

# ASX ANNOUNCEMENT

2 June 2015

# Fourfold Increase in Bauxite Hills Ore Reserve

Metro Mining Limited announces a significant increase in its Bauxite Hills Project Ore Reserve from 12.1 million tonnes\* to 48.2 million tonnes.

# Xey Points

41.8 million tonnes Proved Ore Reserve\*\* (50.7% total Al<sub>2</sub>O<sub>3</sub>, 38.6% THA, 6.3% RxSi)

6.4 million tonnes Probable Ore Reserve\*\* (49.3% total Al<sub>2</sub>O<sub>3</sub>, 36.8% THA, 6.9% RxSi)

 $^{m P}$  Mine Life extended from 21 to 27 years

Production of up to 2 million tonnes of Direct Shipping Ore (DSO) per year\*\*\*

# **Bauxite Hills Project Summary**

The Bauxite Hills Mine Project is situated 95 km north of Weipa on Queensland's Cape York Peninsula and five kilometres south-east of the port at Skardon River (see Figure 1). Western Cape York is world-renowned for its deposits of high-quality, export-grade bauxite.

The Company completed a Pre-Feasibility Study (PFS) in February 2015. This study identified a Probable Ore Reserve of 12.1 million tonnes<sup>\*</sup> (49.2 % total  $Al_2O_3$ , 36.6% THA, 7.4% RxSi) Direct Shipping Ore (DSO) compliant with the JORC 2012 code and based on the borehole analysis and geological modelling completed up to that date.

Since the completion of the PFS in February, Metro has completed the analysis of the BH1 boreholes drilled previously at 160m centres and has updated the geological model to include these results; refer Table 2. The geological model update resulted in the resource upgrade announced to the ASX on 2 June 2015.

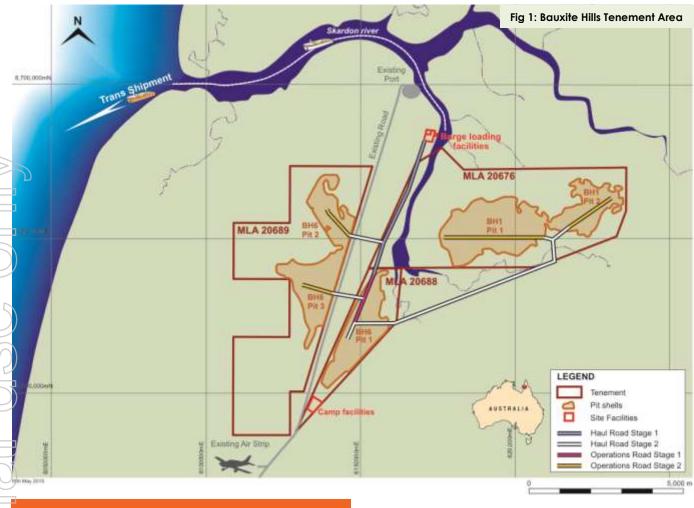
The recent drill hole analysis and geological modelling continue to confirm that the resource at Bauxite Hills is suitable for Direct Shipping Ore (DSO) that is planned to be transhipped via the Skardon River.

The production of DSO allows the development of a mine with lower capital and lower operating costs than a mine producing a beneficiated bauxite product by avoiding a number of significant costs, including; reduced infrastructure costs with no requirement for a large beneficiation plant and associated reduced water, energy and tailings dam requirements.

\*Refer ASX Announcement 17 Feb\* 2015

\*\*Reserve estimated in accordance with guidelines in JORC (2012)

<sup>\*\*\*</sup>Refer ASX Release 17 Feb 2015. Metro confirms all material assumptions underpinning the production target and corresponding financial information continue to apply and have not materially changed as per Listing Rule 5.19.2



# Mining the Bauxite Hills Project

# Mining Method

Open cut mining method utilising front end loaders for loading and trucks for hauling. The material does not need any drilling and blasting, however some ripping by dozer is likely to be required. The wheel loaders are recommended for loading because of its high manoeuvrability for blending purposes. This is the preferred mining method for bauxite deposits. The bauxite will be hauled to the ROM stockpile using Road Train Trucks. Waste material will be initially stored Ex-Pit onto barren or non-economical land while the In-Pit waste dumping is expected to commence within first six months of production. The waste volume is low for this deposit and it is not expected to represent a major problem in terms of waste storage or required capacity of mining equipment.

### **Equipment Assumptions**

As part of the Pre-Feasibility Study, equipment sections were completed in two stages. Firstly to supply costs for equipment appropriate in such a deposit, these were then utilised as part of the pit optimisation. The second stage constituted a detailed equipment section to meet the production schedule defined in the PFS Revision. MEC Consultants derived the number of equipment units required for the loading, hauling, crushing and auxiliary. Loading and hauling cycle times for each mining area were calculated in the model using standard machinery operating guidelines. The data was combined with typical operational delay and utilisation of equipment to estimate the fleet productivity in order to achieve the planned annual production of up to 2Mtpa of mined and crushed Bauxite.

#### **Mining Boundaries**

The PFS Revision considered two key boundaries in development of the mine plan and subsequent reserves. The Mining Lease boundaries were given a 50m clearance offset to allow for adequate haulage space and environmental buffer. The Bauxite Hills deposit also encroaches on areas defined as Matters of State Environmental Significance (MSES), these zones have been treated with a 100m off-set.

### Mining Loss & Dilution

The nature of the deposit was considered along with the selected equipment types to determine appropriate loss and dilution factors. The product is a Run of Mine Ore or Direct Shipping Ore (DSO) and in order to minimise the degradation of quality of product, higher loss was accepted and modelled. The Reserves are adjusted for loss of 0.1m at the roof and 0.1m floor of the Bauxite interval. A dilution of 0.1m from the top horizon is assumed between top and bauxite horizons.

## Other Mining Factors & Cut-off Grade

A Pit Optimisation was completed as part of the PFS in order to determine the economic mining limit of the ore resource. Mineralised zones were defined by grades  $\geq$ 45% total Al<sub>2</sub>O<sub>3</sub> and  $\leq$ 8% RxSi.

## Social and Environmental Factors

The Environmental Permit for Mining (EPM), Mining Lease and Native Title claims are mentioned in detail within the PFS and reserves report. The EPM is owned by Metro Mining and the Mining Leases are in "Application" status. Two Native Title claims have been lodged and Metro Mining is working on the "right to negotiate" process under Section 29 of the Act.

In addition an EIS study is currently being completed by CDM Smith. There are several environmentally sensitive areas surrounding the bauxite deposit but their location is accurately known; no bauxite resources have been included within these areas.

## Production and Processing

The Bauxite Hills Project was assessed based on annual production of up to 2 million tonnes of wet DSO (10% moisture) product over a mine life of 27 years. The inferred ore and non-categorized ore utilised in the pit optimisation and the mining schedule is less than 10% of the schedule material and a positive project value is still achieved with its exclusion.

The ROM ore will be screened and crushed to remove organic material and reduce the top size of 100mm. No other beneficiation or processing is required.

Mineralised zones are defined by grades  $\geq$ 45% total Al<sub>2</sub>O<sub>3</sub> and  $\leq$ 8% RxSi, based on saleable grade Timitations.

## **Economic Pit Boundary**

The Lerchs-Grossmann pit optimisation algorithm was utilised in the Vulcan software to determine the extent of economically mineable ore reserves. The individual block values were assigned considering product price and mining costs, along with quality variations. The ore blocks are spatially grouped in the process to determine the economical extent of the mining reserves.

The optimisation process also takes in account the capital expenditure which is applied during the optimisation analysis stage. Table 1 shows the initial capital expenditure figures used during the process of optimization. Additional capital will be required to cover the cost of development over the life of mine with initial CAPEX remaining at AU\$27.4M. Capital expenditure will include the development of haul roads and pit access, camp and mine site facilities, loading and crushing facilities, acquisition of mining equipment and a contingency of 25% of total capital costs.

#### Table 1: CAPEX:

Breakup of capital required for first production

2016 Construction 2016 Capex	A\$M
Mine Access (Haul Road)	\$2.8
Mine & barge Loading Infrastructure	\$10.6
Mine Camp & Airport	\$5.0
Mining Equipment	\$2.5
Contingency & Owners Costs	\$6.5
Total Capex	\$27.4

NB: additional anticipated capital of \$18.1M will be required in years following first production for extending haul roads and sustaining capital.

# Pit Design

#### **Bauxite Quality and Market**

The price of commodity used during the optimisation process varies on block by block basis. The variation reflects the change in quality of ore within mining blocks. Each 1% of increase in content of reactive silica (RxSi) in Bauxite is calculated to decrease the FOB price of the bauxite by a factor agreed with the customer. Each 1% increase in tri-hydrate alumina (THA) content of Cape Alumina bauxite is calculated to increase the FOB price of the bauxite by a factor agreed with the customer. The price of Bauxite FOB, North Queensland was provided by CM Group (CM), a commodity supply specialists hired by Metro Mining refer ASX release 17 Feb 2015. The optimisation process uses the average price as a base value which was then adjusted on block by block basis in accordance to changes in grade, as discussed above.

The Bauxite deposit is a very shallow deposit and does not require detailed batter design. Pit and stage designs were produced on the basis of batters at angle of repose. These designed were reserved in Deswik software for scheduling purposes.

## Schedule & Financial Analysis

The economic block model reserves were used to define a mining limit with practical mining blocks then cut to a detailed scheduling as part of the Prefeasibility study. The detail dig and dump sequencing along with equipment numbers were then modelled in a discounted cash flow model to further justify the project value when full offsite cash costs are analysed.

The Bauxite Hills Project was assessed based on annual production of up to 2 million tonnes of product for a life of mine of about 27 years. For the purpose of realistic mine production modelling a portion of inferred and lesser confidence resources were included, removal of these from the economic modelling has no impact on the reserves stated in this estimate as the economic viability is tested on each block and a full site level with this portion representing less than 10% of the modelled production. It is important to note that Inferred Category and non-categorized material according to JORC Standard cannot be converted to Ore Reserves due to its lower confidence level.

### **Financial Modelling**

The financial model was developed by Metro Mining. The mining schedule is the key input to this model. This model was reviewed by MEC Mining and demonstrated a positive NPV when full offsite cash costs and taxation was considered. This model was also sensitivity tested demonstrating positive project value for 20% variance modelling.

## **Reserve Estimate**

#### **Overview of Ore Reserves Estimation Processes**

The ore reserves estimation process included completion of detailed pit optimisation with the resulting economic limits then used for detailed pit and stage design. The designed stages are reserved using appropriate modifying factors, and then scheduled inclusive of detailed haulage for full assessment through a financial model. This process was completed as part of the PFS and the PFS Revision.

#### **Estimated JORC Reserves**

MEC Mining calculated that 41.8 Mt of Proved and 6.4 Mt of Probable Marketable Ore Reserves is a reasonable and reliable estimate of the Reserves in the area of Bauxite Hills. On average, the Proved Reserves contains 50.73% of total Al<sub>2</sub>O<sub>3</sub> and 6.29% of reactive silica while the Probable Reserves on average contains 49.26% of total Al<sub>2</sub>O<sub>3</sub> and 6.92% of reactive silica; all qualities are reported on a dry basis. **The stated ROM reserves represent the marketable product tonnes as this is a direct shipping ore, with no beneficiation and is saleable at ROM moistures.** 

In addition to the Reserves presented in table 2, for the purpose of realistic mine production modelling a portion of inferred and lesser confidence resources were included in the production schedule of the PFS, removal of these from the economic modelling has no impact on the reserves stated in this estimate. The non-categorised reserve represents 5Mt of the 53.1Mt scheduled, with an annualised summary of mined resources by category detailed in the PFS.

$\bigcirc$	Table 2: Bauxite Hills – DSO Mineral and Ore Reserve estimates (refer Appendix 1)						
			DSO <sup>2</sup>	DSO E	Bauxite Qua	lities (Dry Bo	isis)
	Area	Category	Tonnes (Mt) <sup>1</sup>	Total Al <sub>2</sub> O3 (%)	THA <sup>3</sup> (%)	Total SiO2 (%)	RxSi⁴(%)
ВН1	& BH6	Measured Resource (Dry In-situ)	41.8	51.0	39.2	11.0	6.1
BH1	& BH6	Indicated Resource (Dry In-situ)	8.3	49.3	37.1	14.0	6.8
BH1	& BH6	Inferred Resource (Dry In-situ)	3.4	48.4	35.9	14.8	7.2
		TOTAL RESOURCE	53.6	50.6	38.6	11.7	6.3
BH1	& BH6	Proved Reserve⁵ (ROM @ 10% Moisture) Probable Reserve⁴	41.8	50.7	38.6	10.9	6.3
SUBH1	& BH6	(ROM @ 10% Moisture)	6.4	49.3	36.8	13.4	6.9
	тоти	AL MARKETABLE ORE RESERVES	48.2	50.2	38.4	11.2	6.4

<sup>1</sup> For BH1 and BH6 the tonnages are calculated using the following default bulk densities determined from a program of sonic drilling; 1.6g/cm<sup>3</sup> for BH1 and 2g/cm<sup>3</sup> for BH6. Actual values are used where measurements have been taken <sup>2</sup>DSO or "Direct shipping ore" is defined as bauxite that can be exported directly with minimal processing and beneficiation.

<sup>3</sup> THA is trihydrate available alumina (gibbsite alumina + kaolinite alumina – low temperature desilication product (DSP) alumina) at 150°C.

<sup>4</sup> RxSi is reactive silica at 150°C.

<sup>5</sup> Proved Reserve - the probable reserve is included in the BH1 & BH6 Measured resource

Probable Reserve - the probable reserve is included in the BH1 & BH6 Indicated resource



ASX : MMI

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**COMPETENT PERSON'S STATEMENT** The information in this report to which this statement is attached that relates to the "Metro Mining – Bauxite Hills" Reserve Estimate based on information compiled by Maria Joyce, a consultant to Metro Mining and a Competent Person who is a Chartered Engineer of the Australasian Institute of Mining and Metallurgy. Maria Joyce is the head of the Technical Services division and full-time employee of MEC Mining Pty Ltd. Maria Joyce has sufficient experience that is relevant to the style of mineralization, type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Maria Joyce consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

# Appendix 1: JORC Code, 2012 Edition – Table 1 report template

# Bauxite Hills Project BH1 & BH6 Deposits – 'Direct Shipping Ore' (DSO)

Section 1 Sampling Techniques and Data

Criteria in this section apply to all succeeding sections.)

	Criteria	JORC Code explanation - DSO ("Direct Shipping Ore")	Commentary
	Sampling Techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	Reverse Circulation aircore drill hole samples were collected in plastic bags over 0.25 m intervals through a cyclone. All the material within the interval was collected. All samples were geologically logged at time of collection to determine 1) the type of bauxite material, 2) when to stop the hole, 3) which samples to retain for analyses and 4) which samples to composite over 0.5 m intervals.
	5	<ul> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	Samples were composited, at the time of collection, over 0.5 m intervals where the geologically logged material was similar or collected as individual 0.25 m samples.
0			The entire sample was collected to ensure, as much as possible, the representivity of the drilled material. Sample weights were between 2 and 5 kg depending on whether they were composited at the time of collection.
			Samples that contained pisolites, in any volume, were assumed to be bauxitic and were retained for analyses.
	Drilling Techniques	• Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	The resource evaluation drilling was carried out by Wallis Drilling Pty Ltd using a Mantis 100 Reverse Circulation aircore drill rig mounted on a light 4x4 truck. Shallow (4-6 m) holes were drilled vertically using HQ rods with an aircore drill bit with a diameter of 96 mm.
			Drilling to collect samples for bulk density and moisture determinations was undertaken by GeoSonic Drilling Pty Ltd using a small trailer-mounted sonic drill rig with an internal bit diameter of 65 mm.
	Drill Sample Recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade</li> </ul>	Reverse Circulation aircore drilling was used because of its proven reliability in producing high sample recoveries and accurate interval depths. No formal method of measuring and recording recoveries was adopted.
		and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	To ensure representivity of the material being drilled the entire sample was collected from the drill hole.
			The aircore drilling method was used to ensure collection of as representative a sample as possible.

Criteria	JORC Code explanation - DSO ("Direct Shipping Ore")	Commentary
		The sonic drilling method was used to collect samples for bulk density determinations as it is a proven method of collecting continuous and intact samples that can be measured to determine volumes and weighed to determine densities.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	All drilled intervals were geologically logged at 0.25 m intervals. The logging was done in a qualitative manner and focussed on documenting the amount of pisolitic material, soil, clays and ironstone. In the field the bauxitic horizons were defined by the presence of pisolites and the absence of ferricrete.
Sub- Sampling Techniques and Sample Preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to 7maximize representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>No sub-sampling of material was undertaken at the time of collection. The entire sample was collected over 0.25 m intervals directly from the cyclone on the drill rig. The samples did not require any drying prior to bagging.</li> <li>For the analyses of DSO bauxite two sample preparation protocols were used as follows: <ol> <li>For samples from drill holes on a nominal 320m by 320m grid that were previously screened (+1.2mm) and analysed</li> <li>Create a composite sample (or samples) over the bauxite interval in each hole to be analysed using all the material in sample splits retained from earlier analyses of screened (beneficiated) samples (Undertaken either under the supervision of the company or at ALS's Virginia laboratory).</li> <li>Report weight of received sample.</li> <li>Riffle split each sample portion of the split to a nominal 85% passing 75 microns (undertaken by ALS's Virginia laboratory in Brisbane).</li> <li>For samples from in-fill drill holes on a nominal 160m by 160m grid that h ad not been previously prepared or analysed.</li> <li>Report weight of received sample.</li> </ol> </li> <li>Pulverise the smaller portion of the split to a nominal 85% passing 75 microns (undertaken by ALS's Virginia laboratory in Brisbane).</li> <li>For samples from in-fill drill holes on a nominal 160m by 160m grid that h ad not been previously prepared or analysed.</li> <li>Report weight of received sample.</li> <li>Riffle split each sample down to an acceptable size for pulverising and return split to original bag for storage (undertaken by ALS's Virginia laboratory in Brisbane).</li> <li>Pulverise the smaller portion of the split to a nominal 85% passing 75 microns (undertaken by ALS's Virginia laboratory in Brisbane).</li> <li>Approximately 15% of the samples are composite samples hat have been prepared in the laboratory by riffle splitting and</li> </ul>
		combining. The composites do not include more than two samples. This preparation is regarded as being appropriate for bauxite

Criteria	JORC Code explanation - DSO ("Direct Shipping Ore")	Commentary
		analyses.
		As the entire sample was collected in the field no duplicate sampling was possible or deemed to be required.
Quality of Assay Data & Laboratory Tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>Sample analyses were undertaken by ALS at its Stafford laboratory in Brisbane.</li> <li>The analytical methods applied to the pulverised sample were as follows: <ul> <li>Total oxides by XRF (ALS code ME-XRF13b). Al<sub>2</sub>O<sub>3</sub>, BaO, CaO, Cr<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, K<sub>2</sub>O, MgO, Na<sub>2</sub>O, P<sub>2</sub>O<sub>5</sub>, SiO<sub>2</sub>, SO<sub>3</sub>, SrO, TiO<sub>2</sub>, V<sub>2</sub>O<sub>5</sub>, Zn, ZrO<sub>2</sub>O.</li> <li>H<sub>2</sub>O/LOI by TGA furnace (ALS code ME-GRA05)</li> <li>Available alumina in bauxite by ALS method Al-LICP01 (150°C)</li> <li>Reactive silica by ALS method Si-LOCP01 (150°C)</li> </ul> </li> <li>Two standard reference samples for bauxite were obtained from Geostats Pty Ltd, renumbered, and provided to the laboratory to insert in each batch. One of each sample was inserted approximately every twenty (20) samples. This was regarded as a measure of the accuracy of the laboratory. The results were all within one standard deviation of the certified values indicating no significant bias between sample batches.</li> <li>No field duplicate samples were collected as the total sample was submitted for analysis.</li> <li>In the laboratory as a Quality Control measure, every 10th sample was completed in duplicate and four laboratory standards and one blank were run in conjunction with the samples and data reported to the company.</li> </ul>
Verification of Sampling	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> </ul>	In the laboratory every 10th sample was completed in duplicate as listed above.
and Assaying	<ul> <li>The use of twithted holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Analyses from 21 twinned drill holes have been completed. Duplicate holes had very high correlation coefficients for the total silica, reactive silica, total alumina and available alumina grades that indicated no inherent problems in the sampling or laboratory protocol.
		Analytical data were provided by the laboratory in csv format and as pdf. The data have been compiled by the company into Excel spreadsheets and merged with drill hole location data and sample intervals.
Location of	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used</li> </ul>	Drill hole collar positions were surveyed by Fugro Spatial Solutions Pty Ltd using Trimble RTK GPS units. Three units were used; one base

	Criteria	JORC Code explanation - DSO ("Direct Shipping Ore")	Commentary
	Data Points	<ul><li>in Mineral Resource estimation.</li><li>Specification of the grid system used.</li><li>Quality and adequacy of topographic control.</li></ul>	station and two rovers. Easting and Northing co-ordinates were quoted to three decimal places based on datum GDA94 using zone 54. Elevation was quoted to two decimal places using an adopted AHD from Ausgeoid'09.
			In late 2014 Lidar data was acquired which provides more accurate elevation data. This data has been used in the resource modelling.
0	Data Spacing &	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral</li> </ul>	In the BH1 area 1,482 holes were drilled on a nominal 80m x 80m north-south, east-west grid.
0	Distribution	<ul> <li>Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	Samples from a subset of the drilling program, representing a nominal 160m x 160m grid were submitted for analyses. The remainder of the samples have been retained in storage.
5			This data spacing is deemed sufficient to establish the degree of geological and grade continuity appropriate for an Measured Mineral Resource estimate at BH1, where holes with a sonic density reading are within 800m. This distance is based on the typical distance generated by the variography of the various analysis.
0			For the purposes of the DSO bauxite Mineral Resource estimate at BH1, samples have been composited over the entire bauxite interval in each hole as determined by earlier analyses of screened samples over 0.25 m and 0.5 m intervals.
I	$\supset$		In the BH6 area 505 holes were completed on a 160m x 160m grid.
			Samples from a subset of the drilling program, representing a nominal 160m x 160m grid, were submitted for analyses. This data spacing was deemed sufficient to establish the degree of geological and grade continuity appropriate for an Indicated Mineral Resource estimate. In February 2015 the sonic drilling program established a series of holes through the area allowing the certainty to assign Measured Resource within 800m of the dry bulk density analysis.
0			Samples from the 160m x 160m grid were composited over the entire bauxite interval in each hole as determined by earlier analyses of screened samples over 0.25 m and 0.5 m intervals. No individual 0.25m or 0.5m samples remain from these holes
			Approximately 15% of the samples from the 160m x 160m in-fill drilling were composites prepared in the laboratory by riffle splitting and combining a maximum of two samples. All other samples were the original 0.25m or 0.5m samples.
t	Orientation	Whether the orientation of sampling achieves unbiased sampling of	All drill holes are vertical and intersect the mineralisation at an

Criteria	JORC Code explanation - DSO ("Direct Shipping Ore")	Commentary
of Data in Relation to Geological Structure	<ul> <li>possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	approximate 90° angle. The mineralisation is known to be near horizontal with a tabular attitude. This is typical of bauxite deposits in the Weipa area. There is therefore no sampling bias resulting from the orientation of the drilling and that of the mineralised body.
Sample Security	<ul> <li>The measures taken to ensure sample security.</li> </ul>	The samples were collected in large plastic sample bags on site which were secured with industrial quality duct tape and then placed, along with other samples from the drill hole, in large polyweave bags which were secured with cable ties.
P		Due to the nature of bauxite mineralisation there is little opportunity to tamper with or otherwise modify the sample.
		The samples used in the DSO bauxite Mineral Resource estimates were stored in secure containers in a locked shed in a secured industrial estate in Raceview, Ipswich, Queensland.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	No independent audits of the aircore drilling and sampling procedures have been undertaken. Geos Mining has reviewed the data and modelling methodology and provided recommendations to enable sign off as a Competent Person for the Mineral Resources at both BH1 and BH6 deposits.
		A review of the bulk density determinations derived from the sonic drilling program has been undertaken by Xstract Mining Consultants Pty Ltd.
Section 2 R	eporting of Exploration Results	
(Criteria listed	I in the preceding section also apply to this section.)	
Criteria	JORC Code explanation – BH1 & BH6 DSO ("Direct Shipping Ore")	Commentary
Mineral Tenement and Land Tenure Status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	BH6 is located within EPM 16899 and BH1 within EPM 15376. The EPMs are held by Cape Alumina Limited a wholly owned subsidiary of Metro Mining Limited. The tenements lie within the Mapoon DOGIT with whom the company has a Conduct and Compensation agreement.
		The underlying tenements are in good standing.
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	An appraisal has been undertaken of previous exploration for bauxite. Although some widespread sampling existed there was no evidence of systematic, grid-based drilling.
Geology	• Deposit type, geological setting and style of mineralization.	The deposit type is lateritic bauxite derived from the weathering of aluminous sediments in a tropical to sub-tropical environment.

Criteria	JORC Code explanation – BH1 & BH6 DSO ("Direct Shipping Ore")	Commentary
Drill Hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	All the drill hole information, including surveyed collars with easting, northing, elevation and depth, geological logs and analytical data are presented in Excel spreadsheets. These data were used in the estimation of the Mineral Resources. The data are stored within Metro Mining's server which is regularly backed-up.
Data Aggregation Methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	For each drill hole, bauxite intervals are based on a cut-off of $\geq$ 45% total Al <sub>2</sub> O <sub>3</sub> and $\leq$ 8% Reactive SiO <sub>2</sub> based on the analyses of beneficiated (+1.2mm) samples. A minimum thickness of 0.5 m was applied and the top 0.25 m was considered to be overburden and was not aggregated. Down-hole assays were weighted on the basis of both intercept thickness and intercept recovery (wt% +1.2mm material) to determine the weighted average assay for the bauxite zone in each drill intercept. No upper cut-off grades were applied.
		Some DSO bauxite samples used in the Mineral Resource estimates were created by compositing the splits over the entire bauxite interval, as defined by the cut-offs described above, for each hole. The remainder (~80%) are non-composited 0.25m or 0.5m samples.
Relationship between Mineralizatio n Widths and Intercept Lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralization with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	All drill holes are vertical and intersect the mineralisation at an approximate 90° angle. The mineralisation is known to be near horizontal with a tabular attitude. Intercept lengths are therefore approximately the same as the true widths of the mineralisation This is typical of bauxite deposits in the Weipa area.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	See diagrams in the report.
Balanced Reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	This is not deemed to be Material for the reporting of the Mineral Resources which considers all the analytical data.
Other Substantive	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical	Apart from the samples obtained from the Reverse Circulation aircore drilling a small number of bulk samples were collected over

Criteria	JORC Code explanation – BH1 & BH6 DSO ("Direct Shipping Ore")	Commentary
Exploration Data	survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	1 m intervals from the aircore drilling for dispatch to potential customers.
Further Work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	No further exploration drilling is planned at the BH6 plateau. Any further drilling is likely to be for additional bulk density data, water bores, environmental and mine planning.
Section 3 Es	timation and Reporting of Mineral Resources	

Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation -BH1 & BH6 DSO ("Direct Shipping Ore")	Commentary
Database Integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	Analytical data was received from the laboratory in csv format and merged with drill hole locational and from-to data in Excel spreadsheets. Checks were run to look for and correct duplicated intervals, gaps and typing errors. Vulcans database import and Compositing routines generated validation log files that were all checked in detail. All issues identified were verified, checked and corrected.
Site Visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	The Competent Person for exploration results, Neil McLean, supervised the drilling program and was on site a number of times during the program.
		The Competent Person for the mineral resource estimate, Jeff Randell, has carried out several mineral resource estimations on an adjacent tenement that contains an extension of the BH6 deposit. He has also supervised drilling programs over the past 6 years for that company.
Geological Interpretatio	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	The geological interpretation is grade-based using a threshold of ≥45% total Al <sub>2</sub> O <sub>3</sub> and ≤8% reactive SiO <sub>2</sub> to define economic bauxite. The continuity of the geological interpretation is confirmed with a reasonable degree of confidence. The data points are spaced at 160m in a nominal grid pattern over the entire BH1 and BH6 deposit. Information from other deposits in the Weipa area, such as the company's Pisolite Hills project where Mineral Resource estimates exist, provide additional confidence in the geological model.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the	The mineralisation within the bauxite plateaus is flat lying and tabular in form. The Mineral Resources have the following surface areas, average bauxite thicknesses and average overburden

Criteria	JORC Code explanation -BH1 & BH6 DSO ("Direct Shipping Ore")	Commentary
	upper and lower limits of the Mineral Resource.	thicknesses.
		BH6: Area 8.9 km <sup>2</sup> . Bauxite thickness 1.5 m. Overburden 0.5 m
		BH1: Area 6.8 km². Bauxite thickness 1.7 m. Overburden 0.6 m
Estimation & Modelling Techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>A block model was created by constructing a DTM and model of the soil, bauxite and transition zone. The block model was cut to tenement boundaries, environmentally sensitive areas and bauxitic plateaus then filled with assay and bulk density data using an Ordinary Kriging algorithm with variograms created for total silica/ alumina, available alumina, reactive silica and dry bulk density.</li> <li>Estimation parameters used included: <ul> <li>Block size 40m x 40mx 1.5m</li> <li>Omnidirectional search ellipse with maximum search distance of 800m</li> <li>lag intervals 100, 200, 400, 800, 1200m.</li> <li>Nugget, major/ minor ranges determined by best fit variograms</li> </ul> </li> </ul>
	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	The tonnes are quoted on a dry basis. The moisture contents were measured by ALS on the sonic drill samples collected from BH6 and BH1. Following drying the samples were re-weighed to provide a weight to use in the bulk density calculations.
Cut-off Parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	Mineralised zones are defined by grades $\geq$ 45% total Al <sub>2</sub> O <sub>3</sub> and $\leq$ 8% reactive SiO <sub>2</sub> .
Mining factors or Assumption	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	The resource model assumes open pit mining for all defined resources using loaders and trucks. No blasting is envisaged based on bauxite mining operations elsewhere in the Weipa area. Grade control will be assisted by laser levelling equipment fitted to mining equipment with face grade control measured by the use of portable XRF equipment and/or field laboratory.
Metallurgico	The basis for assumptions or predictions regarding metallurgical	THA (trihydrate alumina) and RxSi (reactive silica) analyses have

Criteria	JORC Code explanation -BH1 & BH6 DSO ("Direct Shipping Ore")	Commentary
I Factors or Assumptions	amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	been undertaken an all beneficiated (+1.2mm) samples from BH6 as well as the composited, DSO bauxite samples from BH6. These results are used together with the results from the XRF analyses to calculate an estimated BA (boehmite alumina) content. The calculation makes the assumption that all Al <sub>2</sub> O <sub>3</sub> is contained within gibbsite, boehmite and kaolinite and that all SiO <sub>2</sub> occurs in kaolinite and quartz. A small proportion of Al <sub>2</sub> O <sub>3</sub> may occur in an amorphous form and result in a small error in the amount of calculated BA. A small number of negative BA numbers were reported from the calculation.
Environment al Factors or Assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	An EIS has not been undertaken over the Bauxite Hills deposits. Small-scale mining of kaolin has been undertaken at the Skardon Mine located to the south of the BH6 deposit indicating that the district is not necessary regarded as 'greenfields'. There are several environmentally sensitive areas surrounding the bauxite deposit but their location is accurately known; no bauxite resources have been included within these areas.
Bulk Density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	Bulk density data specific to the deposits at Bauxite Hills has been determined from measurements undertaken on 242 samples collected from 27 sonic drill holes completed across the BH1, and BH6 deposits. The methods of sample collection, measurement and determination, as well as the results, have been independently reviewed by Xstract Mining Consultants Pty Ltd. The dry bulk density analysis was used to build a model using a triangulation surface fit to derive the values. The sonic drilling method was used to collect core samples for bulk density determinations as it is a proven method of collecting continuous and intact samples that can be measured to determine volumes and weighed to determine densities.
Classificatio	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	The Mineral Resources have been classified as Measured, Indicated and Inferred. This reflects the density of sampling at nominal 160m centres, the availability of bulk density data and the modelling method utilised.
Audits or Reviews	The results of any audits or reviews of Mineral Resource estimates.	Geos Mining has carried out an independent review of the Mineral Resource data and techniques.
Discussion of	Where appropriate a statement of the relative accuracy and	In accordance with the classification as Measured Resources, the

#### JORC Code explanation –BH1 & BH6 DSO ("Direct Shipping Ore") Commentary

#### Relative Accuracy/ Confidence

Criteria

confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.

- The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.
- These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.

Competent Person considers that there is moderate confidence that the bulk density of each block represented in the model based on analytical data. Measured resources were limited to portions of the model within 800m of bore holes with bulk density data. Significant variability has been noted within the deposits dry bulk density analysis. This factor needs to be taken into account in mine planning decisions.

In accordance with the classification as Indicated Resources, the Competent Person considers that there is moderate confidence that the total silica and alumina grades in each block are as estimated. This confidence is underpinned by the close spaced (160m) drill holes, some of which have been assayed, and results of the variography that suggest spatial continuity over distances of up to 3kms. There is however a moderately high nugget that suggests significant local variability in grade that must be considered in further upgrades of resource classification.

The modelled available alumina and reactive silica grades should be considered from a global perspective only as there insufficient samples to predict local changes. Further sampling is required in order to increase confidence in this parameter

Criteria	JORC Code explanation	CP	Com	nments							
Mineral Resource estimate for conversion to Ore Reserves	<ul> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves</li> </ul>	•	Meas 2nd J Block BH1 BH6 Che m reserv	ured, In- une 201 Tesource Category Measured Indicated Inferred Measured Inferred TOTAL	ills deposit in dicated and 5 Resource Dry In-stu DSD <sup>2</sup> Toross (MI) 24,5 1,73 0,4 17,3 7,5 255 5356 esources in s estimation ted to reser	d Inferre Stateme (%) 9.26 9.99 9.23 13.35 14.77 15.62 11.7 the June 1. With no	d Resourcent. Total A203 (%) 51.8 50.6 51.3 50.0 49.0 47.95 50.5 2015 sto	THAY (%) 19.9 40.1 39.3 36.2 36.5 36.5 38.6 atemen	RXSP (%) 5.79 6.24 6.05 6.61 6.98 7.31 6.3 t are inc	1.75 1.75 1.80 1.73 1.98 2.01 2.03 1.87 Usive o	Thickness (m) 2.3 1.61 1.14 1.74 1.35 1.32 1.83 f the
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>		<ul> <li>No Site visits undertaken by the mining reserves CP.</li> <li>It is not an operating mine and it was decided that site visit is not required. All information necessary are obtained by electronic data. A representative of the CP had visited the site for confirmation of site access assumptions.</li> </ul>								

# Section 4 Table 1 Estimation and Reporting of Ore Resources

Study status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	• A prefeasibility study revision (June 2015) was completed based on the updated geological model and resources. This study included open pit optimisation, final and pit stage designs, reserving and detailed mine production scheduling inclusive of haulage modelling and economic analysis in a detailed financial model. This study demonstrated economic viability of the stated reserves at individual basis and full project schedule, based on industry acceptable modifying factors.
Cut-off parameters	• The basis of the cut-off grade(s) or quality parameters applied.	<ul> <li>Mineralised zones are defined by grades ≥45% total Al2O3 and ≤8% RxSi, based on saleable grade limitations.</li> </ul>
Mining factors assumptions	<ul> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<ul> <li>The Lerchs-Grossmann pit optimisation algorithm is utilised by Vulcan software to determine the extent of economically mineable ore reserves. Each block is evaluated based on the Metro Mining's base price and the discount factor based on grade variability.</li> <li>Simple mining method will be adopted to mine the bauxite ore – Prestripping will be done by one Front End Loader which removes the overburden material. Once the bauxite ore is exposed the FEL will mine the bauxite down to the transition material.</li> <li>Shallow deposit – pit slope parameters are to the natural angle of repose. The mined out pit will be back-filled by the overburden.</li> <li>Shallow deposit dug to angle of repose with additional standoffs was deemed not to require geotechnical study.</li> <li>Ore Roof loss = 0.1m; Ore Floor loss = 0.1m. Total loss = 0.2m incorporated in the ROM tonnes</li> </ul>

Criteria	JORC Code explanation	CP Com	CP Comments				
Mining factors or assumptions		<ul> <li>40m i</li> <li>The ir optim</li> <li>10% c</li> <li>achie</li> </ul>	oof dilution = 0.1m incorporated in the ROM tonnes         ninimum mining width is used.         ferred ore and non-categorized ore is also utilised in the pit         isation and the mining schedule. The portion of this is less than         f the schedule material and a positive project value is still         ved with its exclusion.         ed infrastructure and capital requirement are mentioned in the         Total Construction Capex       (AUD M)				
$\overline{\mathbb{O}}$			Feasibility and Owners Costs	3.0			
			Mine Access (Haul Road)	2.8			
			Mine Access (Haul Road sustaining)	4.0			
			Mine & Barge Loading Infrastructure	10.6			
			Airport upgrade	1.0			
			Mine Camp	4.0			
			Mining Equipment	2.5			
$\sum$			Insurance	1.0			
			Sustaining Capex	13.2			
)			Contingency	9.8			
			Total Capex	51.8			

Cri	iteria	JORC Code explanation	CP Comments
fac	tallurgical tors or sumptions	<ul> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	• THA (trihydrate alumina) and RxSi (reactive silica) analyses have been undertaken an all beneficiated (+1.2mm) samples from BH6 as well as the composited, DSO bauxite samples from BH6. These results are used together with the results from the XRF analyses to calculate an estimated BA (boehmite alumina) content. The calculation makes the assumption that all Al2O3 is contained within gibbsite, boehmite and kaolinite and that all SiO2 occurs in kaolinite and quartz. A small proportion of Al2O3 may occur in an amorphous form and result in a small error in the amount of calculated BA. A small number of negative BA numbers were reported from the calculation.
al	vironment Factors or sumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul> <li>An EIS study is currently being completed by CDM Smith</li> <li>There are several environmentally sensitive areas surrounding the bauxite deposit but their location is accurately known; no bauxite resources have been included within these areas.</li> </ul>
	astructure	• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	• The infrastructure required for the project and the capital expenditure are mentioned in this report. This includes minimal fixed infrastructure for project flexibility. The summary of infrastructure investment is detailed in the modifying factors section of this table.
	sts	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul> <li>The projected capital costs are obtained from the various suppliers of the Clients.</li> <li>The operating cost such as loading cost, haulage cost etc., are calculated by the equipment operating parameters, haulage cost etc.</li> <li>NIL</li> <li>The Metro Mining's base price has been used as a part of CM Group's AUD 1.00 = USD 0.81</li> <li>The haulage cost is calculated by the haul distance and equipment operating cost. Transportation cost from the load out point to the ship is done by barges.</li> <li>The penalties/bonuses for the ore below/above specification has been incorporated in the open pit optimisation process. A block value is calculated based on the individual quality parameters for the block.</li> <li>The Government royalties (10% of product) and traditional land owner's royalty (1.5% of product) has been built in the optimisation ore value.</li> </ul>

Criteria	JORC Code explanation	CP Comments
Revenue factors	<ul> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul> <li>The penalties/bonuses for the ore below/above specification has been incorporated in the open pit optimisation process. A block value is calculated based on the individual quality parameters for the block. This information was supplied by the CM group as part of an independent marketing study.</li> <li>Same as above.</li> </ul>
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	The market study completed by CM group for Metro Mining considered product specification options, market demand and global trade limitation.
Economic	<ul> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul> <li>The mine production schedule results were incorporated for revenue/cash flow and the NPV is calculated based on the capital expenditure and sustaining capital expenditure for each period.</li> <li>NPV (15%) real after tax = \$193.1million and demonstrated a positive NPV in sensitivity testing.</li> </ul>
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	• EPM, Mining Lease and Native title claims are mentioned in detail withing the PFS and reserves report. The EPM is owned by Metro Mining and the Mining Leases are in "Application" status. 2 native title claims have been lodged and Metro Mining is working on the "right to negotitate" process under Section 29 of the Act.
	<ul> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</li> </ul>	<ul> <li>Of the Mine schedule completed 5Mt of the 53.27Mt is of an inferred or lower resource classification. Removal of this material value from the mine schedule does not result in an uneconomic operation.</li> <li>Presently this project is at pre-feasibility level and no contracts are currently in place, progression to tender and contracts is being completed as part of the DFS.</li> <li>Lease and Native Title agreement applications and process are currently being processed.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	<ul> <li>Review of modelling and drilling information along with planned operating conditions resulted in all contained economic measured resources being converted to Proved reserves, and alike indicated resources to Probable reserves</li> <li>The resource modelling confidence is accurate in MEC's opinion</li> <li>No such reserves</li> <li>The stated ROM reserves represent the marketable product tonnes as this is a direct shipping ore, with no benefication and saleable at ROM moistures</li> </ul>

Criteria	JORC Code explanation	CP Comments
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	MEC mining conducted internal peer reviews of the calculation processes and schedule results. Further independent financial modelling also confirmed the economic evaluations completed
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</li> <li>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>No statistical or geostatistical procedures have been used in the estimation of Reserves themselves.</li> <li>The loss and dilution assumptions target higher losses to minimise dilution to maintain the grade for a DSO product, current operations in this region do not operate in this fashion. Assumptions on dilution should be further compared to alternate regions for an actual performance basis.</li> <li>There are no remaining areas of material uncertainty relating to modifying factors that could have an impact on Reserve viability.</li> </ul>