and B Reef in the past. Kudu, Sable, Nyala, Eland and St. Helena are characterised by intense faulting, especially towards the western margin. Tshepong, Phakisa, West and Bambanani are cut by the regional north-south trending faults and, mostly, have shallow dips to the east. B Reef is currently being mined at Tshepong and has the potential to be exploited elsewhere.

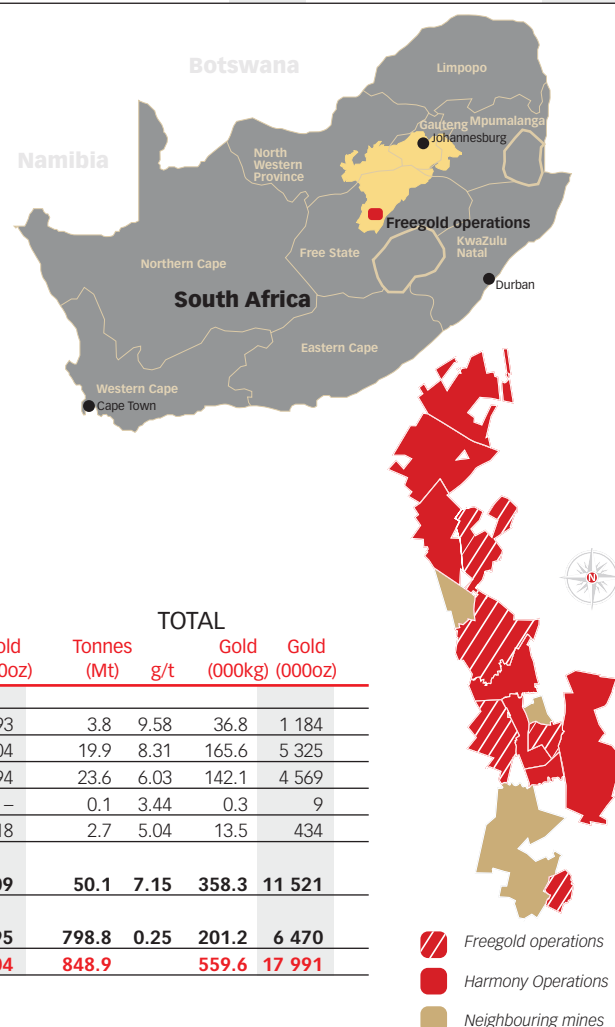
## Mineral Resources

Shaft	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>																
Bambanani	14.7	10.18	149.3	4 800	5.8	9.33	53.7	1 725	1.6	8.31	13.4	430	22.0	9.82	216.3	6 955
Tshepong	7.7	11.45	88.3	2 840	22.5	11.24	252.4	8 115	19.3	7.55	145.6	4 682	49.5	9.83	486.4	15 637
Phakisa	0.1	11.25	1.0	32	23.3	12.10	282.0	9 066	92.0	5.60	514.8	16 551	115.4	6.91	797.8	25 649
Nyala	4.9	6.58	31.9	1 026	4.0	4.62	18.7	602	–	–	–	–	8.9	5.69	50.6	1 628
Joel	5.3	5.48	28.9	929	4.1	5.93	24.2	777	6.6	7.48	49.4	1 590	16.0	6.42	102.5	3 296
<b>Total</b>	<b>32.6</b>	<b>9.19</b>	<b>299.4</b>	<b>9 627</b>	<b>59.6</b>	<b>10.58</b>	<b>630.9</b>	<b>20 285</b>	<b>119.5</b>	<b>6.05</b>	<b>723.2</b>	<b>23 253</b>	<b>211.7</b>	<b>7.81</b>	<b>1 653.6</b>	<b>53 165</b>
<b>Surface</b>																
<b>Stockpile</b>	<b>770.1</b>	<b>0.24</b>	<b>184.0</b>	<b>5 915</b>	<b>94.5</b>	<b>0.38</b>	<b>35.8</b>	<b>1 151</b>	<b>306.3</b>	<b>0.24</b>	<b>73.7</b>	<b>2 370</b>	<b>1 170.9</b>	<b>0.25</b>	<b>293.5</b>	<b>9 436</b>
<b>GRAND TOTAL</b>	<b>802.7</b>		<b>483.4</b>	<b>15 542</b>	<b>154.1</b>		<b>666.7</b>	<b>21 436</b>	<b>425.8</b>		<b>796.9</b>	<b>25 623</b>	<b>1 382.6</b>		<b>1 947.1</b>	<b>62 601</b>

## Modifying factors

Shaft	(R/kg)	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Bambanani	180 000	76	187	213	95.1
Phakisa	180 000	81	100	129	97.0
Tshepong	180 000	68	103	141	96.6
Nyala	180 000	75	130	166	95.0
Joel	180 000	88	150	185	96.2
Surface Stockpile	180 000	100			

MCF = Mine call factor    MW = Milling width    SW = Stopping width  
PRF = Plant recovery factor



## Ore Reserves

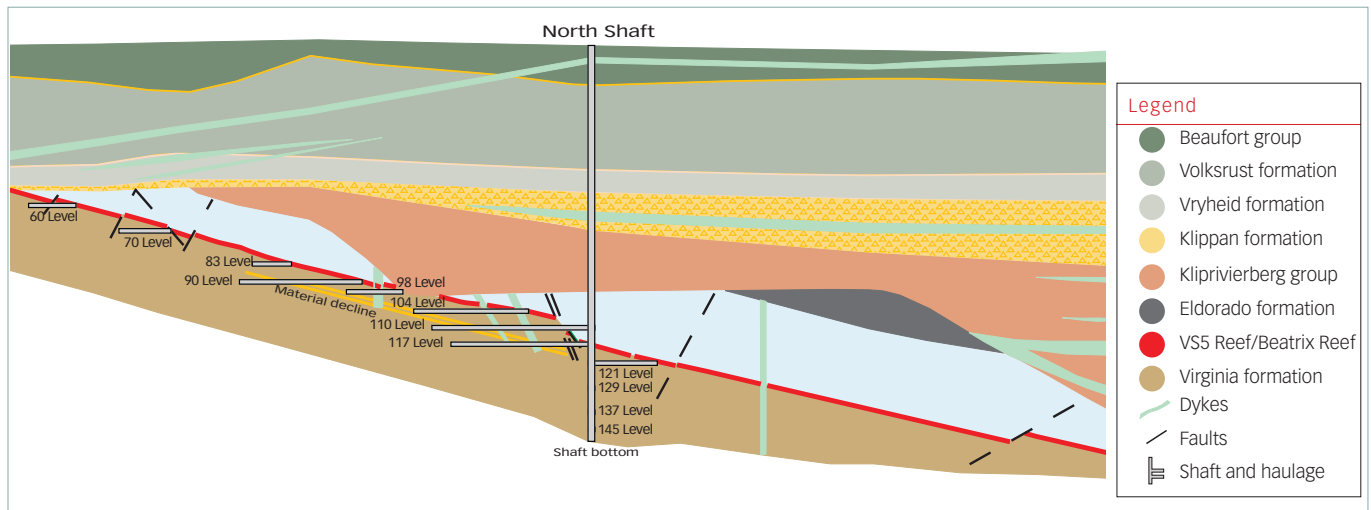
Shaft	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>												
Bambanani	2.9	9.71	27.7	891	1.0	9.20	9.1	293	3.8	9.58	36.8	1 184
Phakisa	0.1	7.31	0.6	21	19.8	8.32	165.0	5 304	19.9	8.31	165.6	5 325
Tshepong	6.0	6.07	36.6	1 175	17.5	6.02	105.6	3 394	23.6	6.03	142.1	4 569
Nyala	0.1	3.44	0.3	9	–	–	–	–	0.1	3.44	0.3	9
Joel	0.7	4.88	3.6	116	1.9	5.10	9.9	318	2.7	5.04	13.5	434
<b>Total</b>												
<b>Underground</b>	<b>9.8</b>	<b>7.03</b>	<b>68.8</b>	<b>2 212</b>	<b>40.3</b>	<b>7.18</b>	<b>289.6</b>	<b>9 309</b>	<b>50.1</b>	<b>7.15</b>	<b>358.3</b>	<b>11 521</b>
<b>Surface</b>												
<b>Stockpile</b>	<b>728.6</b>	<b>0.24</b>	<b>176.5</b>	<b>5 675</b>	<b>70.2</b>	<b>0.35</b>	<b>24.7</b>	<b>795</b>	<b>798.8</b>	<b>0.25</b>	<b>201.2</b>	<b>6 470</b>
<b>GRAND TOTAL</b>	<b>738.4</b>		<b>245.3</b>	<b>7 887</b>	<b>110.5</b>		<b>314.3</b>	<b>10 104</b>	<b>848.9</b>		<b>559.6</b>	<b>17 991</b>

# Mineral Resources and Ore Reserves (continued)

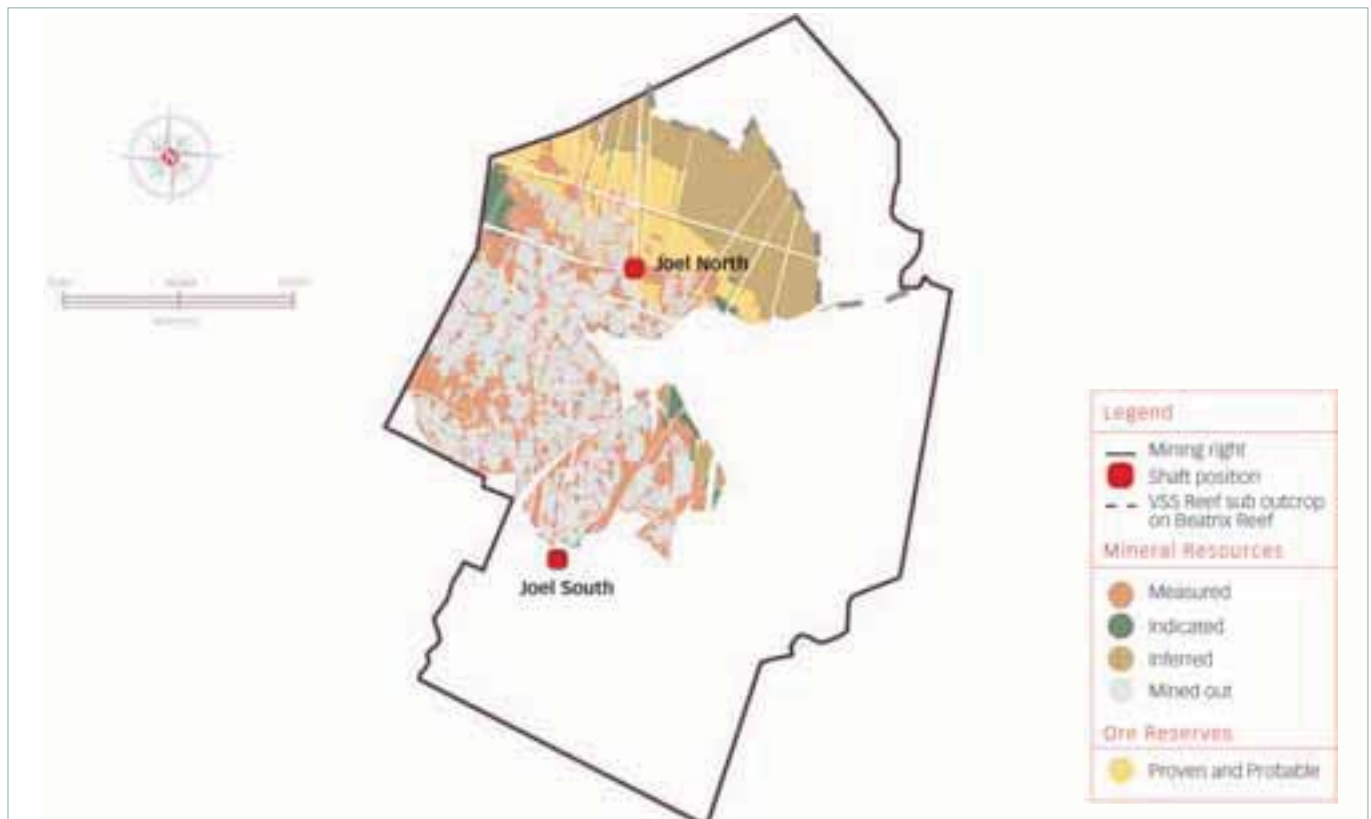
## Uranium Mineral Resources

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	kg/t	U <sub>3</sub> O <sub>8</sub> ('000t)	U <sub>3</sub> O <sub>8</sub> (Mlbs)	Tonnes (Mt)	kg/t	U <sub>3</sub> O <sub>8</sub> ('000t)	U <sub>3</sub> O <sub>8</sub> (Mlbs)	Tonnes (Mt)	kg/t	U <sub>3</sub> O <sub>8</sub> ('000t)	U <sub>3</sub> O <sub>8</sub> (Mlbs)	Tonnes (Mt)	kg/t	U <sub>3</sub> O <sub>8</sub> ('000t)	U <sub>3</sub> O <sub>8</sub> (Mlbs)
Free State	316.8	0.09	29.4	65	24.7	0.10	2.5	5	67.5	0.06	4.1	9	409.0	0.09	35.9	79
<b>Total</b>	<b>316.8</b>	<b>0.09</b>	<b>29.4</b>	<b>65</b>	<b>24.7</b>	<b>0.10</b>	<b>2.5</b>	<b>5</b>	<b>67.5</b>	<b>0.06</b>	<b>4.1</b>	<b>9</b>	<b>409.0</b>	<b>0.09</b>	<b>35.9</b>	<b>79</b>

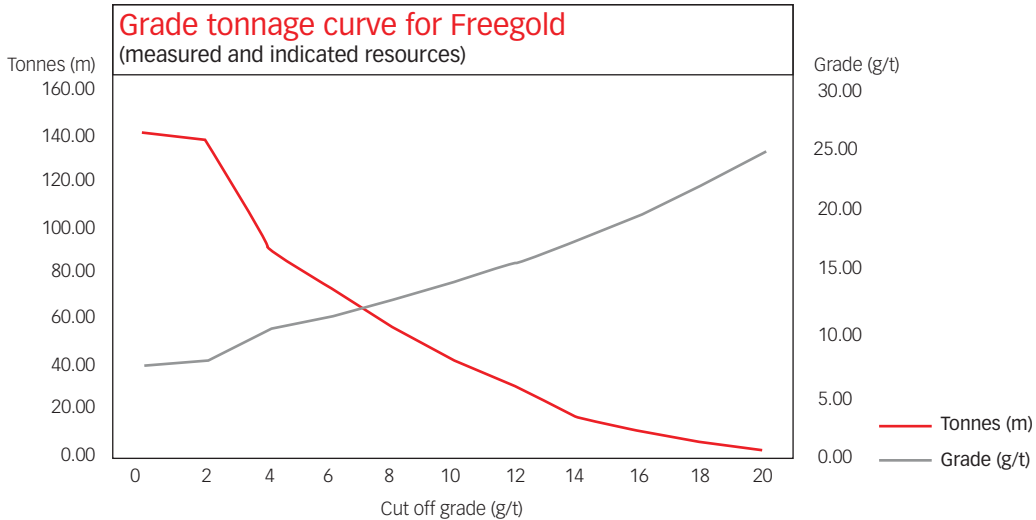
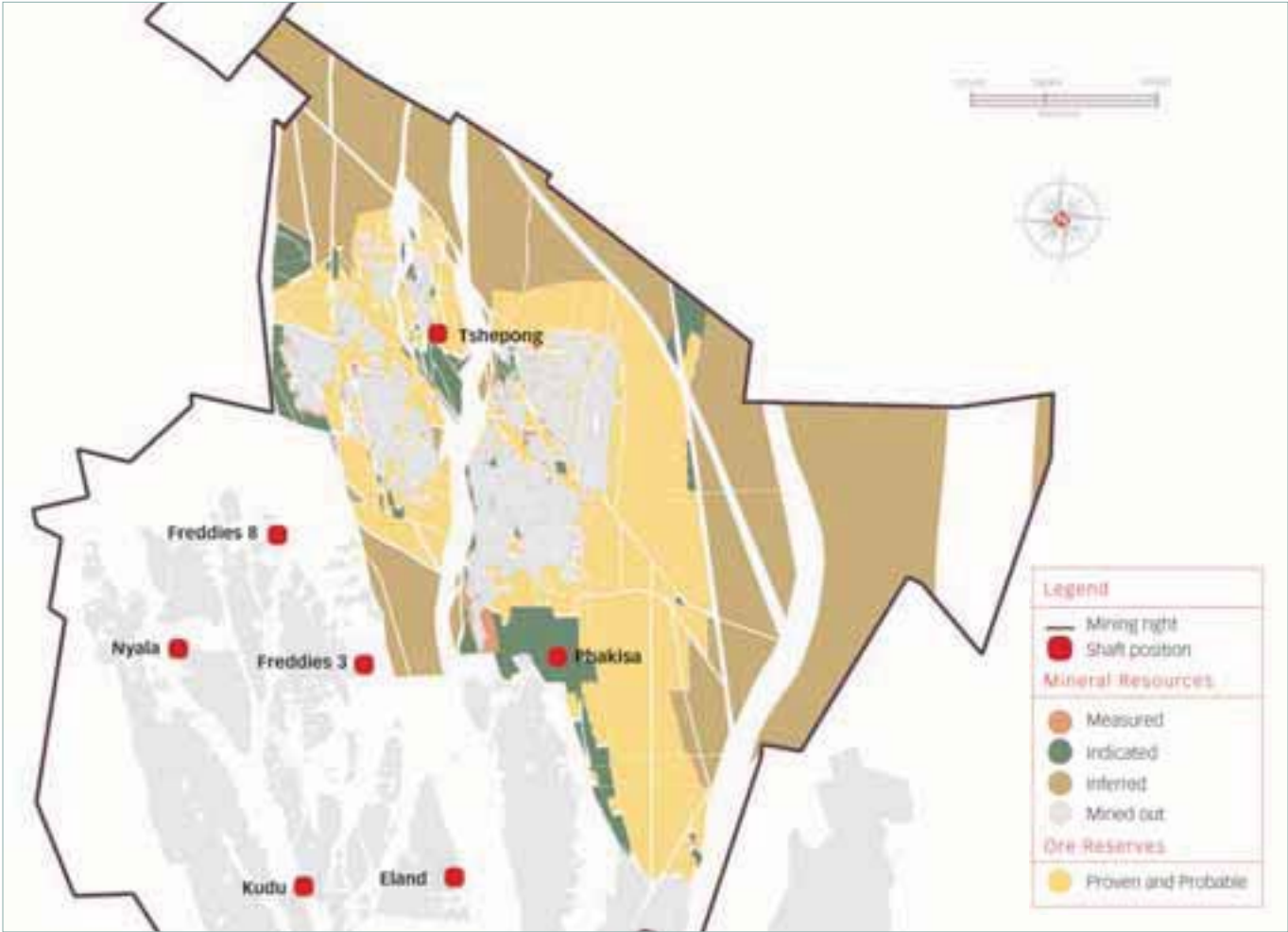
**Joel Mine geological section looking west**  
Not to scale



**Freegold: Joel North and Joel South Shafts**  
Beatrix Reef



**Freegold: Tshepong and Phakisa Shafts**  
**Basal Reef**



# Mineral Resources and Ore Reserves (continued)

## Evander operations

**Geology:** The Evander Basin is a tectonically preserved sub-basin outside the main Wits Basin and forms an asymmetric syncline, plunging to the north-east. It is structurally complex, with a series of east-north-east striking normal faults, and in the south-east margin of the basin, vertically to locally overturned reef is present. The only economic reef horizon exploited in the Evander Basin is the Kimberley Reef. The Intermediate Reef is generally poorly mineralised, except where it erodes the subcropping Kimberley Reef in the south and west of the basin.

## Mineral Resources

Shaft	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>																
Evander																
2, 3 and 5	8.4	7.97	66.7	2 143	4.0	7.68	30.8	991	31.7	8.56	271.3	8 723	44.1	8.37	368.8	11 857
Evander 7	21.7	4.61	99.8	3 210	5.5	3.83	20.9	672	21.6	6.57	142.1	4 569	48.8	5.39	262.8	8 451
Evander 8	10.3	7.72	79.1	2 544	13.1	8.56	112.4	3 613	41.1	7.40	304.1	9 777	64.5	7.68	495.6	15 934
<b>Total</b>	<b>40.3</b>	<b>6.10</b>	<b>245.6</b>	<b>7 897</b>	<b>22.6</b>	<b>7.26</b>	<b>164.1</b>	<b>5 276</b>	<b>94.5</b>	<b>7.60</b>	<b>717.5</b>	<b>23 069</b>	<b>157.3</b>	<b>7.16</b>	<b>1 127.3</b>	<b>36 242</b>
<b>Projects (below infrastructure)</b>																
Evander South	-	-	-	-	17.7	6.11	108.3	3 481	20.6	5.24	107.6	3 460	38.3	5.64	215.9	6 941
Rolspruit	-	-	-	-	29.1	11.59	337.3	10 846	52.8	2.71	142.9	4 596	81.9	5.87	480.3	15 442
Poplar	-	-	-	-	25.6	7.58	194.0	6 237	-	-	-	-	25.6	7.58	194.0	6 237
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>72.4</b>	<b>8.83</b>	<b>639.6</b>	<b>20 564</b>	<b>73.3</b>	<b>3.42</b>	<b>250.6</b>	<b>8 056.0</b>	<b>145.7</b>	<b>6.11</b>	<b>890.2</b>	<b>28 620</b>
<b>GRAND TOTAL</b>	<b>40.3</b>	<b>6.10</b>	<b>245.6</b>	<b>7 897</b>	<b>95.0</b>	<b>8.46</b>	<b>803.7</b>	<b>25 840</b>	<b>167.8</b>	<b>5.77</b>	<b>968.1</b>	<b>31 125</b>	<b>303.1</b>	<b>6.66</b>	<b>2 017.4</b>	<b>64 862</b>

## Modifying factors

Shaft	(R/kg)	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Evander 2, 3 & 5	180 000	73	148	215	97.0
Evander 7	180 000	83	130	172	96.6
Evander 8	180 000	73	120	173	96.6
Evander South	180 000	80	125	131	96.5
Rolspruit	180 000	80	110	129	97.1
Poplar	180 000	80	100	116	97.1

MCF = Mine call factor    MW = Milling width    SW = Stopping width  
PRF = Plant recovery factor

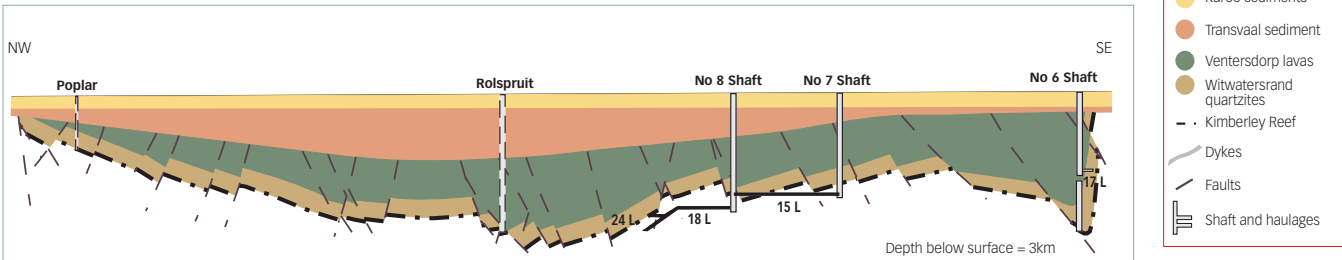


## Ore Reserves

Shaft	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>												
Evander 2,3 and 5	0.4	5.77	2.3	75	0.2	6.02	0.9	29	0.6	5.84	3.2	104
Evander 7	0.1	6.89	0.7	22	-	-	-	-	0.1	6.89	0.7	22
Evander 8	2.3	7.11	16.3	525	7.2	5.56	40.2	1 291	9.5	5.94	56.5	1 816
<b>Total Underground</b>	<b>2.8</b>	<b>6.91</b>	<b>19.3</b>	<b>622</b>	<b>7.4</b>	<b>5.57</b>	<b>41.1</b>	<b>1 320</b>	<b>10.2</b>	<b>5.94</b>	<b>60.4</b>	<b>1 942</b>
<b>Projects - Below Infrastructure</b>												
Evander South	-	-	-	-	14.0	4.75	66.4	2 136	14.0	4.75	66.4	2 136
Rolspruit	-	-	-	-	24.4	8.71	212.8	6 842	24.4	8.71	212.8	6 842
Poplar	-	-	-	-	13.5	7.45	100.6	3 234	13.5	7.45	100.6	3 234
<b>Total projects</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>52</b>	<b>7.31</b>	<b>380</b>	<b>12 212</b>	<b>52</b>	<b>7.31</b>	<b>380</b>	<b>12 212</b>
<b>GRAND TOTAL</b>	<b>2.8</b>	<b>6.91</b>	<b>19.3</b>	<b>622</b>	<b>59.3</b>	<b>7.10</b>	<b>420.9</b>	<b>13 532</b>	<b>62.1</b>	<b>7.09</b>	<b>440.2</b>	<b>14 154</b>

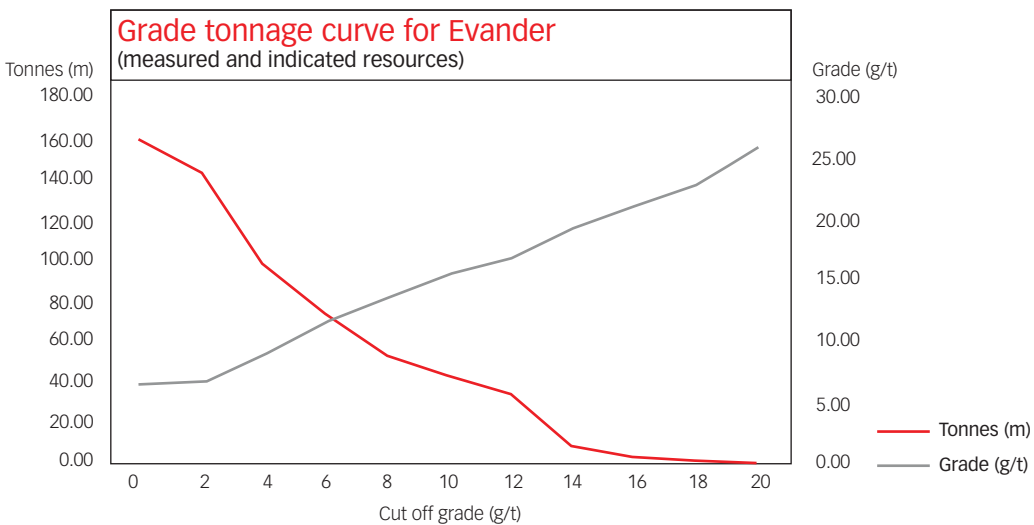
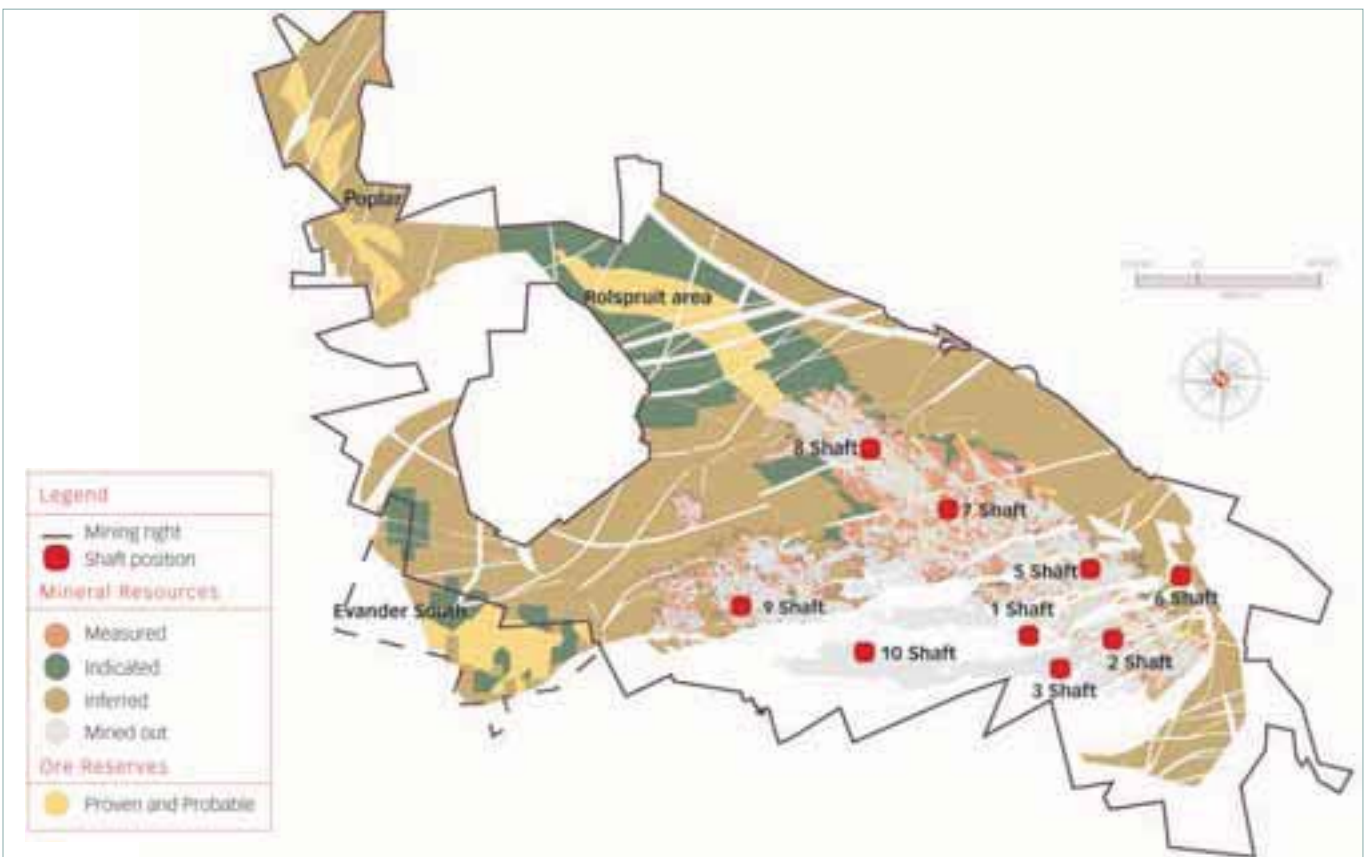
**Section across Evander Basin**

Not to scale



- Legend**
- Karoo sediments
  - Transvaal sediment
  - Ventersdorp lavas
  - Witwatersrand quartzites
  - - - Kimberley Reef
  - Dykes
  - Faults
  - Shaft and haulages

**Evander: Evander 2,5,6,7,8 and 9 Shafts. Poplar and Rolspruit areas**  
**Kimberley Reef**





# Mineral Resources and Ore Reserves (continued)

## Doornkop operation

**Geology:** The structure of the West Rand Goldfield is dominated by the Witpoortjie and Panvlakte Horst blocks, which are superimposed over broad folding associated with the south-east plunging West Rand syncline. At Doornkop Mine, the Kimberley Reefs and the South Reef are being exploited.

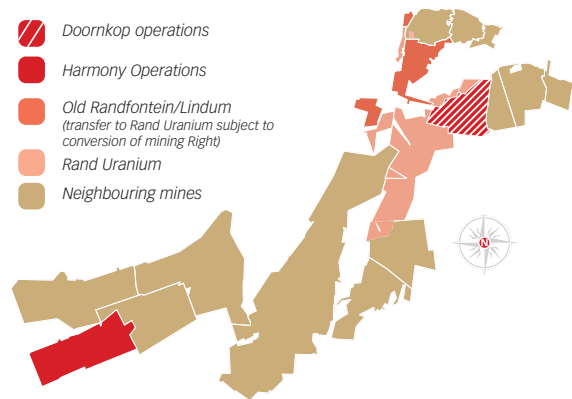
## Mineral Resources

Shaft	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>																
Doornkop																
Kimberley Reef	7.8	3.18	24.9	801	7.3	2.54	18.6	598	252.9	1.79	453.3	14 575	268.0	1.85	496.8	15 974
Doornkop																
South Reef	0.3	6.49	2.1	68	1.1	6.88	7.3	236	19.8	8.37	165.6	5 323	21.2	8.27	175.0	5 627
<b>GRAND TOTAL</b>	<b>8.1</b>	<b>3.32</b>	<b>27.0</b>	<b>869</b>	<b>8.4</b>	<b>3.10</b>	<b>25.9</b>	<b>834</b>	<b>272.7</b>	<b>2.27</b>	<b>618.9</b>	<b>19 898</b>	<b>289.2</b>	<b>2.32</b>	<b>671.9</b>	<b>21 601</b>

## Modifying factors

Shaft	(R/kg)	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Doornkop					
Kimberley Reef	180 000	95	380	399	95.0
Doornkop					
South Reef	180 000	75	124	140	95.0

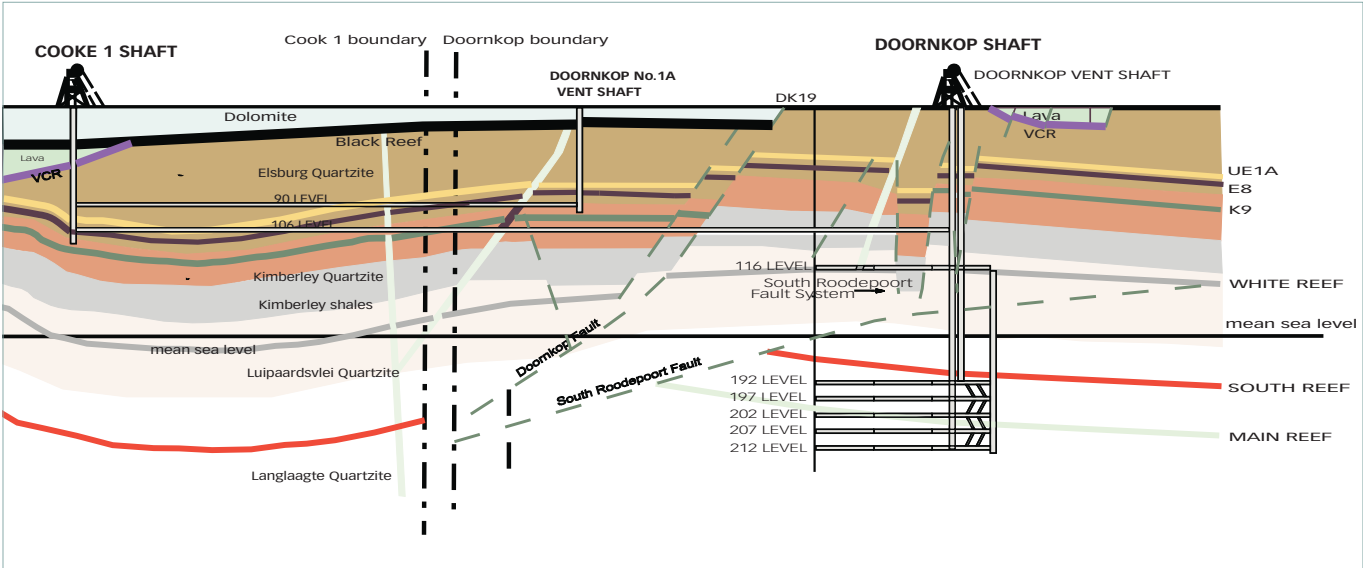
MCF = Mine call factor    MW = Milling width    SW = Stopping width  
PRF = Plant recovery factor



## Ore Reserves

Shaft	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>												
Doornkop												
Kimberley Reef	0.1	2.48	0.3	9	0.3	2.74	0.7	23	0.4	2.66	1.0	32
Doornkop												
South Reef	0.2	4.68	1.1	35	0.7	4.81	3.6	115	1.0	4.78	4.7	150
<b>GRAND TOTAL</b>	<b>0.3</b>	<b>3.98</b>	<b>1.3</b>	<b>44</b>	<b>1.0</b>	<b>4.27</b>	<b>4.3</b>	<b>138</b>	<b>1.3</b>	<b>4.20</b>	<b>5.6</b>	<b>182</b>

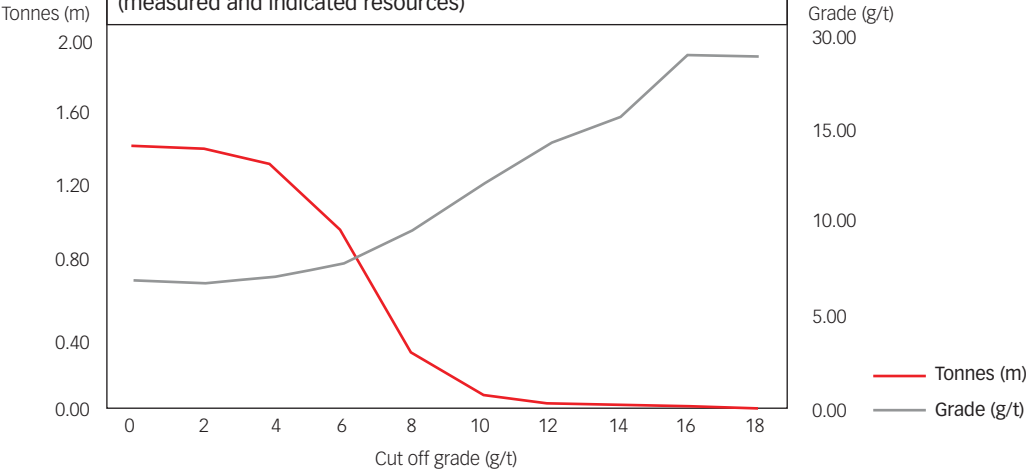
**Cooke 1/Doornkop geological section looking west**  
 Not to scale



**Doornkop Shaft**  
 South Reef



**Grade tonnage curve for Doornkop (South Reef)**  
 (measured and indicated resources)



# Mineral Resources and Ore Reserves (continued)

## Elandsrand

**Geology:** The structure on the Far West Rand is dominated by a series of east trending normal faults with throws of up to 40m, as well as a series of north-northeast striking normal faults with generally smaller displacements in the north-west. Faulting is generally less prevalent than in other Wits goldfields. The primary reefs exploited are the Ventersdorp Contact Reef and the Carbon Leader, separated by 900 to 1 300m, increasing from east to west. Secondary targets are the Middelvlei Reef (50 to 75m above the Carbon Leader) and the Mondeor Conglomerate Reef Zone, which subcrops beneath the VCR at Deelkraal and the western side of Elandsrand.

## Mineral Resources

Shaft	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>																
Elandsrand	11.9	7.90	94.4	3 035	34.4	9.49	326.6	10 500	-	-	-	-	46.4	9.08	421.0	13 535
<b>Grand total</b>	<b>11.9</b>	<b>7.90</b>	<b>94.4</b>	<b>3 035</b>	<b>34.4</b>	<b>9.49</b>	<b>326.6</b>	<b>10 500</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>46.4</b>	<b>9.08</b>	<b>421.0</b>	<b>13 535</b>

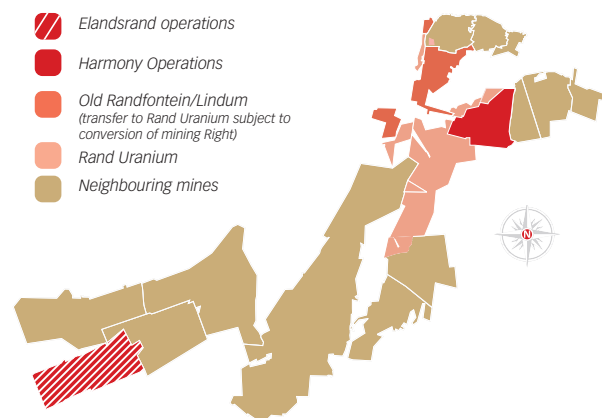
## Modifying factors

Shaft	(R/kg)	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Elandsrand – old and new	180 000	88	132	169	96.4

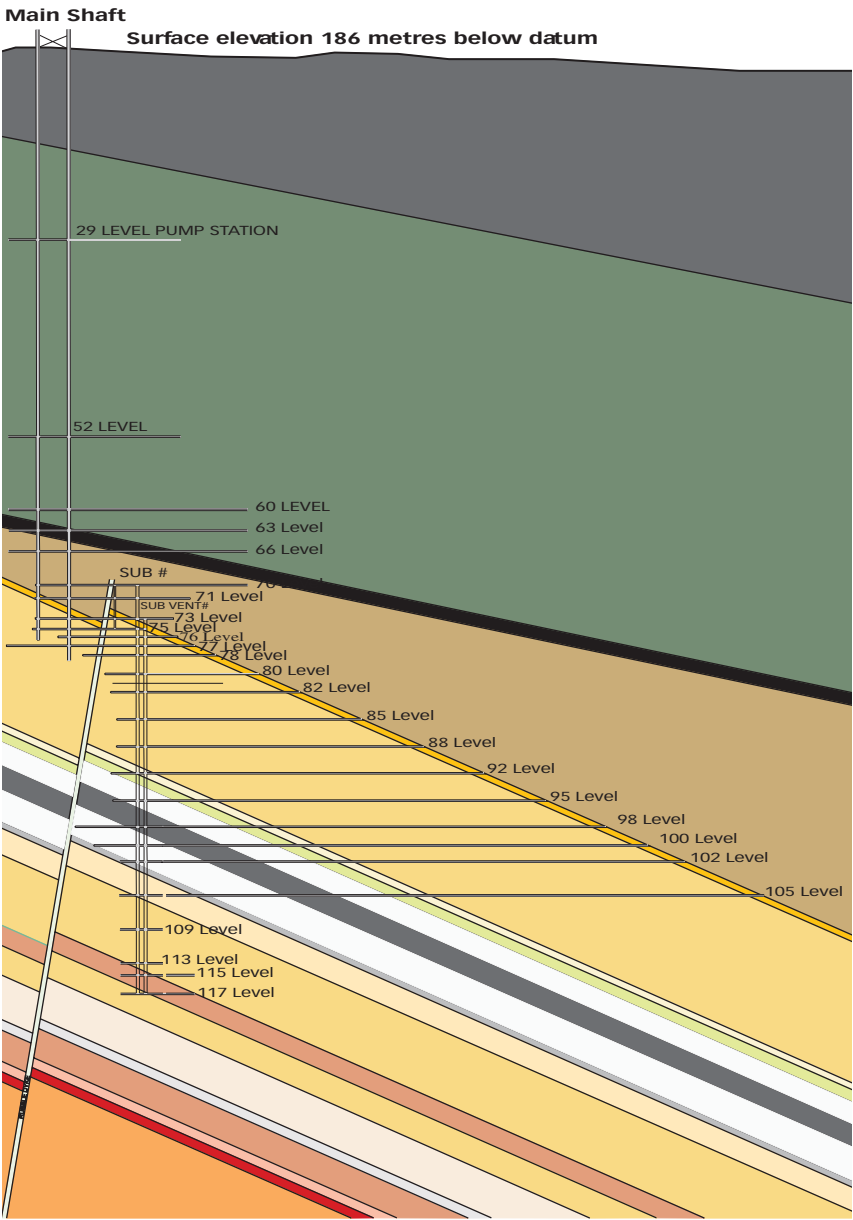
MCF = Mine call factor    MW = Milling width    SW = Stopping width  
PRF = Plant recovery factor

## Ore Reserves

Shaft	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>												
Elandsrand	4.4	6.37	27.9	899	35.9	6.70	240.4	7 729	40.3	6.66	268.3	8 628
<b>GRAND TOTAL</b>	<b>4.4</b>	<b>6.37</b>	<b>27.9</b>	<b>899</b>	<b>35.9</b>	<b>6.70</b>	<b>240.4</b>	<b>7 729</b>	<b>40.3</b>	<b>6.66</b>	<b>268.3</b>	<b>8 628</b>



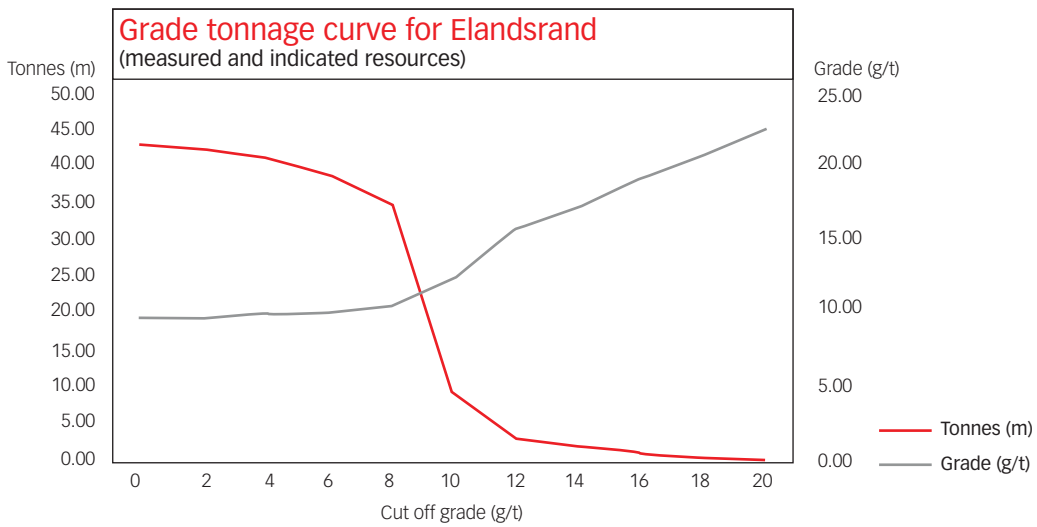
**Section through Main Shaft and Sub-Shaft looking east**  
**Not to scale**



- Legend**
- Pretoria Group – Shales and Quartzites
  - Chuniespoort Dolomites
  - Black Reef
  - Ventersdorp Lava
  - Ventersdorp Contact Reef
  - Elsburg Quartzite Formation
  - Kimberley Conglomerate Formation
  - Doornkop Quartzite Formation
  - Transition Zone
  - Booyens Shale
  - Krugersdorp Formation
  - Bird Conglomerate Formation
  - Luipaardvlei Quartzite Formation
  - Livingstone Conglomerate Formation
  - Randfontein Quartzite Formation
  - Langlaagte Quartzite Formation
  - Middlevlei Reef
  - Main Conglomerate Formation
  - Carbon Leader Reef
  - North Leader Reef
  - Mariasburg Conglomerate Formation
  - Dykes
  - Faults
  - ⊥ Shaft and haulage

# Mineral Resources and Ore Reserves (continued)

**Elandsrand:** Elandsrand Shaft  
**Ventersdorp Contact Reef**





*Elandsrand, South Africa*



*Hidden Valley, Papua New Guinea*



*Gold pour, Doornkop, South Africa*

# Mineral Resources and Ore Reserves (continued)

## Target

**Geology:** The Target operations are located at the northern extent of the Free State Goldfields, some 20 km north of Welkom. The reefs currently exploited are the Elsburg – Dreyerskuil conglomerates, which form a wedge-shaped stacked package, comprising 35 separate reef horizons, often separated by quartzite beds. The Elsburg Reefs are truncated by an unconformity surface at the base of the overlying Dreyerskuil Member. Below the subcrop, the Elsburg dips steeply to the east, with dips becoming progressively shallower down dip. Close to the sub-outcrop, the thickness of the intervening quartzites reduces, resulting in the Elsburg Reefs coalescing to form composite reef packages that are exploited by massive mining techniques at Target Mine. The Dreyerskuil also consists of stacked reefs dipping shallowly to the east. These reefs tend to be less numerous, but more laterally extensive than the underlying Elsburg Reefs. The Big Pebble Reefs, A Reef, B Reef and Basal Reef have been exploited at the old Lorraine shafts in the past and potential exists for opening up these old areas.

## Mineral Resources

Shaft	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>																
Target	15.6	7.87	122.4	3 936	13.6	6.68	90.6	2 914	6.5	6.40	41.4	1 330	35.6	7.15	254.4	8 180
<b>GRAND TOTAL</b>	<b>15.6</b>	<b>7.87</b>	<b>122.4</b>	<b>3 936</b>	<b>13.6</b>	<b>6.68</b>	<b>90.6</b>	<b>2 914</b>	<b>6.5</b>	<b>6.40</b>	<b>41.4</b>	<b>1 330</b>	<b>35.6</b>	<b>7.15</b>	<b>254.4</b>	<b>8 180</b>

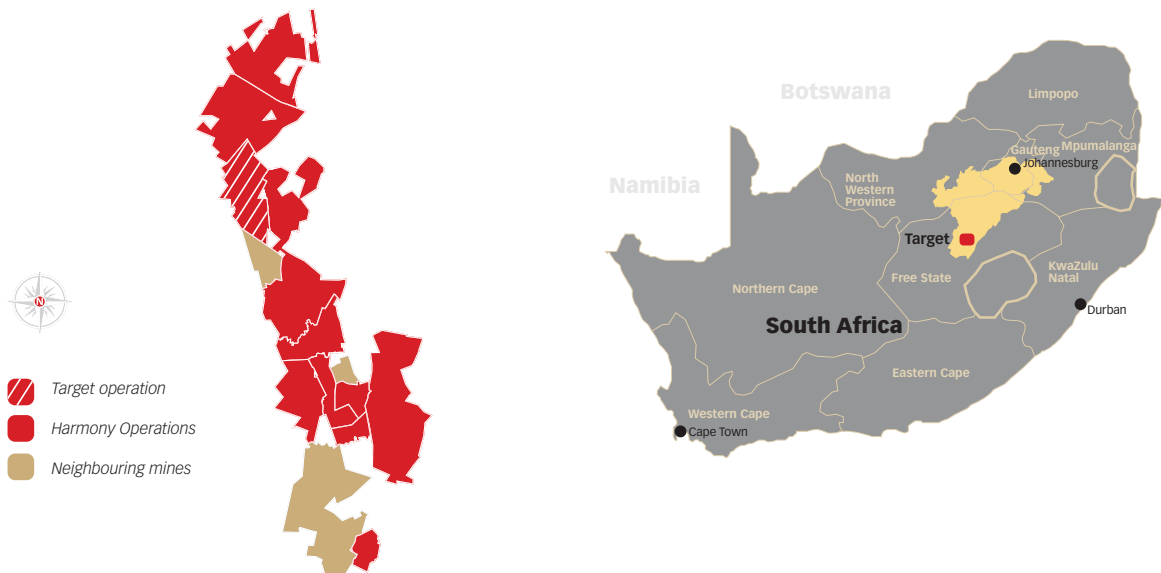
## Modifying factors

Shaft	(R/kg)	MCF (%)	Dilution (%)	PRF (%)
<b>Underground</b>				
Target	180 000	98	6	97

MCF = Mine call factor  
PRF = Plant recovery factor

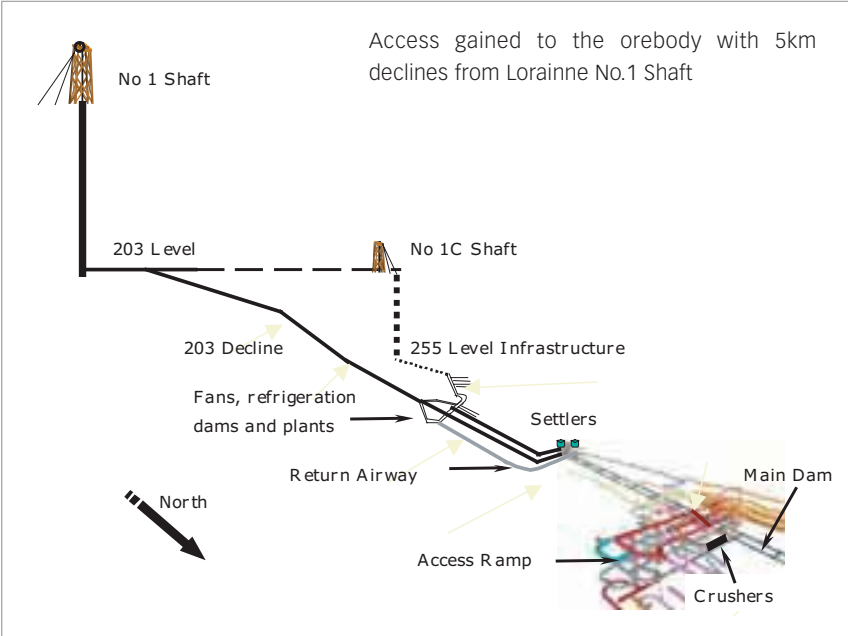
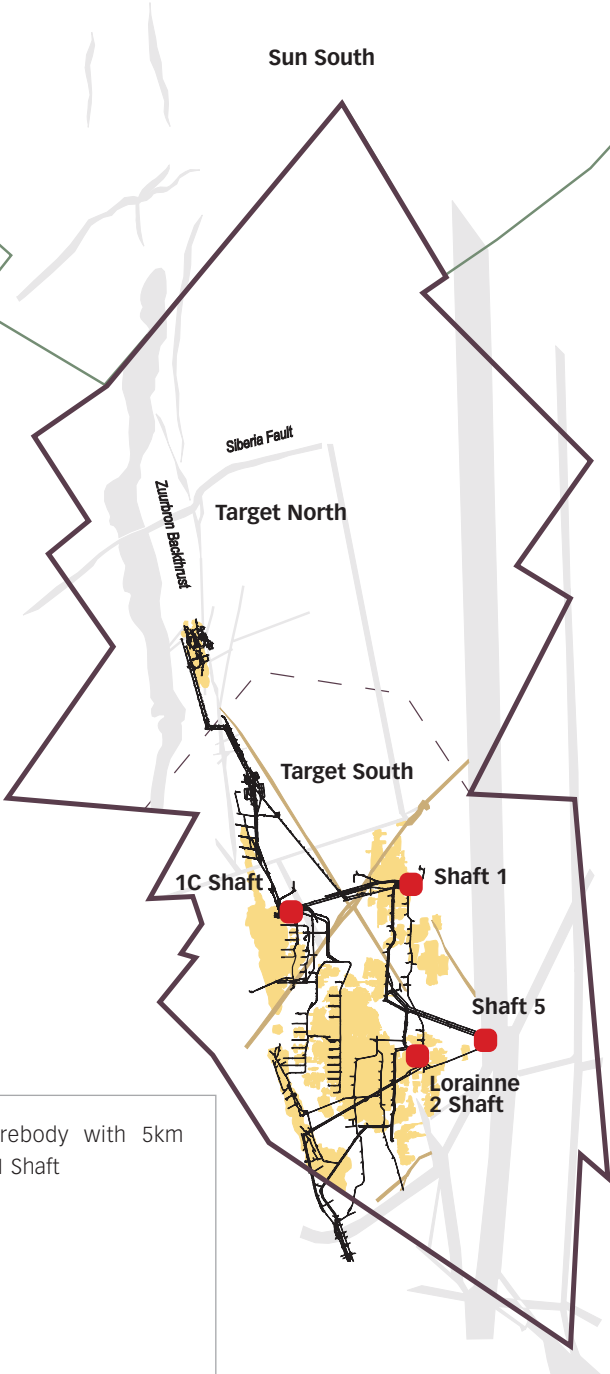
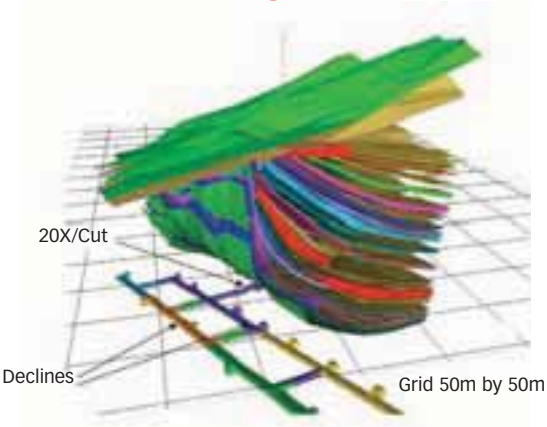
## Ore Reserves

Shaft	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
<b>Underground</b>												
Target	8.4	7.32	61.2	1 969	11.5	6.15	71.0	2 282	19.9	6.64	132.2	4 251
<b>GRAND TOTAL</b>	<b>8.4</b>	<b>7.32</b>	<b>61.2</b>	<b>1 969</b>	<b>11.5</b>	<b>6.15</b>	<b>71.0</b>	<b>2 282</b>	<b>19.9</b>	<b>6.64</b>	<b>132.2</b>	<b>4 251</b>



**Target**  
Elsburg and Dreyerskuil Reefs

Section through 20X/Cut



**Legend**

- Mining right
- Prospecting permit
- Mined out area





# Mineral Resources and Ore Reserves (continued)

## Kalgold

**Geology:** The Kalgold operations are located within the Kraaipan Greenstone Belt, 60km south of Mafikeng. This is part of the larger Amalia-Kraaipan Greenstone terrain, consisting of north trending linear belts of Archaean meta-volcanic and metasedimentary rocks, separated by granitoid units. Mineralisation occurs in shallow dipping quartz veins, which occur in clusters or swarms, within the steeply dipping magnetite-chert banded iron formation. Disseminated sulphide mineralisation, dominated mostly by pyrite, occurs around and between the shallow dipping quartz vein swarms. The D Zone is the largest orebody encountered and has been extensively mined within a single open pit operation, along a strike length of 1 300m. Mineralisation has also been found in the Mielie Field Zone (adjacent to the D Zone), the A Zone and A Zone West (along strike to the north of the D Zone), and the Watertank and Watermill areas to the north of the A Zone.

## Mineral Resources

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
Kalgold	40.6	1.01	40.8	1 313	44.9	1.00	45.0	1 447	32.0	0.98	31.4	1 010	117.5	1.00	117.3	3 770
<b>GRAND TOTAL</b>	<b>40.6</b>	<b>1.01</b>	<b>40.8</b>	<b>1 313</b>	<b>44.9</b>	<b>1.00</b>	<b>45.0</b>	<b>1 447</b>	<b>32.0</b>	<b>0.98</b>	<b>31.4</b>	<b>1 010</b>	<b>117.5</b>	<b>1.00</b>	<b>117.3</b>	<b>3 770</b>

## Modifying factors

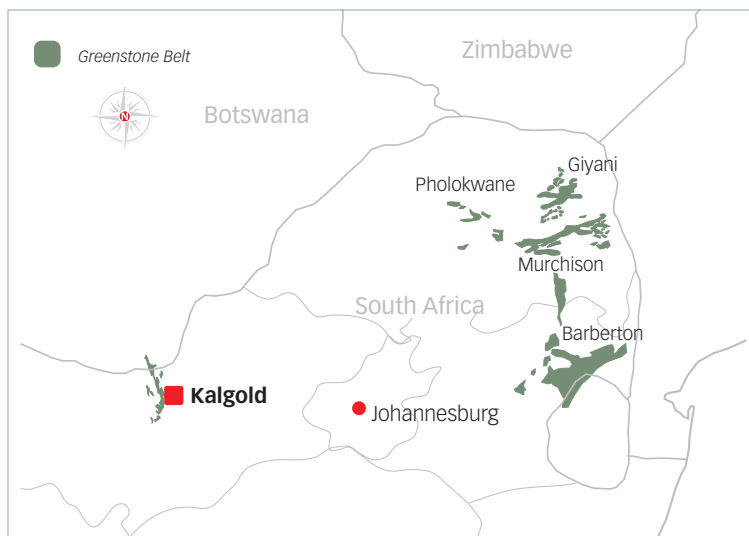
Mine	(R/kg)	MCF (%)	Dilution (%)	PRF (%)
Kalgold	180 000	98	2	90

MCF = Mine call factor

PRF = Plant recovery factor

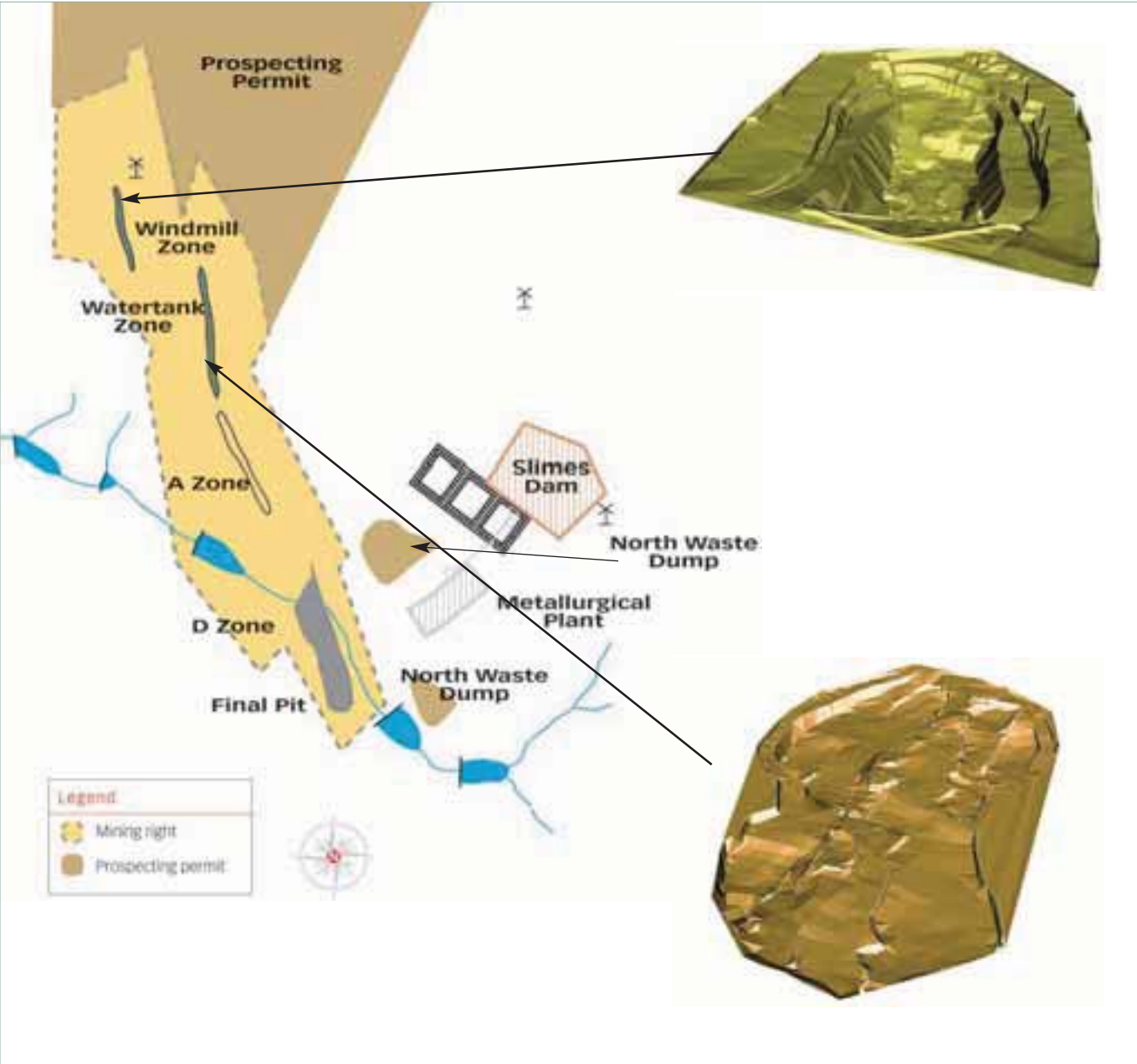
## Ore Reserves

Mine	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
Kalgold	11.3	0.90	10.2	327	1.6	1.27	2.1	66	12.9	0.95	12.2	393
<b>GRAND TOTAL</b>	<b>11.3</b>	<b>0.90</b>	<b>10.2</b>	<b>327</b>	<b>1.6</b>	<b>1.27</b>	<b>2.1</b>	<b>66</b>	<b>12.9</b>	<b>0.95</b>	<b>12.2</b>	<b>393</b>



**Kalgold**

Kraaipan, Greenstone Belt



# Mineral Resources and Ore Reserves (continued)

## Papua New Guinea

**Geology:** Papua New Guinea (PNG) lies on the northern end of the Australian Plate and has three major components: a continental cratonic platform, an arc of volcanic islands and a central collisional fold belt, consisting of Mesozoic sediments, ophiolite sequences, Tertiary sediments and diorite intrusions. During collision, the Wau Graben, the host of major gold and silver deposits, was formed in the fold belt. It coincided with a phase of volcanic activity, resulting in precious and base metals deposits being formed. These include epithermal gold deposits at Hidden Valley, Hamata, Kerimenge and Wafi and porphyry-style copper deposits such as Golpu. Numerous other gold and copper-gold prospects, which are at various stages of exploration and evaluation, occur at Harmony's leases.

### Gold Mineral Resources

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
Hidden Valley & Kaveroi	3.7	2.19	8.2	264	32.5	1.89	61.4	1 973	20.8	1.52	31.6	1 017	57.0	1.77	101.2	3 254
Hamata	-	-	-	-	5.7	2.33	13.2	424	0.9	2.54	2.2	72	6.5	2.36	15.4	496
Wafi	-	-	-	-	44.6	1.97	87.8	2 824	27.7	1.73	47.8	1 538	72.2	1.88	135.7	4 362
Golpu	-	-	-	-	61.3	0.63	38.6	1 242	52.8	0.49	25.9	832	114.2	0.57	64.5	2 074
<b>GRAND TOTAL</b>	<b>3.7</b>	<b>2.19</b>	<b>8.2</b>	<b>264</b>	<b>144.0</b>	<b>1.40</b>	<b>201.0</b>	<b>6 463</b>	<b>102.2</b>	<b>1.05</b>	<b>107.6</b>	<b>3 459</b>	<b>249.9</b>	<b>1.27</b>	<b>316.8</b>	<b>10 186</b>

### Gold Ore Reserves

Mine	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	g/t	Gold (000kg)	Gold (000oz)
Hidden Valley & Kaveroi	3.3	2.29	7.6	243	22.2	2.04	45.3	1 455	25.5	2.07	52.8	1 698
Hamata	-	-	-	-	3.9	2.55	10.0	322	3.9	2.55	10.0	322
Golpu	-	-	-	-	49.6	0.61	30.2	972	49.6	0.61	30.2	972
<b>GRAND TOTAL</b>	<b>3.3</b>	<b>2.29</b>	<b>7.6</b>	<b>243</b>	<b>75.7</b>	<b>1.13</b>	<b>85.5</b>	<b>2 749</b>	<b>79.0</b>	<b>1.18</b>	<b>93.1</b>	<b>2 992</b>

### Silver Mineral Resources

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Silver (000kg)	Silver (000oz)	Tonnes (Mt)	g/t	Silver (000kg)	Silver (000oz)	Tonnes (Mt)	g/t	Silver (000kg)	Silver (000oz)	Tonnes (Mt)	g/t	Silver (000kg)	Silver (000oz)
Hidden Valley & Kaveroi	3.7	39.67	148.5	4 775	32.5	33.99	1 103.5	35 477	20.8	27.44	570.8	18 351	57.0	31.97	1,822.8	58 603
<b>GRAND TOTAL</b>	<b>3.7</b>	<b>39.67</b>	<b>148.5</b>	<b>4 775</b>	<b>32.5</b>	<b>33.99</b>	<b>1 103.5</b>	<b>35 477</b>	<b>20.8</b>	<b>27.44</b>	<b>570.8</b>	<b>18 351</b>	<b>57.0</b>	<b>31.97</b>	<b>1,822.8</b>	<b>58 603</b>

### Silver Ore Reserves

Mine	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Silver (000kg)	Silver (000oz)	Tonnes (Mt)	g/t	Silver (000kg)	Silver (000oz)	Tonnes (Mt)	g/t	Silver (000kg)	Silver (000oz)
Hidden Valley & Kaveroi	3.3	41.04	135.6	4 358	22.2	36.94	819.7	26 354	25.5	37.47	955.3	30 712
<b>GRAND TOTAL</b>	<b>3.3</b>	<b>41.04</b>	<b>135.6</b>	<b>4 358</b>	<b>22.2</b>	<b>36.94</b>	<b>819.7</b>	<b>26 354</b>	<b>25.5</b>	<b>37.47</b>	<b>955.3</b>	<b>30 712</b>

NB Rounding of numbers may result in slight computational discrepancies

\* The numbers reported represents Harmony's equity portion of 69.9% of the Reserves and Resources

## Copper Mineral Resources

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	Grade (%)	Cu (000 t)	Cu (M lbs)	Tonnes (Mt)	Grade (%)	Cu (000 t)	Cu (M lbs)	Tonnes (Mt)	Grade (%)	Cu (000 t)	Cu (M lbs)	Tonnes (Mt)	Grade (%)	Cu (000 t)	Cu (M lbs)
Golpu	-	-	-	-	61.3	1.39	852.5	1 879	52.8	0.72	380.4	838	114.2	1.08	1 233.0	2 717
<b>GRAND TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>61.3</b>	<b>1.39</b>	<b>852.5</b>	<b>1 879</b>	<b>52.8</b>	<b>0.72</b>	<b>380.4</b>	<b>838</b>	<b>114.2</b>	<b>1.08</b>	<b>1 233.0</b>	<b>2 717</b>

## Copper Ore Reserves

Mine	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	Grade (%)	Cu (000 t)	Cu (M lbs)	Tonnes (Mt)	Grade (%)	Cu (000 t)	Cu (M lbs)	Tonnes (Mt)	Grade (%)	Cu (000 t)	Cu (M lbs)
Golpu	-	-	-	-	49.6	1.13	560.0	1,234	49.6	1.13	560.0	1 234
<b>GRAND TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>49.6</b>	<b>1.13</b>	<b>560.0</b>	<b>1,234</b>	<b>49.6</b>	<b>1.13</b>	<b>560.0</b>	<b>1 234</b>

## Molybdenum Mineral Resources

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	Grade (ppm)	Mo (000 t)	Mo (M lbs)	Tonnes (Mt)	Grade (ppm)	Mo (000 t)	Mo (M lbs)	Tonnes (Mt)	Grade (ppm)	Mo (000 t)	Mo (M lbs)	Tonnes (Mt)	Grade (ppm)	Mo (000 t)	Mo (M lbs)
Golpu	-	-	-	-	61.3	110.00	6.7	15	52.8	157.00	8.3	18	114.2	131.75	15.0	33
<b>GRAND TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>61.3</b>	<b>110.00</b>	<b>6.7</b>	<b>15</b>	<b>52.8</b>	<b>157.00</b>	<b>8.3</b>	<b>18</b>	<b>114.2</b>	<b>131.75</b>	<b>15.0</b>	<b>33</b>

## Molybdenum Ore Reserves

Mine	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	Grade (ppm)	Mo (000 t)	Mo (M lbs)	Tonnes (Mt)	Grade (ppm)	Mo (000 t)	Mo (M lbs)	Tonnes (Mt)	Grade (ppm)	Mo (000 t)	Mo (M lbs)
Golpu	-	-	-	-	49.6	121.00	6.0	13	49.6	121.00	6.0	13
<b>GRAND TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>49.6</b>	<b>121.00</b>	<b>6.0</b>	<b>13</b>	<b>49.6</b>	<b>121.00</b>	<b>6.0</b>	<b>13</b>

NB Rounding of numbers may result in slight computational discrepancies

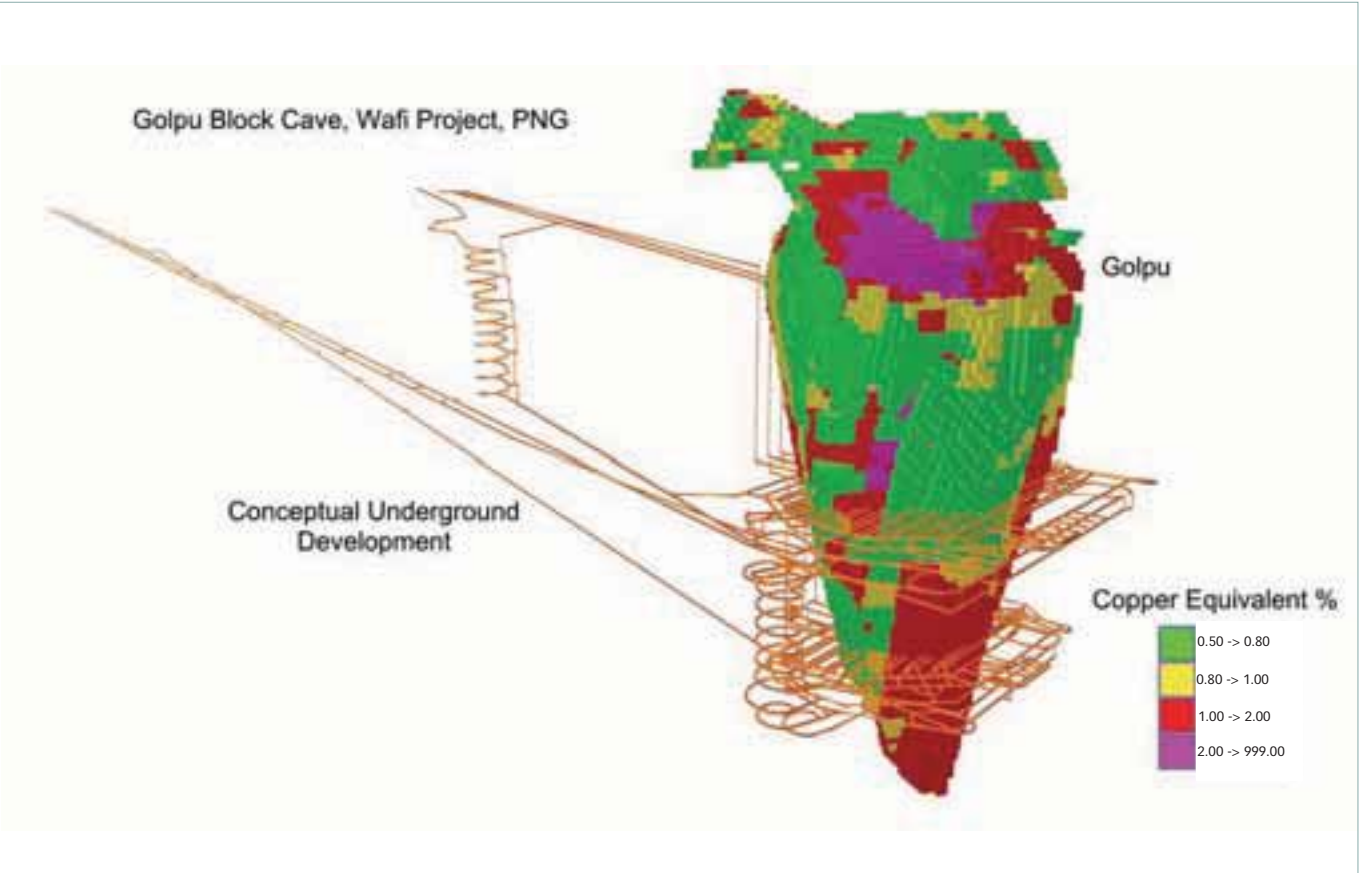
\* The numbers reported represents Harmony's equity portion of 69.9% of the Reserves and Resources



# Mineral Resources and Ore Reserves (continued)

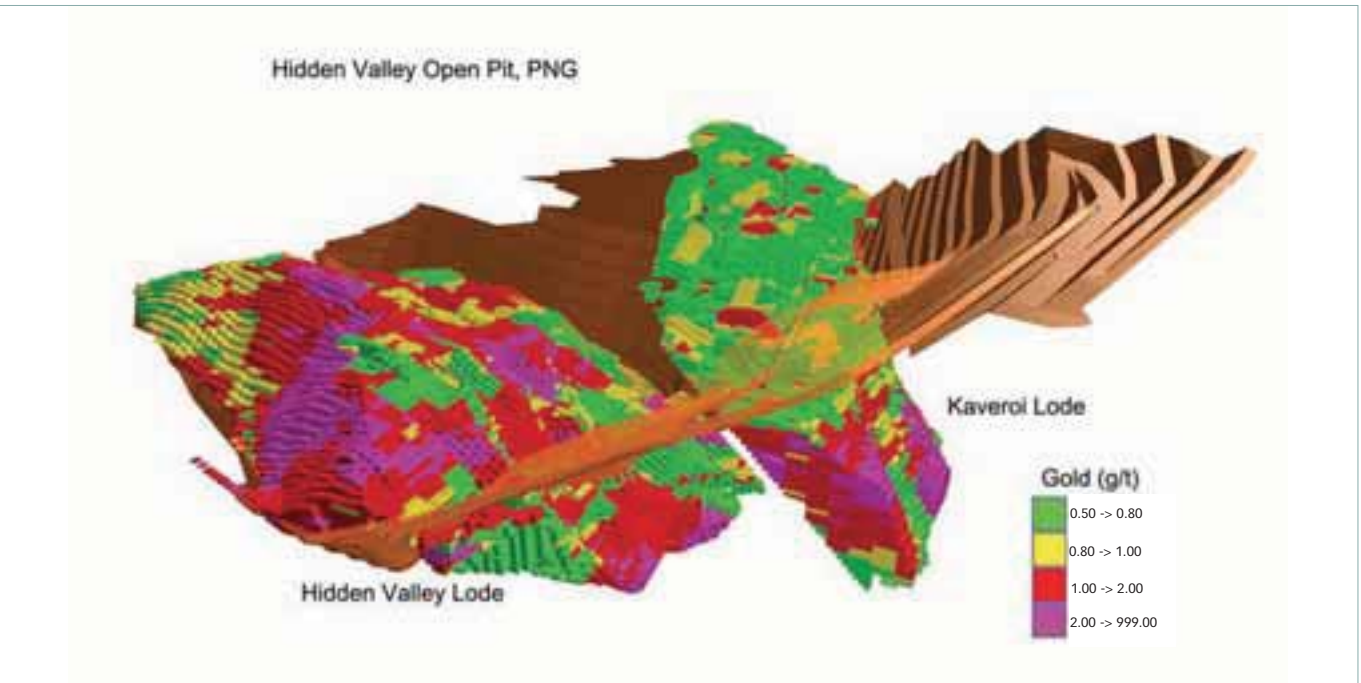
## Wafi-Golpu Project

Oblique section looking north west



## Schematic geological section through the Hidden Valley and Kaveroi orebodies looking north-west

Oblique section looking north west



## Appendix

### Reporting Code

Harmony uses the South African Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (SAMREC Code), which sets out the internationally recognised procedures and standards for reporting of Mineral Resources and Ore Reserves in South Africa. This code was developed by the South African Institute of Mining and Metallurgy and is the recommended guideline for reserve and resource reporting for companies listed on the JSE Limited. Harmony's reporting of its Australian and PNG Mineral Resources and Ore Reserves also complies with the Australian Code for the Reporting of Mineral Resources and Ore Reserves (JORC code) of the Australian Institute of Mining and Metallurgy. This code is materially the same as the SAMREC code. In reporting Reserves, distinct cognisance has also been taken of Industry Guide 7 of the United States Securities Exchange Commission. Harmony uses the term 'Ore Reserves,' which has the same meaning as 'Mineral Reserves', as defined in the SAMREC code.

### Definitions as per the SAMREC code

#### Mineral Resources

A Mineral Resource is a concentration (or occurrence) of material of economic interest in or on the earth's crust in such form, quality and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated from specific geological evidence and knowledge, or are interpreted from a well constrained and portrayed geological model. Mineral Resources are sub-divided in order of increasing confidence in respect of geoscientific evidence into inferred, indicated and measured categories.

An Inferred Mineral Resource is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and sampling, and assumed but not verified geologically and/or through analysis of grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that may be limited or of uncertain quality and reliability.

An Indicated Mineral Resource is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and the testing of

information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.

A Measured Mineral Resource is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.

#### Ore Reserves

An Ore Reserve is the economically mineable material derived from a Measured and/or Indicated Mineral Resource. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a pre-feasibility study for a project, or a life of mine plan for an operation, must have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors (the modifying factors). Such modifying factors must be disclosed.

A Probable Ore Reserve is the economically mineable material derived from a Measured and/or Indicated Mineral Resource. It is estimated with a lower level of confidence than a Proven Ore Reserve. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a pre-feasibility study for a project, or a life of mine plan for an operation, must have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. Such modifying factors must be disclosed.

A Proven Ore Reserve is the economically mineable material derived from a Measured Mineral Resource. It is estimated with a high level of confidence. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a pre-feasibility study for a project, or a life of mine plan for an operation, must have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. Such modifying factors must be disclosed.

## Mineral Resources and Ore Reserves (continued)

### Harmony reporting in compliance with SAMREC

In order to meet the requirements of the SAMREC code that the material reported as a Mineral Resource should have "reasonable and realistic prospects for eventual economic extraction", Harmony has determined an appropriate cut-off grade which has been applied to the quantified mineralised body according to a process incorporating a long-term view on future economic modifying factors. By applying this process, Harmony has derived at a cut-off grade for Mineral Resources of approximately 250cmg/t (approximately 2g/t). Mineral Resources have been estimated on the basis of geoscientific knowledge with input from the company's Ore Reserve managers, geologists and geostatistical staff. Each mine's Mineral Resources are categorised, blocked-out and ascribed an estimated value. At most mines computerised geostatistical estimation processes are used.

In order to define that portion of a measured and indicated Mineral Resource that can be converted to a proven and probable Ore Reserve, Harmony applies the concept of a cut-off grade. At our underground South African mines, this is done by defining the optimal cut-off as the lowest grade at which an orebody can be mined such that the total profits, under a specified set of mining parameters, are maximised. The cut-off grade is determined using the company's Optimiser computer programme which requires the following as input: the database of measured and indicated resource blocks (per shaft section); an assumed gold price which, for this Ore Reserve statement, was taken as R180 000/kg; planned production rates; the Mine Recovery Factor (MRF) which is equivalent to the Mine Call Factor (MCF) multiplied by the Plant Recovery Factor (PRF); and planned cash operating costs (rand per tonne). Rand per tonne cash operating costs are historically based but take cognisance of distinct changes in the cost environment such as restructuring, right-sizing, and other cost reduction initiatives, and for below infrastructure ounces, an estimate of capital expenditure.

The Ore Reserves represent that portion of the measured and indicated Resources above cutoff in the life-of-mine plan and have been estimated after consideration of the factors affecting extraction, including mining, metallurgical, economic, marketing, legal, environmental, social, and governmental factors. A range of disciplines which includes geology, survey, planning, mining engineering, rock engineering, metallurgy, financial management, human resources management and environmental management have been involved at each mine in the life-of-mine planning process and the conversion of Resources into Reserves.

The modifying factors related to the ore flow used to convert the Mineral Resources to Ore Reserves through the life-of-mine planning process are stated for each individual shaft. For these factors, historical information is used, except if there is a valid reason to do otherwise. As a result of the depth at which mining occurs and the resulting rock engineering requirements at our South African underground mines, some shafts design stope support pillars into their mining layouts which accounts for discounts of 7% to 10%. A further 15% discount is applied as a life-of-mine factor to provide for unpay and off-reef mining. In general, life-of-mine plan extraction factors do not exceed 85% and are reflected in the Ore Reserves.



Doornkop, South Africa



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## Glossary of geological terms

**Below infrastructure:** That part of a company's ore reserve that can only be accessed following certain capital expenditure which has yet to be approved.

**Craton:** A part of the earth's crust that has attained stability and has been little deformed for a long period of geological time.

**Diorite:** A group of plutonic rocks intermediate in composition between acidic and basic. Felsic: An igneous rock having abundant light coloured minerals.

**Graben:** A block of rock that lies between two faults, and has moved downward to form a depression between two adjacent fault blocks.

**Greenstone:** A field term for any compact dark green altered or metamorphosed basic igneous rock that owes its colour to chlorite.

**Horst:** A block of rock that lies between two faults and has moved upward relative to the two adjacent fault blocks.

**Kaapvaal Craton:** The ancient protocontinental basement of South Africa.

**Lacustrine:** Pertaining to sediments formed in lakes.

**Mafic:** An igneous rock composed chiefly of dark, ferromagnesium minerals.

**Ophiolite:** A group of mafic and ultramafic igneous rocks derived by metamorphism, whose origin is associated with an early phase of the development of a geosyncline.

**Plunge:** The inclination of a fold axis or other linear feature, measured in the vertical plane.

**Sub-outcrop:** A rock stratum that unconformably underlies another rock stratum.

**Syncline:** Concave fold in stratified rock, in which strata dip down to meet in a trough.

**Witwatersrand Basin:** A sedimentary basin in South Africa.