

# Mineral Resources and Ore Reserves as at 30 June 2008

*Jaco Boshoff*

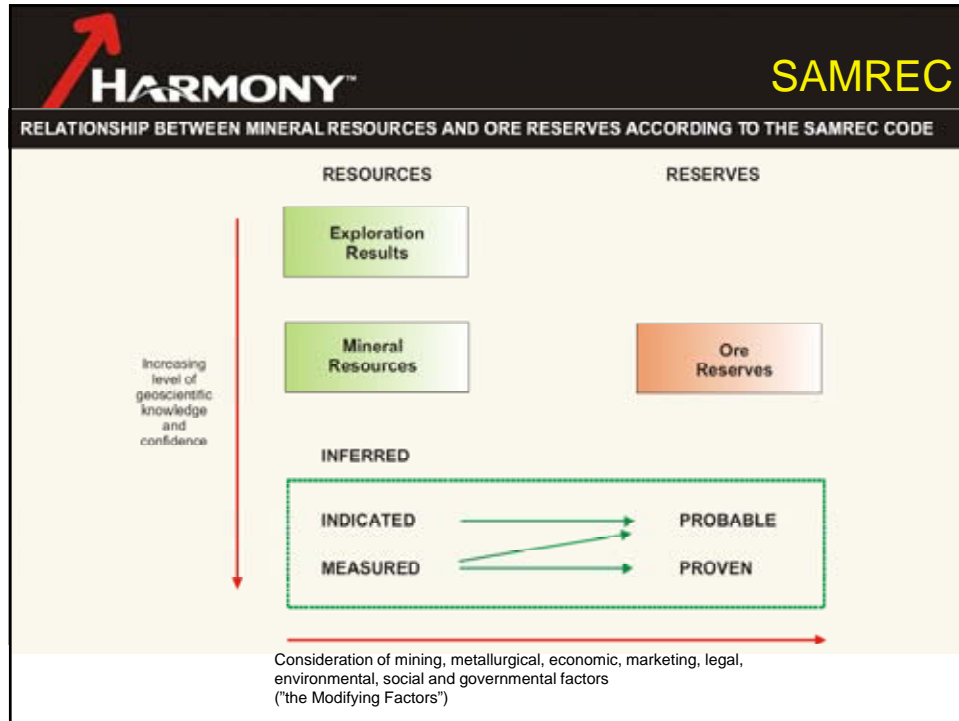
Additional documents:

- [Harmony Equity Resources and Reserves as at June 30 - 2008](#) (XLS - 127KB)
- [PNG Total Resources and Reserves 2008](#) (XLS - 27KB)
- [Discontinued Operations Reserves and Resources 2008](#) (XLS - 55KB)



## Agenda:

- Compliance and process
- Reconciliation 2008 to 2007
- Reserves and Resources by region



**HARMONY** **SAMREC**

- Resources declared above 250cmg/t and relevant in terms of future economic extraction
- For Reserves :
  - Gold price of US\$750/oz
  - ZAR7.46/US\$ (R180,000/kg)
  - AUD/USD 0.80 (A\$850/oz)
  - 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.
  - 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 based on 18- month historical information, except if there is a valid and compelling reason to do otherwise.


**HARMONY** **Regulatory compliance**

- The Harmony Mineral Resources and Ore Reserves have been comprehensively audited by a team of internal competent persons that operate independently from the operating units.
- The results from external independent audits at selected operations in the Free State as well as Elandsrand and Doornkop demonstrated that the Harmony Mineral Resources and Ore Reserves process comply to the following requirements:
  - South African Code for Reporting Mineral Resources and Mineral Reserves – SAMREC Code (2008)
  - Industry Guide 7 of the United States Securities Exchange Commission
  - Sarbanes-Oxley

**HARMONY** **Location of Operations**


**WORLDWIDE OPERATIONS**

The image features a world map with continents labeled: North America, South America, Europe, Africa, Asia, and Australia. The map is color-coded by region. Two callout boxes provide more detail: one for 'PAPUA NEW GUINEA' showing a map of the island with several red 'X' marks indicating operation locations, and another for 'WITWATERSRAND BASIN' in South Africa, showing a map of the basin with several red 'X' marks. The 'HARMONY' logo is present in the top left of the slide.



## Declaration

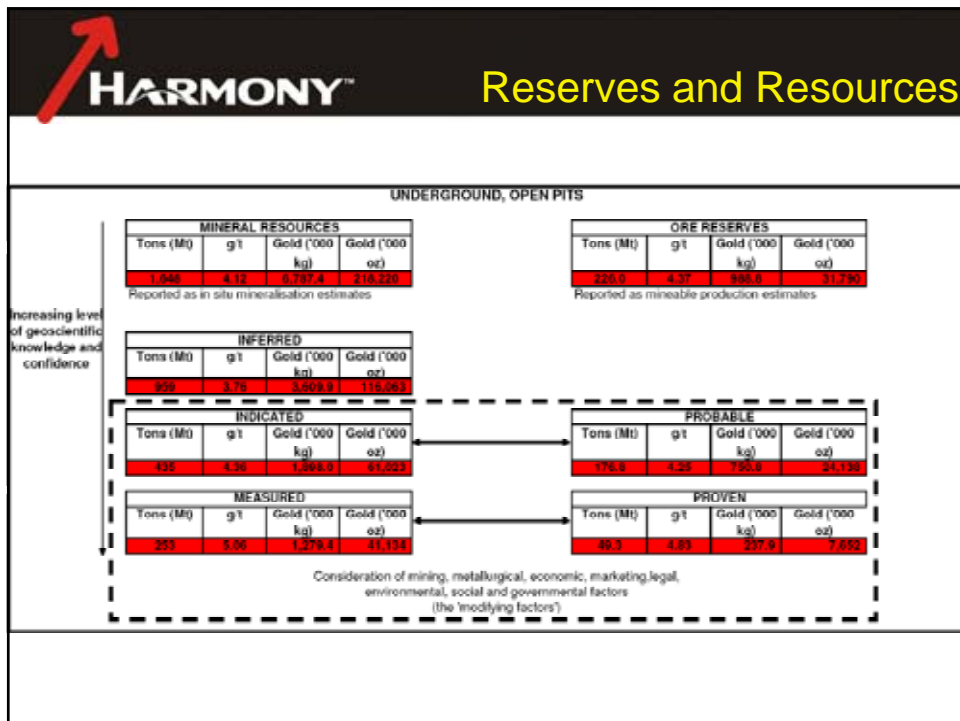
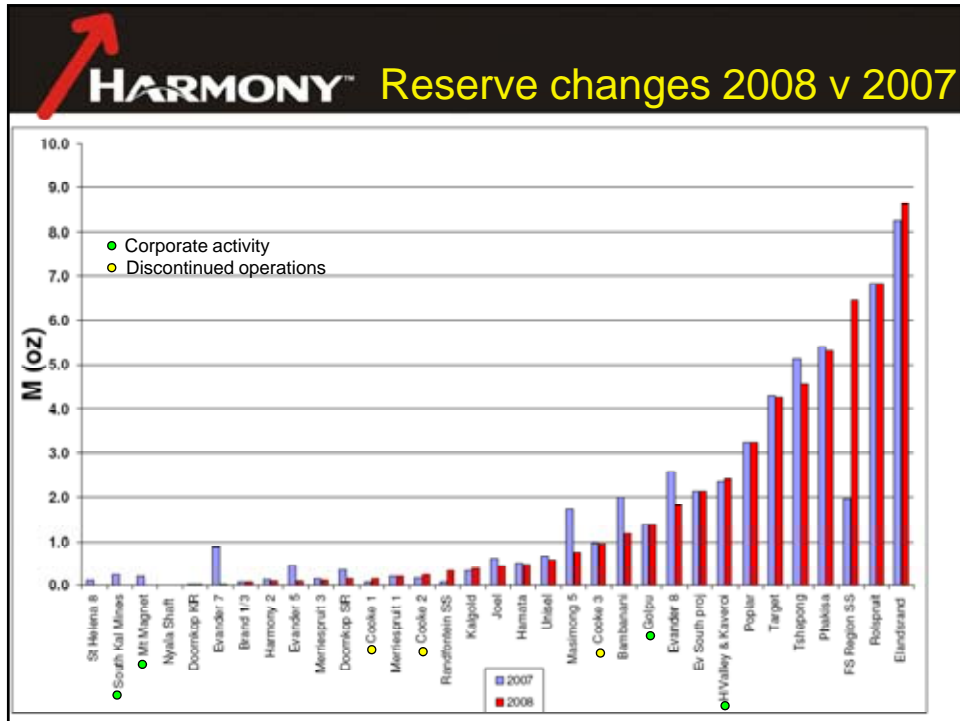
AS at June 30 Harmony is declaring Mineral Resources of **256,3** Million ounces and Ore Reserves of **50,5** Million ounces

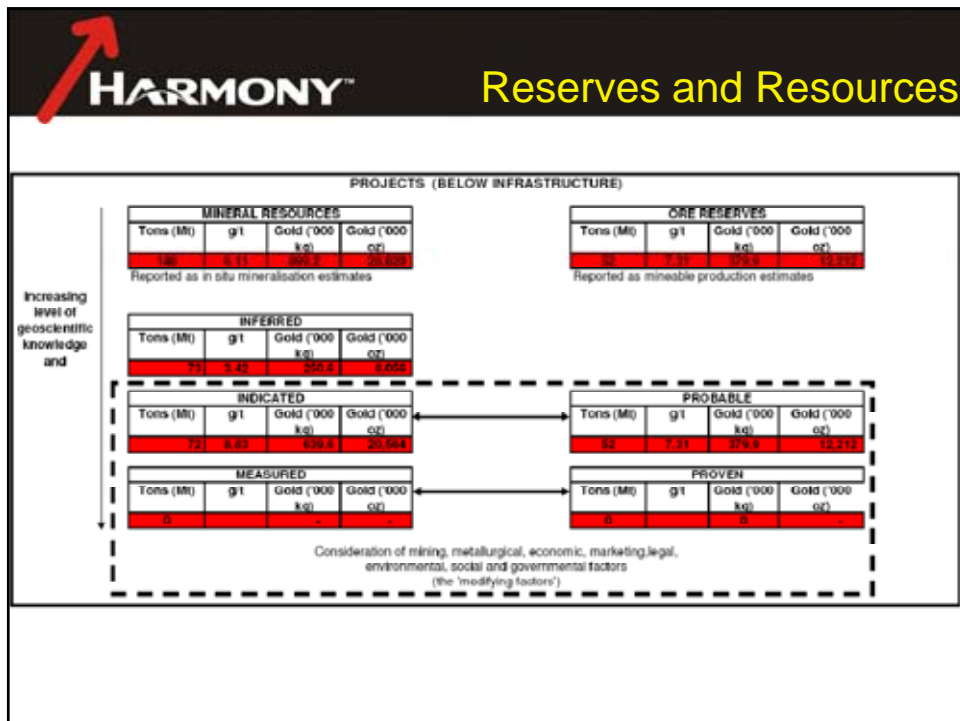
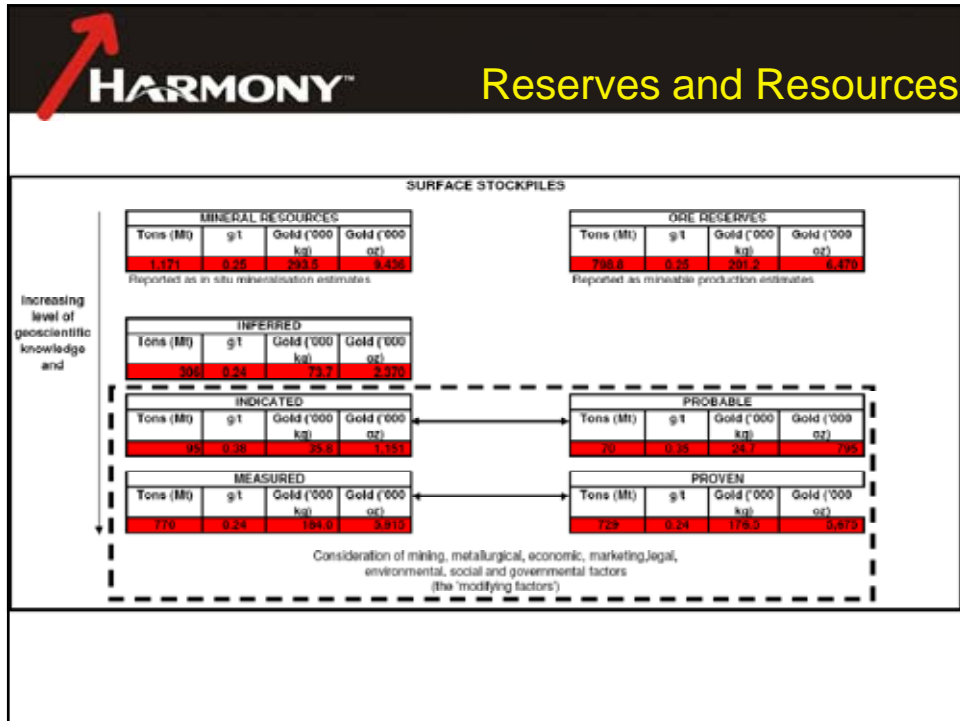


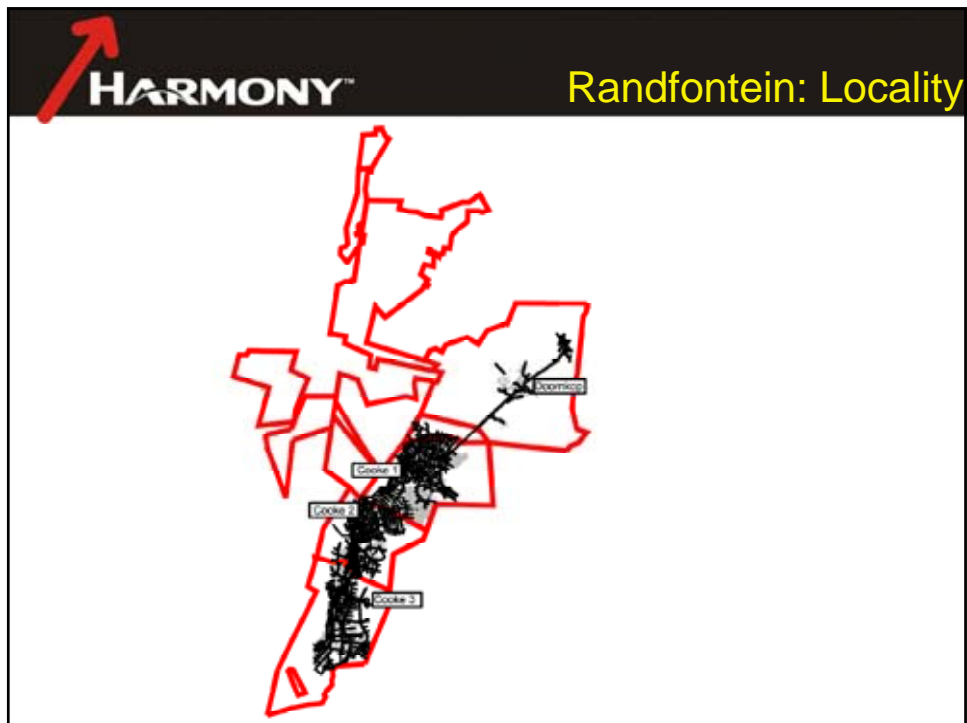
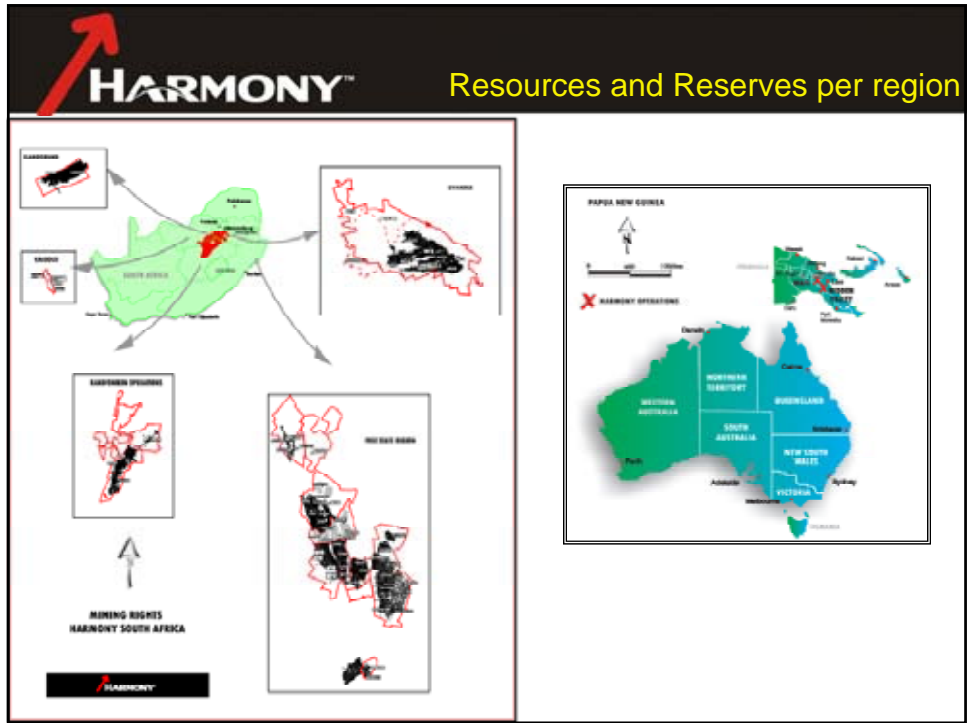
## Reconciliation

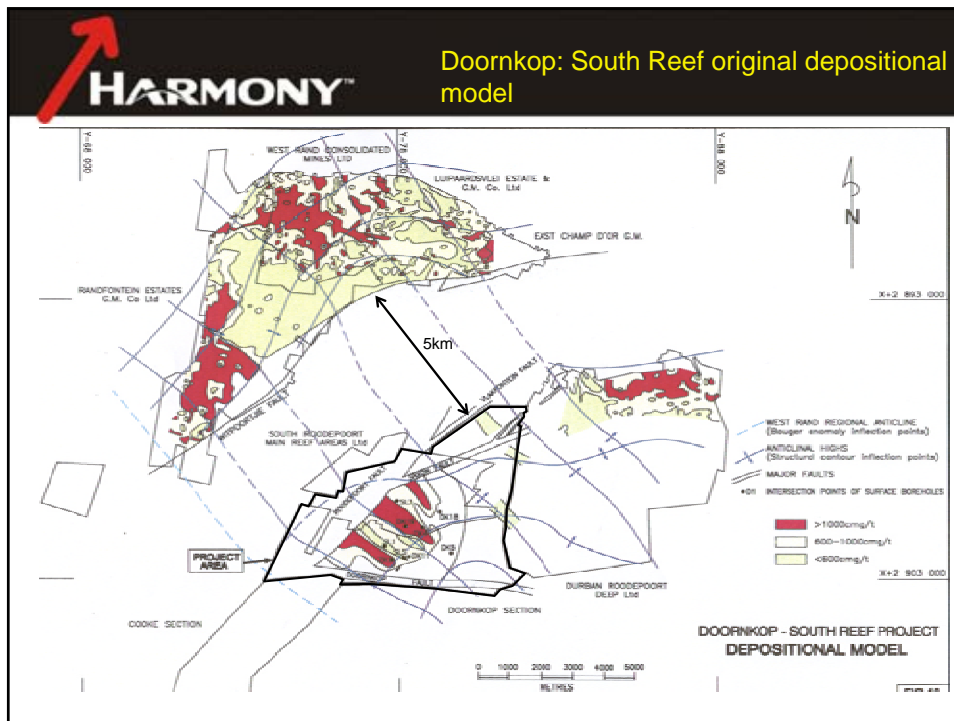
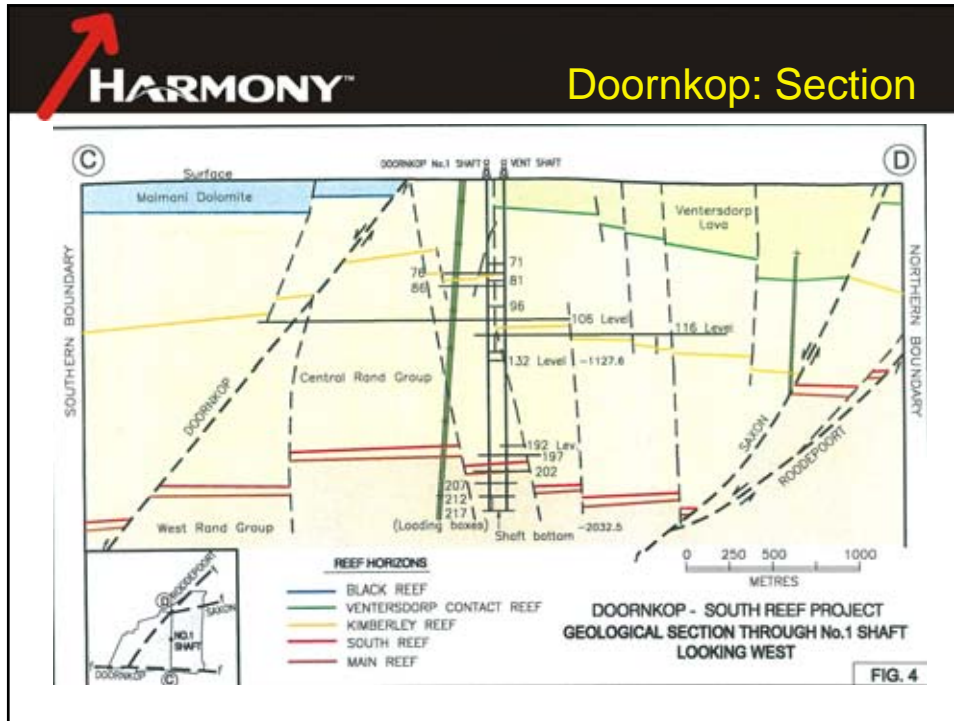
Ore reserve reconciliation: FY2007 to FY2008

		Gold (tonnes)	Gold (Moz)
	<b>Balance at June 2007</b>	<b>1666</b>	<b>53.6</b>
<b>Reductions</b>	Mined during FY2008	(62)	(2.0)
	Corporate activity and discontinued operations	(93)	(3.0)
	Restructuring	(28)	(0.9)
	Other adjustments	(53)	(1.7)
	<b>Total</b>	<b>1430</b>	<b>46.0</b>
<b>Additions</b>	Freestate Surface Sources	140	4.5
	<b>Balance at June 2008</b>	<b>1570</b>	<b>50.5</b>

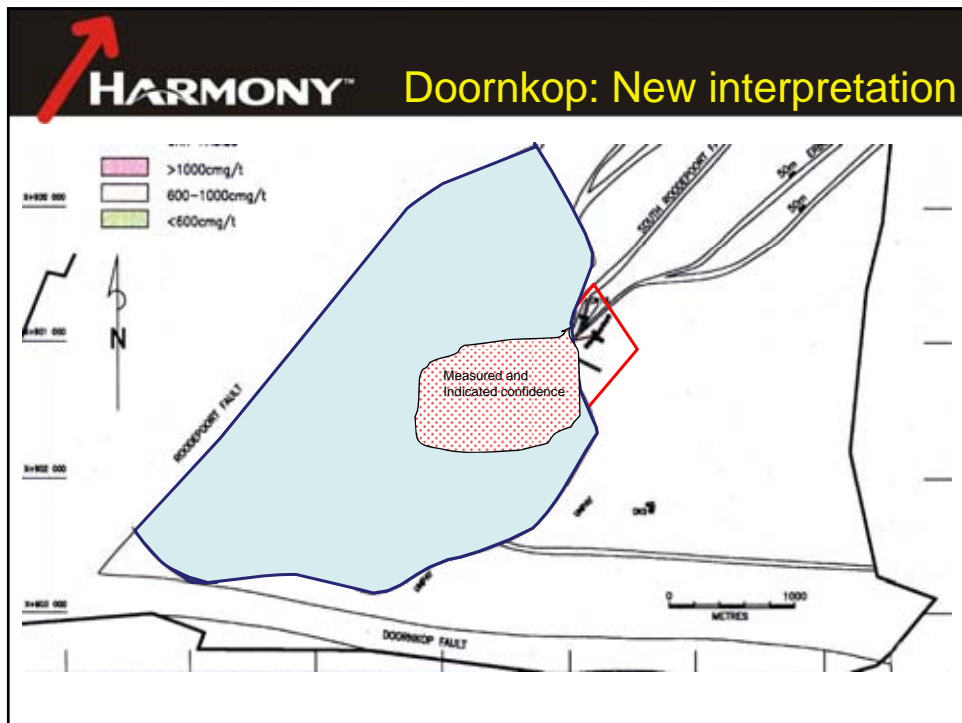
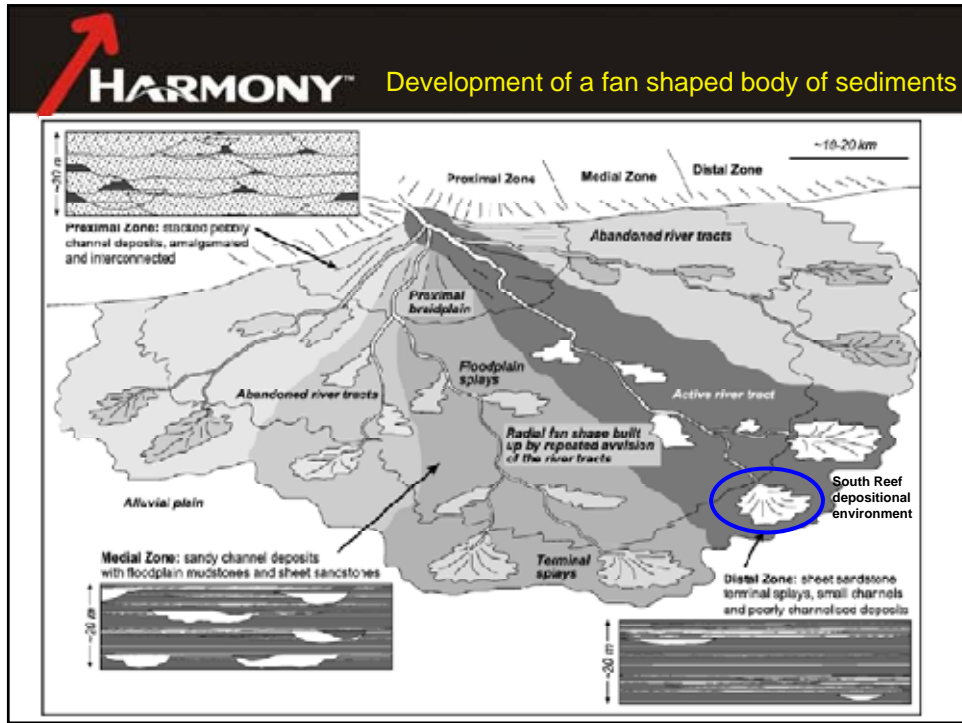
















**Doornkop: Life of Mine variance 2007 v 2008**

	<b>2007</b>	<b>2008</b>
<b>Reef m2</b>	3,925,567	4,312,144
<b>cmg/t</b>	1,233	993
<b>Tonnes milled</b>	14,441,503	16,487,661
<b>Recovered g/t</b>	6.56	5.08
<b>Recovered Oz</b>	3,044,058	2,694,616



**Randfontein & Doornkop: Resources and Reserves**

**RANDFONTEIN and DOORKOP**

**MINERAL RESOURCES**

Mine Area	MEASURED				INDICATED				INFERRED				TOTAL			
	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)
<b>Underground - Operating Mines</b>																
Cooke 1	9.6	5.33	51.0	1,640	8.6	3.69	31.6	1,015	70.6	3.50	246.9	7,937	88.7	3.71	329.4	10,592
Cooke 2	13.3	4.17	55.6	1,788	6.1	3.88	23.7	783	0.5	4.14	2.0	65	19.9	4.08	81.3	2,616
Cooke 3	19.1	5.75	109.6	3,523	17.1	3.59	61.5	1,977	112.2	2.94	329.5	10,595	148.4	3.37	500.6	16,095
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>Total Underground</b>	<b>50.1</b>	<b>4.85</b>	<b>243.2</b>	<b>7,820</b>	<b>40.1</b>	<b>3.56</b>	<b>142.7</b>	<b>4,589</b>	<b>455.9</b>	<b>2.63</b>	<b>1,197.3</b>	<b>38,495</b>	<b>546.2</b>	<b>2.90</b>	<b>1,583.3</b>	<b>50,904</b>
Surface Stockpile	382.5	0.27	102.2	3,286	0.9	0.54	0.5	16	0.0	0.00	0.0	-	383.4	0.27	102.7	3,302
<b>Grand Total</b>	<b>432.6</b>		<b>345.4</b>	<b>11,106</b>	<b>41.1</b>		<b>143.2</b>	<b>4,605</b>	<b>455.9</b>		<b>1,197.3</b>	<b>38,495</b>	<b>929.6</b>		<b>1,686.0</b>	<b>54,206</b>

**MODIFYING FACTORS**

Mine Area	R/kg	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Cooke 1	180,000	72	164	184	96.6
Cooke 2	180,000	78	140	183	95.0
Cooke 3	180,000	75	189	203	95.0
Doornkop Kimberley Reef	180,000	95	389	399	95.0
Doornkop South Reef	180,000	75	124	140	95.0
Surface Stockpile	180,000	100			

**ORE RESERVES**

Mine Area	PROVEN			PROBABLE			TOTAL					
	Tons (Mt)	g/t	Gold ('000 kg)	Tons (Mt)	g/t	Gold ('000 kg)	Tons (Mt)	g/t	Gold ('000 kg)			
<b>Underground - Operating Mines</b>												
Cooke 1	0.6	7.44	4.1	132	0.1	2.78	0.4	13	0.7	6.50	4.5	145
Cooke 2	1.0	7.32	7.7	246	0.0	0.00	0.0	-	1.0	7.32	7.7	246
Cooke 3	2.7	8.13	21.6	694	1.3	6.15	8.1	261	4.0	7.47	29.7	955
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>Total Underground</b>	<b>4.6</b>	<b>7.56</b>	<b>34.7</b>	<b>1,116</b>	<b>2.5</b>	<b>5.19</b>	<b>12.8</b>	<b>412</b>	<b>7.1</b>	<b>6.73</b>	<b>47.5</b>	<b>1,528</b>
Surface Stockpile	20.0	0.51	10.1	326	0.9	0.54	0.5	16	21.0	0.51	10.6	342
<b>Grand Total</b>	<b>24.6</b>		<b>44.8</b>	<b>1,442</b>	<b>3.4</b>		<b>13.3</b>	<b>428</b>	<b>28.0</b>		<b>58.1</b>	<b>1,870</b>

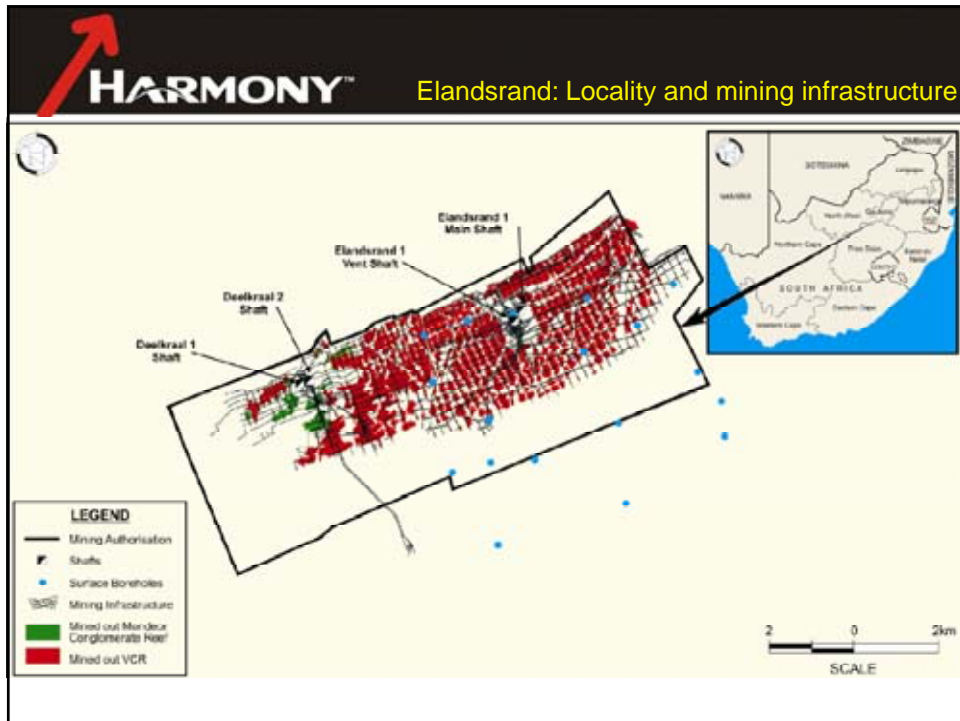
\* Cooke Shafts and Randfontein surface sources not declared (discontinued operations)

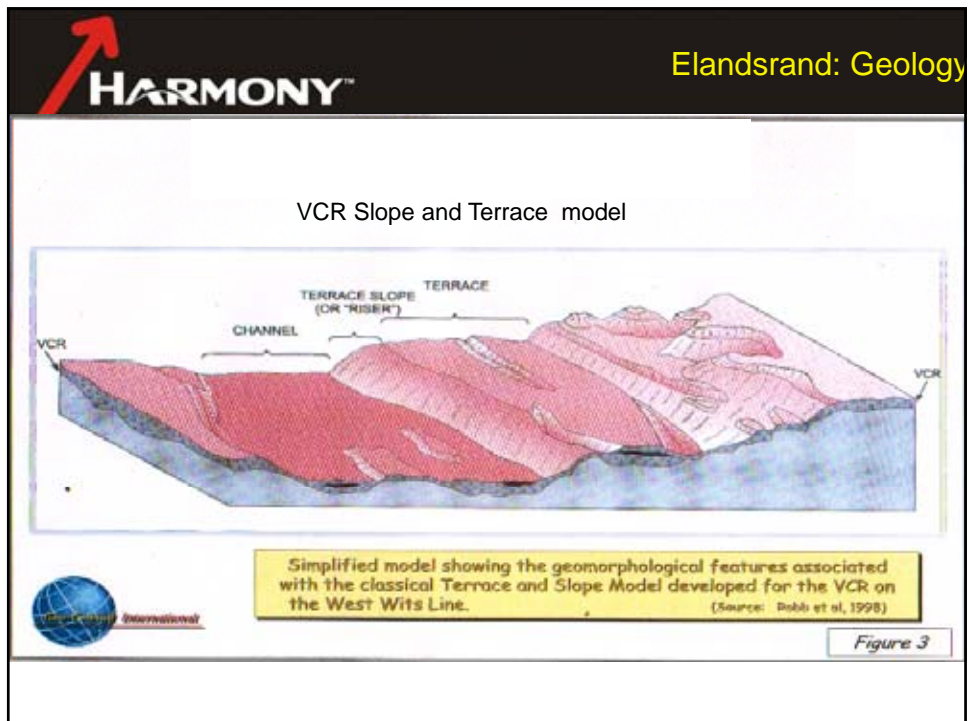
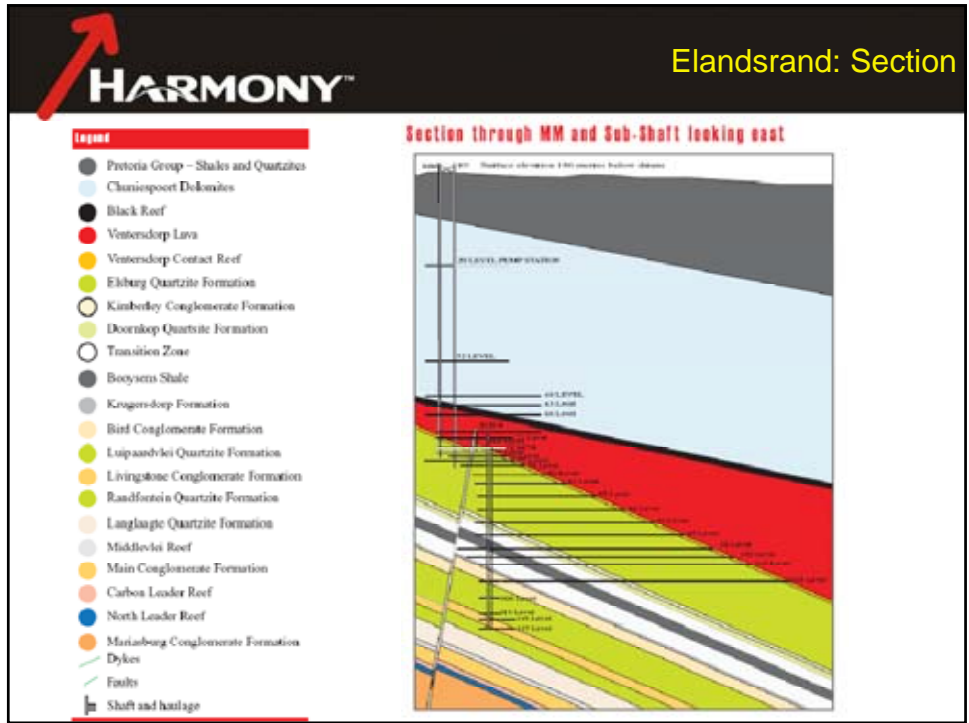
**HARMONY** Randfontein & Doornkop: Resources and Reserves

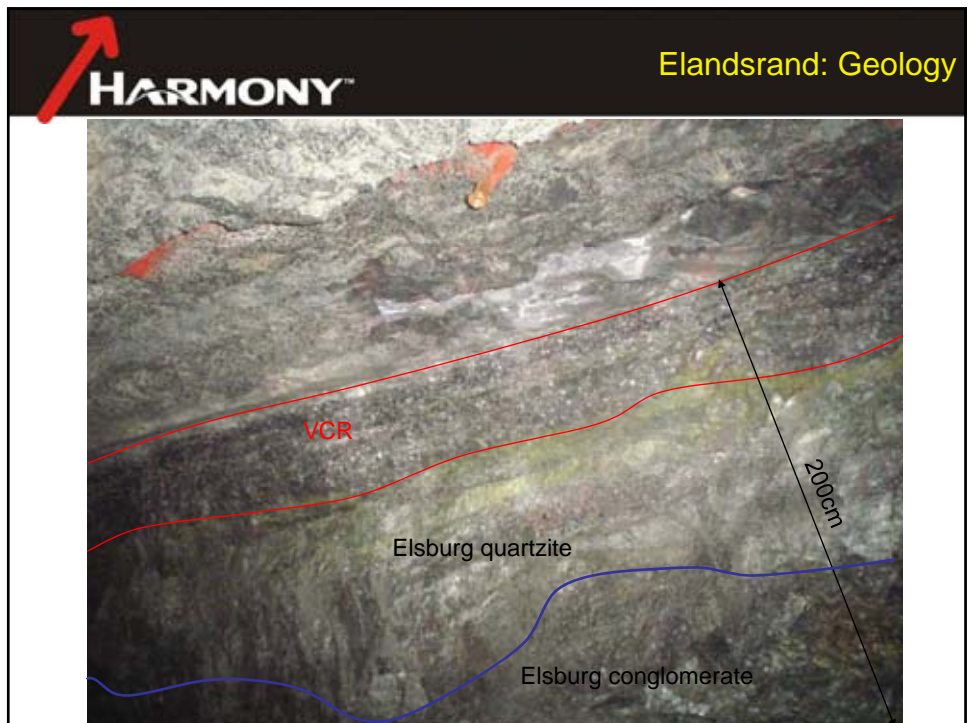
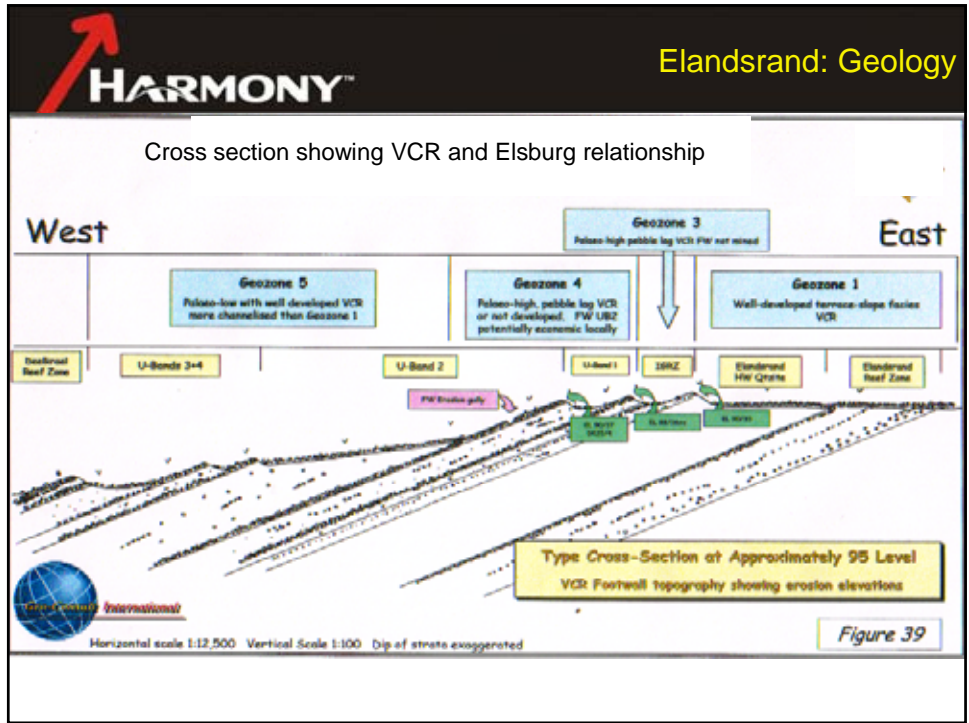
**RANDFONTEIN and DOORKOP**  
**URANIUM MINERAL RESOURCES**

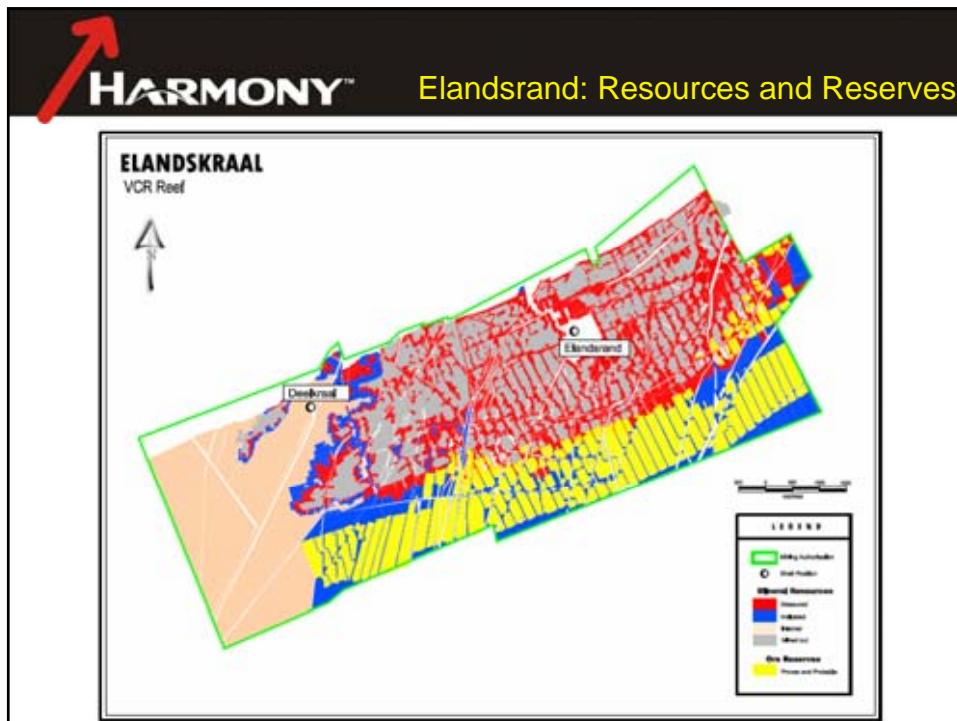
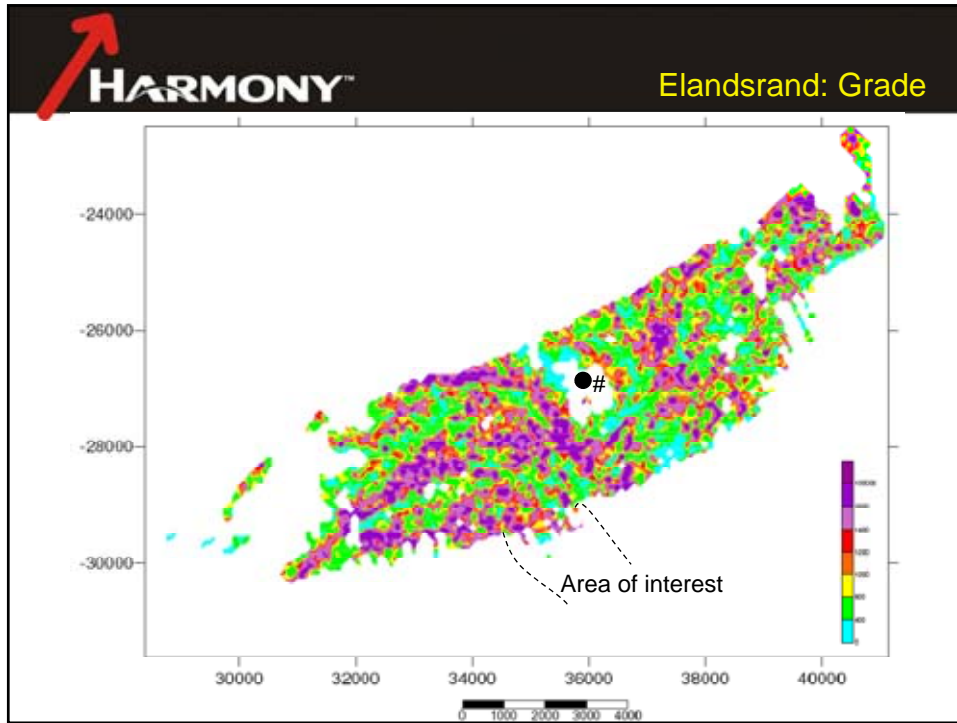
Mine Area	MEASURED				INDICATED				INFERRED				TOTAL			
	Tons (Mt)	Uranium kg/t	Uranium ('000kgs)	Uranium ('000 lb)	Tons (Mt)	Uranium kg/t	Uranium ('000kgs)	Uranium ('000 lb)	Tons (Mt)	Uranium kg/t	Uranium ('000kgs)	Uranium ('000 lb)	Tons (Mt)	Uranium kg/t	Uranium ('000kgs)	Uranium ('000 lb)
<b>Underground - Operating Mines</b>																
Cooke 3	7.1	0.424	3011	6,638	3.4	0.547	1,859	4,099	27.2	0.500	13,593	29,968	37.7	0.490	18,463	40,705
<b>Total Underground</b>	<b>7.1</b>	<b>0.424</b>	<b>3011</b>	<b>6,638</b>	<b>3.4</b>	<b>0.547</b>	<b>1,859</b>	<b>4,099</b>	<b>27.2</b>	<b>0.500</b>	<b>13,593</b>	<b>29,968</b>	<b>37.7</b>	<b>0.490</b>	<b>18,463</b>	<b>40,705</b>
<b>Surface sources</b>																
Millsite Dump 38	15.7	0.067	1,053	2,322									15.7	0.067	1,053	2,322
Millsite Dump 39	77.3	0.045	3,477	7,666									77.3	0.045	3,477	7,666
Millsite Dump 40/41	74.5	0.049	3,649	8,045									74.5	0.049	3,649	8,045
Cooke Plant Slimes dump	83.2	0.215	17,893	39,446									83.2	0.215	17,893	39,446
Old No 4 Slimes Dump	55.5	0.078	4,326	9,537									55.5	0.078	4,326	9,537
Lindum dump 1	4.3	0.047	202	445									4.3	0.047	202	445
Lindum old dump 2	1.0	0.041	42	92									1.0	0.041	42	92
Lindum old dump 1A	0.0	0.000	-	-	0.6	0.058	35.0	79					0.6	0.058	36	79
Lindum old dump 3	0.0	0.000	-	-	0.3	0.048	13.0	29					0.3	0.048	13	29
Doornkop Dump	51.0	0.103	5,253	11,580									51.0	0.103	5,253	11,580
<b>Total Surface</b>	<b>362.5</b>	<b>0.099</b>	<b>35,895</b>	<b>79,135</b>	<b>0.9</b>	<b>0.055</b>	<b>49.0</b>	<b>108</b>	<b>0.0</b>	<b>0.00</b>	<b>-</b>	<b>-</b>	<b>363.4</b>	<b>0.099</b>	<b>35,944</b>	<b>79,243</b>
<b>Grand Total</b>	<b>369.6</b>	<b>0.105</b>	<b>38,805</b>	<b>85,773</b>	<b>4.3</b>	<b>0.445</b>	<b>1,908</b>	<b>4,207</b>	<b>27.2</b>	<b>0.500</b>	<b>13,593</b>	<b>29,968</b>	<b>401.1</b>	<b>0.136</b>	<b>54,408</b>	<b>119,947</b>

\* Cooke Shafts and Randfontein surface sources not declared (discontinued operations)









**HARMONY** Elandsrand

**MINERAL RESOURCES**

	MEASURED				INDICATED				INFERRED				TOTAL			
	Tons (M)	g/t	Gold ('000 oz)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 oz)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 oz)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 oz)	Gold ('000 oz)
Mine Area																
Underground - Operating Mines																
Elandsrand - Old & new	11.9	7.90	94.4	3,035	24.4	9.49	326.0	18,500	0.0	0.90	0.0	-	46.4	9.06	421.0	15,535
<b>Grand Total</b>	<b>11.9</b>	<b>7.90</b>	<b>94.4</b>	<b>3,035</b>	<b>24.4</b>	<b>9.49</b>	<b>326.0</b>	<b>18,500</b>					<b>46.4</b>	<b>9.06</b>	<b>421.0</b>	<b>15,535</b>

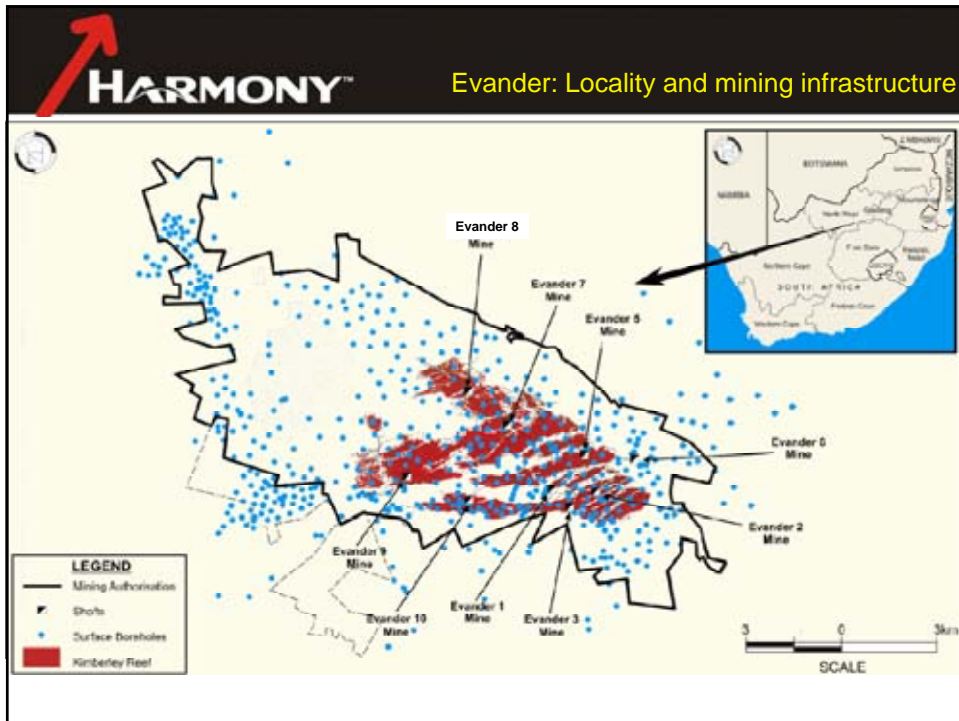
**MODIFYING FACTORS**

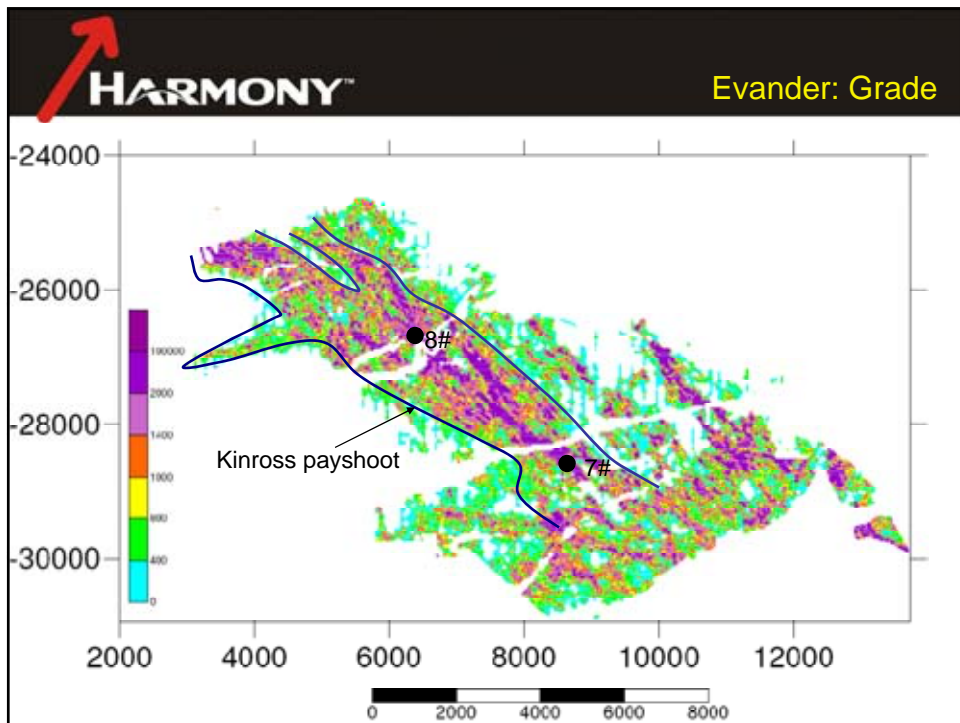
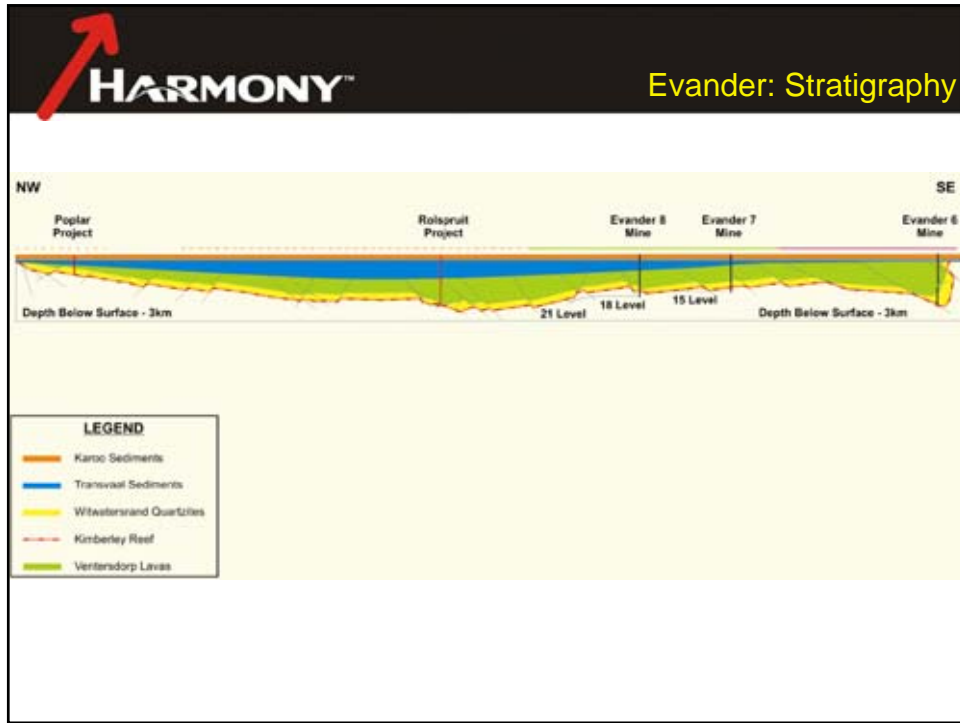
Mine Area	R/kj	MCV (%)	SW (cm)	MW (cm)	RR (%)	EP (%)
Elandsrand - Old & new	180,000	80	150	150	95.8	97.0

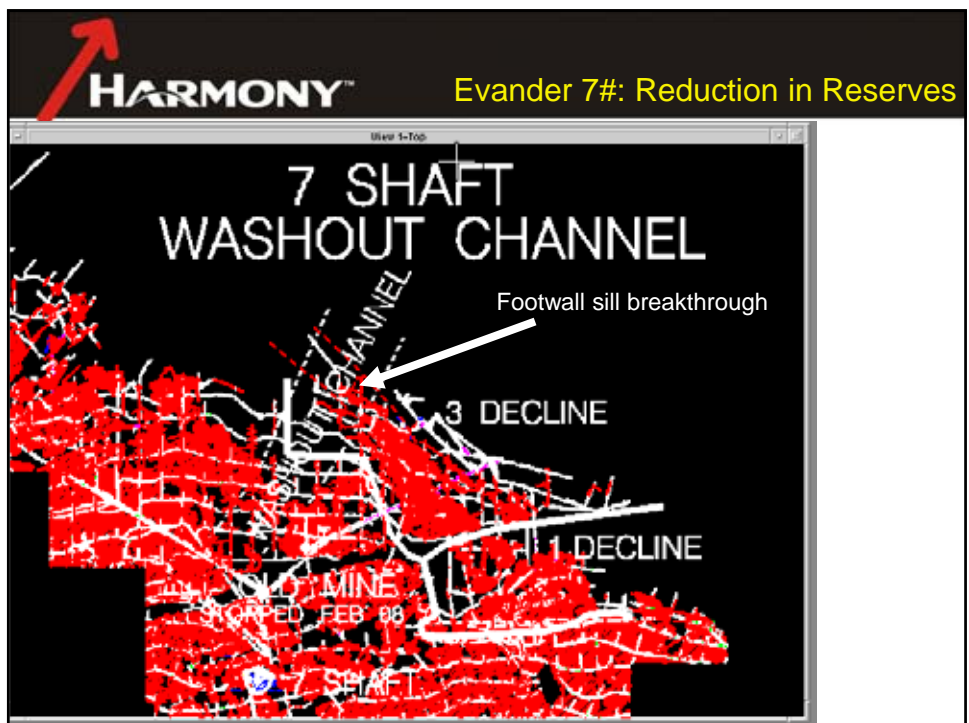
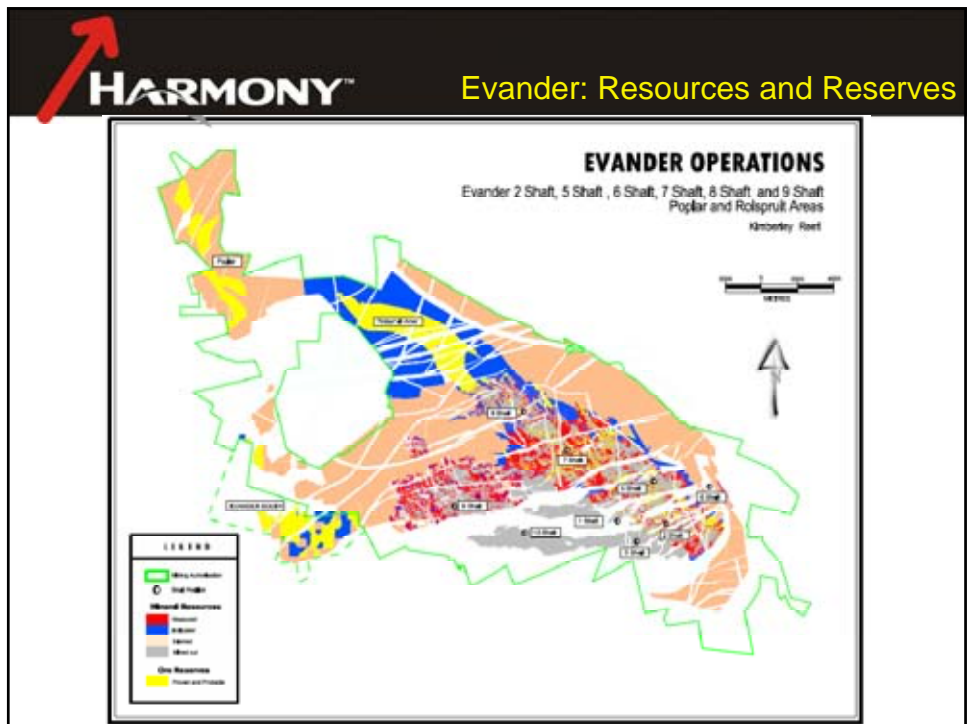
**ORE RESERVES**

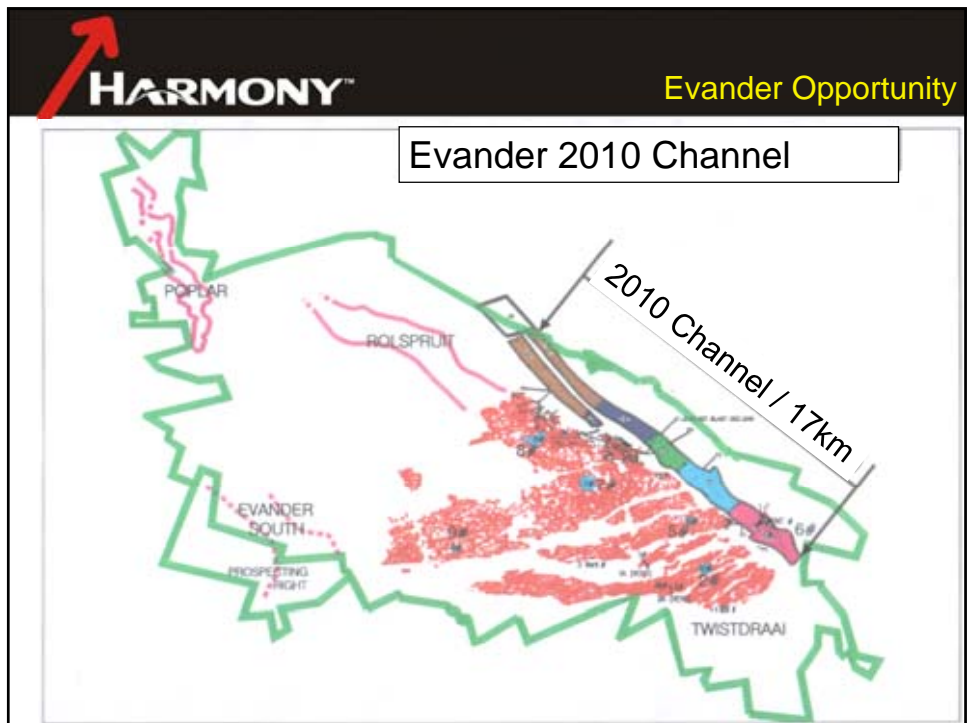
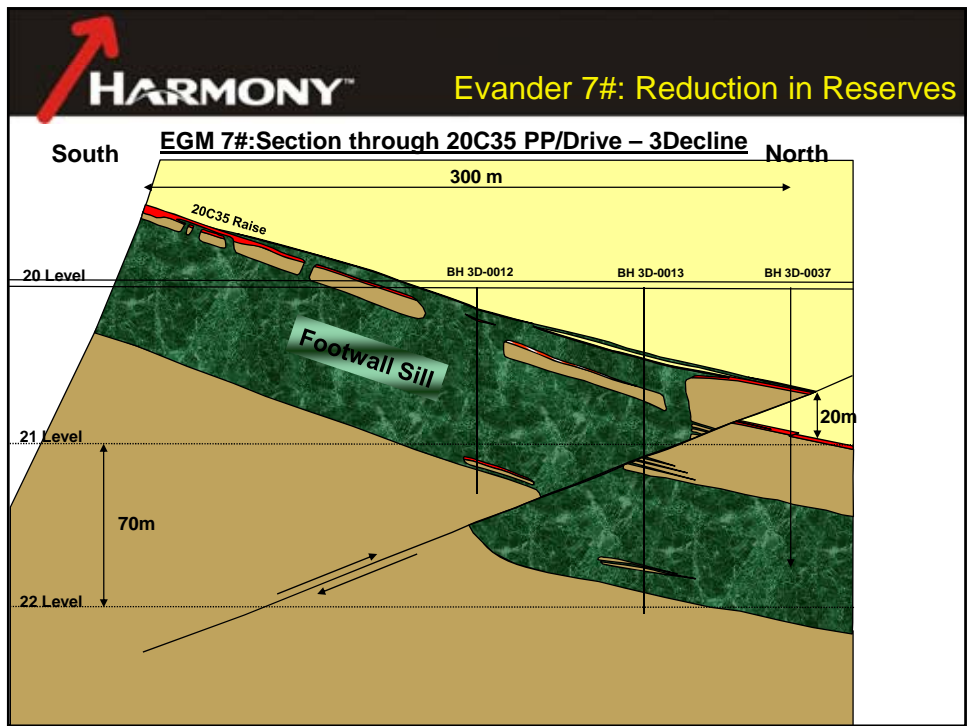
	PROVEN				PROBABLE				TOTAL			
	Tons (M)	g/t	Gold ('000 oz)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 oz)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 oz)	Gold ('000 oz)
Mine Area												
Underground												
Elandsrand - Old & new	4.4	6.37	27.9	997	20.2	6.70	240.6	7,729	24.7	6.56	268.5	8,726
<b>Grand Total</b>	<b>4.4</b>	<b>6.37</b>	<b>27.9</b>	<b>997</b>	<b>20.2</b>	<b>6.70</b>	<b>240.6</b>	<b>7,729</b>	<b>24.7</b>	<b>6.56</b>	<b>268.5</b>	<b>8,726</b>











**HARMONY** Evander Operations

### MINERAL RESOURCES

Shaft	MEASURED				INDICATED				INFERRED				TOTAL			
	Tons (Mg)	g/t	Gold ('000 oz)	Gr&S ('000 oz)	Tons (Mg)	g/t	Gold ('000 oz)	Gr&S ('000 oz)	Tons (Mg)	g/t	Gold ('000 oz)	Gr&S ('000 oz)	Tons (Mg)	g/t	Gold ('000 oz)	Gr&S ('000 oz)
<b>Underground - Operating Mines</b>																
Evander 2, 3 and 5	4.1	7.07	69.7	3,113	4.1	7.08	21.8	961	3.7	9.54	201.3	9,223	11.1	8.31	288.8	11,237
Evander 1	2.7	4.41	39.8	3,251	5.1	3.93	21.9	472	2.6	5.57	142.1	4,563	48.8	5.26	232.1	8,451
Evander 8	13.9	7.92	79.1	2,444	13.1	8.56	117.4	3,813	4.1	7.49	934.1	9,771	84.6	7.60	405.6	15,014
<b>Total</b>	<b>40.3</b>	<b>6.90</b>	<b>288.6</b>	<b>7,807</b>	<b>22.9</b>	<b>7.26</b>	<b>164.1</b>	<b>5,236</b>	<b>10.4</b>	<b>7.89</b>	<b>1,177.5</b>	<b>23,057</b>	<b>144.4</b>	<b>7.54</b>	<b>1,126.5</b>	<b>36,292</b>
<b>Projects - Below Infrastructure</b>																
Evander South	0.0	0.00	0.0	0.0	17.7	6.11	108.3	3,481	20.6	5.24	107.4	3,665	38.3	5.64	215.0	7,146
Polkfont	0.0	0.00	0.0	0.0	29.1	11.29	37.2	10,045	26.6	4.73	146.9	4,295	55.7	5.25	492.0	14,340
Polkfont	0.0	0.00	0.0	0.0	26.0	7.38	134.0	6,207	3.0	8.00	6.0	6.0	29.0	7.80	104.0	6,207
<b>Total</b>	<b>0.0</b>	<b>0.00</b>	<b>0.0</b>	<b>0.0</b>	<b>72.8</b>	<b>8.83</b>	<b>479.5</b>	<b>10,045</b>	<b>50.2</b>	<b>6.21</b>	<b>260.3</b>	<b>8,965</b>	<b>143.0</b>	<b>6.31</b>	<b>717.0</b>	<b>28,792</b>
<b>Grand Total</b>	<b>80.3</b>	<b>7.00</b>	<b>577.2</b>	<b>15,614</b>	<b>95.6</b>	<b>7.54</b>	<b>643.6</b>	<b>20,281</b>	<b>154.6</b>	<b>7.07</b>	<b>1,437.8</b>	<b>32,022</b>	<b>287.4</b>	<b>7.30</b>	<b>1,843.5</b>	<b>65,084</b>

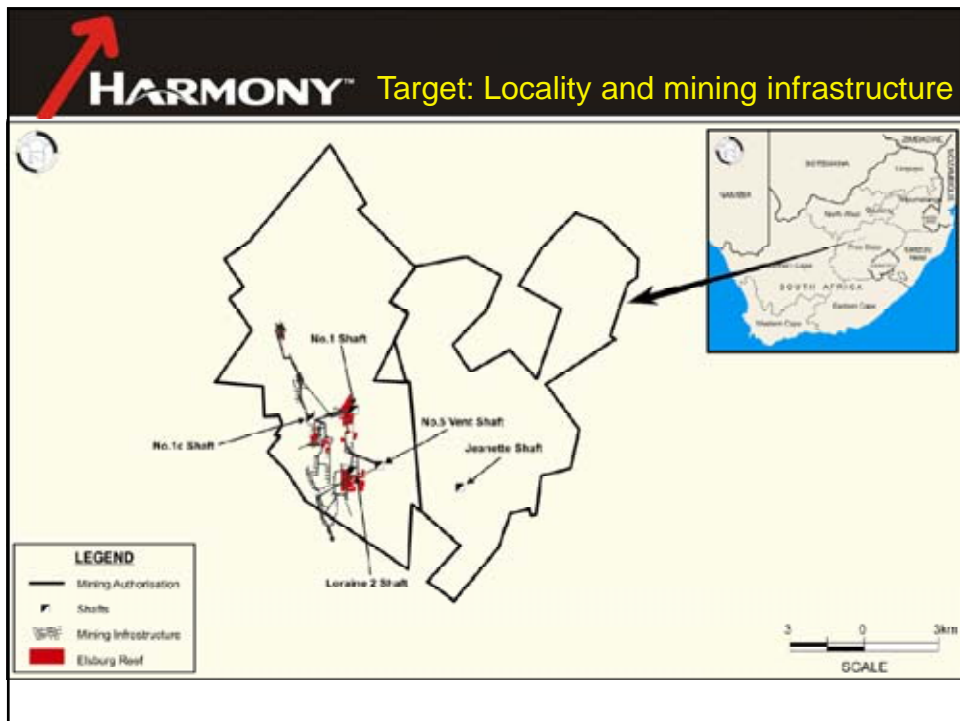
### MODIFYING FACTORS

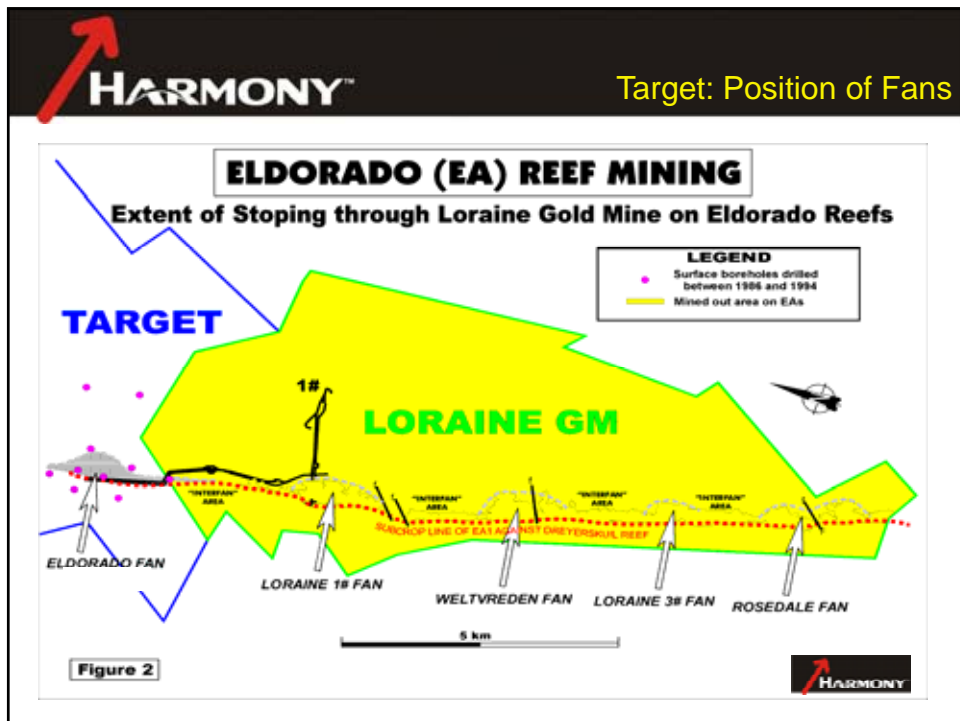
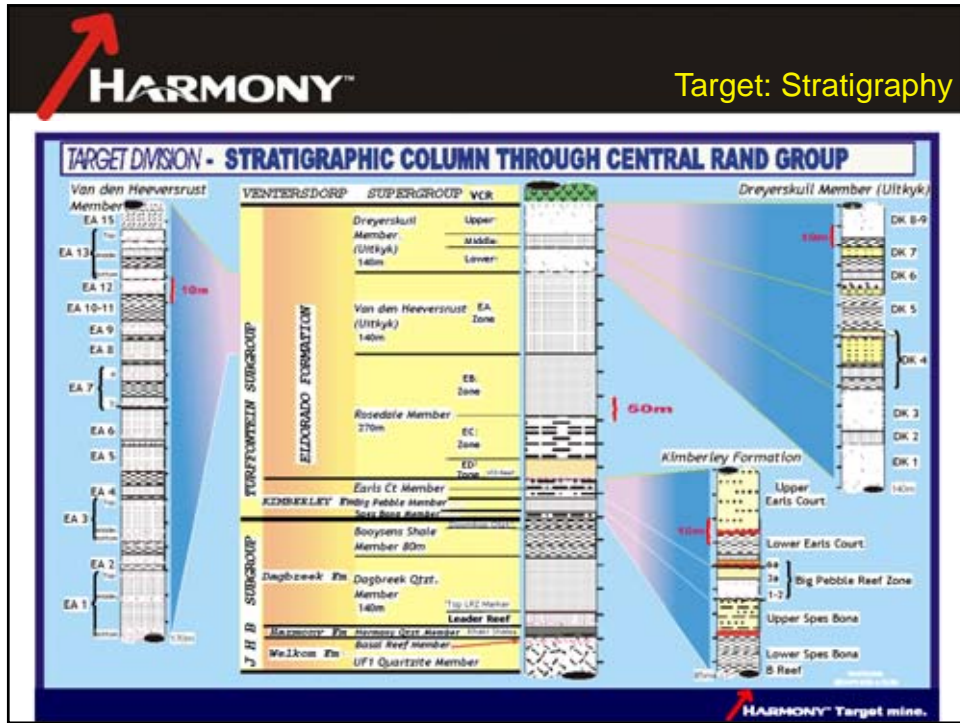
Mine Area	Mag	MCF (%)	DW (CR)	MR (CR)	PPF (%)
Evander 2, 3 and 5	180,000	75	140	210	97.0
Evander 1	180,000	85	130	170	96.0
Evander 8	180,000	75	120	130	96.0
Evander South	180,000	80	120	110	96.5
Polkfont	180,000	80	110	120	97.1
Polkfont	180,000	80	100	130	97.1

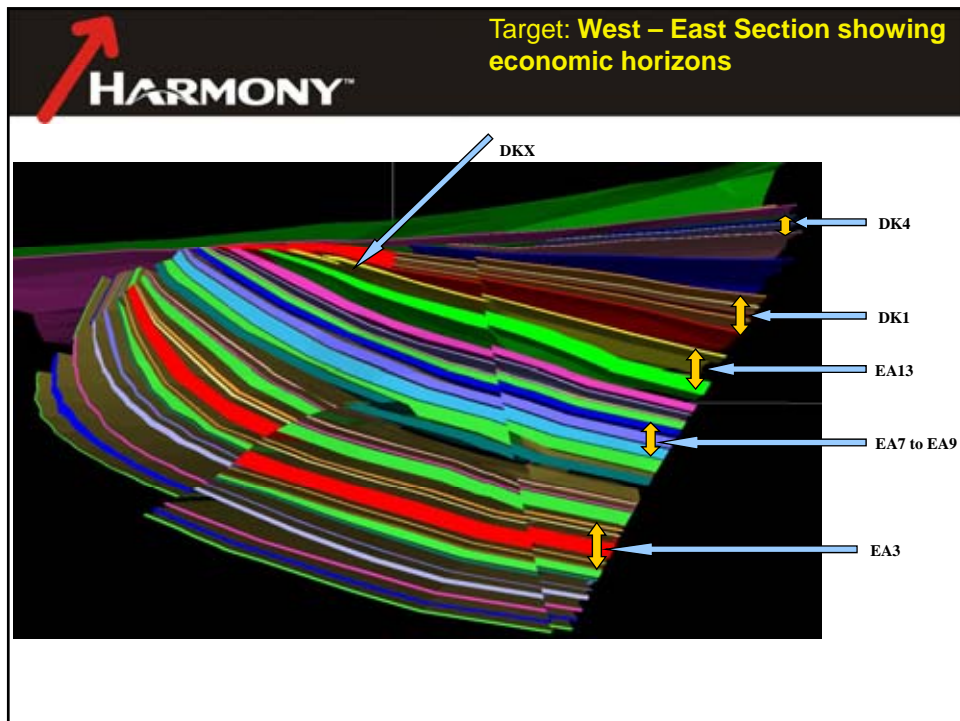
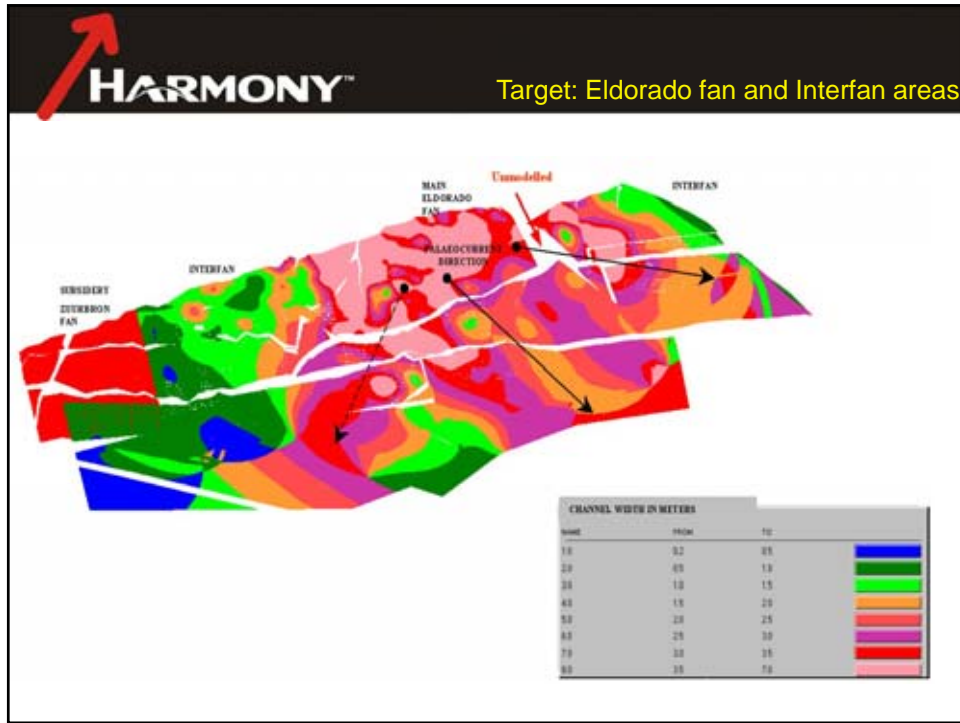
  

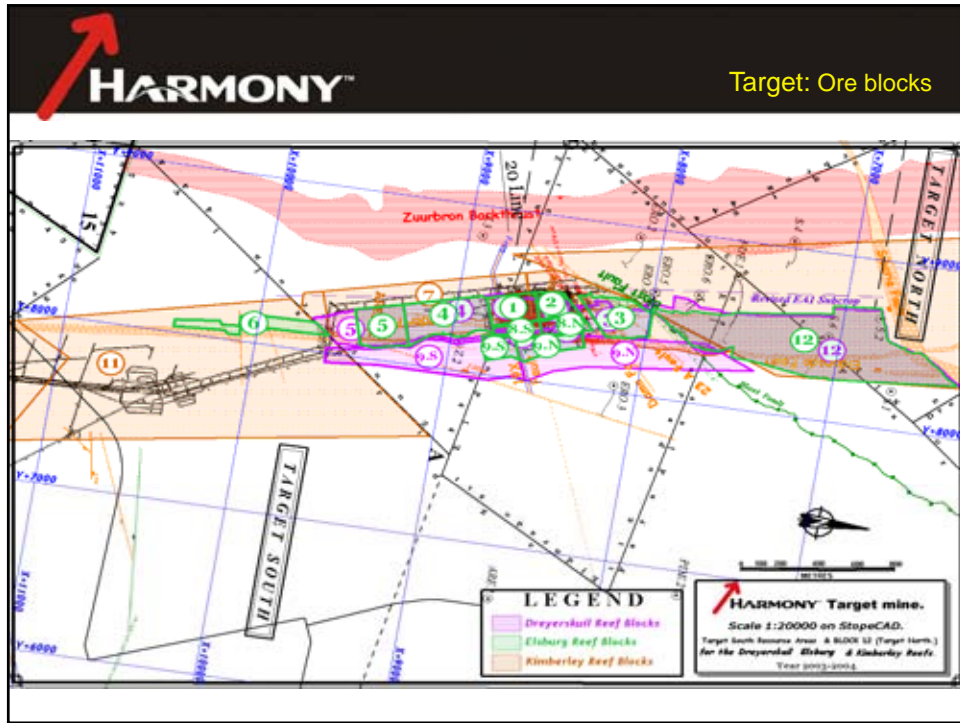
### ORE RESERVES

Mine Area	PROVEN				PROBABLE				TOTAL			
	Tons (Mg)	g/t	Gold ('000 oz)	Gr&S ('000 oz)	Tons (Mg)	g/t	Gold ('000 oz)	Gr&S ('000 oz)	Tons (Mg)	g/t	Gold ('000 oz)	Gr&S ('000 oz)
<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 1	0.1	4.49	0.1	32	0.0	0.00	0.0	-	0.1	4.49	0.1	32
Evander 8	2.3	7.11	16.3	525	7.2	8.50	40.2	1,291	9.5	8.54	56.5	1,814
<b>Total Underground</b>	<b>2.8</b>	<b>6.41</b>	<b>18.7</b>	<b>632</b>	<b>7.4</b>	<b>8.07</b>	<b>41.1</b>	<b>1,320</b>	<b>10.2</b>	<b>8.04</b>	<b>60.0</b>	<b>1,946</b>
<b>Projects - Below Infrastructure</b>												
Evander South	0	0	0	0	14.0	4.75	66.4	2,26	14.0	4.75	66.4	2,26
Polkfont	0	0	0	0	24.4	9.11	21.0	4,414	24.4	9.11	21.0	4,414
Polkfont	0	0	0	0	13.9	7.49	134.0	6,207	13.9	7.49	134.0	6,207
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>52</b>	<b>7.31</b>	<b>300</b>	<b>12,212</b>	<b>52</b>	<b>7.31</b>	<b>300</b>	<b>12,212</b>
<b>Grand Total</b>	<b>2.8</b>	<b>6.41</b>	<b>18.7</b>	<b>632</b>	<b>12.6</b>	<b>7.19</b>	<b>411.6</b>	<b>15,532</b>	<b>154.4</b>	<b>7.08</b>	<b>1,906.0</b>	<b>31,158</b>









**HARMONY** Target: Resources and Reserves

**MINERAL RESOURCES**

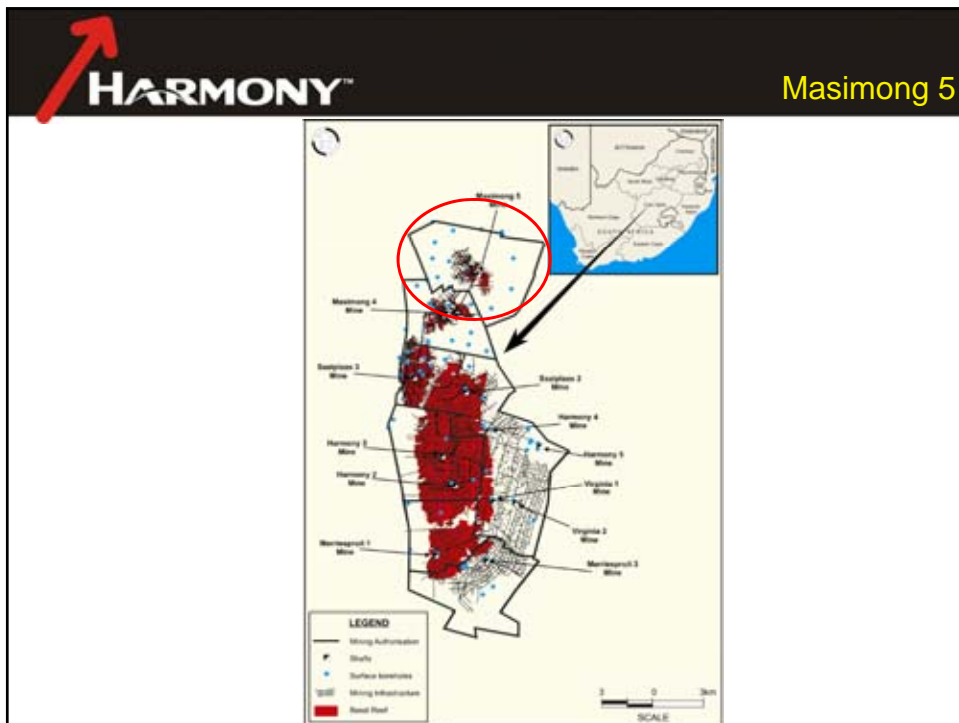
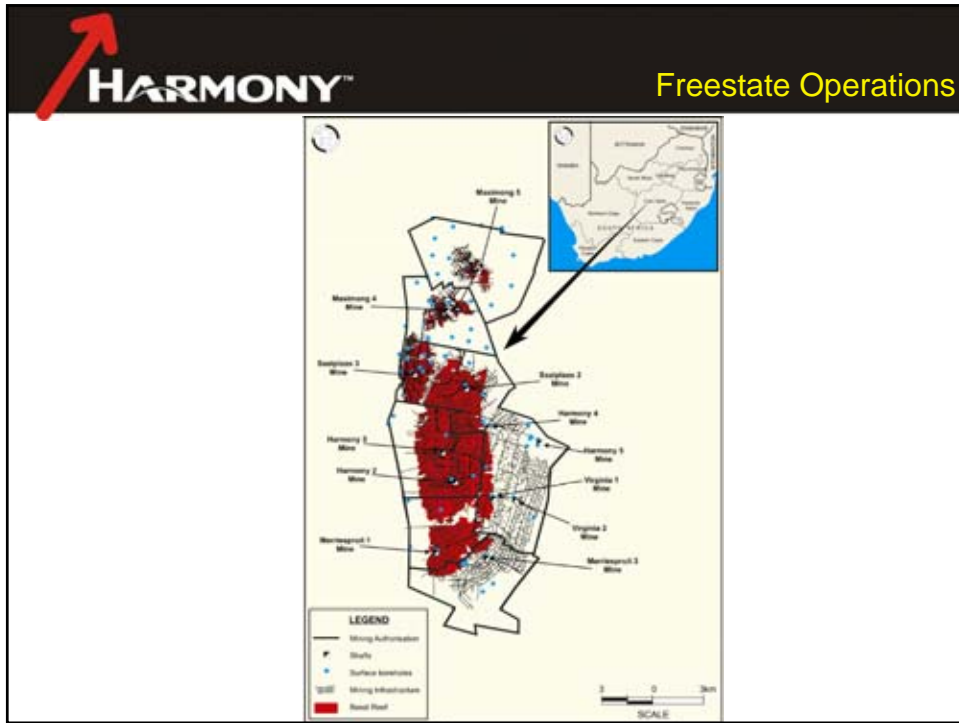
	MEASURED				INDICATED				INFERRED				TOTAL			
	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)
Mine Area																
Underground																
Target	93.6	7.87	122.4	3,020	13.6	6.68	90.6	2,014	6.5	6.40	41.4	1,239	36.6	7.15	254.4	6,100
<b>Grand Total</b>	<b>93.6</b>	<b>7.87</b>	<b>122.4</b>	<b>3,020</b>	<b>13.6</b>	<b>6.68</b>	<b>90.6</b>	<b>2,014</b>	<b>6.5</b>	<b>6.40</b>	<b>41.4</b>	<b>1,239</b>	<b>36.6</b>	<b>7.15</b>	<b>254.4</b>	<b>6,100</b>

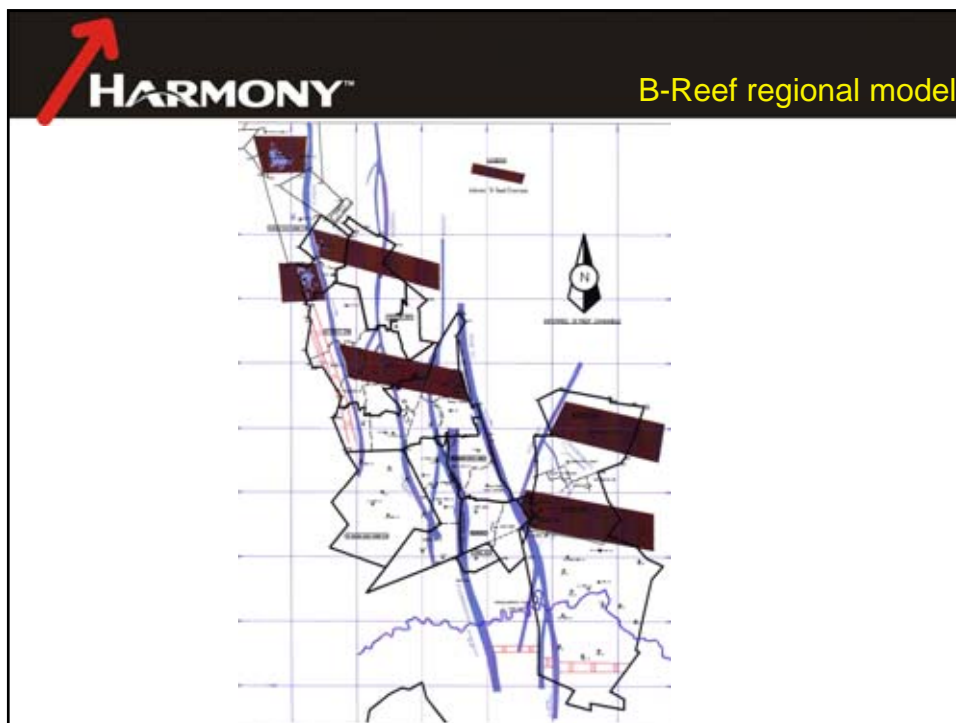
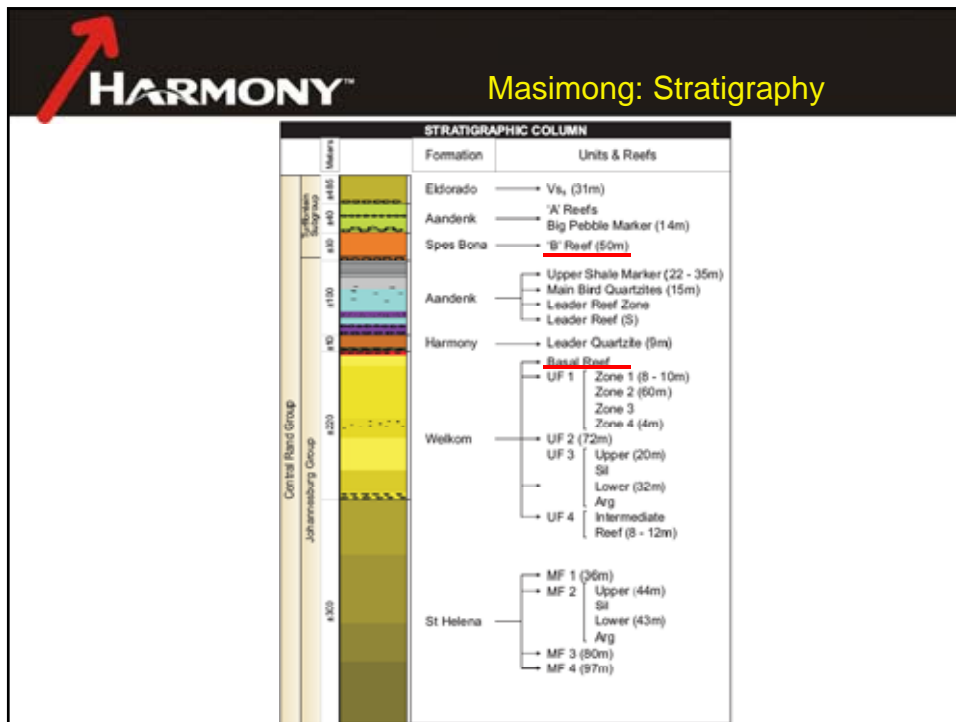
**MODIFYING FACTORS**

	Wt	MCF (%)	Dilution %	RRF (%)
Underground	100,000	98	6	97

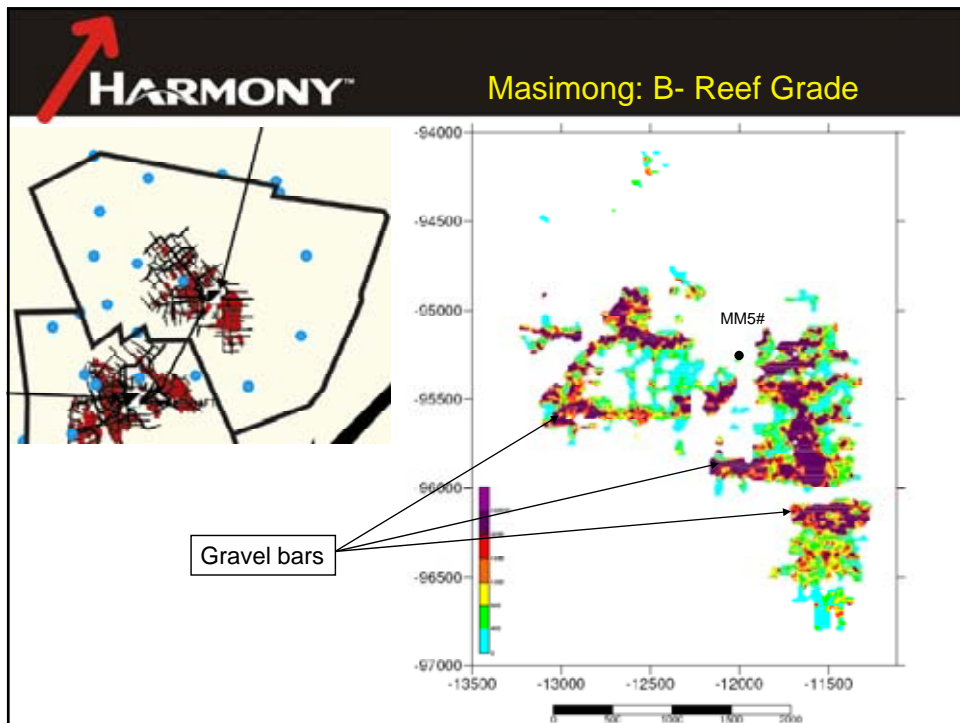
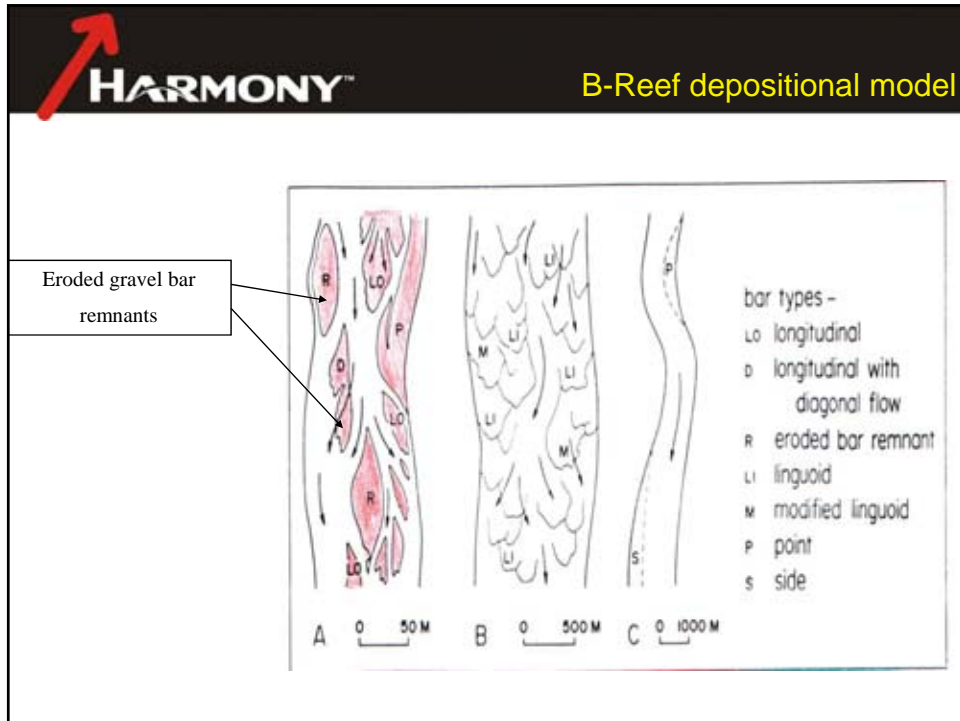
**ORE RESERVES**

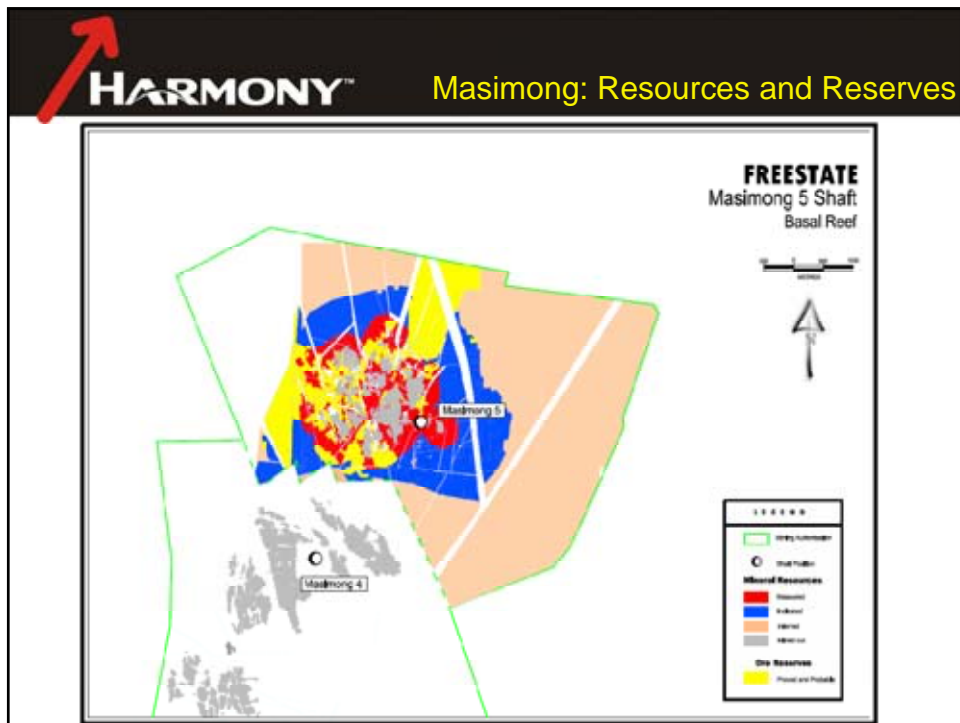
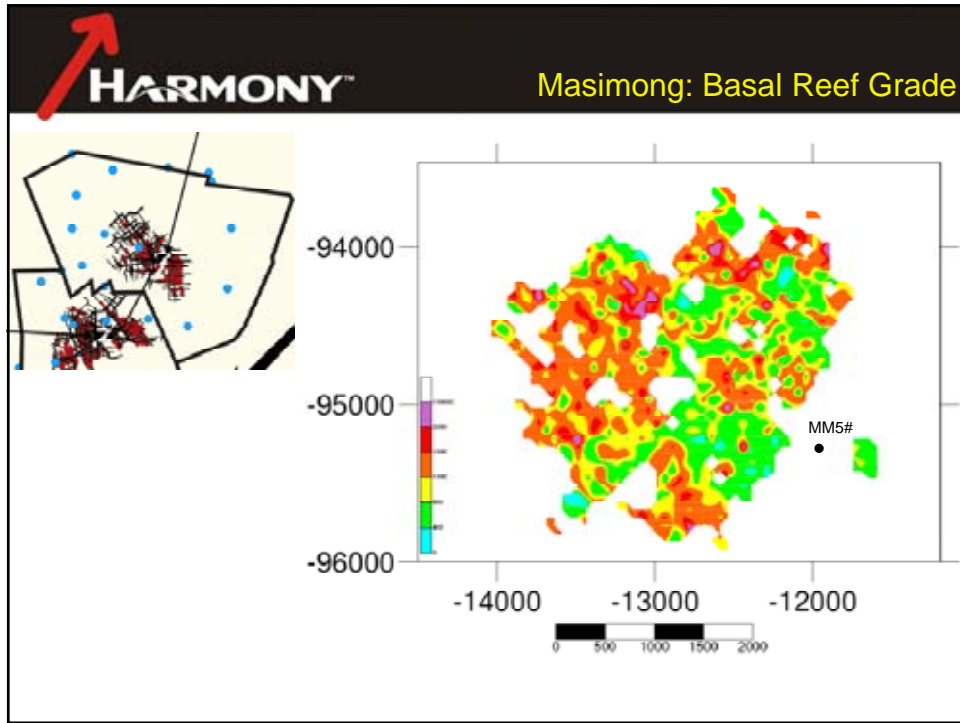
	PROVEN				PROBABLE				TOTAL			
	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)
Underground												
Target	8.4	7.32	51.2	1,500	11.5	6.15	71.9	2,282	19.9	6.64	123.1	4,251
Total Underground	8.4	7.32	51.2	1,500	11.5	6.15	71.9	2,282	19.9	6.64	123.1	4,251
<b>Grand Total</b>	<b>8.4</b>	<b>7.32</b>	<b>51.2</b>	<b>1,500</b>	<b>11.5</b>	<b>6.15</b>	<b>71.9</b>	<b>2,282</b>	<b>19.9</b>	<b>6.64</b>	<b>123.1</b>	<b>4,251</b>

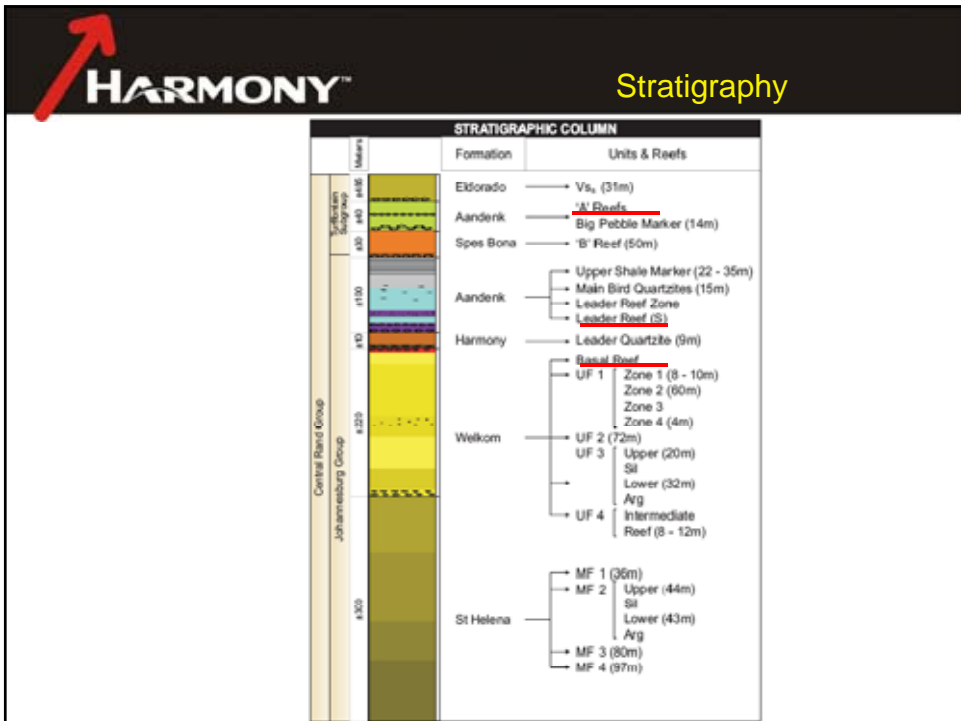
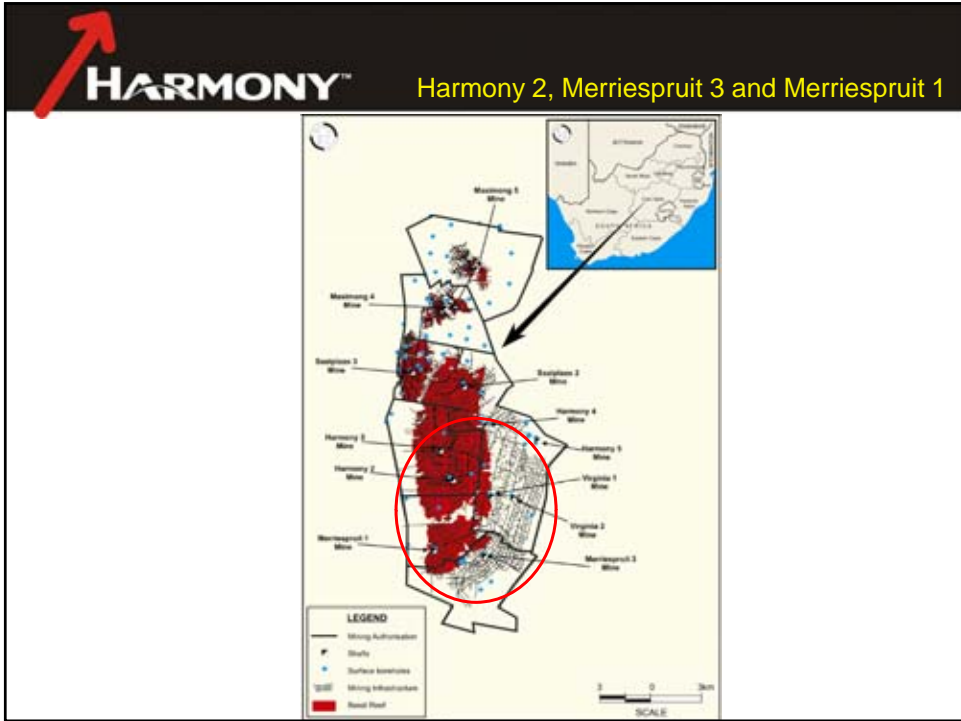


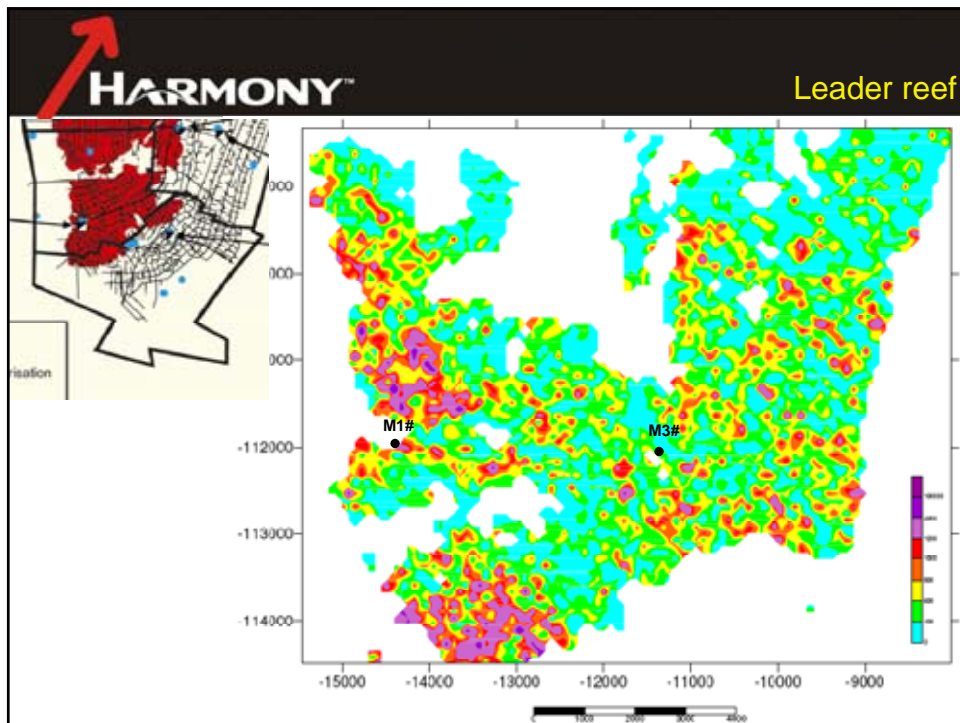
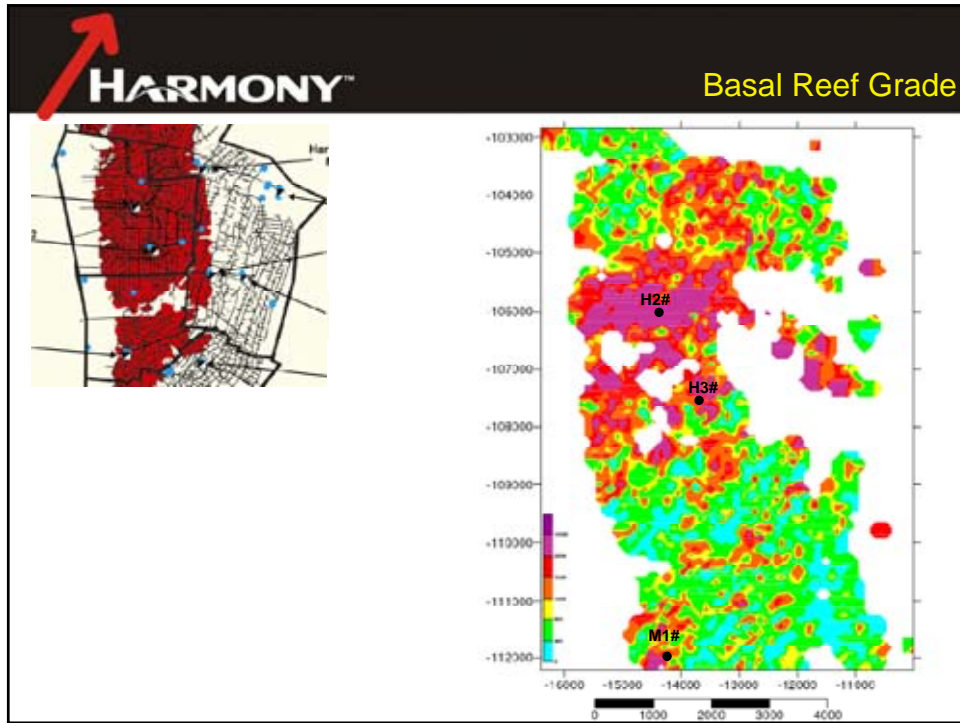


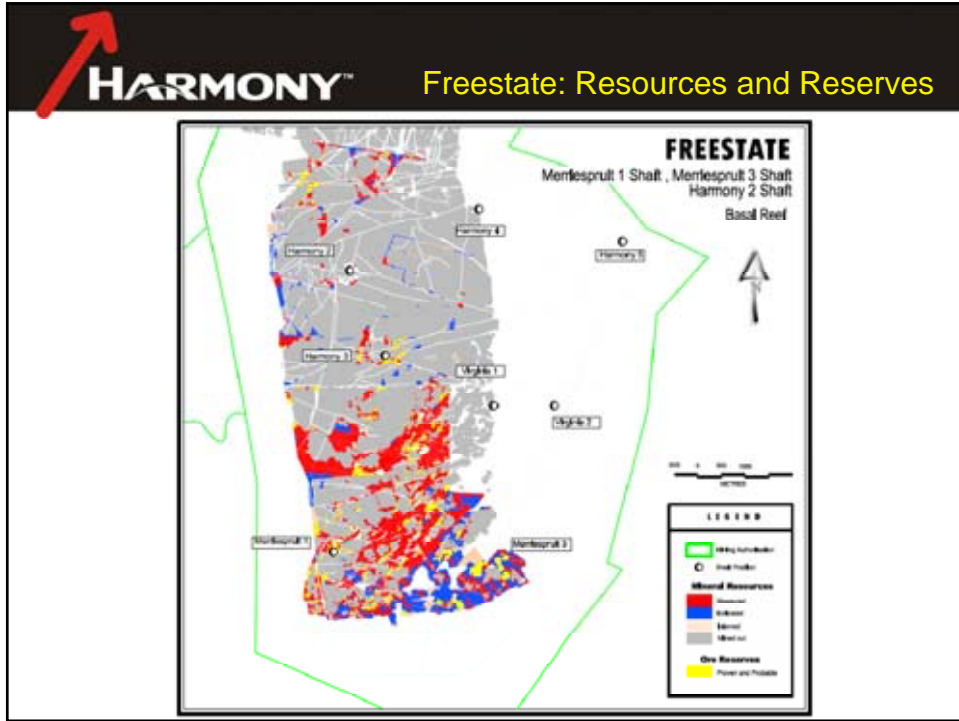












**HARMONY™** Freestate Operations

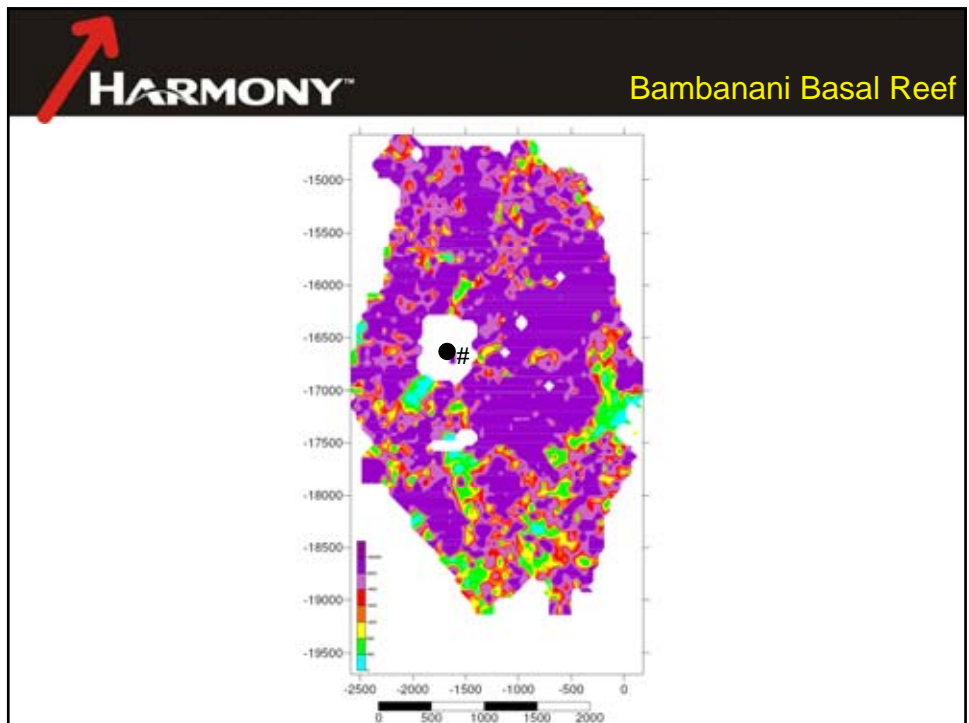
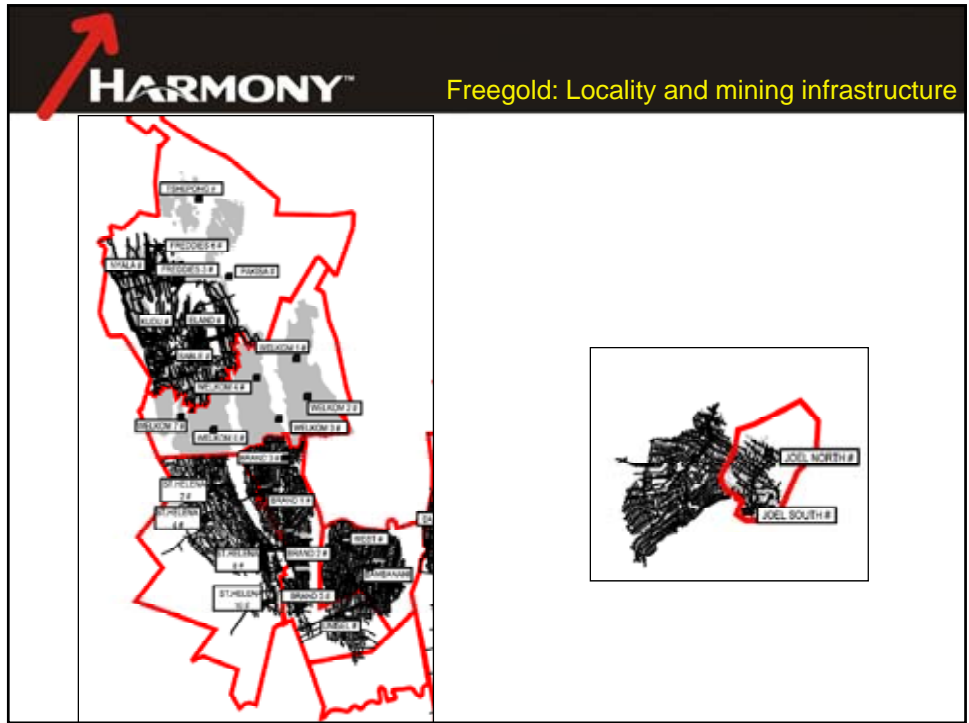
FREESTATE												
MINERAL RESOURCES												
Mine Area	MEASURED				INDICATED				INFERRED			
	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)
Underground - Operating Mines												
Harmony 2	26.9	3.12	83.9	2,658	39.4	2.97	117.1	3,705	43.7	2.78	121.8	3,915
Merriespruit 1	17.9	4.18	74.9	2,409	12.7	3.13	39.9	1,263	8.9	3.03	25.2	809
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
Unisel	11.7	4.44	82.1	1,874	18.5	5.74	69.3	2,230	98.9	3.21	317.5	10,208
Brand 3	5.0	7.18	38.2	1,163	5.9	5.98	35.0	1,127	21.1	4.31	90.9	2,922
Maximong 5	16.0	6.58	105.3	3,386	22.0	5.38	118.3	3,803	140.0	5.27	732.7	23,717
<b>Grand Total</b>	<b>105.8</b>	<b>4.41</b>	<b>441.5</b>	<b>14,153</b>	<b>107.9</b>	<b>3.84</b>	<b>413.8</b>	<b>13,394</b>	<b>322.1</b>	<b>3.15</b>	<b>1,189.9</b>	<b>44,044</b>

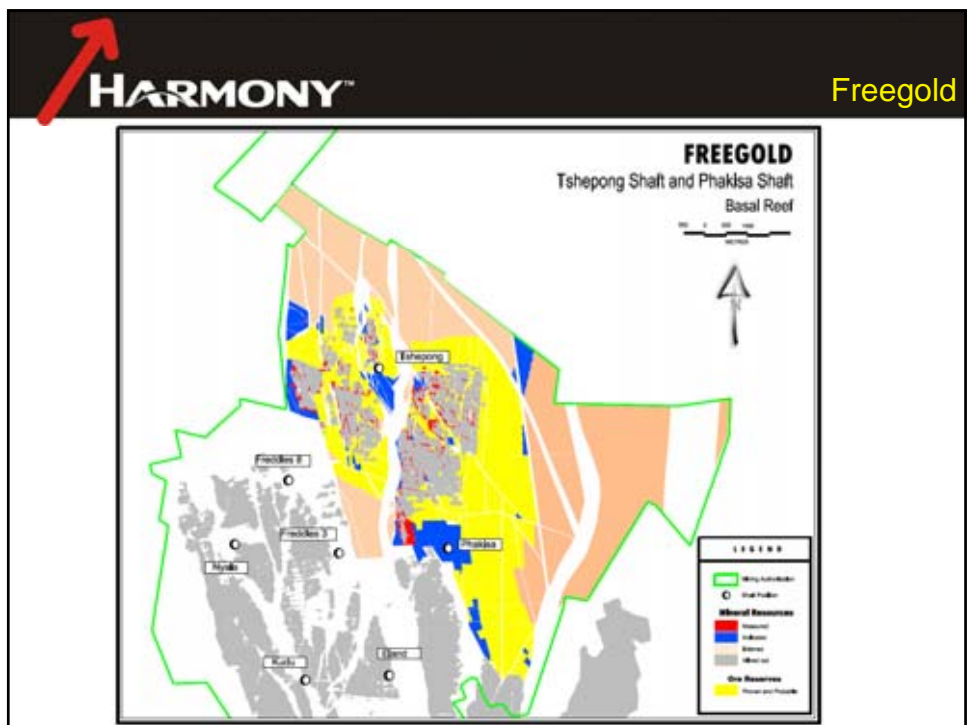
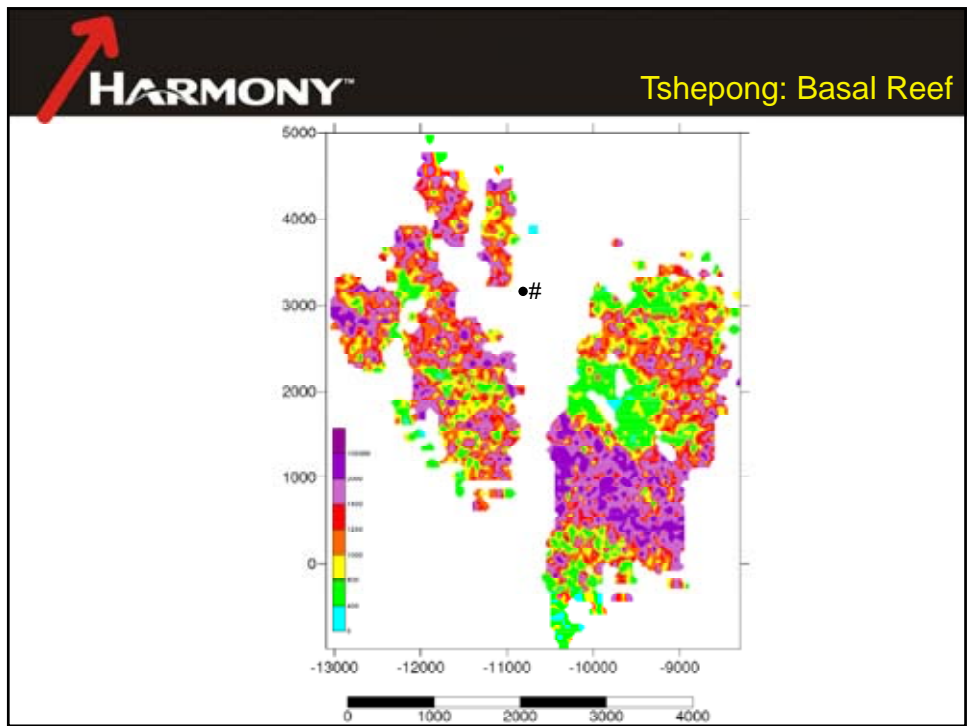
  

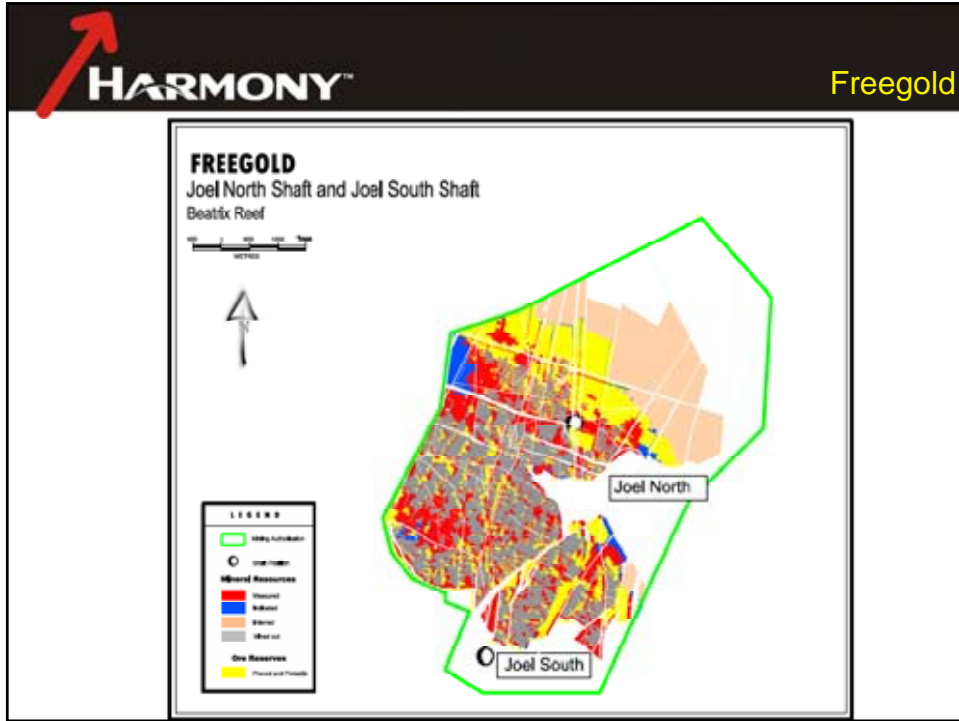
MODIFYING FACTORS					
Mine Area	R kg	MCF (%)	SW (cm)	MLR (cm)	PRP (%)
Harmony 2	180,000	68	151	171	95.1
Merriespruit 1	180,000	65	140	190	95.0
Merriespruit 3	180,000	65	203	234	95.2
Unisel	180,000	82	165	179	90.7
Brand 3	180,000	95	175	214	94.6
Maximong 5	180,000	62	132	148	95.6

ORE RESERVES												
Mine Area	PROVEN				PROBABLE				TOTAL			
	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)
Underground												
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	4.06	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	3.84	2.2	72	0.2	5.14	0.9	30	0.9	4.23	3.9	122
Maximong 5	3.6	5.03	18.3	587	1.0	5.30	5.2	168	4.6	5.08	23.5	755
<b>Total Underground</b>	<b>9.0</b>	<b>4.42</b>	<b>41.6</b>	<b>1,356</b>	<b>3.4</b>	<b>5.04</b>	<b>17.8</b>	<b>545</b>	<b>12.4</b>	<b>4.73</b>	<b>59.5</b>	<b>1,901</b>
<b>Grand Total</b>	<b>9.9</b>	<b>4.02</b>	<b>41.8</b>	<b>1,356</b>	<b>3.4</b>	<b>5.04</b>	<b>17.8</b>	<b>545</b>	<b>12.4</b>	<b>4.73</b>	<b>59.5</b>	<b>1,901</b>







**HARMONY** Freegold: Resources and Reserves

**MINERAL RESOURCES**

Shaft	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (M)	g/t	Gold (1000 kg)	Gold (1000 oz)	Tonnes (M)	g/t	Gold (1000 kg)	Gold (1000 oz)	Tonnes (M)	g/t	Gold (1000 kg)	Gold (1000 oz)	Tonnes (M)	g/t	Gold (1000 kg)	Gold (1000 oz)
Underground - Operating Mines																
Bamburton	14.7	10.18	146.3	4,800	5.8	9.33	53.7	1,725	1.6	8.21	13.4	430	22.0	9.52	214.2	6,925
Talpingong	7.7	11.45	88.3	2,840	22.3	11.24	252.4	8,115	15.3	7.35	145.0	4,680	48.3	9.83	486.4	15,037
Phakisa	0.1	11.25	1.1	36	68.3	12.71	68.0	2,200	82.9	3.00	214.8	6,723	113.4	6.91	707.8	22,040
Nyala	4.9	6.58	31.9	1,025	4.0	4.82	16.7	532	0.0	0.00	0.0	-	8.9	6.58	56.9	1,730
Joel	3.5	7.42	25.9	829	4.7	5.91	34.2	1,077	1.5	7.25	44.4	1,384	10.7	6.42	102.7	3,245
Joel	32.4	9.75	268.4	8,497	38.8	10.54	406.3	13,285	118.2	8.86	223.2	7,020	211.2	7.81	1813.1	57,180
Surface Stockpile	751.1	0.28	198.0	6,215	94.8	0.38	35.8	1,111	309.3	0.28	73.7	2,320	1170.2	0.28	293.1	9,401
<b>Grand Total</b>	<b>261.1</b>		<b>603.7</b>	<b>18,592</b>	<b>104.1</b>		<b>666.7</b>	<b>21,426</b>	<b>451.8</b>		<b>764.3</b>	<b>24,621</b>	<b>1090.0</b>		<b>1,067.1</b>	<b>33,821</b>

**MODIFYING FACTORS**

Shaft	g/t	MC (%)	GW (oz)	MF (oz)	FR (%)
Bamburton	100,000	74	181	213	96.1
Phakisa	100,000	81	190	129	87.0
Talpingong	100,000	68	130	141	96.4
Nyala	100,000	75	130	105	95.0
Joel	100,000	96	150	195	96.2
Surface Stockpile	100,000	100			

**ORE RESERVES**

Mine Area	PROVEN				PROBABLE				TOTAL			
	Tonnes (M)	g/t	Gold (1000 kg)	Gold (1000 oz)	Tonnes (M)	g/t	Gold (1000 kg)	Gold (1000 oz)	Tonnes (M)	g/t	Gold (1000 kg)	Gold (1000 oz)
Underground	2.9	9.71	27.2	861	1.0	9.20	9.1	289	3.8	9.58	36.8	1,184
Bamburton												
Phakisa	0.1	7.31	0.6	21	19.0	8.32	158.0	5,304	19.9	8.31	165.8	5,325
Talpingong	0.0	6.08	0.0	0	17.5	6.32	110.4	3,564	20.0	6.33	126.7	4,090
Phakisa	0.1	3.44	0.3	9	0.0	3.33	0.0	0	0.1	3.44	0.3	9
Nyala	0.7	4.88	3.6	116	1.3	8.10	0.0	0	2.7	7.04	15.5	494
Joel												
Total Underground	3.8	7.89	48.8	1,213	46.3	7.18	266.4	8,568	56.1	7.18	266.3	11,521
Surface Stockpile	758.0	0.28	198.0	6,215	23.2	0.35	22.7	736	786.8	0.28	201.2	6,401
<b>Grand Total</b>	<b>761.8</b>		<b>396.8</b>	<b>12,428</b>	<b>69.5</b>		<b>31.1</b>	<b>10,304</b>	<b>1348.6</b>		<b>397.4</b>	<b>12,428</b>

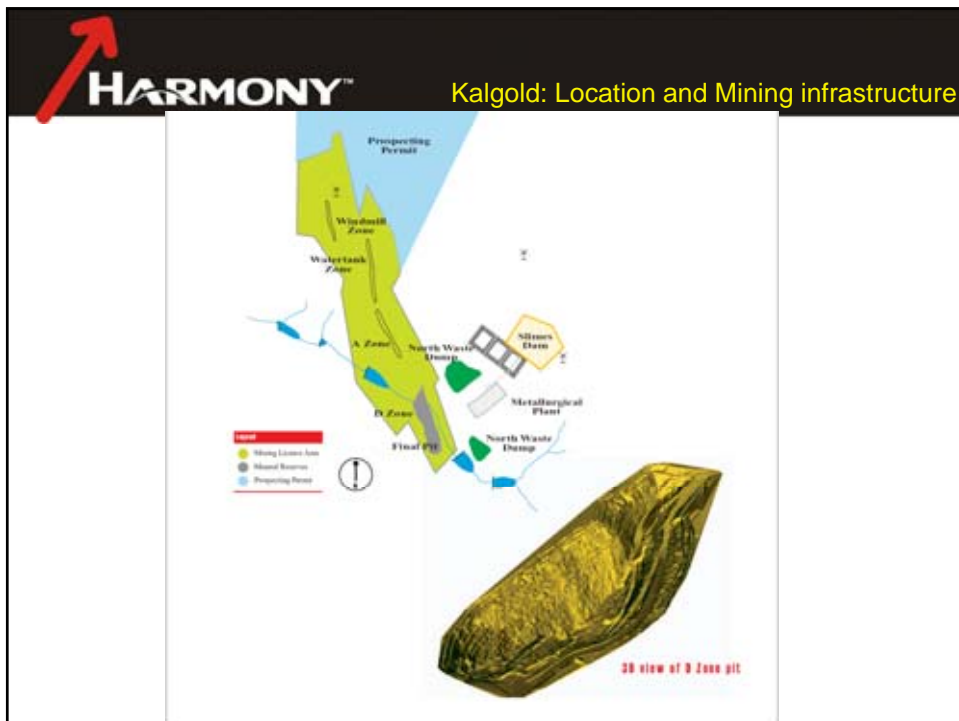


**HARMONY** Freegold: Resources and Reserves

FREESTATE REGION

URANIUM MINERAL RESOURCES

Mine Area	MEASURED				INDICATED				INFERRED				TOTAL			
	Tons (Mt)	Uranium kg/t	Uranium ('000kgs)	Uranium ('000 lb)	Tons (Mt)	Uranium kg/t	Uranium ('000kgs)	Uranium ('000 lb)	Tons (Mt)	Uranium kg/t	Uranium ('000kgs)	Uranium ('000 lb)	Tons (Mt)	Uranium kg/t	Uranium ('000kgs)	Uranium ('000 lb)
Surface sources																
Freestate region	316.8	0.093	29,373	64,621	24.7	0.100	2,462	5,416	67.5	0.061	4,103	9,027	409.0	0.088	35,938	79,064
<b>Total Surface</b>	<b>316.8</b>	<b>0.093</b>	<b>29,373</b>	<b>64,621</b>	<b>24.7</b>	<b>0.100</b>	<b>2,462</b>	<b>5,416</b>	<b>67.5</b>	<b>0.061</b>	<b>4,103</b>	<b>9,027</b>	<b>409.0</b>	<b>0.088</b>	<b>35,938</b>	<b>79,064</b>



**HARMONY** Kalgold: Reserves and Resources

**MINERAL RESOURCES**

	MEASURED				INDICATED				INFERRED				TOTAL			
	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)
Share																
Kalgold	40.6	1.01	40.9	1,312	44.9	1.00	45.0	1,441	32.0	0.98	31.4	1,016	117.5	1.00	117.3	3,770
<b>Grand Total</b>	<b>40.6</b>	<b>1.01</b>	<b>40.9</b>	<b>1,312</b>	<b>44.9</b>	<b>1.00</b>	<b>45.0</b>	<b>1,441</b>	<b>32.0</b>	<b>0.98</b>	<b>31.4</b>	<b>1,016</b>	<b>117.5</b>	<b>1.00</b>	<b>117.3</b>	<b>3,770</b>

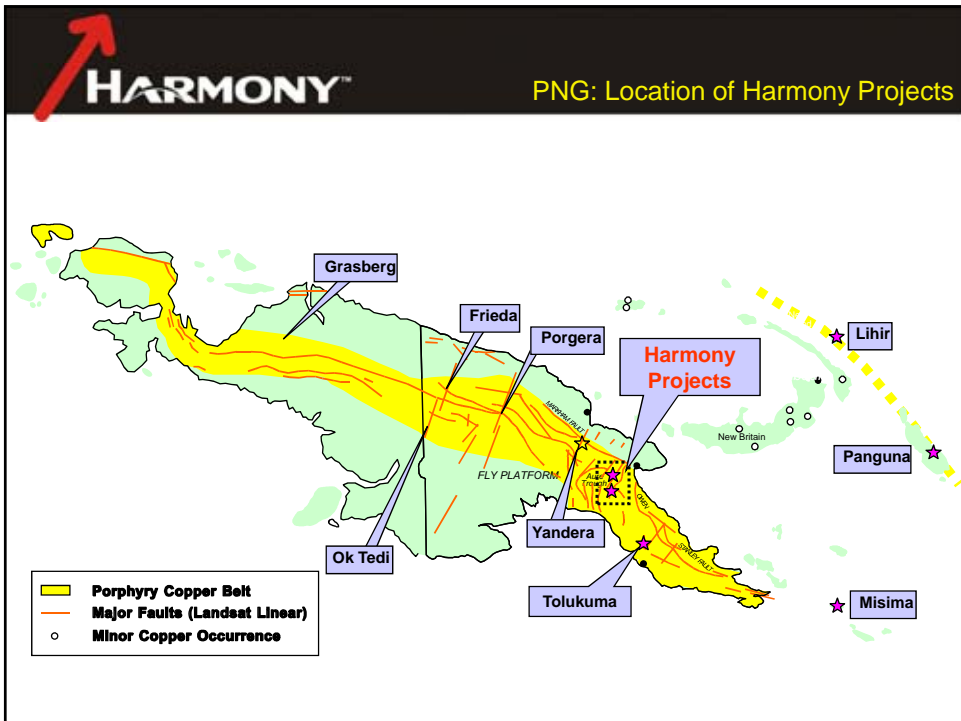
**MODIFYING FACTORS**

	R/kg	MCF (%)	Dilution (%)	PPF (%)
Share				
Kalgold	180,000	98	2	90

**ORE RESERVES**

	PROVEN				PROBABLE				TOTAL			
	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tons (M)	g/t	Gold ('000 kg)	Gold ('000 oz)
Share												
Kalgold	11.3	0.99	10.2	327	1.6	1.27	2.1	64	12.9	0.98	12.3	393
<b>Grand Total</b>	<b>11.3</b>	<b>0.99</b>	<b>10.2</b>	<b>327</b>	<b>1.6</b>	<b>1.27</b>	<b>2.1</b>	<b>64</b>	<b>12.9</b>	<b>0.98</b>	<b>12.3</b>	<b>393</b>



**HARMONY** PNG: Harmony Equity Resources and Reserves

**GOLD**

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tonnes (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tonnes (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tonnes (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)
Hidden Valley & Kaveron	3.7	2.19	8.1	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
Kuramat	0.0	0.00	0.0	-	5.7	2.33	13.2	404	0.9	2.54	2.2	72	6.5	2.36	15.4	495
Wall	0.0	0.00	0.0	-	44.6	1.97	87.8	2,824	27.7	1.73	47.8	1,538	72.2	1.88	135.7	4,382
Golpu	0.0	0.00	0.0	-	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>8.1</b>	<b>264</b>	<b>144.1</b>	<b>1.89</b>	<b>209.0</b>	<b>6,481</b>	<b>102.2</b>	<b>1.59</b>	<b>207.0</b>	<b>6,389</b>	<b>248.9</b>	<b>1.67</b>	<b>318.3</b>	<b>15,189</b>

**ORE RESERVES**

Mine	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tonnes (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)	Tonnes (Mt)	g/t	Gold ('000 kg)	Gold ('000 oz)
Hidden Valley & Kaveron	3.3	2.29	7.6	243	22.2	2.04	45.3	1,435	25.5	2.07	52.8	1,668
Kuramat	0.0	0.00	0.0	-	3.9	2.55	10.0	322	3.9	2.55	10.0	322
Golpu	0.0	0.00	0.0	-	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>1.73</b>	<b>85.5</b>	<b>2,729</b>	<b>79.0</b>	<b>1.79</b>	<b>96.0</b>	<b>2,949</b>

**SILVER**

**MINERAL RESOURCES**

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	g/t	Silver ('000 kg)	Silver ('000 oz)	Tonnes (Mt)	g/t	Silver ('000 kg)	Silver ('000 oz)	Tonnes (Mt)	g/t	Silver ('000 kg)	Silver ('000 oz)	Tonnes (Mt)	g/t	Silver ('000 kg)	Silver ('000 oz)
Hidden Valley & Kaveron	3.7	39.67	148.5	4,775	32.5	33.99	1,103.5	35,477	20.8	27.44	579.8	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>579.8</b>	<b>18,351</b>	<b>57.0</b>	<b>31.97</b>	<b>1,822.8</b>	<b>58,603</b>

**ORE RESERVES**

Mine	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	g/t	Silver ('000 kg)	Silver ('000 oz)	Tonnes (Mt)	g/t	Silver ('000 kg)	Silver ('000 oz)	Tonnes (Mt)	g/t	Silver ('000 kg)	Silver ('000 oz)
Hidden Valley & Kaveron	3.3	41.04	135.0	4,350	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>135.0</b>	<b>4,350</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>

**HARMONY** PNG: Harmony Equity Resources and Reserves

**COPPER**

**MINERAL RESOURCES**

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	% Cu	Cu ('000 t)	Cu (M lbs)	Tonnes (Mt)	% Cu	Cu ('000 t)	Cu (M lbs)	Tonnes (Mt)	% Cu	Cu ('000 t)	Cu (M lbs)	Tonnes (Mt)	% Cu	Cu ('000 t)	Cu (M lbs)
Golpu	0.0	0.00	0.0	0	61.3	1.36	852.5	1,879	52.8	0.72	380.4	839	114.2	0.66	1,233.0	2,717
<b>Grand Total</b>	<b>0.0</b>	<b>0.00</b>	<b>0.0</b>	<b>0</b>	<b>61.3</b>	<b>1.36</b>	<b>852.5</b>	<b>1,879</b>	<b>52.8</b>	<b>0.72</b>	<b>380.4</b>	<b>839</b>	<b>114.2</b>	<b>0.66</b>	<b>1,233.0</b>	<b>2,717</b>

**ORE RESERVES**

Mine	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	% Cu	Cu ('000 t)	Cu (M lbs)	Tonnes (Mt)	% Cu	Cu ('000 t)	Cu (M lbs)	Tonnes (Mt)	% Cu	Cu ('000 t)	Cu (M lbs)
Golpu	0.0	0.00	0.0	0	49.0	1.13	559.0	1,234	49.0	1.13	559.0	1,234
<b>Grand Total</b>	<b>0.0</b>	<b>0.00</b>	<b>0.0</b>	<b>0</b>	<b>49.0</b>	<b>1.13</b>	<b>559.0</b>	<b>1,234</b>	<b>49.0</b>	<b>1.13</b>	<b>559.0</b>	<b>1,234</b>


**MOLYBDENUM**

**MINERAL RESOURCES**

Mine	MEASURED				INDICATED				INFERRED				TOTAL			
	Tonnes (Mt)	ppm	Mo ('000 t)	Mo (M lbs)	Tonnes (Mt)	ppm	Mo ('000 t)	Mo (M lbs)	Tonnes (Mt)	ppm	Mo ('000 t)	Mo (M lbs)	Tonnes (Mt)	ppm	Mo ('000 t)	Mo (M lbs)
Golpu	0.0	0.00	0.0	0	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>0.0</b>	<b>0.00</b>	<b>0.0</b>	<b>0</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>

**ORE RESERVES**


Mine	PROVEN				PROBABLE				TOTAL			
	Tonnes (Mt)	ppm	Mo ('000 t)	Mo (M lbs)	Tonnes (Mt)	ppm	Mo ('000 t)	Mo (M lbs)	Tonnes (Mt)	ppm	Mo ('000 t)	Mo (M lbs)
Golpu	0.0	0.00	0.0	0	49.0	121.00	6.0	13	49.0	121.00	6.0	13
<b>Grand Total</b>	<b>0.0</b>	<b>0.00</b>	<b>0.0</b>	<b>0</b>	<b>49.0</b>	<b>121.00</b>	<b>6.0</b>	<b>13</b>	<b>49.0</b>	<b>121.00</b>	<b>6.0</b>	<b>13</b>



Mineral resources and Ore reserves

**Challenges:**

- MCF – To turn the trend around
- Contain Unit costs (R/t)
- Development and exploration success



Mineral resources and Ore reserves

**QUESTIONS**