

# MANGANESE

estimates as at 31 December 2011

## SAMANCOR MANGANESE

The Ore Reserve and Mineral Resource estimates were compiled in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2004) and The South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (The SAMREC Code, 2007) as applicable. The figures reported represent 100% of the Ore Reserves and Mineral Resources (source: BHP Billiton). Rounding of figures may cause computational discrepancies.

### Samancor Manganese – Operations

ORE RESERVES	Attributable %	Mine Life	Classification	Tonnes		Grade		Yield	
				2011	2010	2011	2010	2011	2010
<b>GEMCO (OP)<sup>(1)</sup></b>	40.0	12		Mt	Mt	%Mn	%Mn	%	%
			Proved	79.4	63.2	46.5	46.9	54.8	50.7
			Probable	25.9	42.0	45.6	46.4	54.2	47.6
			<b>Total</b>	<b>105.3</b>	<b>105.2</b>	<b>46.3</b>	<b>46.7</b>	<b>54.7</b>	<b>49.5</b>
<b>Hotazel Manganese Mines</b>	29.6					%Mn	%Mn		
Mamatwan (OP) <sup>(2)</sup>		21	Proved	43.9	48.9	37.3	37.2		
			Probable	30.5	32.0	37.1	37.0		
			<b>Total</b>	<b>74.4</b>	<b>80.9</b>	<b>37.2</b>	<b>37.1</b>		
Wessels (UG) <sup>(3)</sup>		48	Proved	4.1	5.0	44.0	45.1		
			Probable	67.7	76.4	43.0	42.9		
			<b>Total</b>	<b>71.8</b>	<b>81.4</b>	<b>43.1</b>	<b>43.1</b>		

### Samancor Manganese – Operations

MINERAL RESOURCES	Attributable %	Classification	Tonnes		Grade		Yield		
			2011	2010	2011	2010	2011	2010	
<b>GEMCO (OP)<sup>(4)</sup></b>	40.0			Mt	Mt	%Mn	%Mn	%	%
			Measured	87.0	67.0	47.1	46.3	47.4	44.4
			Indicated	28.7	45.5	46.0	45.9	47.6	43.9
			<b>Measured and Indicated</b>	<b>115.8</b>	<b>112.4</b>	<b>46.8</b>	<b>46.2</b>	<b>47.4</b>	<b>44.2</b>
			Inferred	49.4	38.9	43.9	43.3	47.8	45.2
<b>Hotazel Manganese Mines</b>	29.6					%Mn	%Mn		
Mamatwan (OP) <sup>(5)</sup>			Measured	64.8	68.9	35.7	35.6		
			Indicated	54.7	54.7	34.5	34.6		
			<b>Measured and Indicated</b>	<b>119.5</b>	<b>123.6</b>	<b>35.2</b>	<b>35.2</b>		
			Inferred	4.2	4.2	34.4	34.4		
Wessels (UG) <sup>(6)</sup>			Measured	13.8	14.6	46.0	45.9		
			Indicated	129.5	128.4	44.2	44.2		
			<b>Measured and Indicated</b>	<b>143.3</b>	<b>143.0</b>	<b>44.4</b>	<b>44.4</b>		
			Inferred	–	–	–	–		

THE MINERAL RESOURCES INCLUDE ORE RESERVES

### Samancor Gabon – Projects

MINERAL RESOURCES	Attributable %	Classification	Tonnes		Grade		Yield		
			2011	2010	2011	2010	2011	2010	
<b>Franceville Project – Beniomi<sup>(7)</sup></b>	40.0			Mt	Mt	%Mn	%Mn	%	%
Plaqueette Ore			Measured	11.0	11.0	36.1	36.1	72.0	72.0
			Indicated	6.6	6.6	36.1	36.1	74.4	74.4
			<b>Measured and Indicated</b>	<b>17.5</b>	<b>17.5</b>	<b>36.1</b>	<b>36.1</b>	<b>72.9</b>	<b>72.9</b>
			Inferred	2.9	2.9	36.1	36.1	71.8	71.8
Transition Ore			Measured	4.1	4.1	24.3	24.3	73.1	73.1
			Indicated	2.4	2.4	24.5	24.5	75.1	75.1
			<b>Measured and Indicated</b>	<b>6.5</b>	<b>6.5</b>	<b>24.4</b>	<b>24.4</b>	<b>73.8</b>	<b>73.8</b>
			Inferred	5.0	5.0	24.2	24.2	68.4	68.4
<b>Franceville Project – Bordeaux<sup>(7)</sup></b>	40.0					%Mn	%Mn		
Plaqueette Ore			Measured	4.6	4.6	36.4	36.4	72.0	72.0
			Indicated	0.8	0.8	36.1	36.1	67.8	67.8
			<b>Measured and Indicated</b>	<b>5.4</b>	<b>5.4</b>	<b>36.4</b>	<b>36.4</b>	<b>71.4</b>	<b>71.4</b>
			Inferred	0.8	0.8	36.8	36.8	69.5	69.5
Transition Ore			Measured	2.3	2.3	24.7	24.7	74.0	74.0
			Indicated	0.5	0.5	24.1	24.1	70.3	70.3
			<b>Measured and Indicated</b>	<b>2.8</b>	<b>2.8</b>	<b>24.6</b>	<b>24.6</b>	<b>73.3</b>	<b>73.3</b>
			Inferred	1.8	1.8	25.1	25.1	67.1	67.1

Mining method: OP = Open Pit, UG = Underground. Mine Life = The extraction period in years for scheduled Ore Reserves comprising Proved and Probable Reserves only. Due to the uncertainty that may be attached to some Inferred Mineral Resources, it cannot be assumed that all or part of an Inferred Mineral Resource will necessarily be upgraded to an Indicated or Measured Resource after continued exploration.

<sup>(1)</sup> **GEMCO – Ore Reserves:** Production during 2011 has been balanced by the inclusion of additional G Quarry Ore Reserves. Manganese grades are given as per washed ore samples and should be read together with their respective yields.

<sup>(2)</sup> **Mamatwan – Ore Reserves:** The decrease is primarily due to production depletion and the re-running of the resource model. A Section 102 application has been approved by the South African Department of Mineral Resources to amend the Mamatwan Mining Rights area to include the Ntsimbitile Prospecting Right.

<sup>(3)</sup> **Wessels – Ore Reserves:** The decrease is primarily due to a revised Upper Body pillar design, redefinition of mining areas as per Life of Mine Plan and updating of geological and mining losses. A Section 102 application has been approved by the South African Department of Mineral Resources to amend the Wessels Mining Rights area to include the Ntsimbitile Prospecting Right. The Wessels and Ntsimbitile Lower Body Mineral Resources and Ore Reserves, which were previously declared separately, are therefore combined and declared as a single Ore Reserve and a single Mineral Resource respectively.

<sup>(4)</sup> **GEMCO – Mineral Resources:** The change is primarily due to the inclusion of additional resource definition drilling data, resulting in the upgrade in confidence of a large proportion of Indicated to Measured Mineral Resources and the inclusion of Inferred Resources from the Eastern Exploration Areas into the Mineral Resource statement.

<sup>(5)</sup> **Mamatwan – Mineral Resources:** A cut-off grade of 35% Mn is used to declare Mineral Resources within the M, C and N Zones at Mamatwan. Mineral Resources have also been declared from the X Zone, using a cut-off of 35% Mn, however, the Top Cut Resources comprising a total of 42.3 Mt are declared above a cut-off of 28% Mn.

<sup>(6)</sup> **Wessels – Mineral Resources:** A new Mineral Resource model was developed during 2010 and this model has resulted in the increase in Mineral Resource after consideration of depletion.

<sup>(7)</sup> **Beniomi and Bordeaux:** Mn grades are for +0.15mm screen size fraction and should be read together with their respective tonnage yields. The feasibility phase study for the establishment of a 300 ktpa mine in Franceville, Gabon, commenced in July 2010 and the study is expected to be completed in the first quarter of FY2012. The pre-feasibility phase study for phase 2 to increase the production capacity to 1.8 mtpa is expected to commence in the second quarter of FY2012. However, the Gabon Mining Concession and Mining Convention remain subject to ongoing negotiation. No Ore Reserves are yet reportable.