Mineral Resources and Reserves report

JOINT VENTURE ENTITY – ASSMANG

Competent Person's report on Mineral Resources and Mineral Reserves

The report is issued as the annual update of the Mineral Resources and Reserves to inform shareholders and potential investors of the mineral assets held by Assmang Proprietary Limited (Assmang).

Salient features for 2015	
Beeshoek Mine	Measured and Indicated Mineral Resources for Village ore body increased to 51,53 million tons at a grade of 64,42% Fe compared to 44,09 million tons at 64,36% Fe reported in 2014.The increase was as a result of recent drilling and update of the resource model.
Khumani Mine	The total Mineral Reserves for Khumani decreased from 550,10 million tons at 64,41% Fe to 447,95 million tons at 64,34% Fe mainly due to re-optimisation of King Pit at lower iron ore prices and mining depletion.

General statement

Assmang's method of reporting Mineral Resources and Mineral Reserves complies with the South African Code for Reporting Exploration Results, Mineral Resources and Mineral Reserves (SAMREC Code), of 2007 as amended in 2009.

The Code sets out minimum standards, recommendations and guidelines for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves in South Africa.

The convention adopted in this report is that the Measured and Indicated Mineral Resources are reported inclusive of that portion of those converted to Mineral Reserves. Resources and Reserves are quoted as at 30 June 2015.

External consulting firms audit the Resources and Reserves of the Assmang operations on a three to four-year cycle basis or when substantial geological borehole data has been added to the database. Underground resources are *in situ* tonnages at the postulated mining width, after deductions for geological losses. Underground Mineral Reserves reflect tonnages that will be mined and processed while surface Mineral Reserves consist of dumps/stockpiles already mined and ready for processing. Both are quoted at the grade fed to the plant. Open-pit Mineral Resources are quoted as *in situ* tonnages and Mineral Reserves are tonnages falling within an economic pit-shell.

The evaluation method is generally Ordinary Kriging with mining block sizes ranging from 10 x 10 metres to 100 x 100 metres to 250 x 250 metres in the plan view. The blocks vary in thickness from 2,5 to 10 metres. The evaluation process is fully computerised, generally using Datamine Studio 3 and Strat3D software packages.

The classification into Measured, Indicated and Inferred Mineral Resources is done by consideration of geostatistical parameters, spacing of boreholes, geological structures and continuity of the mineralisation.

The Mineral Resources and Reserves are stated on a 100% basis for all the operations. Maps, plans and reports supporting Resources and Reserves are available for inspection at Assmang's registered office and at the relevant mines.

Assmang operations have already had their conversions from old order mining licences to new order mining rights approved, with only a few in the process of registration.

Rounding of figures may result in computational discrepancies on the Mineral Resources and Reserves tabulations.

Definitions

The definitions of Mineral Resources and Reserves, quoted from the SAMREC Code (2007, as amended in July 2009), are as follows:

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, or estimated from specific geological evidence, sampling and knowledge interpreted from an appropriately constrained and portrayed geological model. Mineral Resources are subdivided, and must be so reported, in order of increasing confidence in respect of geoscientific evidence, into Inferred, Indicated or Measured categories.

An **"Inferred Mineral Resource"** is that part of a Mineral Resource for which volume or tonnage, grade and mineral content can be estimated with only a low level of confidence. It is inferred from geological evidence and sampling and assumed but not verified geologically 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 in scope 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 information from

Mineral resources and reserves report continued

JOINT VENTURE ENTITY – ASSMANG continued

exploration, sampling and testing of material gathered from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological or grade continuity but are spaced closely enough for continuity to be assumed

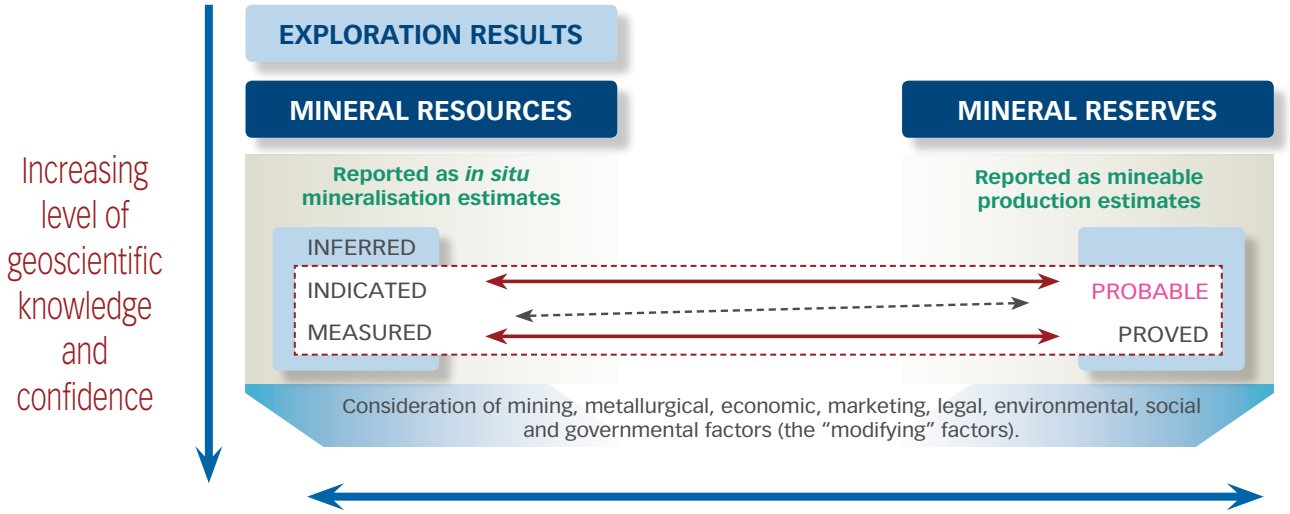
A **"Measured Mineral Resource"**is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable information from exploration, sampling and testing of material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

A **"Mineral Reserve"** is the economically mineable material derived from a Measured or Indicated Mineral Resource or both. 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 and a Life-of-Mine Plan for an operation must have been completed, 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 Mineral Reserve"** is the economically mineable material derived from a Measured or Indicated Mineral Resource or both. It is estimated with a lower level of confidence than a Proved Mineral 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 **"Proved Mineral 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.

Relationship between exploration results, Mineral Resources and Mineral Reserves



Competence

The Competent Person with overall responsibility for the compilation of the 2015 Assmang Mineral Resources and Reserves report is Shepherd Kadzviti, Pr.Sci.Nat, an ARM employee. He confirms in writing that the information in this report complies with the SAMREC Code and that it may be published in the form and context in which it was intended.

Shepherd Kadzviti graduated with a BSc (Geology and Mathematics) and MSc in Exploration Geology from the University of Zimbabwe. He later completed a Graduate Diploma in Mining Engineering (GDE) at the University of the Witwatersrand. He worked at RioZim's Renco Gold Mine for 14 years in various capacities of Geologist, Technical Services Superintendent and Mine Manager. In 2005, he joined Anglo American Platinum at Union Mine as an Evaluation Geologist with responsibilities for geological database management and Mineral Resource estimation. After two years at the mine, he was transferred to Anglo American Platinum corporate office where he was appointed Resource Geologist. He then joined African Rainbow Minerals (ARM) as Mineral Resources Specialist in 2008 where he was involved in the evaluation of the various mineral deposits for the group. In 2012, he was appointed Group Mineral Resources Manager for ARM. He is registered with the South African Council for Natural Scientific Professions (SACNASP) as a Professional Natural Scientist (Pri.Sci.Nat) in the field of practice of geological science, registration number 400164/05, and as such is considered to be a Competent Person. SACNASP is based in the Council for Geosciences Buildings, 3rd Floor, 280 Pretoria Road, Silverton, 0127, South Africa.

All Competent Persons at the operations have sufficient relevant experience in the type of deposit and in the activity for which they have taken responsibility. Details of Assmang's Competent Persons are available from the Company Secretary on written request.

The following Competent Persons were involved in the calculation of Mineral Resources and Reserves.

MA Burger	Pr.Sci.Nat	Iron
S Van Niekerk	Pr.Sci.Nat	Iron
B Ruzive	Pr.Sci.Nat	Manganese
A Pretorius*	Pr.Sci.Nat	Chrome
MAJ Burger	Pr.Sci.Nat	Iron
M Hlangwane	Pr.Sci.Nat	Iron

**External consultant*

Shepherd Kadzviti Pri.Sci.Nat
Group Mineral Resources Manager
African Rainbow Minerals
24 Impala Road, Chislehurston, Sandton, South Africa.

14 October 2015

Iron Ore mines

Locality

The Iron Ore division is made up of the Beeshoek Mine located on the farms Beeshoek 448 and Olynfontein 475, and the Khumani Mine situated on the farms Bruce 544, King 561 and Mokaning 560. All properties are in the Northern Cape, approximately 200 kilometres west of Kimberley. The Beeshoek open-pit operations are situated seven kilometres west of Postmasburg and the Khumani open pits are adjacent to, and south-east of, the Sishen Mine, which is operated and owned by Kumba Iron Ore Limited. Beeshoek and Khumani are located at latitude 28°30'00"S/ longitude 23°01'00"E, and latitude 27°45'00"S/ longitude 23°00'00"E respectively. Khumani Mine supplies iron ore to the export markets. Exports are railed to the iron ore terminal at Saldanha Bay. Beeshoek ore is mainly supplied to local customers, with some exported via Khumani.

History

Mining of iron ore (mainly specularite) was undertaken as early as 40 000 BC on the farm Doornfontein which is north of Beeshoek. The potential of iron ore in this region was discovered in 1909, but, due to lack of demand and limited infrastructure, this commodity was given little attention. In 1929, the railway line was extended from Koopmansfontein (near Kimberley) to service a manganese mine at Beeshoek. In 1935, the Associated Manganese Mines of South Africa Limited (Assmang) was formed, and in 1964, the Beeshoek Iron Ore Mine was established, with a basic hand sorting operation. In 1975, a full washing and screening plant was installed at Beeshoek Mine. The Khumani Iron Ore Mine was commissioned in 2007.

Mining authorisation

The Beeshoek Mine converted mining right was executed on 16 March 2012 and registered on 29 May 2013.

The Khumani new order mining right was executed on 25 January 2007 and was registered on 5 March 2007.

Geology

The iron ore deposits are formed within in a sequence of early Proterozoic sediments of the Transvaal Supergroup deposited between 2 500 and 2 200 million years ago. In general, two ore types are present, namely laminated hematite ore forming part of the Manganore Iron Formation and conglomerate ore belonging to the Doornfontein Conglomerate Member at the base of the Gamagara Formation. The older laminated ore types occur in the upper portion of the Manganore Iron Formation as enriched high-grade hematite bodies. The boundaries of high-grade hematite ore bodies crosscut primary sedimentary bedding, indicating that secondary hematitisation of the iron formation took place. In all of these, some of the stratigraphic and sedimentological features of the original iron formation are preserved. The conglomeratic ore is found in the Doornfontein Conglomerate Member of the Gamagara Formation, is lenticular but not consistently developed along strike. It consists of stacked, upward fining conglomerate-gritstone-shale sedimentary cycles. The lowest conglomerates and gritstones tend to be rich in sub-rounded to rounded hematite ore pebbles and granules and form the main ore bodies. The amount of iron ore pebbles decreases upwards in the sequence so that upper conglomerates normally consist of poorly sorted, angular to rounded chert and banded iron formation pebbles.

The erosion of the northern Khumani deposit is less than in the southern Beeshoek area. This results in Khumani being characterised by larger stratiform bodies and prominent hanging wall outcrops. The down-dip portions are well preserved and developed, but in outcrop the deposits are thin and isolated. Numerous deeper iron ore extensions occur into the basins due to karst development. A prominent north-south strike of the ore bodies dipping to the west is notable. The southern Beeshoek ore bodies were exposed to more erosion and hence are more localised and smaller. Outcrops are limited to the higher topography on the eastern side of the properties. Down-dip to the west, the ore is thin and deep. The strike of the ore bodies is also in a north-south direction, dipping to the west but less continuous.

Hematite is the predominant ore mineral, but limonite and specularite also occur. Mining operations are all open pit, based on the conventional drill-and-blast, truck-and-shovel operations. Run-of-mine ore is crushed and stored as "on" or "off-grade" on blending stockpiles. Ore from the stockpiles is either sent to the wash-and-screen plants or, if "off-grade", to the beneficiation plants. The washing and screening plants consist primarily of tertiary crushing, washing, screening, conveying and stacking equipment. The beneficiation plants consist of tertiary crushers; scrubbers; coarse and fine jigs; lumpy and fines product stockpiles; and a rapid load-out facility. No chemicals are being used in any of the treatment plants.

Mineral Resources and Reserves

Only Measured and Indicated Resources are converted to Proved and Probable Reserves respectively. Modifying factors are applied to these resources and financially optimised. The optimised financial parameters are used to define the optimal pit. The resources within this mining constraint (optimised pit shell) are defined as reserves. These are categorised into different product types, destined for the different plant processes and then scheduled for mining.

The methodology followed to identify exploration targets is initiated with geological mapping, followed by geophysics (ground magnetics and gravity). Numerous exploration programmes have been completed in the last 40 years. Percussion drilling is used to pilot holes through overlying waste rock down to the iron ore bodies. Diamond drilling is the next phase, which is usually on a 200 x 200 metre grid. Further in-fill drilling is carried out at spacing ranging from 100 x 100 metres to 25 x 25 metres, depending on the complexity of the geological structures. Core samples are logged and split by means of a diamond saw and the half-core is sampled at 0,5 metre intervals. The half-cores are crushed, split and pulverised and submitted to the owner-managed laboratory for assaying. All holes and blast holes in ore are sampled and analysed for Fe, potassium oxide (K_2O), sodium oxide (Na_2O), silica (SiO_2), aluminium oxide (Al_2O_3), phosphorus (P), sulphur (S), CaO, MgO, Mn and barium oxide (BaO). The analytical technique for elemental analyses is XRF spectroscopy. Volumetric titration is used as verification method for the determination of total iron in the ore. International standards (eg SARM11) and in-house iron standards are used for the calibration of the XRF spectrometer. The Khumani laboratory undertakes stringent quality control and assurance methods, including "round robin" analysis with 11 laboratories for verification of assay results.

Samples with values larger than 60% Fe cut-off are included in the definition of the ore bodies. Any lower-grade samples inside the ore body are defined as internal waste and modelled separately. Each zone is modelled per section, and then wireframed to get a three-dimensional (3D) model. Ordinary Kriging interpolation is used to estimate the grade of each 25 x 25 x 10 metre block generated within the geological model. Estimation is also undertaken outside the 60% Fe envelope within the limits of the ore body stratigraphy. Densities in the resource model are calculated using a fourth degree polynomial fit applied to the estimated Fe grade. Densities range from 4,38 t/m^3 (60% Fe) to 5,01 t/m^3 (68% Fe).

Beeshoek Mine

Beeshoek year-on-year change

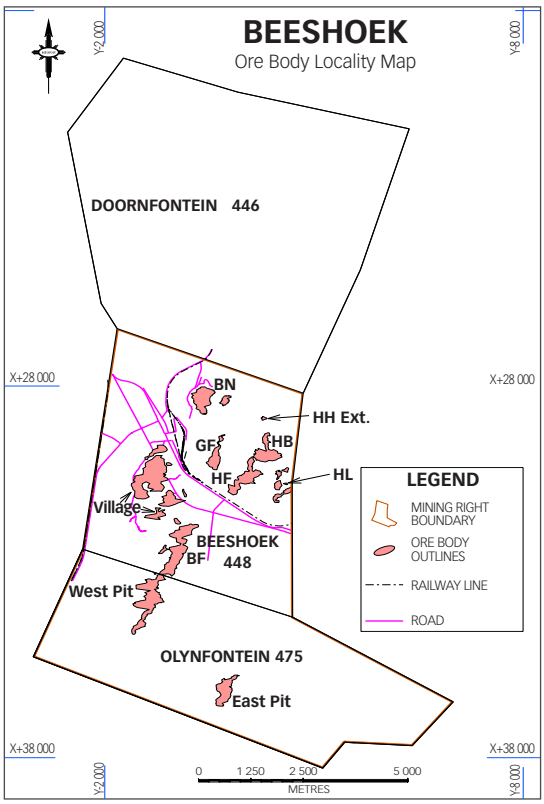
Measured and Indicated Resources for Beeshoek Mine increased by 3% to 113,73 million tons. The increase in the Mineral Resources can be attributed to Village Pit. Geological remodelling of the Village ore body resulted in the Measured and Indicated Resources increasing from 44,09 million tons at a grade of 64,36% Fe to 51,53 million tons at 64,42% Fe.

Measured and Indicated Mineral Resources for BN reduced by 14% to 16,09 million tons and Reserves by 4% to 9,92 million tons due to remodelling of the ore body and mining depletion. All the other pits decreased as a result of mining depletion. Village Pit is the largest contributor to the increase in Mineral Reserves, having increased by 32% from 22,44 million tons at 64,65% Fe to 29,53 million tons at 65,09% Fe. Mining of the Village Pit has commenced.

Beeshoek Iron Ore Mine: Mineral Resources and Reserves

	Measured Resources		Indicated Resources		Total Measured and Indicated Resources		Inferred Resources		Proved Reserves		Probable Reserves		Total Reserves	
	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%
Pit/Area														
BN Pit	16,09	63,17			16,09	63,17			9,92	63,36			9,92	63,36
HF/HB Pit	16,00	64,10			16,00	64,10			6,87	64,27			6,87	64,27
BF Pit	7,57	63,51	0,23	63,54	7,80	63,51	0,001	65,24	0,67	61,59			0,67	61,59
East Pit	7,33	64,86	0,03	64,31	7,36	64,86			4,50	64,83	0,01	63,68	4,51	64,83
Village Pit	42,27	64,55	9,26	63,83	51,53	64,42			25,68	65,26	3,85	63,95	29,53	65,09
GF Pit	3,13	63,81	0,09	61,80	3,22	63,75								
HH Ext Pit	0,28	62,63			0,28	62,63								
HL Pit	1,98	64,82	0,02	65,21	2,00	64,82								
West Pit	9,45	63,19			9,45	63,19	0,050	61,88						
Detrital*							2,500	60,00						
Total 2015	**104,10**	**64,07**	**9,63**	**63,81**	**113,73**	**64,05**	**2,551**	**60,04**	**47,64**	**64,63**	**3,86**	**63,95**	**51,50**	**64,58**
Total 2014	96,87	63,99	13,46	64,25	110,33	64,02	3,251	61,01	37,18	64,29	8,95	64,37	46,13	64,31

The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Reserves include: economic pit design, customer product specifications, mining dilution.
Cut-off grade 60% Fe.
** Detrital is loose fragmented material occurring in various areas at Beeshoek.*



Beeshoek Dumps

	Proved Reserves		Probable Reserves		Total Reserves	
	Mt	Fe%	Mt	Fe%	Mt	Fe%
Area						
North Mine (ROM on-grade)			0,13	64,00	0,13	64,00
North Mine (B Dump off-grade)			0,05	55,00	0,05	55,00
North Mine (C Dump)			1,69	55,00	1,69	55,00
South Mine (ROM on-grade)			0,18	64,00	0,18	64,00
South Mine (B Dump off-grade)			0,04	55,00	0,04	55,00
South Mine (C Dump)			5,33	55,00	5,33	55,00
Total 2015 Dumps*			**7,42**	**55,38**	**7,42**	**55,38**
Total 2014 Dumps*			7,50	55,17	7,50	55,17

Totals are rounded off.
**Dumps are beneficiated to produce a saleable product.*

Khumani Mine

Khumani year-on-year change

Measured and Indicated Resources decreased by 7% to 600,25 million tons mainly due to geological remodelling of all the ore bodies (Bruce A, B, C and King-Mokaning) as well as mining depletion. There was insignificant change in grade. Total Mineral Reserves also decreased from 550,10 to 447,95 million tons mainly due to re-optimisation of the King Pit at lower iron ore prices and mining depletion.

Khumani Iron Ore Mine: Mineral Resources and Reserves

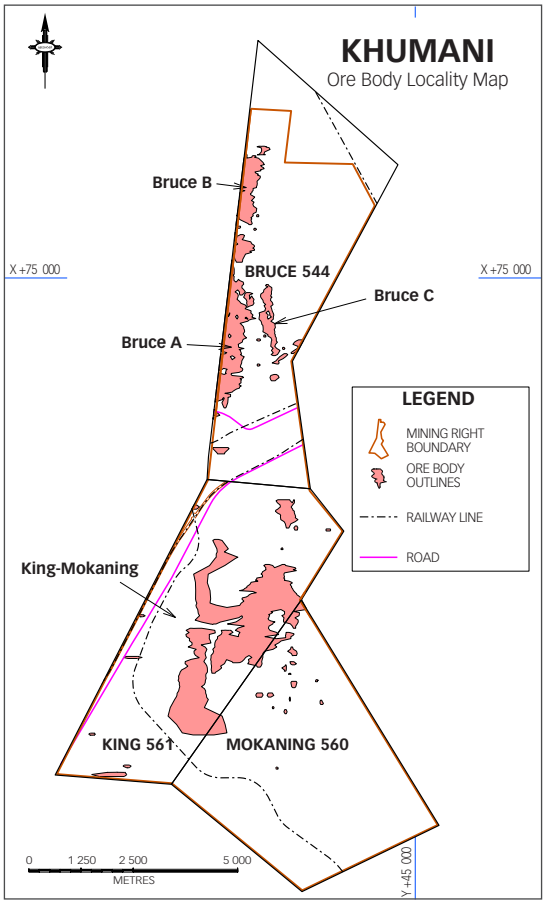
	Measured Resources		Indicated Resources		Total Measured and Indicated Resources		Inferred Resources		Proved Reserves		Probable Reserves		Total Reserves	
	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%	Mt	Fe%
Pit/Area														
Bruce A	39,33	64,41	64,32	64,66	103,65	64,57			32,30	64,36	56,77	64,72	89,07	64,59
Bruce B	67,81	64,53	19,07	63,59	86,88	64,32	1,75	61,21	53,37	64,33	16,71	63,17	70,08	64,05
Bruce C	12,44	64,47			12,44	64,47			4,68	65,07			4,68	65,07
Total for Bruce Pits	**119,58**	**64,48**	**83,39**	**64,42**	**202,97**	**64,46**	**1,75**	**61,21**	**90,35**	**64,38**	**73,48**	**64,37**	**163,83**	**64,37**
King-Mokaning	301,04	64,23	96,24	64,13	397,28	64,21	12,64	62,95	274,72	64,30	9,40	65,11	284,12	64,33
Total 2015	**420,62**	**64,30**	**179,63**	**64,26**	**600,25**	**64,29**	**14,39**	**62,74**	**365,07**	**64,32**	**82,88**	**64,45**	**447,95**	**64,34**
Total 2014	363,29	64,51	283,11	63,93	646,40	64,25	32,02	62,95	319,27	64,56	230,83	64,20	550,10	64,41

The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Reserves include: economic pit design, customer product specifications, mining dilution.
Cut-off grade 60% Fe.

Khumani Dumps

	Proved Reserves		Probable Reserves		Total Reserves	
	Mt	Fe%	Mt	Fe%	Mt	Fe%
Area						
Bruce (ROM on-grade)			0.11	64.00	0.11	64.00
Bruce (B Dump off-grade)			2.68	55.00	2.68	55.00
King (ROM on-grade)			0.20	64.00	0.20	64.00
King (B Dump off-grade)			1.58	55.00	1.58	55.00
King (Detrital)			0.19	60.00	0.19	60.00
Total 2015 Dumps*			**4,76**	**55,79**	**4,76**	**55,79**
Total 2014 Dumps*			5,59	56,70	5,59	56,70

Totals are rounded off.
**Dumps are beneficiated to produce a saleable product.*



Historical production at Beeshoek and Khumani mines (saleable product)

	Beeshoek Mt	Khumani Mt
Financial year		
2010/2011	0,96	8,73
2011/2012	2,10	11,60
2012/2013	2,94	13,17
2013/2014	3,12	12,93
2014/2015	3,43	12,65

Historical production at Beeshoek and Khumani mines (ROM)

	Beeshoek Mt	Khumani Mt
Financial year		
2013/2014	2,06	19,12
2014/2015	3,35	19,06

Assmang Proprietary Limited (Assmang) operations

Manganese mines

Locality

The manganese mines are situated in the Northern Cape province in South Africa, approximately 80 kilometres north-west of the town of Kuruman. Located at latitude 27°07'50"S and longitude 22°50'50"E, the site is accessed via the national N14 route between Johannesburg and Kuruman, and the provincial R31 road.

History

In 1940, Assmang acquired a manganese ore outcrop on a small hillock known as Black Rock. Several large properties underlain by ore were subsequently found and acquired. Today, the Black Rock area is considered to be one of the largest and richest manganese deposits in the world. Manganese mining operations were extended and today include the Gloria and Nchwaning underground mines. Manganese ore is supplied locally to Assmang-owned Cato Ridge smelter, and is mainly exported through Port Elizabeth as well as Durban and Richards Bay.

Mining authorisation

The converted mining right for the Black Rock Mine operations was executed on 13 July 2011. Registration of right is in process.

Geology

The manganese ores of the Kalahari Manganese field are contained within sediments of the Hotazel Formation of the Griqualand West Sequence, a sub-division of the Proterozoic Transvaal Supergroup. At Black Rock, Belgravia and Nchwaning farms, the Hotazel, Mapedi and Lucknow Formations have been duplicated by thrusting. The thrusted ore bodies comprising Black Rock (Koppie), Belgravia 1 and Belgravia 2 are collectively known as Black Rock ore bodies. The average thickness of the Hotazel Formation is approximately 40 metres. The manganese ore bodies exhibit a complex mineralogy and more than 200 mineral species have been identified. Hydrothermal upgrading has resulted in zoning of the ore body adjacent to fault positions. Distal areas exhibit more original and low-grade kutnohorite and braunite assemblages, while areas immediately adjacent to faults exhibit high-grade hausmannite rich ore. The intermediate areas exhibit a very complex mineralogy, which includes bixbyite, braunite and jacobsite among a host of other manganese-bearing minerals. Similar zonation also exists in the vertical sense. At the top and bottom contacts it is common to have high iron (Fe) and low manganese (Mn) contents while the reverse is true towards the centre of the seam. This vertical zoning has given rise to a mining practice where only the 3,5 to 4,5 metre-high centre portion of the seam is being mined. At Gloria Mine, the intensity of faulting is much less, which may explain the lower grade.

Two manganese seams are present. The lowermost (Seam 1) at Nchwaning 3 is up to six metres thick, of which up to 4,5 metres is mined. There is, therefore, minimum dilution. Limited mining of Nchwaning Seam 2 has been done, while no mining has been undertaken to date on Gloria Seam 2. Gloria Seam 1 is approximately 14 metres thick, but only an optimum cut of 3,5 metres is mined.

Nchwaning Mine Mineral Resources and Reserves

Mineral Resource classification at Nchwaning Mine is based on a number of parameters: kriging variance, kriging efficiency, regression slope, geological continuity of the manganese seams, geological structures and quality of assay data. Each of these parameters contributes to the overall classification depending on a weighting assigned to each of the parameters. Measured and Indicated Resources have been defined for Nchwaning. Geological losses are incorporated into the grade models.

Nchwaning Mine was diamond drilled from surface at 330 metre grid centres and the data is captured in a Geological Database

JOINT VENTURE ENTITY – ASSMANG continued

Management System (GDMS) developed by Datamine. The core was logged and 0,5 metre-long, half-core, diamond-saw cut samples were submitted to Assmang's laboratory at Black Rock for X-ray fluorescence (XRF) analyses. Mn and Fe values were checked by Wet Chemical analyses. Several standards are used to calibrate the XRF equipment, and results are compared with other laboratories on a regular basis.

At Nchwaning, boreholes and underground sample sections were considered in the geological and modelling and grade estimation for Nchwaning Seam 1 and Seam 2 resource modelling. The underground sample sections that were used were sampled at intervals of 0.3 metres rather than one composite value for the whole section, providing data that could be used in modelling the seams at a composite width of 0,5 metres. The geological resource modelling was undertaken using Datamine Strat3D software and Studio 3 for the grade estimation. The resource models were built on 50 X 50 X 0,5 metre blocks allowing for sub-splitting in the X and Y directions for the model to accurately follow the geological boundaries. The full vertical extent of both Seam 1 and Seam 2 are modelled respectively. Statistical and geostatistical analysis was done on the following variables: Mn, Fe, Al_2O_3, BaO, CaO, K_2O, MgO, Na_2O, P, S and SiO_2. Ordinary Kriging interpolation within Datamine Studio 3 was used to estimate the grade of each 50 x 50 x 0,5 metre blocks each identifiable by the layer number within the seam. Borehole and/or underground sample data with corresponding layer numbers was used in the estimation of grades. The relative density of the Nchwaning manganese Seams 1 and 2 was determined as 4,3 t/m^3. Seam 1 and Seam 2 were modelled separately. The resource model for use in the evaluation was selected over a thickness of 4,5 metres (Nchwaning 3, Seam 1) and 3,5 metres for the rest of Nchwaning (Seams 1 and 2), based on the best Mn values and/or Mn/Fe ratios.

Trackless mechanised equipment is used in the bord and pillar mining method. Mining in the eastern extremity of Nchwaning occurs at a depth of 200 metres while the deepest (current) excavations are at a depth of 519 metres below surface. Ore from Nchwaning No 2 Mine is crushed underground before being hoisted to a surface stockpile via a vertical shaft. Similarly, ore from the Nchwaning No 3 Mine is crushed underground before being conveyed to a surface stockpile via a declined conveyor system. Ore is withdrawn from the surface stockpile and undergoes two stages of crushing, dry screening and wet screening to yield lumpy and fine products.

At the plant, the finer fractions are stockpiled while the coarser fractions are extracted from the respective product boxes into road haulers, sampled, weighed and stored on stacks ahead of despatch. Samples from each stack are analysed for chemical content and size distribution. This ensures good quality control and enables the ore control department to blend various stacks according to customer requirements.

Nchwaning Mine

Nchwaning year-on-year change

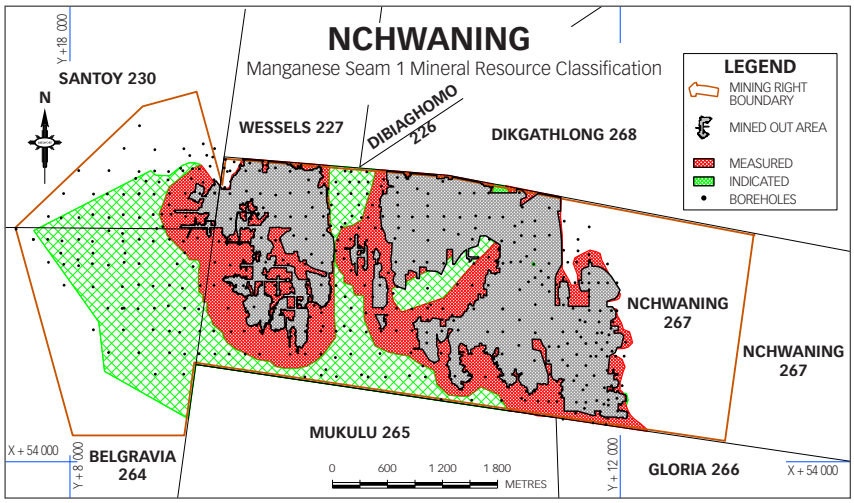
The Mineral Resources for Seam 1 reduced by 3% to 133,02 million tons at 43% Mn. Nchwaning Seam 2 Mineral Resources increased from 182,96 to 184,16 million tons at 40,8% Mn due to remodelling of the seam.

Mineral Reserves tonnage for Nchwaning Seam 1 increased by 1% to 104,21 million tons at 42,7% Mn. Mineral Reserves for Nchwaning Seam 2 remained almost the same as in 2014 at 118,53 million tons at 40,9% Mn. A total of 3,05 million tons ROM were mined from the two seams.

Nchwaning Mine: Seam 1 Manganese Mineral Resources and Reserves

	Mineral Resources				Mineral Reserves		
	Mt	Mn%	Fe%		Mt	Mn%	Fe%
Measured	57.13	44.5	9.8	Proved	45.02	43.9	10.2
Indicated	75.89	41.9	8.8	Probable	59.19	41.8	9.1
Total Resources (Seam 1) 2015	**133.02**	**43.0**	**9.2**	**Total Reserves (Seam 1) 2015**	**104.21**	**42.7**	**9.6**
Total Resources (Seam 1) 2014	136.58	43.1	9.4	Total Reserves (Seam 1) 2014	102.76	43.2	9.3

The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Reserves include: pillar losses, mining losses.
Mineral Resources and Reserves based on 4,5 metres optimum evaluation cut for Seam 1 of Nchwaning 3 and 3,5 metres cut for the rest of Nchwaning.



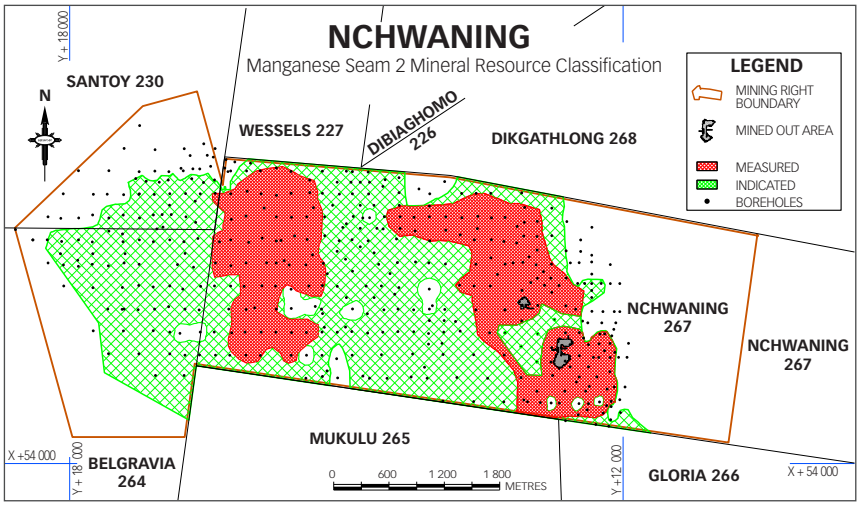
Nchwaning Mine: Seam 2 Manganese Mineral Resources and Reserves

	Mineral Resources				Mineral Reserves		
	Mt	Mn%	Fe%		Mt	Mn%	Fe%
Measured	66,31	41,2	17,1	Proved	43,08	41,5	16,9
Indicated	117,85	40,5	16,9	Probable	75,45	40,6	16,7
Total Resources (Seam 2) 2015	**184,16**	**40,8**	**17,0**	**Total Reserves (Seam 2) 2015**	**118,53**	**40,9**	**16,8**
Total Resources (Seam 2) 2014	182,96	40,7	17,0	Total Reserves (Seam 2) 2014	118,98	40,9	16,7

The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Reserves include: pillar losses, mining losses.
Mineral Resources and Reserves based on 3,5 metres optimum evaluation cut.

Mineral resources and reserves report continued

JOINT VENTURE ENTITY – ASSMANG continued



Black Rock Mineral Resources

The Black Rock ore bodies occur in the Black Rock Koppie, Belgravia 1 and Belgravia 2 areas. They are all part of a large thrust complex. Modelling of these ore bodies was undertaken using 151 Nchwaning boreholes that intersected the thrust complex and 174 Black Rock in-fill boreholes. A 38% manganese cut-off was used in the modelling. Seams 1 and 2 were modelled at variable thicknesses. No mining is currently being done at Black Rock Koppie.

Black Rock (Koppie area): Seam 1 Manganese Mineral Resources

	Mineral Resources		
	Mt	Mn%	Fe%
Measured	9,03	40,3	18,1
Indicated	34,57	40,7	18,1
Total Resources (Seam 1) 2015	**43,60**	**40,6**	**18,1**
Total Resources (Seam 1) 2014	43,60	40,6	18,1

Totals are rounded off.
Resource defined on a 38% Mn cut-off.

Black Rock (Koppie area): Seam 2 Manganese Mineral Resources

	Mineral Resources		
	Mt	Mn%	Fe%
Measured	8,23	37,4	19,8
Indicated	18,58	39,2	19,8
Total Resources (Seam 2) 2015	**26,81**	**38,6**	**19,8**
Total Resources (Seam 2) 2014	26,81	38,6	19,8

Totals are rounded off.
Resource defined on a 38% Mn cut-off.

Gloria Mine

Gloria year-on-year change

Gloria Seam 1 Reserves were 8% lower than in 2014 at 92,62 million tons and a grade of 36,8% Mn. The decrease is mainly due to mining depletion and reduction in mining extraction factor as a consequence of pillar size increase.

Gloria Mine Mineral Resources and Reserves

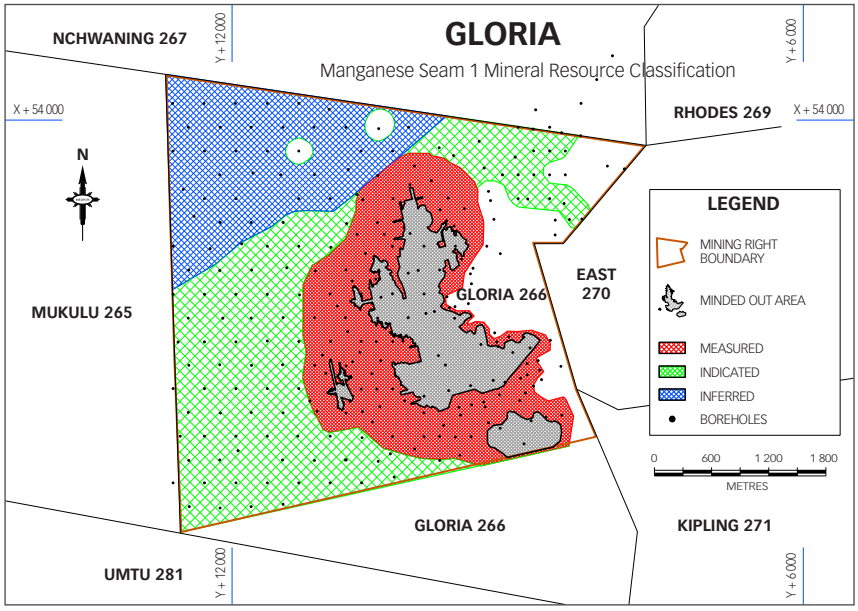
Procedures for drilling and assaying at Gloria Mine are the same as at Nchwaning. Both boreholes and underground sample sections were considered in the evaluation of Gloria Seam 1. The underground sampling values represent sampling at 0,3 metre intervals. Gloria was modelled similarly to Nchwaning using Datamine Strat3D software for the geological modelling and Studio 3 for the grade estimation. The geological block model was created for every 0,5 metre layer for the entire Seam 1 and Seam 2 using Datamine Strat3D. Block sizes in the X and Y directions were 50 x 50 metres allowing for sub-splitting. The evaluation width of 3,5 metres was used and the relative density was determined as 3,8 t/m^3. The full vertical extent of both Seam 1 and Seam 2 were modelled respectively. Statistical and geostatistical analysis for the following variables: Mn, Fe, Al_2O_3, BaO, CaO, K_2O, MgO, Na_2O, P, S and SiO_2 was undertaken. Ordinary Kriging interpolation within Studio 3 was used to estimate the grade in the 50 x 50 x 0,5 metre blocks each identified by a layer number within the seam, using borehole and/or underground sample data of the corresponding layer. Mineral Resource classification methods were similar to those applied at Nchwaning Mine.

Gloria Mine is extracting manganese at depths that vary between 180 to 250 metres. Ore is crushed underground before being conveyed to a surface stockpile via a decline shaft. Ore is withdrawn from the surface stockpile and forwarded to two stages of crushing, dry screening, and wet screening to yield lumpy and fine products. At the plant, the ore is processed similarly to Nchwaning run-of-mine ore.

Gloria Mine: Seam 1 Manganese Mineral Resources and Reserves

	Mineral Resources				Mineral Reserves		
	Mt	Mn%	Fe%		Mt	Mn%	Fe%
Measured	49,01	37,3	4,9	Proved	35,69	37,3	5,2
Indicated	77,44	36,7	5,2	Probable	56,93	36,5	5,3
Total Measured and Indicated (Seam 1) 2015	**126,45**	**36,9**	**5,1**	**Total Reserves (Seam 1) 2015**	**92,62**	**36,8**	**5,3**
Total Measured and Indicated (Seam 1) 2014	125,68	37,4	4,7	Total Reserves (Seam 2) 2014	100,52	37,5	4,7
Inferred (Seam 1) 2015	**42,81**	**35,7**	**5,3**				
Inferred (Seam 1) 2014	41,36	35,9	5,1				

The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Reserves include: pillar losses, mining losses.
Mineral Resources and Reserves based on 3,5 metres optimum evaluation cut.



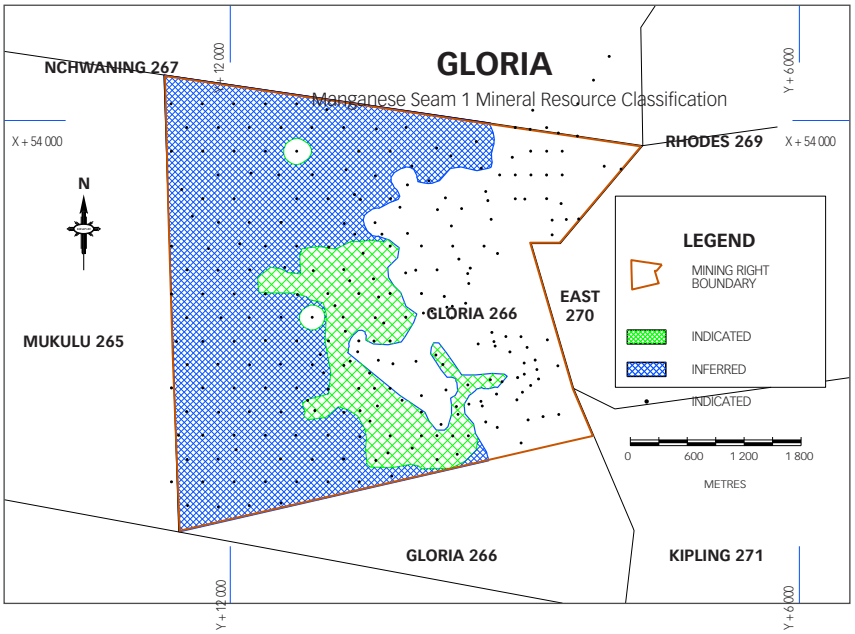
Mineral resources and reserves report continued

JOINT VENTURE ENTITY – ASSMANG continued

Gloria Mine: Seam 2 Manganese Mineral Resources

	Mineral Resources		
	Mt	Mn%	Fe%
Measured			
Indicated	30,73	28,0	9,7
Total Measured and Indicated (Seam 2) 2015	**30,73**	**28,0**	**9,7**
Total Measured and Indicated (Seam 2) 2014	31,55	28,3	9,8
Inferred (Seam 2) 2015	**130,08**	**28,2**	**11,3**
Inferred (Seam 2) 2014	123,86	29,2	10,6

Totals are rounded off.
Mineral Resources based on 3,5 metres optimum evaluation cut.



Historical manganese production at Nchwaning and Gloria mines (saleable product)

	Nchwaning Mt	Gloria Mt
Financial year		
2010/2011	2,35	0,70
2011/2012	2,46	0,84
2012/2013	2,40	0,75
2013/2014	2,69	0,67
2014/2015	2,48	0,61

Historical production at Nchwaning and Gloria mines (ROM)

	Nchwaning Mt	Gloria Mt
Financial year		
2013/2014	3,15	0,79
2014/2015	3,05	0,74

Dwarsrivier Chromite Mine

Dwarsrivier year-on-year change

Measured and Indicated Mineral Resources increased to 53,07 million tons at 37,89% Cr_2O_3 from 51,00 million tons at a grade of 38,14% Cr_2O_3 due to the remodelling of the LG6 chromitite layer after drilling a total of 46 new boreholes. Mineral Reserves also increased by 7% to 37,60 million tons at 34,28% Cr_2O_3.

Locality

The Dwarsrivier Chromite Mine is situated on the farm Dwarsrivier 372KT, approximately 30 kilometres from Steelpoort and 60 kilometres from Lydenburg, Mpumalanga province, South Africa. Located at longitude 30°05'00"E/latitude 24°59'00"S, Assmang purchased the farm from Gold Fields Limited, together with all surface and mineral rights in October 1998.

History

Neighbouring properties to the north and south of Dwarsrivier had existing chrome mining operations at the time of purchase. A feasibility study of the plant, tailings dam and designs for the open pit and underground mines was undertaken. After the completion of the feasibility study, approval to proceed with the final design and construction work was given in July 1999. Chromite was mined from the open pit areas at a rate of approximately 0,9 million tons a year and these areas were mined out within five years. Underground mining commenced in 2005 at a rate of 1,2 million tons ROM a year. Dwarsrivier Mine was specifically geared to deliver high quality metallurgical grade chromite. In addition, the plant has been designed to produce chemical grade products for export.

Mining authorisation

Dwarsrivier Mine converted mining right was executed on 15 May 2013 and registered on 2 June 2015.

Geology

Dwarsrivier Mine is situated in the eastern limb of the Bushveld Complex, which comprises persistent layers of mafic and ultramafic rocks, containing the world's largest known resources of platinum group metals, chromium and vanadium. The mafic rocks termed the Rustenburg Layered Suite, are approximately eight kilometres thick in the eastern lobe, and are divided formally into five zones. The rocks of the Marginal Zone at the base of the succession consist mainly of pyroxenites with some dunites and harzburgites. Above the Marginal Zone, the Lower Zone comprises mainly pyroxenites, harzburgites and dunite, and is present only in the northern part of the eastern lobe, and only as far south as Steelpoort.

The appearance of chromitite layers marks the start of the Critical Zone, economically the most important zone. The layers within this zone are grouped into three sets termed the Lower, Middle and Upper Groups. The sixth chromitite seam in the Lower Group (LG6), is an important source of chromite ore and defines the ore body that is mined at Dwarsrivier Mine. In the eastern lobe, in the vicinity of Dwarsrivier, the strike is nearly north-south, with a dip of approximately 10 degrees towards the west. Average thickness of the LG6 seam is about 1,86 metres in the Dwarsrivier area. Pipe-like dunite intrusions are evident in the area, as well as dolerite dykes that normally strike north-east south-west. No significant vertical grade variation is evident in the ore seam in the Dwarsrivier Resource.

Mineral Resources and Reserves

Mineral Resources were estimated from boreholes on 150 to 300 metre grid spacing. All Mineral Resources down to a mineable depth of 350 metres below surface have been considered. Vertical diamond drill holes are used for geological and grade modelling. The Mineral Resources at Dwarsrivier Mine are based on a total of 334 diamond boreholes, which have been used for ore body modelling and grade estimation purposes. The drill core is NQ size and is geologically and geotechnically logged. The collar position of the drill holes are surveyed, but no down-hole surveys are done, as the holes are assumed to have minimal deflection. The chromitite seam is bounded above and below by pyroxenites, and as such, the ore horizon is clearly defined. The core is sampled from the top contact downwards at 0,5 metre intervals. The core is split and half is retained as reference material. The other half is crushed and split into representative samples, which are crushed and pulverised for chemical analysis. The samples are analysed using fusion/ICP-OES for chrome oxide (Cr_2O_3), SiO_2, FeO, Al_2O_3, MgO and CaO. Three laboratories, all ISO 17025 accredited for this method, are used. Every tenth sample is analysed in duplicate. The density for each sample is measured using a gas pycnometer.

The LG6 layer, other chromitite layers above the LG6, ie MG1 to MG4 chromitites, as well as prominent faults were geologically modelled in Strat3D. Mineral Resources have been estimated using Ordinary Kriging, where Cr_2O_3, FeO, Al_2O_3, MnO and MgO contents of the LG6 seam and densities were determined, using parent block size of 50 x 50 x 4 metres. Immediately above the LG6, there is a 30 to 50 centimetre-thick pyroxenite that is capped by a thin chromitite layer, locally known as the "false hanging wall". This unit is mined for geotechnical reasons as it creates an unstable hanging wall if left behind. This unit forms part of the dilution in the conversion from Resources to Reserves.

A run-of-mine ore inclusive of the "false hanging wall" is fed to the beneficiation plant. In the dense media separation part of the plant, the coarse fraction is upgraded to 40% Cr_2O_3, with a yield of 80%. In the spiral section of the plant the finer fraction is upgraded to metallurgical and chemical grade fines of 44% Cr_2O_3, and 46% Cr_2O_3 respectively. A 67% yield is achieved in the spiral circuit.

The Resource classification was done by considering geological and geostatistical parameters. Geological aspects include the continuity of the LG6 layer and the influence of geological structures such as dykes and faults. Geostatistical parameters such as kriging efficiency, kriging variance, number of samples used in estimation, search volume and regression slope were also considered in the Resource classification.

Mineral resources and reserves report continued

JOINT VENTURE ENTITY – ASSMANG continued

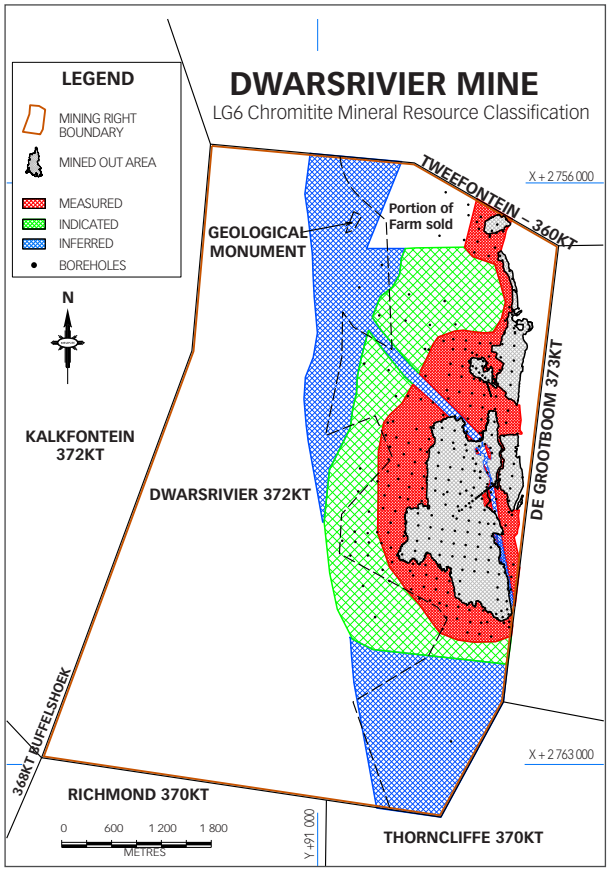
Dwarsrivier Chromite Mine: LG6 Chromitite Mineral Resources and Reserves

	Mineral Resources				Mineral Reserves		
	Mt	Cr_2O_3%	FeO%		Mt	Cr_2O_3%	FeO%
Measured	22,34	37,92	22,75	Proved	14,32	33,88	21,47
Indicated	30,73	37,87	22,87	Probable	23,28	34,53	21,79
Total Measured and Indicated 2015	**53,07**	**37,89**	**22,82**	**Total Reserves 2015**	**37,60**	**34,28**	**21,67**
Total Measured and Indicated 2014	51,00	38,14	22,55	Total Reserves 2014	35,02	34,12	21,30
Inferred 2015	**43,21**	**38,33**	**22,60**				
Inferred 2014	48,01	38,35	22,96				

The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves.
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Reserves include: pillar losses, mining losses, mining dilution.

Historical production at Dwarsrivier Chromite Mine (ROM)

	Mt
Financial year	
2010/2011	1,25
2011/2012	1,50
2012/2013	1,60
2013/2014	1,61
2014/2015	1,77



Mineral resources and reserves report continued

SUBSIDIARY COMPANIES 2015

General statement

The method employed by Assore's subsidiary companies to report Mineral Resources and Reserves, conforms to the South African Code for Reporting Exploration Results, Mineral Resources and Mineral Reserves (SAMREC Code) of 2007, as amended in 2009. The Code sets out minimum standards, recommendations and guidelines for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves in South Africa.

The convention adopted in this report is that Mineral Resources are reported inclusive of that portion of the total Mineral Resource converted to a Mineral Reserve. Resources and Reserves are quoted as at 30 June 2015.

Underground resources are *in situ* tonnages at the postulated mining width, after deductions for geological losses. Underground mineral reserves reflect tonnages that are planned to be mined and processed, and include deductions comprising geological, pillar and mining losses, as well as mining dilution. Surface Mineral Reserves consist of dumps/ stockpiles already mined and ready for processing and/or sale. Open-pit Mineral Resources are quoted as *in situ* tonnages and Mineral Reserves are tonnages falling within an economic pit shell that include deductions for geological and mining losses.

The Mineral Resources and Mineral Reserves are reported on a total basis (ie 100%). Maps, plans and reports supporting Resources and Reserves are available for inspection at the company's registered offices and the relevant mines.

The operating subsidiary mining companies have already concluded their mining right conversions from old-order mining licences to new-order mining rights.

Rounding-off of figures may result in minor computational discrepancies on the Mineral Resources and Reserve tabulation.

Chromitite: The evaluation method is mainly based on grade and seam thickness intersections obtained via the open-cast and underground mining, exploration trenches and surface boreholes. The individual Lower Group chromitite seams at Rustenburg Minerals Development Company Proprietary Limited (Rustenburg Minerals) and Zeerust Chrome Mines Limited (Zeerust) show consistent thickness and grade, with geological features such as faults and dykes being the main variables for discounting the Resources and Reserves. The classification into Measured, Indicated and Inferred Mineral Resources relates to chrome intersections at intervals, in plan view, not exceeding 100 metres for Measured Resources, between 100 metres and 150 metres for Indicated Resources and between 150 metres and 400 metres for Inferred Resources.

Pyrophyllite: The pyrophyllite deposit at Wonderstone is relatively consistent and mined by an open-cast operation. The utilisation of the pyrophyllite in the processing plant is not based on grade but on the ore's natural characteristics, ie ,colour, consistency in hardness, absence of cracks, etc. The classification into Measured, Indicated and Inferred Mineral Resources relates to the borehole spacing and the open-cast development. The Reserves consist of stockpiles and *in situ* tonnages after deductions for mining and processing losses.

The mining and exploration activities of the subsidiary companies will continue in the coming year as per the respective Life-of-Mine Plans. At the time of the compilation of this report, the directors of the subsidiary companies are not aware of any legal proceedings or material conditions that will inhibit of the subsidiary companies planned mining or exploration activities.

Competence

The Competent Person with overall responsibility for the compilation of the Mineral Resources and Reserves for the subsidiary companies report is Mr CAAP Magalhaes (Pr.MS), an employee of African Mining and Trust Company Limited. He confirms in writing that the information in this report complies with the SAMREC Code and that it may be published in the form and context in which it was intended.

Mr Magalhaes graduated from Technikon Witwatersrand with a National Diploma – Mine Survey and a National Higher Diploma – Mineral Resource Management. He later completed a Graduate Diploma in Mining Engineering (GDE) at the University of Witwatersrand and the Government Certificate of Competency – Mine Survey, as well as an MBA from Henley Business School. He worked at Impala Platinum and Anglo Platinum in various capacities over a 15-year period. In 2006 he joined African Mining and Trust Company Limited as the Chief Surveyor and was later promoted to Group Surveyor. After four years at African Mining and Trust Company Limited, he was appointed as the Technical Services Manager for the subsidiary companies and was later appointed as the Group Manager – Chrome division in 2012, and the Group Technical Manager in 2015.

He is registered with the South African Council for Technical and Professional Surveyors (PLATO) as a professional mine surveyor in the field of Mine Surveying and Mineral Resource Management, registration number PMS0201. Mr Magalhaes is also a member of the South African Institute Mining and Metallurgy (SAIMM) and the Institute of Mine Surveyors of South Africa (IMSSA) and as such is considered to be a Competent Person under section 4.3 of the SAMREC Code.

Ms C van der Merwe, Geologist (BSc Hons Geology), was involved and assisted in the calculation of the Mineral Resources and Reserves. She is an African Mining and Trust Company Limited employee and has been the mine geologist since July 2013. Ms Van der Merwe is a member of SACNASP and the GSSA.

All Competent Persons have sufficient relevant experience in the type of deposit and in the activity for which they have taken responsibility.

Definitions

The definitions of Mineral Resources and Reserves, quoted from the SAMREC Code (2007, as amended in July 2009), are as follows:

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, or estimated from specific geological evidence, sampling and knowledge interpreted from an appropriately constrained and portrayed geological model. Mineral Resources are subdivided, and must be so reported, in order of increasing confidence in respect of geoscientific evidence, into Inferred, Indicated or Measured categories.

An **"Inferred Mineral Resource"** is that part of a Mineral Resource for which volume or tonnage, grade and mineral content can be estimated with only a low level of confidence. It is inferred from geological evidence and sampling and assumed but not verified geologically 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 in scope or of uncertain quality and reliability.

Mineral resources and reserves report continued

SUBSIDIARY COMPANIES 2015 continued

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 information from exploration, sampling and testing of material gathered from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological or grade continuity but are spaced closely enough for continuity to be assumed.

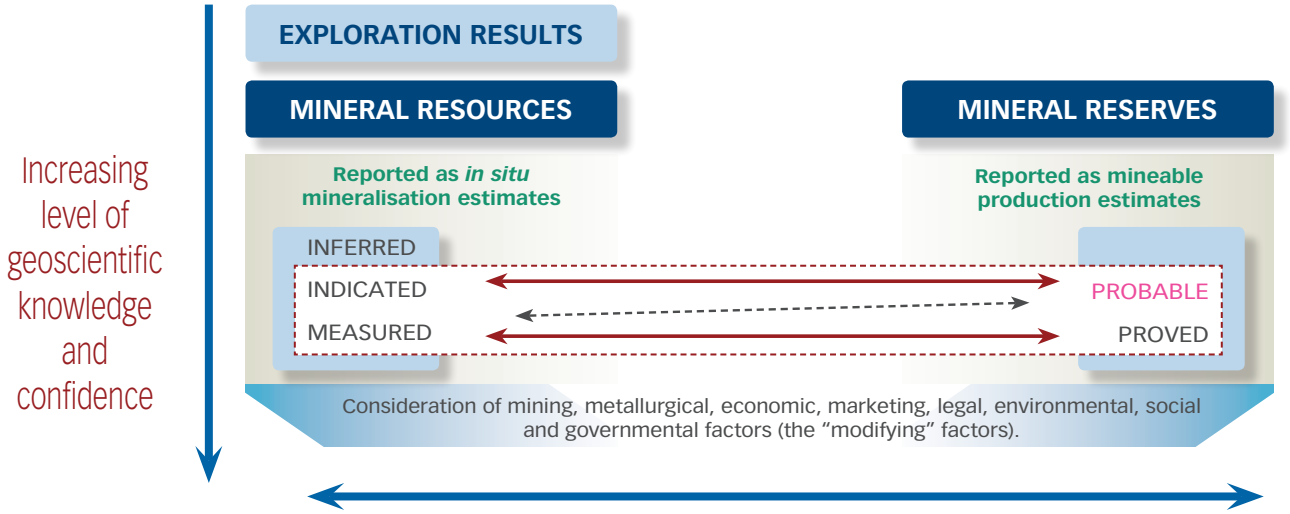
A **"Measured Mineral Resource"** is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable information from exploration, sampling and testing of material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

A **"Mineral Reserve"** is the economically mineable material derived from a Measured or Indicated Mineral Resource or both. 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 and a Life-of-Mine Plan for an operation must have been completed, 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 Mineral Reserve"** is the economically mineable material derived from a Measured or Indicated Mineral Resource or both. It is estimated with a lower level of confidence than a Proved Mineral 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 **"Proved Mineral 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.

Relationship between exploration results, Mineral Resources and Mineral Reserves



Source: ASSORE 2014 Annual Report

SUBSIDIARY COMPANIES 2015 continued

Assore – Chromite mines

RUSTENBURG MINERALS DEVELOPMENT COMPANY PROPRIETARY LIMITED ("RUSTENBURG MINERALS" OR "RMDC")

ZEERUST CHROMITE MINES LIMITED ("ZEERUST" OR "ZCM")

Locality

The Assore chromite division is made up of the Rustenburg Minerals and Zeerust operations. Rustenburg Minerals is located in the Mankwe District on the following farms; Portions 1 and 2 of Groenfontein 138 J.P., which makes up the extent of MR51, the Remaining Extent of Zandspruit 168 J.P., which makes up the extent of MR11, and Portion 3 of Vogelstruisnek 173 J.P., which makes up the extent of MR50. Zeerust is located in the District of Zeerust on the following farms; Portions 2, 3, 4, 5, 8 and the Remaining Extent of Turfbult alias Kanaan 10 J.P., which makes up the extent of MR314.

All properties are in the North West province. The Rustenburg Minerals open cast and underground operations are situated approximately 70 kilometres north-west of Rustenburg at latitude 25°7'6"S/longitude 26°54'46"; and the Zeerust open cast is situated approximately 70 kilometres north of Zeerust at latitude 25°0'20"S/longitude 26°12'48"E.

History

The operations at Rustenburg Minerals and Zeerust commenced in 1968 and 1962 respectively, and historically comprised a combination of underground and opencast operations. The Zeerust chromite operations however, were later limited to open cast operations only as that proved to be the only means of economically extracting the three bottom lower group chromitite seams found in the area.

After the completion of the feasibility studies, a crushing, washing, screening and spiral plant was erected at each of the chromite mines where chemical and metallurgical grade chromite has since been produced for predominantly the export market, with a smaller proportion being sold to local customers.

Rustenburg Minerals has established two underground projects which are currently in capital development phase. The two projects are located on the MR51 (Portions 1 and 2 of Groenfontein 138 J.P.) and the MR11 (Remaining Extent of Zandspruit 168 J.P.) mining lease areas. During the past financial year (2014 – 2015), the economic extraction of reef from Rustenburg Minerals' underground operations has become a challenge due to various factors. As a result, some of the underground Reserves may be reclassified as Resources in the new financial year once a feasibility study has been completed with a review of the Life-of-Mine Plan.

Mining authorisation

The Rustenburg Minerals converted mining rights were executed on 24 April 2008 for the following farms; Portions 1 and 2 of Groenfontein 138 J.P.; and 24 April 2008 for the farm; Portion 3 of Vogelstruisnek 173 J.P.

The new order mining right was obtained for the farm; Remaining Extent of Zandspruit 168 J.P. on 14 October 2005.

The Zeerust converted mining right was granted on 29 May 2012 for the farms: Portions 2, 3, 4, 5, 8 and the Remaining Extent of Turfbult alias Kanaan 10 J.P.

Geology

Rustenburg Minerals – Geology

Rustenburg Minerals is situated in the western limb of the Bushveld Layered Igneous Complex.

All the seams of the three groups of the Critical Zone are exposed at Rustenburg Minerals, however the lower group (LG) seams (LG1 through to LG7), which occur within pyroxenite or bronzitite, make up the vast majority of the potential Resources at Rustenburg Minerals in relation to the other seams of the Critical Zone. Only small faulted segments of the middle (MG) and upper groups (UG) outcrop on the eastern side of the MR11 portion of Rustenburg Minerals. The LG1 to LG6 seams have been historically mined at Rustenburg Minerals, with the LG7 having proved to be uneconomical to mine. There is no significant grade variation in the respective LG seams.

The LG6, being the thickest and thus the most economical chromitite seam to mine, has been the main source of chromite ore at the Rustenburg Minerals operation. The LG6 seam is fairly constant in thickness, averaging approximately 80 centimetres. The seam dips at an average of 10 degrees towards the east, with a north-south strike. Local variation in the dip and thickness occur mostly in the vicinity of geological structures such as faults, dykes, potholes and reef rolls. Pipe-like dunite intrusions are evident in the area, especially on the Zandspruit Farm, as well as dolerite dykes. In addition, concordant, sub-concordant pegmatoid intrusions also exist throughout the farm associated with the dyke intrusions and major faulting. The close proximity of the Pilanesberg Alkaline Intrusion further to the east has fractured the surrounding area, resulting in ground conditions which require a relatively high support density for the underground operations on the said farms.

Zeerust – Geology

Zeerust is situated in the far western limb of the Bushveld Layered Igneous Complex.

Only the LG1, LG2 and LG3 of the Critical Zone, occurring within pyroxenite or bronzitite, are present and mined at Zeerust.

The seams are fairly constant in thickness, with LG1, LG2 and LG3 seams averaging 30, 27 and 12 centimetres respectively. The seam dips at an average of 10 degrees towards the east, with a north-south strike. Local variation in the dip and thickness occur mostly in the vicinity of geological structures such as faults, dykes, potholes and reef rolls. Dolerite dykes are present and sometimes associated with major faulting.

Mineral Resources and Reserves

The individual LG chromitite seams at Rustenburg Minerals and Zeerust show relatively consistent thickness and grade, with geological features such as faults and dykes being the main variables.

The evaluation method is mainly based on grade and seam thickness intersections determined via open-cast and underground mining, trenches and boreholes.

Mineral Resources are estimated from vertical boreholes and related to chrome intersections at intervals, in plan view, not exceeding 100 metres for Measured Resources, between 100 metres and 150 metres for Indicated Resources and between 150 metres and 400 metres for Inferred Resources. The resource classification was done by considering a number of geological parameters, which include the continuity of the seams and the influence of geological structures such as dykes and faults.

The drill core comprises BQ and NQ size which are both geologically and geotechnically logged. The collar positions of the drill holes are surveyed, but down-hole surveys are not done, and the holes are assumed to have minimal vertical deflection. The LG chromitite seams are bounded above and below by pyroxenites, and as such, the ore horizon is clearly defined. The core is sampled from the reef top contact

downwards to the reef bottom contact. The core is split and half is retained as reference material. The other half is crushed and split into representative samples, which are crushed and pulverised for chemical analysis. The samples are analysed using the XRF analysis technique to obtain the bulk analysis, with focus on the Cr_2O_3, SiO_2 and FeO. Three laboratories are contracted to undertake the analysis, all of which are ISO 17025 accredited for these analytical techniques. The specific gravity (SG) of the chromite has been established by means of a gas pycnometer.

Rustenburg Minerals – Mineral Resources and Reserves

At the Zandspruit underground operation, the borehole spacing is insufficient for Underground Indicated Resources, therefore, only Inferred Underground Resources are provided here in addition to the Measured Resources.

Only the LG6 seam has been mined via open cast extraction at Rustenburg Minerals during the past financial year. The LG6 Resource is calculated based on an average 80 centimetre seam thickness and a 45 metre high wall.

A box cut was taken across the LG4 seam on the Zandspruit farm (MR11) to test the feasibility of mining this seam. The low yield that was achieved in the spiral circuit concluded that this seam is uneconomical for current mining.

Zeerust – Mineral Resources and Reserves

Only the LG1 and LG2 seams have been mined via open cast at the Zeerust operation during the past financial year. The seams have average thicknesses of 30 and 27 centimetre for the LG1 and LG2 respectively, and the resources are calculated to a 25 metre high wall.

Rustenburg Minerals

Rustenburg Minerals year-on-year change

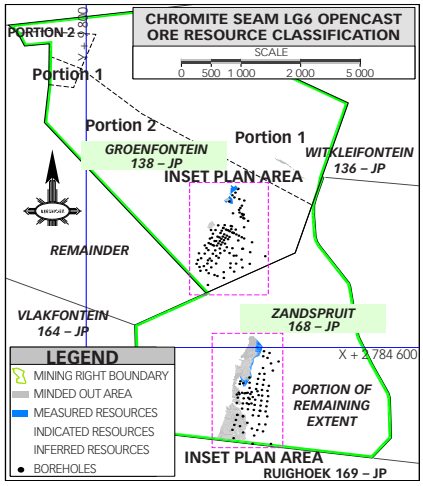
Measured and Indicated Resources increased by 6% to 5,6 million tons due to exploration drilling which confirmed resources in a faulted and unexplored area. Mineral Reserves increased slightly from 3,4 to 3,5 million tons year-on-year.

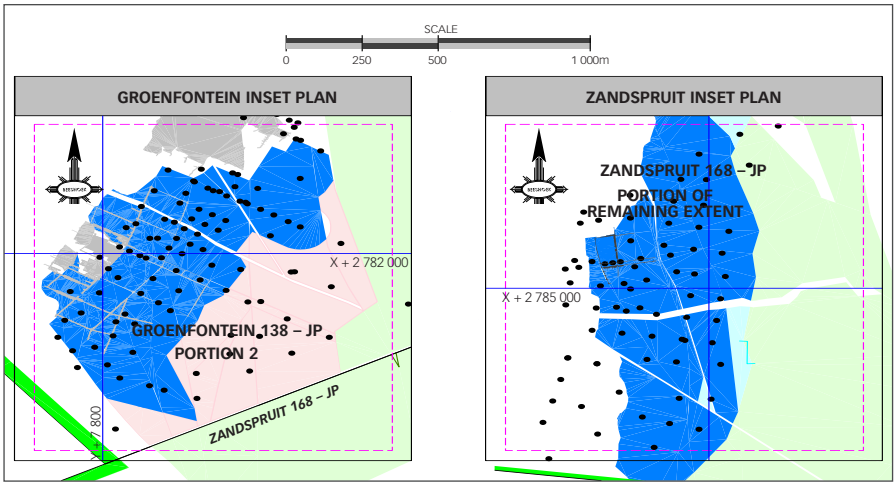
Rustenburg Minerals: Mineral Resources and Reserves

		RMDC				
		Mineral Resources			Mineral Reserves	
		Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Proved (Mt)	Probable (Mt)
	LG6 opencast to 45 metre high wall	0,1	0,0	0,0	0,1	0,0
Groenfontein	Underground	1,4	1,2	2,4	0,9	0,7
	Groenfontein total	**1,5**	**1,2**	**2,4**	**0,9**	**0,7**
	LG6 opencast to 45 metre high wall	0,1	0,0	0,0	0,1	0,0
Zandspruit	Underground	2,2	0,0	7,4	1,3	0,0
	Zandspruit total	**2,3**	**0,0**	**7,4**	**1,4**	**0,0**
	LG6 opencast to 45 metre high wall	0,1	0,0	0,0	0,1	0,0
Vogelstruisnek	Underground	0,0	0,5	0,0	0,0	0,0
	Vogelstruisnek total	**0,1**	**0,5**	**0,0**	**0,1**	**0,3**
	RMDC total 2015	**3,9**	**1,7**	**9,8**	**2,4**	**1,0**
	RMDC total 2014	3,7	1,6	9,8	2,4	1,0
	Summary total 2015	**5,6**			**3,5**	
	Summary total 2014	5,3			3,4	

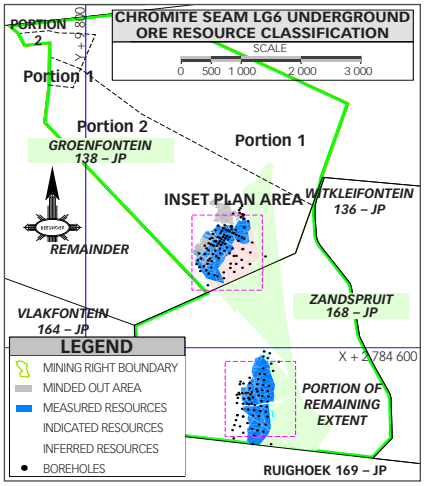
Mineral Resources are inclusive of Mineral Reserves.
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Reserves include: geological losses, pillar losses, mining losses and mining dilution.

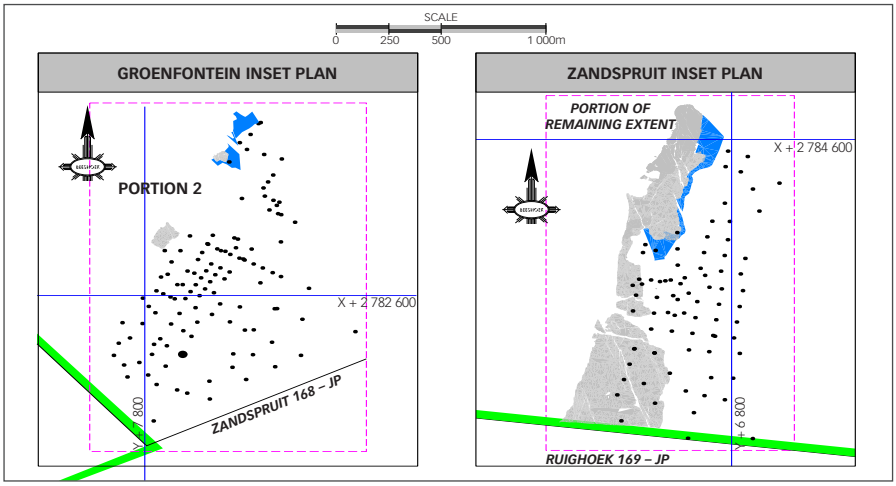
ZANDSPRUIT AND GROENFONTEIN OPENCAST AND UNDERGROUND RESOURCES





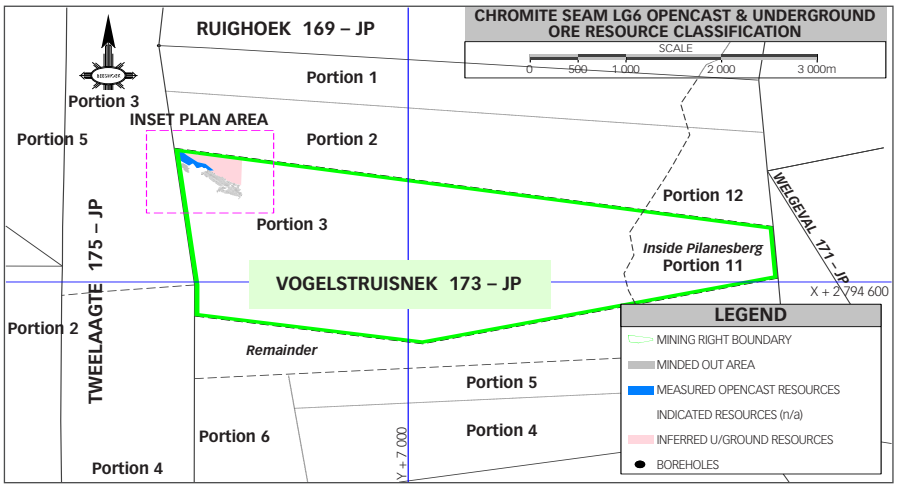
Source: Rustenburg Minerals Microstation base plans

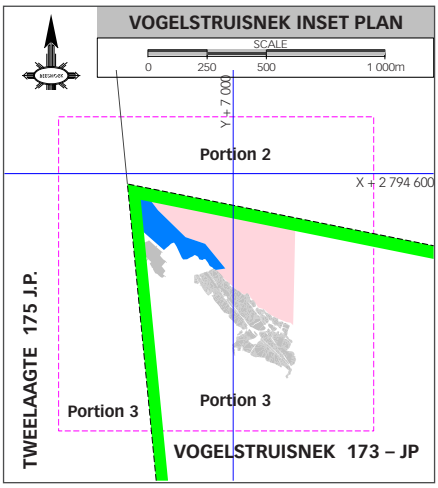




Source: Rustenburg Minerals Microstation base plans

VOGELSTRUISNEK OPENCAST AND UNDERGROUND RESOURCES





Source: Rustenburg Minerals Microstation base plans

Mineral resources and reserves report continued

SUBSIDIARY COMPANIES 2015 continued

Assore – Chromite mines continued

Zeerust

Zeerust year-on-year change

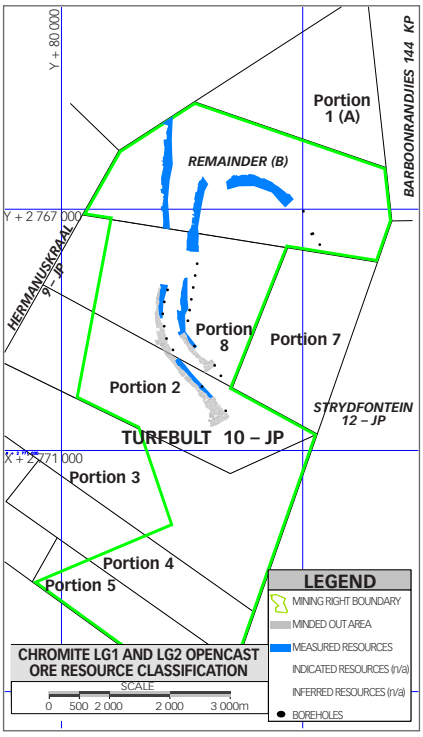
Measured and Indicated Resources decreased by 33,3% to 1,4 million tons due to mining depletion as well as an adjusted SG for the mined LG1 and LG2 seams. Mineral Reserves also decreased from 1,4 million tons to nil tons as mining has become uneconomical at Zeerust and the mine has been placed on care and maintenance during this financial year.

Zeerust: Mineral Resources and Reserves

ZCM	Mineral Resources			Mineral Reserves	
	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Proved (Mt)	Probable (Mt)
LG1 and LG2 opencast to 18 metre high wall	0,3	0,0	0,0	0,0	0,0
LG1 and LG3 opencast to 25 metre high wall	0,0	0,2	1,7	0,0	0,0
Underground to 80 metre below surface	0,0	0,9	4,9	0,0	0,0
Total ZCM 2015	**0,3**	**1,1**	**6,6**	**0,0**	**0,0**
Total ZCM 2014	0,9	1,5	7,5	1,2	0,2
Summary total 2015	**1,4**			**0,0**	
Summary total 2014	2,4			1,4	

Mineral Resources are inclusive of Mineral Reserves.
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Reserves would generally include: geological losses, pillar losses, mining losses and mining dilution.

ZEERUST OPENCAST MEASURED RESOURCES



Source: WS Microstation base plans

Mineral resources and reserves report continued

SUBSIDIARY COMPANIES 2015 continued

Assore – Pyrophyllite (Wonderstone) Mine

Wonderstone Limited (Wonderstone)

Wonderstone year-on-year change

Measured and Indicated Resources decreased by 5% to 15,4 million tons due to mining depletion. Similarly, Mineral Reserves also decreased from 15,4 to 14,6 million tons. A total of 0,2 million tons (ROM) was sold for the 12-month period ending June 2015.

Locality

The Wonderstone pyrophyllite outcrop extends from the main deposit on Portion 44 of the farm Gestoptefontein 349 I.O., south-east (as the twin layered deposit) for a distance of 5,5 kilometre to the main Harbeesfontein/Ottosdal road. To the north-west it extends another 400 metre beyond the current mining area to the boundary of Portion 15 of the farm Gestoptefontein 349 I.O. (north-west boundary of the prospecting area).

Wonderstone is in the North West province and situated approximately 12 kilometres north of Ottosdal at latitude 26°44'7"S/ longitude 25°59'49".

History

Wonderstone mines a type of pyrophyllite which, for trade purposes, has been referred to as Wonderstone.

Mining commenced at the Wonderstone Mine in 1935. The open cast operation mainly comprises hydraulic hammering and excavator loading with no drilling and blasting being necessary. The bulk of the material mined is beneficiated to produce high-precision components and powders manufactured to customers' specification which are exported to the United States of America, the United Kingdom and the Far East. A range of customised wear and acid-resistant tiles and ceramic products are produced that are mainly used for chute wear liners in the local mining industry. Wonderstone is also used in the manufacture of industrial filtration solutions.

Mining authorisation

The Wonderstone converted mining rights were executed on 24 April 2013 for the farm Portion 44 of Gestoptefontein 349 I.O. (MR398).

Geology

Wonderstone is a non-fibrous type of pyrophyllite, an aluminium silicate of the phyllosilicate family, with the chemical formula $Al_2 Si_4 O_{10} (OH)_2$. It is a very fine grained compact rock of uniform texture and composition, and comprises a greenschist metamorphic product derived from the alteration of felsic volcanics, with a melting temperature of approximately 1 630°C.

The pyrophyllite forms part of the Syferfontein Formation of the Dominion Group and occurs as bands within a thick mass of inclined felsic volcanics. The thickness of the main band is approximately 190 metres with thinner lava bands up to 20 metres thick. The whole formation has a north-westerly to south-easterly strike and dips in a south-westerly direction at angles of between 25° and 48° below the horizontal.

Wonderstone occurs in two shades of grey, dark and light. The product is mined and grouped on the basis of colour and on the customer colour demand. The lighter grey Wonderstone is typically found towards the surface, whilst the darker grey Wonderstone occurs beneath it in the less weathered regions. Flaws such as cracks and felsic inclusions are avoided through the selective surface open cast mining method.

Resistance to the destructive influences of weathering and corrosive agents, superior workability, strength and other useful qualities, are distinct in the commercial exploitation of this mineral.

Mineral Resources and Reserves

The selection of Wonderstone in the processing plant is not based on grade but on the ore's natural characteristics, ie colour, consistency in hardness, free of natural fractures, etc. The classification into Measured, Indicated and Inferred Mineral Resources relates to the borehole spacing and the open-cast development. The resources consist of stockpiles and *in situ* tonnages after deductions for mining and processing losses.

The boreholes were drilled at about 200 metre spacing perpendicular to the dip angle, along the south-western contact boundary between the overlying felsic volcanic layer and the ore body. The collar positions of the drill holes were surveyed, but down-hole surveys were not done, and the holes were assumed to have minimal vertical deflection.

The Wonderstone Measured Resources are calculated above and below the current survey surface profile and comprise both sold tons and tons added to the stockpiles during the financial year. The Indicated Resources are calculated to 30 metres below the open pit's extend and current survey surface profile (after the Measured Resource portion was deducted), whereas the Inferred Resources are calculated over the remaining lease area to a depth of 30 metre below natural ground level.

The SG of the *in situ* pyrophyllite is 2,64 t/m^3 whereas the SG of the stockpiles has been determined as being 1,96 t/m^3.

The Resource classification was done by considering various geological parameters, which include the continuity and overall behaviour of the Wonderstone obtained through borehole information.

Mineral resources and reserves report continued

SUBSIDIARY COMPANIES 2015 continued

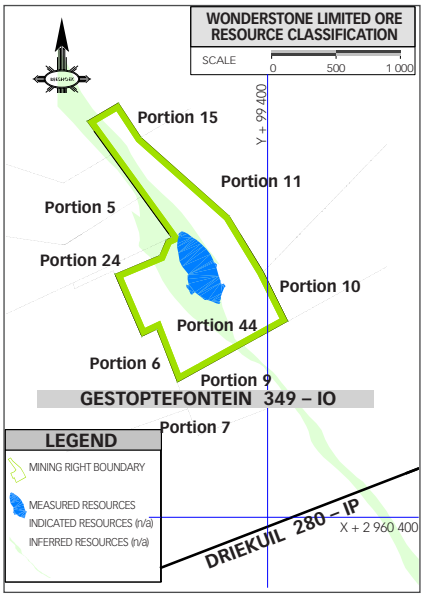
Assore – Pyrophyllite (Wonderstone) Mine continued

Wonderstone Mine: Mineral Resources and Reserves

	Mineral Resources			Mineral Reserves	
	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Proved (Mt)	Probable (Mt)
Outcrop below NGL to current mining floor	2,1	0,0	0,0	2,0	0,0
Ore Dumps	1,5	0,0	0,0	1,5	0,0
Total volume down to 30 metre below NGL	0,0	11,8	0,0	0,0	11,2
Prospecting area: quarry depth 30 metre	0,0	0,0	107,2	0,0	0,0
Total Wonderstone 2015	**3,6**	**11,8**	**107,2**	**3,4**	**11,2**
Total Wonderstone 2014	2,1	14,1	107,2	2,0	13,4
Summary total 2015	**15,4**			**14,6**	
Summary total 2014	16,2			15,4	

Mineral Resources are inclusive of Mineral Reserves.
Totals are rounded off.
Modifying factors for the conversion of Mineral Resources to Reserves include: geological- & mining losses.

WONDERSTONE RESOURCES



Source: WS Microstation base plans