

5 July 2019

UPDATED JAMBREIRO ORE RESERVE DELIVERS 17.9MT OF HIGH-GRADE 65% Fe PRODUCT OVER 18-YEAR MINE LIFE

Proved and Probable JORC Ore Reserve of 43.3Mt at 29.1% Fe underpins positive Pre-Feasibility Study

- **Jambreiro Pre-Feasibility Study (PFS) pit design contains a Proven and Probable Ore Reserve of 43.3Mt at an average grade of 29.1% Fe from the near-surface friable component of the Jambreiro Mineral Resource.**
- **Over 80% of the friable Mineral Resource has been converted to Ore Reserves.**
- **Ore Reserves deliver 17.9Mt of high-grade (65% Fe), low-impurity (4.3% SiO₂, 0.8% Al₂O₃ and 0.01% P) sinter feed over the life of the initial friable project.**
- **Proven Reserve comprises more than 70% of the overall Reserve estimate.**
- **Ore Reserve is sufficient for 18 years of operations at the planned 1Mtpa production rate, with a strip ratio of 0.68:1 over the life of the friable project.**
- **The friable Jambreiro ore is generally free-digging with minimal drill and blast expected for the first 10 years of operations, which will allow relatively simple open-pit mining.**
- **The total Measured, Indicated and Inferred Mineral Resource at Jambreiro stands at 127.2Mt grading 28.0% Fe, comprising both friable and compact ore.**
- **A significant component of the Mineral Resource, comprising 83.9Mt grading 27.5% Fe, remains outside the current Ore Reserve pit limits, providing significant project upside.**

Centaurus Metals (ASX Code: **CTM**) is pleased to announce a new JORC 2012 Ore Reserve estimate for its 100%-owned **Jambreiro Iron Ore Project**, located in south-east Brazil, following the completion of a positive 2019 Jambreiro Pre-Feasibility Study (“PFS”), the results of which were announced separately to the market today (see ASX announcement: “Jambreiro Pre-Feasibility Study confirms low costs, strong economics for 1mtpa iron ore operation”).

The JORC 2012 Proven and Probable Ore Reserve estimate for the Jambreiro Iron Ore Project now stands at **43.3Mt at an average grade of 29.1% Fe**. The final pit designs include a total of 29.1Mt of waste movement for a total Life-of-Mine (“LOM”) material movement of 72.9Mt at a **LOM strip ratio of 0.68:1** (including pre-strip material in advance of operations).

The average strip ratio for the first four years of operations is very low at only 0.56:1.

The updated Ore Reserve estimate is scheduled to produce **17.9Mt of high-grade (65% Fe) low-impurity product over an 18-year mine life** at the planned initial production rate of 1.0Mtpa. The Project has a valid Mining Licence and key environmental approvals granted and in place for production of up to 3Mtpa.

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The Jambreiro JORC Mineral Resource estimate comprises **127.2Mt at an average grade of 28.0% Fe** including both the Friable and Compact material and remains open at depth (see ASX announcement on 30 July 2014 for full details). In establishing the updated Ore Reserves, only the Measured and Indicated components of the Friable Resource estimate were considered, leaving a further 83.9Mt grading 27.5% Fe outside of the current Ore Reserve pit limits to provide significant project upside in future years.

Pilot plant test work has shown that a high-grade product of **+65% Fe, with very low impurities (4.3% SiO₂, 0.8% Al₂O₃ and 0.01% P)**, can be produced consistently using the processing circuit planned to be installed at Jambreiro (Jig, Spirals and Magnetic Separation) at over 40% mass recovery. This product is in high demand in the Brazilian supply-disrupted domestic market as well as the international export market.

The Ore Reserve estimation is based on extensive resource drilling programs completed at Jambreiro (18,983m), comprehensive metallurgical testing including pilot plant testwork on over 40 tonnes of material, pit optimisations, pit design and mine scheduling based on up-to-date capital and operating cost estimations.

The underlying project design and costs assumptions are detailed in the Pre-Feasibility Study released to the market today (5 July 2019) as well as in Appendix A (Table 1 of JORC Code 2012). The Mineral Resource and Ore Reserve estimates, prepared by independent mine planning consultancy BNA Mining Solutions, are summarised in Table 1 below.

Table 1 – JORC 2012 Reserve & Resource Classification – July 2019
(Mineral Resources are inclusive of Ore Reserves)

Ore Reserve Classification	Mt	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	LOI %
Proven	30.6	29.4	49.8	4.2	0.04	1.6
Probable	12.7	28.4	49.5	4.7	0.04	2.2
Total	43.3	29.1	49.7	4.4	0.04	1.8
Mineral Resource Classification						
Measured	44.3	29.2	50.5	3.9	0.04	1.5
Indicated	37.7	27.5	51.1	3.7	0.04	1.6
Inferred	45.1	27.3	52.7	3.3	0.05	1.1
Total	127.2	28.0	51.4	3.7	0.05	1.4

** Ordinary Kriging (OK) estimate; Cut-off 20% Fe; Mine Dilution – 2%; Mine Recovery – 98%*

Multiple pit optimisations were run and a conservative pit shell derived from a mine gate sales price of R\$66/tonne (~US\$18/tonne – considerably lower than today's price) was selected. The conservative pit selected minimises waste movement and optimises the mine grade.

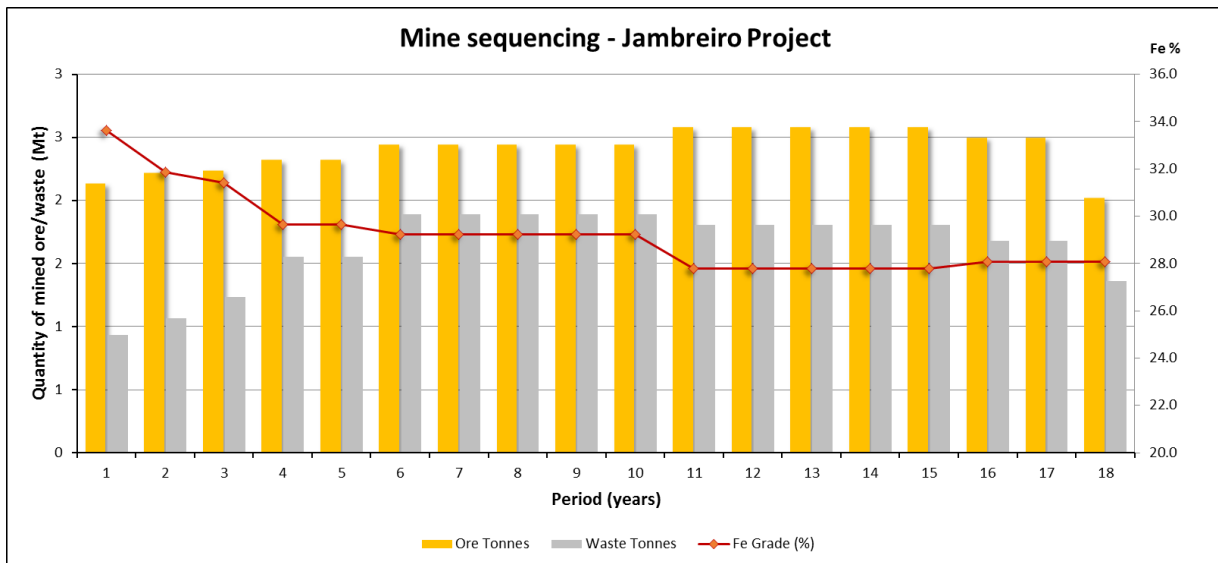
Detailed mine scheduling, as set out in Figure 1 below, shows the total material movement and strip ratio in each year of the planned operation at Jambreiro. The complete mine schedule is shown in Table 5.

The open pit design on a number of the sections at Jambreiro is shown in Figures 4 to 6. The location of these sections can be seen on the Project Layout Map at Figure 3.

The nature of the Jambreiro ore bodies allows for low strip ratios and shorter haulage routes for the first five years of operations, which has a positive impact on both operating costs and deferred capital costs. The ore and waste is predominantly free-dig from surface over the life of the current mine design, with blasting only expected for 5% of the total material movement for the project.



Figure 1 – Jambreiro Mine Sequencing and Strip Ratios



The mine will be operated by a local mining contractor using 40-tonne off-road trucks that are commonly used in Brazil and readily available in the region. The following table sets out the total operating costs of the Project over the life of the initial 18-year mine life:

Table 2 – Summary of Jambreiro Life of Mine Operating Costs

Operating Costs	A\$ per Tonne Product
Mining	9.7
Processing & Beneficiation	13.3
General & Administration	2.1
SITE OPERATING CASH COST (C1)	25.1
Royalties – Government and Landowner	3.7
TOTAL OPERATING CASH COSTS (C1 + Royalties)	28.8

Project and Mine Life Upside beyond the Friable Jambreiro Reserve

The JORC Mineral Resource estimate at Jambreiro stands at 127.2Mt grading 28.0% Fe and remains open at depth. The Friable component of the resource is 60.3 Mt grading 28.8% Fe with a further 66.9Mt grading 27.3% Fe forming the Compact component. Measured, Indicated and Inferred Resources totalling 83.9 Mt grading 27.5% Fe remain outside current Ore Reserve pit limits.

Pit optimisation work using similar technical and economical parameters to those used in the Ore Reserve study, with cost adjustment for the compact ore, indicates that the JORC Resource of **101.7Mt grading 27.9% Fe** (Table 3) lies within a larger conceptual open pit provided Inferred Resources¹ are able to be converted to higher Resource categories with additional drilling.

¹ These Inferred Resources, by definition, are of insufficient confidence to have economic considerations applied that would enable them to be categorised as Mineral Reserves.

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Table 3 – Jambreiro Conceptual In-pit Resources

In Pit Resource	101.7Mt at 27.9% Fe (80% of the Global Resource base – 127.2Mt)
Strip ratio	1.29:1
Potential Product	36.7Mt of +64% Fe sinter concentrate (potential +36-year mine life @ 1 Mtpa)

The conceptual in-pit Resources include the current Ore Reserve of 43.3Mt that accounts for 72% of the friable Resources, a further 15.4Mt of friable material remains outside the current Ore Reserve but inside the conceptual in-pit Resource.

It is the Company's intention to generate cash-flow in the first instance from the friable Ore Reserves and then undertake additional drilling to convert the remaining Inferred Resources (within the larger conceptual open pit limit) to Indicated status once profitable operations have commenced.

Furthermore, the Guanhães region has multiple large-tonnage resources held by Centaurus and third parties. For example, the Company's 100%-owned Canavial Project, located just 10km to the south-west of the Jambreiro Project, has a JORC Resource of 27.6Mt at 30.5% Fe (see ASX Announcement 31 May 2013).

Importantly, should the Jambreiro Project be brought into production, it would be the only processing plant in the region capable of beneficiating itabirite ores. With licensing expected to be increasingly difficult to achieve in Minas Gerais, it is reasonable to expect that Jambreiro could become a strategic processing hub for other miners in the region who have significant itabirite resources but still require approvals to construct a suitable plant to process them.

-ENDS-

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Competent Person's Statement

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Roger Fitzhardinge who is a Member of the Australasian Institute of Mining and Metallurgy and Volodymyr Myadzel who is a Member of Australian Institute of Geoscientists. Roger Fitzhardinge is a permanent employee of Centaurus Metals Limited and Volodymyr Myadzel was the Senior Resource Geologist of BNA Mining Solutions, independent resource consultants engaged by Centaurus Metals, at the time when the Mineral Resource estimate was first completed.

Roger Fitzhardinge and Volodymyr Myadzel have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking 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'. Roger Fitzhardinge and Volodymyr Myadzel consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

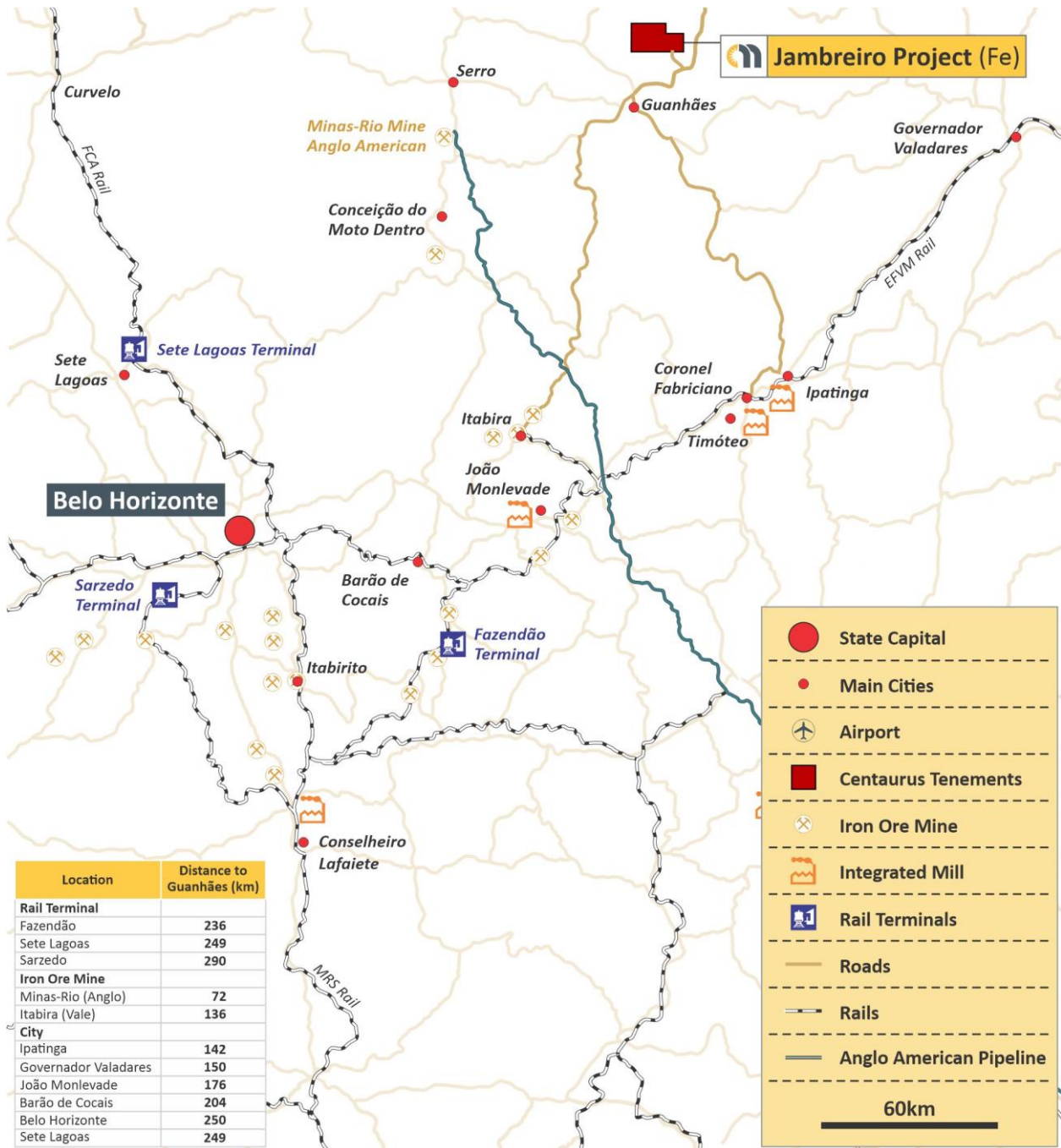
The information in this report that relates to Ore Reserves is based on information compiled by Beck Nader who is a professional Mining Engineer and a Member of the Australian Institute of Geoscientists. Beck Nader is the Managing Director of BNA Mining Solutions and is a consultant to Centaurus.

Beck Nader has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which he is undertaking 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'. Beck Nader consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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Figure 2 – Jambreiro Project Location Map



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Figure 3 – Jambreiro Iron Ore Project Site Layout Map

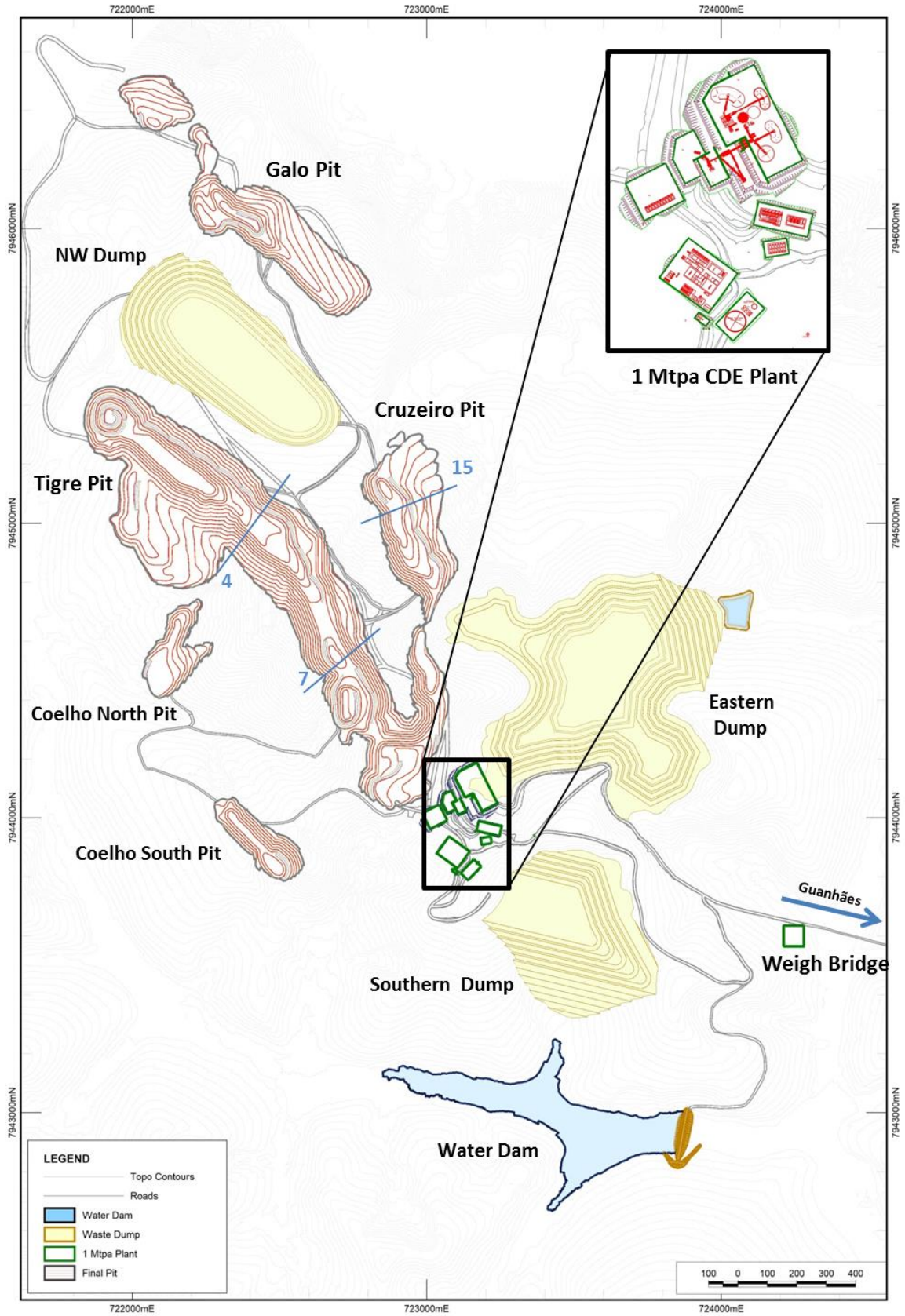




Figure 4 – Jambreiro Iron Ore Project - Tigre Deposit - Schematic Cross Section 4

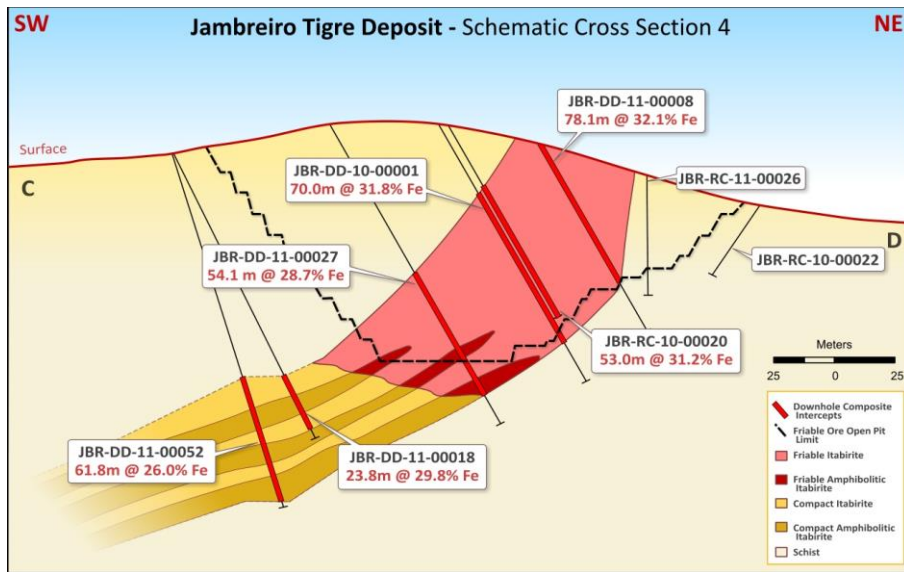


Figure 5 – Jambreiro Iron Ore Project - Tigre Deposit - Schematic Cross Section 7

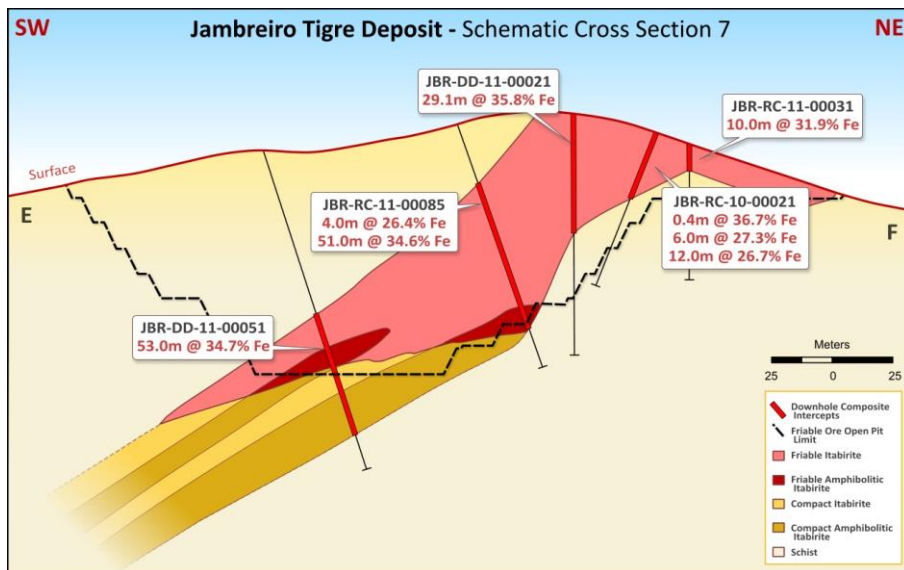
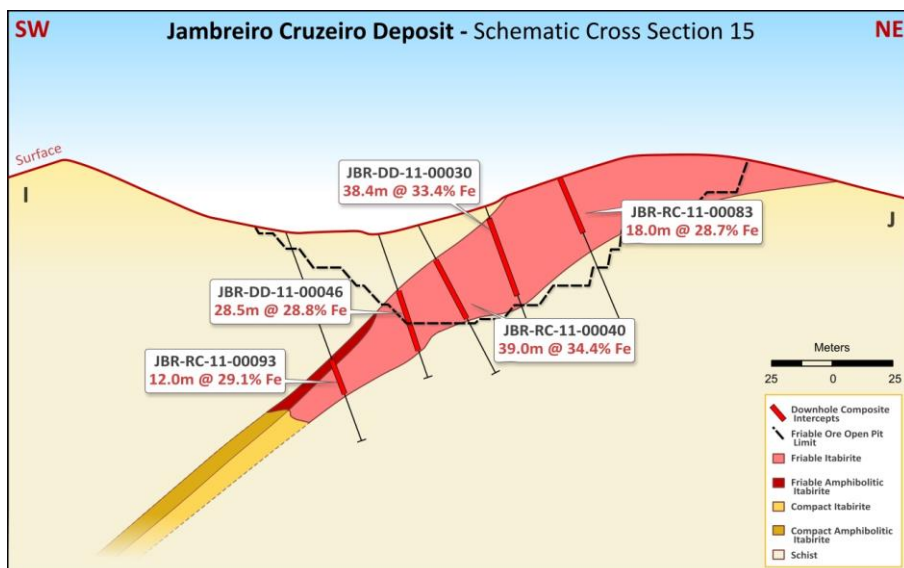


Figure 6 – Jambreiro Iron Ore Project - Cruzeiro Deposit - Schematic Cross Section 15



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Table 4 – Jambreiro Resource and Reserve Estimates – July 2019

(Mineral Resources are inclusive of Ore Reserves)

Prospect	JORC Resource Category	Mt	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	LOI %
Tigre	Measured	36.9	29.2	50.8	4.0	0.04	1.4
	Indicated	17.3	27.4	51.3	3.3	0.05	1.3
	Measured + Indicated	54.2	28.6	51.0	3.8	0.04	1.4
	Inferred	30.1	27.3	52.9	2.8	0.06	0.6
	TOTAL	84.3	28.2	51.7	3.4	0.05	1.1
Cruzeiro	Measured	7.4	29.3	49.0	3.7	0.05	1.6
	Indicated	10.2	27.3	50.3	3.0	0.05	1.3
	Measured + Indicated	17.7	28.1	49.8	3.3	0.05	1.5
	Inferred	4.5	28.2	50.3	3.0	0.05	1.5
	TOTAL	22.1	28.2	49.9	3.2	0.05	1.5
Galo Total	Indicated	7.3	28.4	49.5	5.7	0.04	2.6
	Inferred	6.2	27.0	50.9	6.2	0.05	3.1
	TOTAL	13.5	27.7	50.2	5.9	0.04	2.9
Coelho	Indicated	3.0	26.5	56.1	3.8	0.03	1.4
	Inferred	4.3	26.8	56.0	3.6	0.03	1.4
	TOTAL	7.3	26.7	56.1	3.7	0.03	1.4
Jambreiro Total	Measured	44.3	29.2	50.5	3.9	0.04	1.5
	Indicated	37.7	27.5	51.1	3.7	0.04	1.6
	Measured + Indicated	82.1	28.4	50.8	3.8	0.04	1.5
	Inferred	45.1	27.3	52.7	3.3	0.05	1.1
	TOTAL	127.2	28.0	51.4	3.7	0.05	1.4
Ore Type	JORC Resource Category	Mt	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	LOI %
Friable & Semi-Compact Ore	Measured	34.0	29.7	50.3	4.2	0.04	1.6
	Indicated	18.5	28.1	50.9	4.7	0.04	2.1
	Measured + Indicated	52.5	29.2	50.6	4.4	0.04	1.8
	Inferred	7.8	26.6	52.7	5.4	0.04	2.5
	TOTAL	60.3	28.8	50.8	4.5	0.04	1.9
Compact Ore	Measured	10.4	27.5	51.1	2.9	0.05	1.0
	Indicated	19.2	26.9	51.2	2.8	0.05	1.0
	Measured + Indicated	29.6	27.1	51.1	2.8	0.05	1.0
	Inferred	37.3	27.5	52.7	2.9	0.05	0.8
	TOTAL	66.9	27.3	52.0	2.9	0.05	0.9
Total	Measured	44.3	29.2	50.5	3.9	0.04	1.5
	Indicated	37.7	27.5	51.1	3.7	0.04	1.6
	Measured + Indicated	82.1	28.4	50.8	3.8	0.04	1.5
	Inferred	45.1	27.3	52.7	3.3	0.05	1.1
	TOTAL	127.2	28.0	51.4	3.7	0.05	1.4

Prospect	JORC Reserve Category	Mt	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	LOI %
Tigre	Proven	26.2	29.2	50.1	4.3	0.04	1.6
	Probable	3	27.4	50.1	5.4	0.03	2.4
	TOTAL	29.2	29	50.1	4.4	0.04	1.7
Cruzeiro	Proven	4.4	30.7	48.2	3.7	0.04	1.6
	Probable	2.7	30.3	46.2	3.4	0.04	1.8
	TOTAL	7.1	30.5	47.4	3.6	0.04	1.7
Galo	Proven	-	-	-	-	-	-
	Probable	5.1	28.7	48.9	5.3	0.04	2.5
	TOTAL	5.1	28.7	48.9	5.3	0.04	2.5
Coelho	Proven	-	-	-	-	-	-
	Probable	1.9	26.5	55.2	3.9	0.03	1.5
	TOTAL	1.9	26.5	55.2	3.9	0.03	1.5
Jambreiro Total	Proven	30.6	29.4	49.8	4.2	0.04	1.6
	Probable	12.7	28.4	49.5	4.7	0.04	2.2
	TOTAL	43.3	29.1	49.7	4.4	0.04	1.8

*Ordinary Kriging (OK) estimate; Cut-off 20% Fe; Mine Dilution – 2%; Mine Recovery – 98%

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Table 5 – Jambreiro Mine Production Schedule

Period (Year)	ROM Wet (Kt)	Fe%	Mass Rec (%)	Product Dry (Kt)	Strip Ratio	Waste Wet (Kt)	Total Wet (Kt)
Pre-Strip	30	33.6	48%	12		70	100
1	2,104	33.6	48%	1,005	0.44	864	2,967
2	2,220	31.9	45%	1,009	0.48	1,068	3,288
3	2,236	31.4	45%	1,001	0.55	1,233	3,469
4	2,319	29.7	43%	988	0.67	1,553	3,871
5	2,319	29.7	43%	988	0.67	1,553	3,871
6 – 10	12,212	29.2	41%	5,041	0.77	9,440	21,652
11 – 15	12,886	27.8	39%	5,058	0.70	9,016	21,902
16 - 18	7,013	28.1	40%	2,809	0.67	4,727	11,740
Total	43,339	29.1	41%	17,912	0.68	29,522	72,861

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APPENDIX A – JORC Code, 2012 Edition – Table 1 Compliance Statement for Jambreiro Project

SECTION 1 - SAMPLING TECHNIQUES AND DATA

(Criteria in this section apply to all succeeding sections).

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> All trenches were excavated with a backhoe or excavator and sampling was done through continuous cut channels down to 2m below the original surface, sampled on 2m intervals or to lithological contacts. The 3-5kg samples were sent to commercial laboratories to proceed with sample preparation and assaying. Reverse Circulation (RC) samples were taken at 1m intervals from which a 3-5kg aliquot was sent to commercial laboratories to proceed with sample preparation and assaying. Diamond Drilling (DD) samples were taken at 1m intervals or to lithological contacts from which ¼ core (3-5kg) was sampled, and sent to commercial laboratories to proceed with sample preparation and assaying. At the laboratories, samples were dried, crushed to <2mm, homogenized and pulverized to 150 mesh then fused with lithium tetraborate and lithium nitrate. The resultant disk is assayed in X-Ray Fluorescence Spectrometer to quantify a range of oxides, some elements and LOI. The Jambreiro Project has a nominal drill hole spacing of 100m x 50m. Field duplicate samples were taken at a set frequency of one every 20 samples (5% of total samples) from the splitter to monitor sample representivity. All of the data used for the Resource estimation is based on the logging and sampling of trenches, RC and diamond core drilling that was carried out under Centaurus procedures that are in line with industry best practice. The historical drill holes (pre-Centaurus) correspond to 1.9% of the total drilling and these were resampled (1/4 core) and re-logged under Centaurus procedures.
<i>Drilling techniques</i>	<ul style="list-style-type: none"> RC drilling employed a 5.5" face hammer. A total of 183 RC holes for 12,977m have been drilled. Hole depths range from 13 to 200m. Historical diamond drilling (pre-Centaurus) was carried out in HQ size. A total of 7 historical diamond holes for 365m have been drilled. Hole depths range from 26 to 90m. Diamond drilling (Centaurus) was carried out in HQ size. A total of 52 historical diamond holes for 5,641m have been drilled. Hole depths range from 34 to 270m.
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> Diamond Drilling recovery rates were calculated at each drilling run. The diamond drilling core recoveries were recorded in the database for all Centaurus diamond holes. Overall recoveries are >90% and there are no core loss issues or significant sample recovery problems. For RC drilling, geologists or field assistants recorded sample weights and calculated sample recovery based on the expected weight of recovered material according to the approximate density of each rock type. No issues were detected. To ensure adequate sample recovery and representivity a Centaurus geologist or field technician was present during drilling and monitored the sampling process. No relationship between sample recovery and grade has been demonstrated. No bias to material size has been demonstrated.
<i>Logging</i>	<ul style="list-style-type: none"> All trenches and drill holes have been logged geologically and geo-technically to a level of detail appropriate to support the Mineral Resource estimate as well as metallurgical and mining study support for iron ore. Logging for both forms of drilling is qualitative and quantitative in nature. All Centaurus trenches, RC chip trays and diamond core have been photographed. Historical drilling was not photographed. The total length of drilling is 18,983m. 100% has been logged. The total length of trenches is 2,486m. 100% has been logged.
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> Diamond Core (HQ) was cut with a specialized sampling tool where friable or using a core saw where compact. A quarter core was sampled. RC samples were collected on 1m down hole intervals. The 35-kilogram gross samples were split typically using a 3-tier riffle splitter attached to the drill rig cyclone to a 3-5kg aliquot. For the 2012 RC drilling campaign (which corresponds to 49 drill holes and 3,356 metres of drilling) herringbone splitting was done to reduce the gross sample to a 3-5kg sample aliquot. Sample weight/split analysis shows that on average a 12.5% split ratio was achieved. The majority of mineralised samples from RC drilling were dry. All samples were received and prepared by ALS or Intertek Labs in Belo Horizonte, Brazil as 3-5kg samples. They were dried at 105°C until the sample was completely dry (6-12hrs), crushed to 90% passing 2mm and reduced to 500g via a Jones riffle splitter. The 500g samples were pulverised to 95% passing 104µm and split further to 50g aliquots from which 0.5g are used to manufacture the lithium tetraborate fused disks for chemical analysis. Field control sample insertion included field duplicates taken every 20 samples. Results from the duplicate samples show the data has an acceptable precision, indicating that the sampling technique is appropriate for the deposit. The sample size is considered to be appropriate to correctly represent the mineralisation (low grade itabirite ore) as well as the thickness and consistency of the mineralised intersections.
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> All chemical analysis was completed at ALS or Intertek Labs. Laboratory duplicates were completed every 10-20 samples and standards were completed every 20-25 samples dependent on the laboratory. Blind laboratory control sample insertion included blank samples at the start of every new hole then every 50 samples and standards (CRM from Geostats, Itak and Agoratek) every 20 samples. Field duplicates were inserted every 20 samples. Metal Oxide is determined using XRF analysis. Analysis at ALS was for a 24-element suite while at Intertek analysis was for 11 elements. FeO is determined using Titration and LOI using Loss Determination by Thermogravimetric analysis. Laboratory procedures are in line with industry standards and are appropriate for iron ore. Certified reference material (standards) at a set frequency of 1:50 (2% of total samples) were inserted within sample batches. A number of different standards at a range of grades are used to monitor analytical precision of the assay results. Acceptable levels of precision have been achieved with the standard assays reported for the main elements of interest. Both the ALS and Intertek labs insert their own standards at set frequencies and monitor the precision of the XRF analysis. These results also reported well within the specified 2 standard deviations of the mean grades for all main elements. Additionally, the labs performed repeat analyses of sample pulps at a rate of 1:20 (5% of all samples). These compare very closely with the original analysis for all elements.

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Criteria	Commentary
	<ul style="list-style-type: none"> Analysis of field duplicates and lab pulp duplicates have returned an average correlation coefficient of over 0.98 confirming that the precision of the samples is within acceptable limits. Centaurus QAQC procedures and results are to industry standard and are of acceptable quality.
Verification of sampling and assaying	<ul style="list-style-type: none"> All significant intersections are verified by alternative Company personnel before release. As part of the Resource estimation process drill hole data was independently reviewed by BNA Mining Solutions. Two sets of diamond twin holes have been drilled for comparison with RC drill holes and quantitatively analysed with no material issues identified. Based on this Centaurus used both diamond and RC drill holes in the Resource estimate. All primary data both electronic and physical is stored in the Centaurus office (Belo Horizonte, Brazil). Sample information was elaborated by a geologist using excel spreadsheets within the electronic database; geological logging and any other relevant exploration field data are retained in both physical and electronic databases. No adjustments were made to the assay data apart from resetting the below detection level values to half of the detection limit.
Location of data points	<ul style="list-style-type: none"> The grid system used is SAD-69 23S. This is in line with Brazilian Mining Agency requirements. All survey collars and trenches were surveyed using a Total Station. Downhole Maxibore surveys were completed for the 2011 DD campaign, with minimal deviation logged in the holes. Aerial survey was completed by Geoid laser mapping using Orion laser sensors and a GNSS receiver. The survey was flown in October 2011. The topographical data was supplied in SAD-69 23S coordinates. The quality and resolution of the topographic data is considered to be adequate for Resource estimation purposes.
Data spacing and distribution	<ul style="list-style-type: none"> Drill sections run parallel to the mineralisation at spacing between 80-100m. Drill holes on section are generally 50m apart. Due to local topographical constraints this spacing is sometimes not achievable. The data spacing and distribution is considered adequate to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimation and classifications applied under the JORC 2012 Code. No sample compositing has been applied.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> The orientation of the mineralisation is well understood and drill holes were designed to intersect the mineralisation at an appropriate angle. This is demonstrated in the Project sections (see Figures 4-6). All significant intersections have been reported as downhole widths and not true widths. The trenches by nature are oblique to the mineralisation angle and as a result return accentuated mineralised intervals. No drilling orientation and sampling bias has been recognized at this time and is not considered to have introduced a sampling bias.
Sample security	<ul style="list-style-type: none"> All samples are placed in pre-numbered plastic samples bags and then a sample ticket is placed within the bag as a check. Bags are sealed and placed in larger bags (10 samples per bag) and then transported by courier to ALS or Intertek labs in Belo Horizonte. Sample request forms are sent with the samples and via email to the labs. Samples are checked at the lab and a work order is generated by the lab which is checked against the sample request. All remnant diamond core and RC chip trays are stored at the Jardim Canada, Nova Lima-MG Centaurus' core shed.
Audits or reviews	<ul style="list-style-type: none"> As part of Resource estimation process drill hole data was independently reviewed by Volodymyr Myadzel, Senior Resource Geologist at BNA Mining Solutions and Project Competent Person. The report finds the sample techniques and data collection and management to be in line with current industry standards. The Jambreiro Project has been subject to an Independent Engineers review by Coffey Mining (Australia/Brazil) and NCL (Chile/Brazil). No critical issues were revealed during the reviews.

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SECTION 2 REPORTING OF EXPLORATION RESULTS

(Criteria listed in the preceding section also apply to this section).

Criteria	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> The Jambreiro Project is located wholly within the following Mining Leases: 831.649/2004, 833.409/2007 and 834.106/2010. The Mining Leases are 100% Centaurus owned. The tenements are part of the Cenibra-Centaurus Agreement. Centaurus will pay a vendor royalty of 0.85% of gross revenue. All mining projects in Brazil are subject to a government royalty of 2% of revenue (less taxes and logistics costs). Additionally, a landowner royalty of 50% of the CFEM royalty is to be paid to Cenibra. The Project is not located within national or state wilderness or historical parks. At the time of this report the three mining leases are in good standing. There are not any known impediments to obtaining a licence to operate in the area.
Exploration done by other parties	<ul style="list-style-type: none"> Cenibra conducted geological mapping and a small diamond drill program in 2007 to satisfy Brazilian Mining Agency requirements.
Geology	<ul style="list-style-type: none"> The Jambreiro Project is located within the Guanhães Group of the Mantiqueira Complex. The region is dominated by structurally complex meta-volcanic and meta-sedimentary sequences with duplex fault systems and folding ranging from micro folding in outcrop to large scale regional deformation. The Itabirite units are part of an iron formation including ferruginous quartzites, quartzites, amphibolitic and/or dolomitic itabirites and schists hosted within a meta-sedimentary sequence. This sequence is emplaced in regional gneissic basement. The Itabirite mineralisation comprises concentrations of medium - coarse grained friable, semi-compact and compact material that have undergone enrichment. The mineralisation is composed of quartz, hematite, magnetite, martite with minor goethite, limonite, amphibole (Grunerite), Mica (muscovite) and clay minerals. Itabirite thicknesses vary from 10m to up to 100m generally dipping 45-70° to the W-SW. The combined strike length of the mapped mineralisation is around 3,000m. Itabirite has been intersected at depths of 240m with friable itabirite intersected to 80m.
Drill hole Information	<ul style="list-style-type: none"> A total of 242 holes for 18,983m have been completed on the Jambreiro Project. Centaurus completed 52 diamond holes for a total of 5,641m and 183 RC holes for a total of 12,977m. There are 7 historical diamond drill holes completed by Cenibra for a total of 365m. This report does not include any new drill hole results.
Data aggregation methods	<ul style="list-style-type: none"> Continuous sample intervals are calculated via weighted average using a 20% Fe cut-off grade with 3m minimum intercept width. Intercepts are also separated by lithology where appropriate. There is no reporting of high-grade intervals. There are no metal equivalents reported.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> The orientation of the mineralisation is well understood generally dipping 45-70° to the W-SW and drill holes were designed to intersect the mineralisation at an appropriate angle representing the true widths. Where the true width is not intersected it is stated and also demonstrated in cross sectional diagrams. The trenches are generally planned to be excavated perpendicular to the mineralisation strike foliation angle and as a result return approximately true width of the mineralised interval.
Diagrams	<ul style="list-style-type: none"> Refer to Figures 1-6.
Balanced reporting	<ul style="list-style-type: none"> Not applicable to this report. All figures previously reported.
Other substantive exploration data	<ul style="list-style-type: none"> A number of metallurgical tests have been carried out on the Jambreiro Project mineralisation. See ASX announcement on 6 August 2012 for full details of the Jambreiro Pilot Plant Results. The Company historically completed a 2Mtpa Bankable Feasibility Study on the Jambreiro Project in 2012. See ASX announcement on 5 November 2012 for full details. Subsequently, the Company completed a JORC 2012 Resource update in 2014. See ASX announcement on 30 July 2014 for full details.
Further work	<ul style="list-style-type: none"> There is no current plan for additional drilling on the Jambreiro Project.

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SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

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

Criteria	Commentary
Database integrity	<ul style="list-style-type: none"> All data is entered into excel data sheets and project geologists validate the data entry. Assay files are sent electronically from the labs. These files are then imported directly into the database by a geologist. The project geologist is responsible for up-dating the database and generation of validation reports. The independent resource geologist responsible for the Resource estimation ran additional validation checks on the database before completing the estimation. There were no critical database issues at the time of the final Resource estimation.
Site visits	<ul style="list-style-type: none"> The Competent Person for this report, Volodymyr Myadzel, Senior Resource Geologist of BNA Mining Solutions at the time the Mineral Resource estimate was completed, visited the site in December 2010 to complete an external audit of Centaurus' drilling, sampling, QAQC, and logging procedures. No significant issues were revealed during the audit that would be material to the outcomes presented in this Resource estimate.
Geological interpretation	<ul style="list-style-type: none"> There is good confidence in the geological interpretation of the mineral deposit. The itabirite mineralisation is consistent in grade and geometry both on section and along strike. This has been demonstrated with consistent results from previous infill drilling campaigns. Surface and trench mapping as well as the ground magnetics geophysics were used for the interpretation of mineralisation and stratigraphy where there was no drill hole support. Lithological domaining of the itabirite mineralisation was completed with the aid of geochemical analysis and in some cases petrography. These domains are important in the building of the geo-metallurgical model and determination of metal recoveries. The interpretation of the friable, semi-compact and compact boundaries was derived primarily from geological logging with support from geochemical analysis where appropriate. The Fe grade reduces slightly with depth due to the effect of supergene enrichment near surface. Centaurus Project geologists were responsible for all stratigraphic, structural and mineralisation wireframe interpretations. They were then passed to the independent resource geologist (Competent Person) to generate the block model.
Dimensions	<ul style="list-style-type: none"> With the combination of the Tigre (1,700m), Cruzeiro (1,200m), Galo (1,500m) and Coelho (900m) prospects, the Jambreiro Resource has dimensions of approximately 5,500m of total strike length. The ore body outcrops in most places with a localized thin colluvial cover in places and is open at depth with the deepest mineralisation being intersected at 240m depth. The mineralisation is between 10-100m thick with the average thickness in the main deposit (Tigre) being around 60m.
Estimation and modelling techniques	<ul style="list-style-type: none"> Itabirite mineralisation was domained according to compactness (Friable, Semi-Compact and Compact) and mineralisation style (Itabirite and Amphibolitic Itabirite). Each geological unit was domained and estimated separately using hard boundaries. Mineralisation was divided into eight domains. The interpretation was developed off vertical sections. Geological data was extrapolated to half the distance between the vertical sections (50m) and 150m in depth from the deepest drill hole. 3D wireframes were built using the Micromine 14.0.6 software. From the wireframes a block model was built and interpolated by Ordinary Kriging (OK) and Inverse Distance Weighting (IDW). Block model extends from 721300mE to 723100mE and 7943700mN to 7946650mN and elevation from 520mRL to 1020 mRL (surface). Ordinary Kriging was used to estimate the standard suite of 12 elements (Fe, SiO₂, Al₂O₃, P, Mn, TiO₂, CaO, MgO, K₂O, Na₂O, Cr₂O₃ and FeO) as well as LOI for the D1, D3 and D4 domains while the other five domains were done by IDW2 due to the lower number of samples. Parent Block size is X=50m, Y=50m and Z=10m with Sub Block size of X=5m, Y=5m and Z=2.5m. Average distance of sample spacing for Measured and Indicated is 64m and the search ellipse longest axis is 150m. Search directions and ranges are domain specific and are determined from variogram modelling. All block estimates are based on interpolation into parent block volumes. The Parent Block and Sub Block height of 10m and 2.5m respectively was assumed based on expected bench and flitch heights in waste and ore. The Mineral Resource estimate does not include any form of dilution, apart from internal waste which could not be separated out. No assumptions regarding correlation between variables has been made, however, it is observed that there are direct inverse relationships between Fe and SiO₂. The mineralisation has clear lithological boundaries and has a Gaussian distribution so top cuts are not applied. A lower cut-off of 20% Fe was applied as that appears to be the natural cut off. Standard model and estimation validation was completed using standard visual and statistical methods. Visual comparisons of composite drill data with block data were completed. In addition, comparisons of OK and IDW2/IDW3 models were completed, all with suitable results. Swatch plots have been generated for all relevant elements with respect to depth and strike. Visual validations of grade trends were carried out. No mining has taken place and as such no reconciliation data is available.
Moisture	<ul style="list-style-type: none"> Tonnage is estimated on an in-situ basis. Moisture measurements were completed as part of the detailed process test work sample regime. An in-situ moisture content of 6% was determined. Due to the significant topographical relief, the water table depth is quite variable but on average sits 50m below the surface. Approximately 60% of the Resource is located below the water table, most of which is compact mineralisation that is not considered in the Reserve.
Cut-off parameters	<ul style="list-style-type: none"> The cut-off grade for the itabirite mineralisation is set at >20% Fe, which appears to be a natural grade boundary between itabirite and ferruginous quartzite. Additional process test work carried out on <20% Fe material demonstrates it is up-gradable to saleable product but at low mass recoveries. No cut-off grades were applied on other contaminant elements.

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Criteria	Commentary
Mining factors or assumptions	<ul style="list-style-type: none"> Mining is assumed to be carried out via open pit method using conventional excavator methods with ore being mined on 5m benches and waste on 10m benches. Haulage distance will be relatively short, less than 2km. Small off-road trucks of 30-45t will be used. This is a common mining fleet configuration in Brazil. Minimal drill and blast will be required in the friable mineralised zone. For Reserve estimates it is assumed 20% of semi-compact material will require drill and blast. For Reserve estimation a minimum mining face of 30m was applied. Due to the visual nature of the ore waste contacts a dilution factor of 2% and a mine recovery of 98% was applied. These are in line with industry standards for itabirite ore in Brazil.
Metallurgical factors or assumptions	<ul style="list-style-type: none"> Jambreiro is a low grade itabirite deposit and as such to produce a saleable iron ore concentrate the ore must pass through a number of process stages. The Jambreiro process route is designed to treat the friable itabirite ore which is the basis of the Reserve estimate. The process route includes gravity and magnetic separation. For the purpose of the Reserve estimation an average mass recovery of 41% was used. This is in line with bench pilot scale test work, see ASX announcement on 6 August 2012 for full details of the Jambreiro Pilot Plant Results.
Environmental factors or assumptions	<ul style="list-style-type: none"> Both the mine waste and the plant rejects have been studied for potential acid production and both were found to be inert. Extensive study in the use of thickeners and centrifuges to eliminate the requirements of a tailings dam have been undertaken and only a water dam will be necessary to accumulate water to supply the plant during the dry season. The Jambreiro Project has been fully licensed by the Minas Gerais State Environmental agency (SUPRAM).
Bulk density	<ul style="list-style-type: none"> Wet bulk density measurements were completed via three methods: in situ dimensional (15 measurements), drill core dimensional calculation by the "template method" (194), by the "sand replacement PVC method" (72) and water displacement "Archimedes Method" (491). Measurements were taken every 5m in the mineralisation and every 10m in waste. Dimensional calculation was completed for friable material using a 20cm steel mould cutting the whole core which was then weighed. Water displacement was carried out on 10-20cm whole core compact samples. The sand replacement PVC method was done using a PVC cylinder with known volume and using the weight to calculate each sample density. The resulting wet bulk density for the mineralised zones was 2.35t/m³ for friable, 2.66 t/m³ for semi-compact and 3.08 t/m³ for compact. The results are considered to be conservative when benchmarked against similar low grade itabirite deposits in the Iron Quadrangle, Brazil.
Classification	<ul style="list-style-type: none"> Resources have been classified by the independent Competent Person in accordance with the JORC Code 2012 Edition. Mineral Resources have been classified by the Competent Person in Measured, Indicated and Inferred categories based on diamond and RC drill hole spacing (100m x 50m), geological interpretation confidence, grade continuity, QAQC and geological data confidence and geo-statistical quality. Mineral Resource classification has appropriately taken into account the data spacing, distribution, continuity, reliability, quality and quantity of data. The input data is comprehensive in its coverage of the mineralisation and does not misrepresent in-situ mineralisation. The definition of mineralised zones is based on a high level of geological understanding producing a robust model of mineralised domains. The results of the validation of the block model show good correlation of the input data to the estimated grades. The geological model and Mineral Resource estimation appropriately reflect the Competent Person's view of the deposit and appropriate account has been taken of all relevant factors.
Audits or reviews	<ul style="list-style-type: none"> Centaurus has undertaken an internal review of the Mineral Resource estimate and is satisfied the estimation is valid and of sufficient confidence to support Measured, Indicated and Inferred classifications. As part of the Reserve estimation process the Resource estimate was internally reviewed by BNA Mining Solutions. The report finds the sample techniques and data collection and management to be in line with current industry standards. The Jambreiro Project has been subject to an Independent Engineers review by Coffey Mining (Australia/Brazil) and NCL (Chile/Brazil). No critical issues were revealed during the reviews that was material to the outcome of the Resource estimate.
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> The confidence in this Resource estimate has been deemed appropriate for medium to long term planning and mine design. It is not sufficient for shorter term planning and mine scheduling. The Jambreiro Resource estimate is sufficient for Feasibility level study purposes. This statement relates to global estimates of tonnage and grade. Operational management of the mine geology and engineering will be important in the control of the local variability and consequently the short term mine planning. There has been no production from the Jambreiro Project.

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SECTION 4 - ESTIMATION AND REPORTING OF ORE RESERVES

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	Commentary																
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> The Mineral Resource estimate on which this Ore Reserve estimate has been based was prepared by Volodymyr Myadzel, Senior Resource Geologist for BNA Mining Solutions. Refer to ASX announcement on 30 July 2014 for full details of the Mineral Resource estimate. The Mineral Resource estimates are not in addition to the Ore Reserve estimate. The Ore Reserve estimate is a sub-set of the Mineral Resource estimate. 																
Site visits	<ul style="list-style-type: none"> The Competent Person is Mr Beck Nader, Director of BNA Mining Solutions. No site visit was undertaken as presently there is no existing mine workings to examine. Mr Nader relied on observations made by Mr Myadzel who visited the site in December 2010. As no material change happened to the project since that time, no new visit was made. 																
Study status	<ul style="list-style-type: none"> The Ore Reserve estimation modifying factors were derived as part of the Project Pre-Feasibility that comprises environmental, mineral processing, geotechnical, hydrogeological, mine method, infrastructure, market and economic model information. Refer to ASX announcement on 5 July 2019 for full details of the Pre-Feasibility Study results. Any material classified as an Inferred Mineral Resource was not included in any of the Pre-Feasibility study Ore Reserves calculations. The PFS demonstrated that the mine plan is technically achievable and economically viable. All material modifying factors were considered. 																
Cut-off parameters	<ul style="list-style-type: none"> The mineral resources are reported within a conceptual pit shell at a Fe cut-off grade of 20%, which takes into account extraction scenarios and mineral processing recovery. 																
Mining factors or assumptions	<ul style="list-style-type: none"> The ultimate pit was generated using Micromine software that applies the Lerchs-Grossmann algorithm for the pit optimization process. The mine planning – sequencing – and pit design works were developed using the same software. The optimization cost parameters were derived from the current Pre-Feasibility study work and are outlined in the operation cost item below. The proposed mining method for the Jambreiro Project is an open pit mine. There are minimal pre-strip requirements and site access preparations are minimal and will be carried out by a local mining contractor. The ore will feed a conventional beneficiation plant and the waste will be stored in appropriate waste dump locations. Filtered tailings are to be filtered and blended with mine waste. Measured and Indicated Mineral Resource material blocks were assigned revenue values to drive the pit optimization shell. Only Friable material was considered for the Reserve estimate. Inferred Mineral Resource was not considered for pit optimization purposes. Ore Reserve tables are stated in wet metric tonnes (wmt). The moisture has been estimated at 5%. A mining dilution factor of 2% has been applied for the deposit. The ore contacts are sharp and visual and the small mining equipment will allow for selective mining. A mining recovery factor of 98% has been utilised. Similarly to mine dilution, the configuration of the deposit and the selected mining equipment will allow good mining recoveries to be achieved. The mine parameters were set to accommodate the selected 40t trucks and are set out below. Free digging is expected in all friable itabirite and waste and as such the mining will be performed on nominal 5 metres benches, with final bench heights of 10 metres <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="background-color: #FFD700;">Parameter</th> <th style="background-color: #FFD700;">Value</th> </tr> </thead> <tbody> <tr> <td>Berm Width (m)</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Bench Height (m)</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Ramp Width (m)</td> <td style="text-align: center;">12</td> </tr> <tr> <td>Ramp Width – Inferior Benches (m)</td> <td style="text-align: center;">8</td> </tr> <tr> <td>Ramp Gradient (%)</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Mining dilution (%)</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Mining recovery (%)</td> <td style="text-align: center;">98</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Ten geo-mechanical zones were delineated, and their stability conditions were analysed separately. These angles are conservative and based on a study by geotechnical specialists Walm Engenharia e Tecnologia Ambiental Ltda. 	Parameter	Value	Berm Width (m)	6	Bench Height (m)	10	Ramp Width (m)	12	Ramp Width – Inferior Benches (m)	8	Ramp Gradient (%)	10	Mining dilution (%)	2	Mining recovery (%)	98
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Criteria	Commentary				
		Sector	Base - Relative Level (m)	Batter Angle (°)	Interramp slope angles (°)
		Sector 1 (HW)	830	38	55.8
			775	50	76.6
		Sector 2 (FW)	830	42	63.0
			775	50	76.6
		Sector 3 (HW)	900	38	55.8
			825	50	76.6
		Sector 4 (FW)	975	42	63.0
			825	50	76.6
		Sector 5 (HW)	950	45	68.2
			875	50	76.6
		Sector 6 (FW)	975	42	63.0
			875	50	76.6
		Sector 7 (HW)	900	45	68.2
			860	50	76.6
		Sector 8 (FW)	925	42	63.0
			860	50	76.6
		Sector 9 (HW)	860	45	68.2
			840	50	76.6
		Sector 10 (FW)	875	42	63.0
			840	50	76.6
Metallurgical factors or assumptions	<ul style="list-style-type: none"> • The Jambreiro process route is designed to treat the friable itabirite ore which is the basis of the Reserve estimate. The process route includes gravity and magnetic separation. For the purpose of the Reserve estimation an average metal recovery of 40% was used which is in line with bench pilot scale testwork, see ASX announcement on 6 August 2012 for full details of the Jambreiro Pilot Plant Results. • This wet beneficiation process for friable itabirite ore in the Brazilian mining industry is common well tested technology. • Circa 200 bench scale tests were carried out at Fundação Gorceix, UFMG, Metso and Outotec. Over 40 tonnes of Jambreiro ore has been subjected to pilot plant testing at Fundação Gorceix, a leading industry recognized test facility in Minas Gerais. Mr Peter Freund, former Operations Director and Country Manager for the Company, who is a Fellow of AUSIMM and considered to have the relevant experience, reviewed the results of the pilot plant testwork. 				
Environmental	<ul style="list-style-type: none"> • The Jambreiro Project is fully licensed, which means there is no additional license needed from any authority to commence project construction and commissioning. The main licenses and their corresponding validity are as follows: <ul style="list-style-type: none"> ○ 3Mtpa Installation licence (LI) – currently suspended on request by Centaurus (to be lifted) ○ Vegetation clearing (ASV) – currently suspended on request by Centaurus (to be lifted) ○ IBAMA approval for Atlantic vegetation clearing – valid ○ 8 water permit applications. • The licenses mentioned above encompass all project facilities necessary to operate at a rate of up to 3Mtpa. 				
Infrastructure	<ul style="list-style-type: none"> • The Jambreiro Project is located 10km from sealed highways and 160-300 km from potential customers (integrated steel mills and rail head loading points to access export market). • Power for the proposed plant and project area will be provided by diesel generators and a diesel storage facility will feed the mining fleet. • Water catchment is readily available in the project area. • The project is located 22km from the regional city of Guanhães which has a population of 70,000. 				
Revenue factors	<ul style="list-style-type: none"> • The average mine gate sales price used in the PFS was US\$41/tonne (R\$152/t), based on a 62% Fe CFR Price of US\$75/tonne (40% less than current prices in the international market). • The pit shell selected from the optimisation process used a conservative revenue factor of R\$66/wmt (less than 50% of the project pricing assumption). • Historically Centaurus has engaged CRU for product pricing guidance. Pricing was further benchmarked against current operations. Brazilian domestic pricing is specific to product type and quality within the region. 				
Costs	<ul style="list-style-type: none"> • Process plant and other capital costs were developed by Centaurus using supplier information for the PFS study. No Capital costs were included for the pit optimisation process. • Plant Operating costs were obtained from current vendor and contractor quotes derived in the PFS and/or adjusted costs from the historical 2012 BFS study. • Mining costs were obtained from current mining contractor proposals. • The Project assumes mine gate sales as is the custom in the Brazilian market. • The tenement is part of the Cenibra-Centaurus Agreement. Centaurus will pay a vendor royalty of 0.85% of gross revenue on any product sold from the tenement. • All iron ore projects in Brazil are subject to the CFEM royalty, a government royalty of 3.5% of revenue (less taxes and logistics costs). • A State levy known as the TFRM fee will be payable at a rate of approximately A\$1.44 per tonne of product sold. 				

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Criteria	Commentary														
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #FFD700;">Operating Costs</th> <th style="background-color: #FFD700;">A\$ per Tonne Product</th> </tr> </thead> <tbody> <tr> <td>Mining</td> <td style="text-align: right;">9.7</td> </tr> <tr> <td>Processing & Beneficiation</td> <td style="text-align: right;">13.3</td> </tr> <tr> <td>General & Administration</td> <td style="text-align: right;">2.1</td> </tr> <tr> <td>SITE OPERATING CASH COST (C1)</td> <td style="text-align: right;">25.1</td> </tr> <tr> <td>Royalties – Government and Landowner</td> <td style="text-align: right;">3.9</td> </tr> <tr> <td>TOTAL OPERATING CASH COSTS (C1 + Royalties)</td> <td style="text-align: right;">29.0</td> </tr> </tbody> </table> <ul style="list-style-type: none"> The foreign exchange assumptions for PFS are fixed over the period of the mine life. Forecasts of AUD/USD - 0.70, AUD/BRL - 2.60 and USD/BRL – 3.7 have been used. 	Operating Costs	A\$ per Tonne Product	Mining	9.7	Processing & Beneficiation	13.3	General & Administration	2.1	SITE OPERATING CASH COST (C1)	25.1	Royalties – Government and Landowner	3.9	TOTAL OPERATING CASH COSTS (C1 + Royalties)	29.0
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TOTAL OPERATING CASH COSTS (C1 + Royalties)	29.0														
Market assessment	<ul style="list-style-type: none"> Jambreiro is positioned to supply into the Brazilian domestic market or to export options at local rail heads. Centaurus has been in negotiations with integrated steel mills and international trading groups for the off take of Jambreiro products. Bulk samples of Jambreiro iron concentrate has been sent to local steel mills and tested for its sintering suitability. It was determined suitable as a sinter feed blend. 														
Economic	<ul style="list-style-type: none"> The Project delivers a post-tax NPV₈ of A\$114.9 million and an IRR of 32% using a conservative LOM mine gate sales price of US\$41/t off a reference price for 62% ore of US\$75/t. The key financial outcomes are set out below: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="background-color: #FFD700;">Key Financial Outcomes</th> <th style="background-color: #FFD700;">Total A\$</th> </tr> </thead> <tbody> <tr> <td>Total Revenue</td> <td style="text-align: right;">1,052 million</td> </tr> <tr> <td>EBITDA</td> <td style="text-align: right;">533 million</td> </tr> <tr> <td>Capital Costs</td> <td style="text-align: right;">59.8 million</td> </tr> <tr> <td>NPV₈ Pre- tax</td> <td style="text-align: right;">190.2 million</td> </tr> <tr> <td>NPV₈ Post- tax</td> <td style="text-align: right;">114.9 million</td> </tr> <tr> <td>Post Tax IRR</td> <td style="text-align: right;">32%</td> </tr> </tbody> </table> Sensitivity analysis of +20% and -20% of key variables were carried out, with NPV ranging from A\$55.3M to A\$172.0M. The key factors with the greatest impact on Project economics are product prices and exchange rates. See PFS Results Release (5 July 2019) for more information. Inputs to the economic analysis include Modifying Factors as described above. The PFS iron ore price used represents a discount of approximately 40% compared to current spot prices. 	Key Financial Outcomes	Total A\$	Total Revenue	1,052 million	EBITDA	533 million	Capital Costs	59.8 million	NPV ₈ Pre- tax	190.2 million	NPV ₈ Post- tax	114.9 million	Post Tax IRR	32%
Key Financial Outcomes	Total A\$														
Total Revenue	1,052 million														
EBITDA	533 million														
Capital Costs	59.8 million														
NPV ₈ Pre- tax	190.2 million														
NPV ₈ Post- tax	114.9 million														
Post Tax IRR	32%														
Social	<ul style="list-style-type: none"> Centaurus maintains strong working relationships with all stakeholders in the vicinity of the Project, including the landowners in the region. The Company has been operating in the region since 2010. 														
Other	<ul style="list-style-type: none"> The area has no recorded history of earthquakes or natural disasters. The Jambreiro Iron Ore Project comprises three granted Mining Leases (MLs). The three MLs cover an aggregate area of 3,270 Ha. The Resource base is located on MLs: 831.649/2004, 833.409/2007 and 834.106/2010. The Installation Licence (LI) for the Jambreiro Project was issued in March 2013 and currently is in suspension at the request of the Company. The LI may be extended via an application to the state environmental agency (Supram). The Operational Licence (LO) will be granted once the plant is installed in line with the LI requirements. 														
Classification	<ul style="list-style-type: none"> BNA Mining Solutions has set a Proved and Probable classification for the Ore Reserves based on Measured and Indicated Mineral Resource classifications. BNA Mining Solutions and Centaurus are satisfied that the economics of the Project are robust. BNA Mining Solutions and Centaurus are satisfied that there are no material impediments preventing the Project's progress from study to operations. The Ore Reserves were classified following the guidance of JORC Code 2012 and shown in Table 1. 														
Audits or reviews	<ul style="list-style-type: none"> The historical Reserve Estimate for the Jambreiro Project was subject to Independent Engineers reviews by Coffey Mining (Australia/Brazil) and NCL (Chile/Brazil). No critical issues were revealed during the reviews. No new audit or independent review of the 2019 Ore Reserve was undertaken given the robustness of the original Ore Reserve. 														
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> The accuracy and confidence levels of the study are suitable for the reporting of Ore Reserves in a Pre-Feasibility Study as defined in the JORC Code 2012. There is no project production data for benchmarking of the Ore Reserve estimate. The pit optimisation was run on the costs derived during the PFS and used in the economic model. The pit chosen used a Fe price less than 50% of the Project price. This represents a very conservative pit selection. The statement relates to global estimates. Factors that may affect global grade and tonnage estimates may include: geological interpretation, density assumptions, mining dilution and recovery and process performance. A detailed grade control plan will be implemented as part of project readiness to control these factors. Other work required from a mining perspective that will be completed as a part of the Feasibility Study includes, but is not limited to: filtered tailings classification and study for in-pit back fill of this material and more detailed mine and waste sequencing to further optimize mining costs and minimize surface disturbance area. 														