



## **MINERAL RESOURCES and ORE RESERVES**

5 February 2008

Xstrata Alloys has adopted the 2004 Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) as its mandatory standard for the estimation and public reporting of Mineral Resources, Ore Reserves and Exploration Results.

The estimation process is further based on the Xstrata Alloys procedure "HSEC-G-08-The Procedure for the estimation of Mineral Resources and Ore Reserves".

The Ore Reserves and Mineral Resources are declared as at the 30<sup>th</sup> of June 2007, except in the case of vanadium which is at 30<sup>th</sup> September 2007.

This statement covers four ore types currently being mined and beneficiated by Xstrata Alloys. The ore types are:

- Chromitite
- Vanadiferous Magnetite
- Quartzite
- PGE mineralized chromitite ore

In addition Xstrata Alloys are mining Anthracite coal.

Ore Reserve and Mineral Resource information in the tables below is based on information compiled by Competent Persons (as defined by the JORC Code).

Each of the Competent Persons has the appropriate professional membership and the relevant experience in relation to the Mineral Resources and/or Ore Reserves being reported by them to qualify as a Competent Person as defined in the JORC Code. The Competent Persons have consented to the inclusion in the report of the matters based on their information in the form and context in which it appears.

Metric units are used throughout. All data is presented on a 100% basis. All tonnes and grade information has been rounded to reflect the relative uncertainty in the estimates; there may therefore be small differences in the totals. Mineral Resources are reported inclusive of those Mineral Resources modified to produce Ore Reserves.

Commodity prices and exchange rates used to estimate the economic viability of Ore Reserves are based on long term forecasts applied at the time the estimate was calculated.

The detail background information for the estimation of the Mineral Resources and Ore reserves can be viewed at Xstrata Alloys

This statement has been reviewed, extracted and compiled by Pieter-Jan Gräbe, Xstrata Alloys, (SACNASP).

## Definitions

The following definitions (as per the JORC Code 2004), have been applied in estimating the Ore Reserves and Mineral Resources position of the Xstrata Zinc disclosed within this document.

Mineral Resource: a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

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

Indicated Mineral Resource: 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 testing 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.

Measured Mineral Resource: 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 Reserve: the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves.

Probable Ore Reserve: the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified.

Proved Ore Reserve: the economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified.

# Consolidated Chrome Mineral Resource and Ore Reserve Statement

As at 30 June 2007

Tonnage are quoted in million metric tonnes  
Grades are quoted as % Cr<sub>2</sub>O<sub>3</sub>

	Attributable (%)	Mining Method	Commodity	RESERVES				RESOURCES			
				Run-of-Mine		Saleable		Measured	Indicated	Inferred	Competent
				Proved	Probable	Proved	Probable				
			(Mt)	(Mt)	(Mt)	(Mt)	(Mt)	(Mt)	(Mt)	(Mt)	
<b>Operating Mines</b>											
Waterval West Mine	79.5%	UG	Ore	9.444	1.287	6.208	0.746	15.499	1.243	1.299	PJG/DR
			Cr <sub>2</sub> O <sub>3</sub>	31.65%	27.21%	41.93%	41.93%	41.27%	42.12%	42.18%	
Kroondal Mine	79.5%	UG/OC	Ore	3.479	4.368	2.071	2.316	10.177	3.920	-	PJG/DR
			Cr <sub>2</sub> O <sub>3</sub>	30.32%	26.28%	41.93%	41.93%	42.85%	42.31%	-	
Kroondal Gemini (Kroondal ext)	50.0%	UG/OC	Ore	6.471	6.953	4.072	4.020	9.814	7.726	0.980	PJG/DR
			Cr <sub>2</sub> O <sub>3</sub>	32.23%	29.36%	41.93%	41.93%	43.04%	42.57%	42.52%	
Marikana East (Kroondal ext)	74.0%	UG	Ore	3.148	0.044	1.901	0.028	5.848	1.902	0.527	PJG/DR
			Cr <sub>2</sub> O <sub>3</sub>	30.41%	32.04%	41.93%	41.93%	42.65%	42.09%	42.30%	
Thornclyffe Mine	79.5%	UG/OC	Ore	19.709	6.913	15.856	5.377	32.241	13.568	26.629	PJG/DR/BS
			Cr <sub>2</sub> O <sub>3</sub>	38.19%	37.59%	42.00%	42.00%	40.40%	40.55%	41.06%	
Helena Mine	79.5%	UG/OC	Ore	4.012	0.034	2.995	0.029	7.265	11.797	72.422	PJG/DR/BS
			Cr <sub>2</sub> O <sub>3</sub>	35.34%	41.04%	42.00%	42.00%	40.49%	40.25%	38.82%	
Horizon/Chromeden Mine	79.5%	UG/OC	Ore	-	-	-	-	-	14.560	8.657	PJG
			Cr <sub>2</sub> O <sub>3</sub>	-	-	-	-	-	42.36%	42.08%	
<b>Total</b>				<b>46.262</b>	<b>19.599</b>	<b>33.102</b>	<b>12.516</b>	<b>80.845</b>	<b>54.716</b>	<b>109.006</b>	
<b>Projects/Non-operating Mines</b>											
Wonderkop	79.5%	UG	Ore	-	-	-	-	-	6.462	-	PJG
			Cr <sub>2</sub> O <sub>3</sub>	-	-	-	-	-	40.10%	-	
Townlands Extension 9	79.5%	UG	Ore	-	-	-	-	-	14.958	-	PJG
			Cr <sub>2</sub> O <sub>3</sub>	-	-	-	-	-	41.70%	-	
De Grooteboom	79.5%	UG/OC	Ore	-	-	-	-	0.848	0.641	-	PJG/DR/BS
			Cr <sub>2</sub> O <sub>3</sub>	-	-	-	-	40.36%	40.60%	-	
Boshoek	79.5%	OC/UG	Ore	-	-	-	-	1.204	21.785	0.504	PJG
			Cr <sub>2</sub> O <sub>3</sub>	-	-	-	-	38.67%	39.69%	38.82%	
Klipfontein/Waterval Reserve	79.5%	UG	Ore	-	-	-	-	-	-	134.600	PJG
			Cr <sub>2</sub> O <sub>3</sub>	-	-	-	-	-	-	41.90%	
Marikana West	74.0%	UG	Ore	-	-	-	-	2.711	0.952	1.756	PJG/DR
			Cr <sub>2</sub> O <sub>3</sub>	-	-	-	-	42.47%	42.39%	42.23%	
<b>Total</b>					<b>0.000</b>	<b>0.000</b>		<b>4.763</b>	<b>44.798</b>	<b>136.859</b>	
<b>Grand Total Xstrata</b>				<b>46.262</b>	<b>19.599</b>	<b>33.102</b>	<b>12.516</b>	<b>85.608</b>	<b>99.514</b>	<b>245.866</b>	

## Definitions

OC = Opencast; UG = Underground

## Notes

- The Mineral Resources and Ore Reserve estimates are tabulated on a total mine basis as at 30 Jun 2007.
- The Measured - and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce Ore Reserves.
- Xstrata Alloy's chrome mining operations are all mining the chromitite deposits developed within the world renowned Bushveld Complex of South Africa. The Bushveld Complex is the largest known deposit of chrome ore in the world. The chrome ore are mined from shallow dipping (10° - 14°) tabular ore bodies referred to as the LG6/LG6A Chromitite Layers and the MG1 Chromitite Layer. The chromitite layers are mined mainly underground using trackless mechanized mining methods on a board-and-pillar mine lay-out design.
- Changes in the year on year tonnage and grade estimates are mainly due to mining depletion, and changes in the resource and reserve tonnages and grades due to additional geological information gained through exploration.
- The Mineral Resources are estimated as in-situ chromitite tonnages and grade to reflect the grades of the various chromitite layers. Xstrata is currently mining the LG6 and MG1 Chromitite Layers which have different grade characteristics.
- Various chromitite layer configurations are mined which produce different ROM products. For this reason the Ore Reserves are estimated and declared as ROM Ore Reserves and Saleable Ore Reserves to reflect the diluting effect of the mining process and the subsequent beneficiation process which produce various high grade chromite products.

## Competent Person

PJG - Pieter-Jan Gräbe, Xstrata Alloys (SACNASP).  
BS - Brian Smith, Xstrata Alloys (PLATO).

## Consolidated Vanadium Mineral Resource and Ore Reserve Statement

As at 30 September 2007

Tonnage are quoted in million metric tonnes  
Grades are quoted as % V<sub>2</sub>O<sub>5</sub>

	Attributable (%)	Mining Method	Commodity	RESERVES		RESOURCES			Competent Person
				Proved (Mt)	Probable (Mt)	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	
<b>Operating Mines</b>									
Rhovani	100%	OC	Magnetite Ore V <sub>2</sub> O <sub>5</sub>	38.682 51.00%	9.935 53.00%	63.847 51.00%	13.661 0.53%	124.866 0.51%	PJG
<b>Total</b>				<b>39.192</b>	<b>10.465</b>	<b>64.357</b>	<b>13.666</b>	<b>124.866</b>	

### Definitions

OC = Opencast; UG = Underground

### Notes

- The Mineral Resources and Ore Reserve estimates are tabulated on a total mine basis as at 30<sup>th</sup> September 2007. The estimation date was taken as the 30<sup>th</sup> September 2007 to be able to incorporate exploration data that become available after the 30<sup>th</sup> June 2007.
- The Measured - and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce Ore Reserves.
- Xstrata Alloy's vanadium mining operations are mining the metalliferous magnetite deposits developed within the Bushveld Complex of South Africa. The Bushveld Complex is one of the largest known deposits of magnetite ore in the world. The magnetite ore are mined from shallow dipping (6° - 25°) tabular ore bodies. The magnetite ore are mined in opencast pits.
- Changes in the year on year tonnage and grade estimates are mainly due to mining depletion, and changes in the resource and reserve tonnages and grades due to additional geological information gained through exploration.
- Tacmin (Pty) Ltd (Open-pit Mine Engineering Consultants & Project Managers) estimated the Mineral Resources and Ore Reserves for Pit 1, Pit 2, Pit 4, Pit 5 and Pit 6.

### Competent Person

PJG = Pieter-Jan Gräbe, Xstrata Alloys (SACNASP); Competent person for both Mineral Resources and Ore reserves.

## Consolidated PGM Mineral Resource and Ore Reserve Statement

As at 30 June 2007

Tonnage are quoted in million metric tonnes  
Grades are quoted as 3PGE + Au g/t

	Attributable (%)	Mining Method	Commodity	RESERVES		RESOURCES			
				Proved	Probable	Measured	Indicated	Inferred	Competent
				(Mt)	(Mt)	(Mt)	(Mt)	(Mt)	Person
<b>Operating Mines/Project</b>									
Mototolo JV	37.0%	UG/OC	UG2 Ore	3.860	23.485	38.584	15.200	-	DN/PS/BS/PJG
			3PGE + Au g/t	3.58	3.71	4.00	3.87	-	
<b>Total tonnage</b>				<b>3.860</b>	<b>23.485</b>	<b>38.584</b>	<b>15.200</b>	<b>0.000</b>	

### Definitions

OC = Opencast; UG = Underground

### Notes

- The Mineral Resources and Ore Reserve estimates are tabulated on a total mine basis as at 30 June 2007.
- The Measured - and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce Ore Reserves.
- Xstrata Alloy's Mototolo platinum mining operation is mining the platinum bearing UG2 Chromitite Layer of the world Bushveld Complex of South Africa. The Bushveld Complex is the largest known deposit of PGM's in the world. The PGM ore is mined from a shallow dipping (10° - 14°) tabular ore-body. The chromitite layer is mined underground using a trackless mechanized mining method on a board-and-pillar mine lay-out design.
- Changes in the year on year tonnage and grade estimates are mainly due to mining depletion, and changes in the resource and reserve tonnages and grades due to additional geological information gained through exploration.
- The previous PGM statement was at the 31 December 2006 to coincide with the Anglo Platinum declaration.

### Competent Person

DN - Dietmar Nowak, Anglo Platinum Ltd, (SACNASP).

PS - Paul Stevenson, Anglo Platinum, (SACNASP).

BS - Brian Smith, Xstrata Alloys, (PLATO).

PJG - Pieter-Jan Gräbe, Xstrata Alloys, (SACNASP).

## Consolidated Coal Resource and Coal Reserve Statement

As at 30 June 2007

Tonnage are quoted in million metric tonnes

	Attributable (%)	Mining Method	Commodity	RESERVES				RESOURCES			
				Run-of-Mine		Saleable		Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Competent Person
				Proved (Mt)	Probable (Mt)	Proved (Mt)	Probable (Mt)				
<b>Operating Mines</b>											
Maloma Colliery	75.00%	UG/OC	Anthracite	4.187	0.173	0.077	1.868	7.515	0.336	1.669	PJG/JF
<b>Total</b>				<b>4.187</b>	<b>0.173</b>	<b>0.077</b>	<b>1.868</b>	<b>7.515</b>	<b>0.336</b>	<b>1.669</b>	

### Definitions

OC = Opencast; UG = Underground

### Notes

- The Coal Resources and Coal Reserve estimates are tabulated on a total mine basis as at 30 June 2007.
- The Measured - and Indicated Coal Resources are inclusive of those Coal Resources modified to produce Coal Reserves.
- Maloma Colliery is mining anthracite from the coal belt of Swaziland. The coal is mined from a shallow dipping (10° - 14°) tabular coal seams. The coal seams are mined underground using a trackless mechanized mining method on a board-and-pillar mine lay-out design.
- Changes in the year on year tonnage and grade estimates are mainly due to mining depletion, and changes in the resource and reserve tonnages and grades due to additional geological information gained through exploration.
- The Coal Reserves have been estimated as ROM Coal Reserves and Saleable Coal Reserves to reflect the mining dilution and beneficiation process.

### Competent Person

JF - Johan Fourie, J.C. Fourie – Professional Mine Surveyor, (PLATO).  
 DT - Dave Thompson, DW Thompson and Associates (Pty) Ltd, (SACNASP).  
 PJG - Pieter-Jan Gräbe, Xstrata Alloys (SACNASP).

## Consolidated Silica Mineral Resource and Ore Reserve Statement

As at 30 June 2007

Tonnage are quoted in million metric tonnes  
Grades are quoted as % SiO<sub>2</sub>

	Attributable (%)	Mining Method	Commodity	RESERVES		RESOURCES			
				Proved (Mt)	Probable (Mt)	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Competent Person
<b>Operating Mines</b>									
Rietvley Silica Mine	79.50%	OC	Silica Ore	-	-	-	27.424	-	PJG
			SiO <sub>2</sub>	-	-	-	97.50%	-	
<b>Total</b>				<b>0.000</b>	<b>-</b>	<b>0.000</b>	<b>27.424</b>	<b>0.000</b>	

### Definitions

OC = Opencast

### Notes

- The Mineral Resources and Ore Reserve estimates are tabulated on a total mine basis as at 30 June 2007.
- Xstrata Alloy's silica mining operation is mining a quartzite deposit of the Transvaal Super Group of South Africa. Silica is used as an additive in the ferrochrome manufacturing process. The quartzite ore is mined through opencast mining methods and crushed, washed and sized at the mine to a final product.
- Changes in the year on year tonnage and grade estimates are mainly due to mining depletion, and changes in the resource and reserve tonnages and grades due to additional geological information gained through exploration.

### Competent Person

PJG = Pieter-Jan Gräbe, Xstrata Alloys (SACNASP).