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a subsidiary of xstrata

ASX RELEASE

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ANNUAL STATEMENT OF MINERAL RESOURCES AND ORE RESERVES

Sphere Minerals Limited is pleased to announce that work at its Mauritanian Iron Ore project is continuing to progress towards the Company's goal of developing a significant new Mauritanian Iron Ore mine.

The Company has completed its annual assessment and reconciliation of resources and reserves for its four project areas in Mauritania – Askaf, Lebtheinia, Guelb el Aouj and Bou Derga. The results are set out in Appendix A.

There have been no changes to the resources at Lebtheinia and Guelb el Aouj. There have been no changes to the Reserves at Askaf and Guelb el Aouj.

Golder Associates, who carried out an initial Mineral Resource estimation in 2010 and a subsequent update in 2011, has updated its results at the Askaf North site during 2012. Golder Associates also carried out an initial Mineral Resource estimation for the Bou Derga site during 2012.

Mineral Resources and Ore Reserves in this report are reported in accordance with the 2004 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), December 2004, with the exception of Askaf North resource update, which has been reported in accordance with the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), December 2012.

The mineral resource and ore reserve data in the following tables are as at 31 December 2012. For comparison purposes, data for 2011 has been included.

All data is presented on a 100% asset basis, with the Sphere attributable percentage shown against each asset.

The Measured and Indicated Mineral Resources are reported inclusive of those resources modified to produce reserves.

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Appendix A

Sphere Mineral Resources (inclusive of Ore Reserves)

Name of operation	Attributable interest	Commodity	Measured Mineral Resources 31.12.12	Measured Mineral Resources 31.12.11	Indicated Mineral Resources 31.12.12	Indicated Mineral Resources 31.12.11	Measured and Indicated Mineral Resources 31.12.12	Measured and Indicated Mineral Resources 31.12.11	Inferred Mineral Resources 31.12.12	Inferred Mineral Resources 31.12.11	Competent Person
Guelb el Aouj East[a]	**50%**	Fresh (Mt)	190	188	310	313	500	501	200	200	SK
		Fe (%)	36	35.5	37	36.8	36	36.3	36	36.3	
		DTC wt (%)	44	44.1	46	46.4	46	45.5	44	44.3	
		DTC Fe (%)	70.1	70.1	70.2	70.2	70.2	70.2	70.2	70.2	
Guelb el Aouj Centre[b]	**50%**	Fresh (Mt)							225	225	SK
		Fe (%)							36	36.0	
		DTC wt (%)							46	45.6	
		DTC Fe (%)							70.6	70.6	
Bou Derga[c]	**50%**	Fresh (Mt)							510		AM/SvdM
		Fe (%)							36		
		DTC wt (%)							43		
		DTC Fe (%)							69.7		
		Oxidised (Mt)							130		AM/SvdM
		Fe (%)							35		
Askaf North[d]	**90%**	Fresh (Mt)	200	161	160	129	360	290	45	104	AM/SvdM
		Fe (%)	36	36.1	35	35.2	36	35.7	36	35.8	
		DTC wt (%)	47	46.1	45	43.1	46	44.7	45	44.3	
		DTC Fe (%)	69.8	70.2	69.4	70.1	69.6	70.1	69.2	70.1	
		Oxidised (Mt)	15		30		45		15		AM/SvdM
		Fe (%)	35		35		35		35		
Lebtheinia Centre[e]	**100%**	Fresh (Mt)			2,180	2,179	2,180	2,179	350	354	AM/SvdM
		Fe (%)			32	32.3	32	32.3	32	32.4	
		DTC wt (%)			27	27.5	27	27.5	27	27.2	
		DTC Fe (%)			68.6	68.6	68.6	68.6	68.1	68.1	
		LOX (Mt)							210	209	AM/SvdM
		Fe (%)							31	30.7	
Total Iron Ore Mineral Resources		**(Mt)**	**405**	**349**	**2,680**	**2,621**	**3,085**	**2,970**	**1,685**	**1,092**	

Sphere Ore Reserves

Name of operation	Attributable interest	Mining method	Commodity	Proved Ore Reserves 31.12.12	Proved Ore Reserves 31.12.11	Probable Ore Reserves 31.12.12	Probable Ore Reserves 31.12.11	Total Ore Reserves 31.12.12	Total Ore Reserves 31.12.11	Competent Person
Guelb el Aouj East[a]	**50%**	OC	(Mt)	150	152	280	277	430	429	RB
			Fe (%)	36	35.9	37	36.5	36	36.3	
			DTC wt (%)	45	44.6	44	43.6	44	44.0	
			DTC Fe (%)	70.8	70.8	70.6	70.6	70.7	70.7	
Askaf North[d]	**90%**	OC	(Mt)	150	146	100	100	250	246	RB
			Fe (%)	36	35.5	34	33.9	35	34.8	
			DTC wt (%)	46	46.3	43	43.3	45	45.1	
			DTC Fe (%)	70.2	70.2	70.1	70.1	70.1	70.1	
Total Iron Ore Reserves			**(Mt)**	**300**	**298**	**380**	**377**	**680**	**675**	

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Notes:

DTC wt (%) – Davis Tube Concentrate mass recovery.
DTC Fe (%) – Davis Tube Concentrate assay %Fe.
Davis Tube test work has been conducted at a grind size of 95% passing 80 micron unless otherwise stated.

The rounding used for the 2012 values in this report reflects the confidence in the different levels of resource and reserve classifications. Tonnages are reported to two or three significant figures depending on the resource classification and order of magnitude of the tonnage. Grades are reported to two or three significant figures depending primarily on the variable being estimated. The differences between the 2011 and 2012 numbers for the El Aouj East and Lebtheinia resources, as well as the El Aouj East and Askaf North reserves are the result only of rounding criteria adopted for this report. None of these resources or reserves have been updated during this reporting year.

(a) **Guelb el Aouj East:** The "Guelb" deposits are hosted in Banded Iron Formations (BIF) within the Dorsale Reguibat, an uplifted part of the Archaean West African Craton, which dominates the northern third of Mauritania's surface geology. Recrystallisation and aggregation of the magnetite grains in BIF has resulted in the partial to total destruction of the original banded (bedding) texture to produce the Guelb el Aouj magnetite-quartzite (MQ) deposits. The geological sequence is overprinted by a reasonably uniform, 80-85m thick weathered zone in which much of the magnetite has oxidised to hematite (as martite). The weathered zone is not included in the Mineral Resource estimate. Resources shown are for fresh mineralisation below the base of oxidation at 20% Fe cut-off grade.
The Guelb el Aouj East Reserve Statement uses a 20% DTC wt% cut-off. Based on testwork, adjustments to concentrate grades have been applied to allow for fine grinding to 60µm compared to 80µm.

(b) **Guelb el Aouj Centre:** The el Aouj Centre magnetite-quartzite deposit is a highly metamorphosed banded iron-formation ('meta-BIF') unit 100-200m thick, in which the original bedding has been partially to completely obliterated by recrystallisation, resulting in a coarse-grained texture with aggregated magnetite grains. The deposit has a leptinite footwall and a hanging wall of amphibolitic garnetiferous gneiss, locally magnetite-rich. The south west limb is characterised locally by the presence of thin (mostly <6m) concordant granite intrusions within the main magnetite-quartzite unit, particularly in its upper part. This unit contains occasional lenses of lower grade magnetite-bearing quartzite (QMM). Two near-vertical dolerite dykes and one large, north block down normal fault (the Central Fault) were mapped in 2003 and cross-cut the deposit. The geological sequence is overprinted by a reasonably uniform, 30-40m thick weathered zone in which much of the magnetite has oxidised to hematite (as martite). The weathered zone is not included in the Mineral Resource estimate.

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Resources shown are for fresh mineralisation below the base of oxidation at 20% Fe cut-off grade.

(c) **Bou Derga:** The Bou Derga deposit forms part of a larger scale synformal structure defined by an Archean magnetite-quartzite (MQ) unit that ranges in true thickness from approximately 20 m to 200 m. The thicker parts of the deposit are considered to be a result of isoclinal folding. Drilling was restricted to the western fold closure. The deposit dips towards the north-east at about 60°. The deposit contains a number of internal waste bands (typically 5 m to 50 m thick) which have been modelled separately and excluded from the mineral resource estimation. A north-west – south-east trending fault displaces the mineralisation in the south-eastern part of the deposit. This resource uses a cut off grade of 20% DTC wt% for fresh (unoxidised) mineralisation and a cut-off grade of 20% head Fe for oxidised mineralisation. All reported concentrate grades were weighted by DTC wt%.

(d) **Askaf North:** Askaf North Deposit is an east-west striking synformal structure defined by a magnetite-quartzite (MQ) unit that ranges in true thickness from approximately 140m in the western hinge zone to approximately 30m along the eastern part of the southern limb. The synformal axis plunges at between 20° to 30° towards the east in the western part of the synform, and at about 35° to 45° towards the west at the eastern fold closure, producing a double plunging synform. A dolerite dyke has been emplaced along an east-west fault zone that displaces the northern part of the deposit in a dextral shear sense. The disruption and emplacement of the dolerite along the northern limb of the synform has not affected the quality of the mineralisation. The MQ unit represents a metamorphosed banded iron-formation (BIF). The precursor BIF was subjected to high-grade metamorphic conditions during the Archaean, which resulted in complete recrystallisation of the original fine-grained BIF. In most cases the primary textures have been destroyed by the recrystallisation. Coarse-grained (>1mm) MQ is produced as a result, with good Davis Tube liberation characteristics and concentrate grades at a liberation grind size of 95% passing 80 micron.

The Askaf North Resource Statement has been prepared in accordance with the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), December 2012.

The Askaf North Resource Statement uses a cut-off grade of 20% DTC wt% for fresh (unoxidised) mineralisation and a cut-off grade of 20% head Fe for oxidised mineralisation. All reported concentrate grades were weighted by DTC wt%.

The resource reported as at 31 December 2011 combined the fresh and oxidised mineralisation. The fresh and oxidised mineralisation has been separated for the reporting as at 31 December 2012.

The Askaf North Reserve Statement for iron ore was prepared by Golder Associates as part of a Pre-feasibility Study undertaken for Sphere in 2011, using a 20% DTC wt% cut-off, to produce a coarse concentrate from a dry magnetic separation plant,

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grading at 65% Fe. The Pre-feasibility Study included mine planning and additional investigations to assess the factors required for a successful iron ore mine development in Mauritania. The reserve statement reported is based on the 2011 resource estimate not the 2012 resource estimate update presented in this report. The timing of the updated 2012 resource estimate precluded the update of the reserve estimate using the 2012 resource update prior to release of this report.

(e) **Lebtheinia Centre:** The magnetite-rich banded iron-formations (BIF) at Lebtheinia form part of the Archaean Lebzenea Group. The BIF units in EL264 are exposed over a total strike length of approximately 24km, of which Lebtheinia Centre has a strike length of 11.5km. Parts of the main BIF unit at Lebtheinia Centre deposit are covered by laterite and colluvium consisting mostly of BIF fragments.

The magnetite-BIF at Lebtheinia Centre averages about 240m thick. The BIF is characterised by a well defined banding pattern, with individual bands ("mesobands") averaging 5-10mm thick. Drilling shows that mineralisation extends to at least 400m vertically below natural surface and is open at depth. The deposit is intruded by a series of sub-vertical dolerite dykes, striking NE-SW to NNE-SSW. Lebtheinia Centre has a hanging wall of (variously) quartzite, amphibolite, rhyolite, clay/saprolite (altered amphibolite) and a footwall of quartzite or amphibolite.

The depth of weathering (oxidation) of the BIF averages around 50m. In the lower two thirds of the oxidised zone (the Lower Oxidised Zone, "LOX") the degree of oxidation is less than in the more oxidised upper third.

The Lebtheinia Resource Statement for Fresh Iron Ore uses 20% DTC wt% cut-off. For the LOX unit the cut-off is 14 SI x 10-3 units of magnetic susceptibility.

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.

Competent Persons:

AM = Alan Miller, Golder Associates Pty Ltd (MAusIMM (CP)). Mr Miller is the Competent Person responsible for the construction of the geological block model, the grade interpolation and the Mineral Resource estimation (tonnage and grade) and classification.

RB = Ross Bertinshaw, Golder Associates Pty Ltd (FAusIMM (CP))

SvdM = Dr Schalk van der Merwe, Sphere Minerals (SACNSP). Dr van der Merwe is the Competent Person responsible for the geological interpretation for the Mineral Resource estimation (wireframe model), and the drill hole data set used in these resource estimation.

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SK = Dr Sia Khosrowshahi, Golder Associates Pty Ltd (MAusIMM (CP))

These individuals are qualified as Competent Persons as defined in the 2004 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), December 2004. For the Askaf North resource update, the relevant individuals are qualified as Competent Persons as defined in the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), December 2012.