

OZ Minerals Limited

ANTAS NORTH

**Mineral Resource and Ore Reserve
Statement and Explanatory Notes**

As at 30 June 2020

Summary

The 2020 Antas North Mineral Resource and Ore Reserve Statement is an update to the 2019 estimate released on 11 July, 2019¹. This latest estimate is presented in Table 1 and Table 2 respectively as at 30 June 2020, noting that the Mineral Resources are inclusive of the Ore Reserves

Table 1: Mineral Resource Estimate as at 30 June 2020²

| Antas North | Category | Tonnes (Mt) | Cu (%) | Au (g/t) | Cu (kt) | Au (koz) |
|---|-----------------|-------------|------------|------------|------------|------------|
| Antas Open Pit³ 0.3% Cu cut-off | Measured | 0.04 | 0.9 | 0.3 | 0.39 | 0.45 |
| | Indicated | 0.5 | 0.9 | 0.4 | 4.2 | 6.4 |
| | Inferred | 0.1 | 1.0 | 0.2 | 0.49 | 0.39 |
| | Subtotal | 0.5 | 0.9 | 0.4 | 5.1 | 7.2 |
| Azevedo³ 0.3% Cu cut-off | Measured | - | - | - | - | - |
| | Indicated | 0.4 | 0.8 | 0.2 | 2.9 | 2.5 |
| | Inferred | - | - | - | - | - |
| | Subtotal | 0.4 | 0.8 | 0.2 | 2.9 | 2.5 |
| Surface Stocks - Copper³ 0.3% Cu cut-off | Measured | 0.1 | 1.1 | 0.5 | 1.6 | 2.4 |
| Surface Stocks - Marginal³ 0.2% Cu cut-off | Inferred | 0.8 | 0.3 | 0.1 | 2.8 | 2.9 |
| Total | Measured | 0.2 | 1.1 | 0.5 | 2.0 | 2.8 |
| | Indicated | 0.8 | 0.9 | 0.3 | 7.0 | 8.9 |
| | Inferred | 0.9 | 0.4 | 0.1 | 3.3 | 3.3 |
| | Total | 1.9 | 0.7 | 0.2 | 12 | 15 |

Table 2: Ore Reserve Estimate as at 30 June 2020²

| Antas North | Category | Tonnes (Mt) | Cu (%) | Au (g/t) | Cu (kt) | Au (koz) |
|---|--------------|-------------|------------|------------|------------|------------|
| Antas Open Pit³ 17 USD/t cut-off | Proved | 0.04 | 0.8 | 0.3 | 0.33 | 0.32 |
| | Probable | 0.4 | 0.9 | 0.4 | 4.0 | 5.9 |
| | Total | 0.5 | 0.9 | 0.4 | 4.3 | 6.2 |
| Surface Stocks - Copper³ 0.3% Cu cut-off | Proved | 0.1 | 1.1 | 0.5 | 1.6 | 2.4 |
| Total | Proved | 0.2 | 1.0 | 0.4 | 1.9 | 2.7 |
| | Probable | 0.4 | 0.9 | 0.4 | 4.0 | 5.9 |
| | Total | 0.6 | 0.9 | 0.4 | 5.9 | 8.6 |

¹ [OZ Minerals Antas North 2019 Resource Update as at 30 April 2019](#)

² Table subject to rounding errors.

³ Mineral Resources consist of fresh material.

SETTING

The Antas North mine site is located in the south-eastern portion of the State of Pará in the municipality of Curionópolis and is situated about 25 kilometres southeast of the city of Parauapebas (Figure 1). The mine site is accessible from Parauapebas by road via 20 kilometres of sealed highway to the south, then a further 10 kilometres of gravel road to the east.

The Antas North iron oxide copper gold deposit is hosted within the Carajás Mineral Province which is located in the southern part of the Amazon Craton. Locally the craton is overlain by metavolcanic-sedimentary units of the Rio Novo Group and the 2.76 Ga Itacaiúnas Supergroup. The Itacaiúnas Supergroup hosts all the known Carajás iron oxide copper gold deposits and is thought to have been deposited in a marine rift environment. The Carajás Mineral Province represents one of the best endowed mineral districts in the world and contains the world's largest known concentration of iron oxide copper gold deposits including the, Salobo, Igarapé Bahia, Alemão, Cristalino, Gameleira, Furnas, Alvo 118, Antas, Pedra Branca and Pantera deposits.

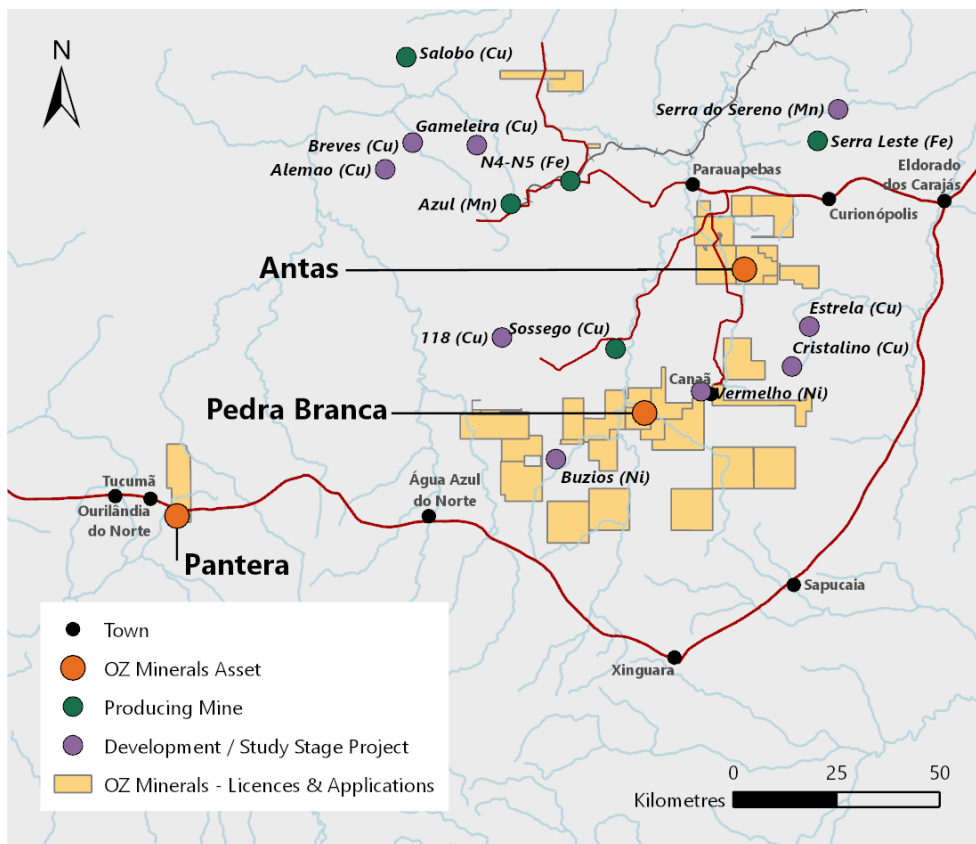


Figure 1: Local map showing OZ Minerals Carajás tenement portfolio⁴ and surrounding mineral deposits, townships and infrastructure.

⁴ Pantera subject to an option agreement with VALE METAIS BÁSICOS S.A. (Vale). Refer to ASX announcement "[Avanco acquires Pantera Project from Vale](#)" 16 January 2018 for detail on the terms and conditions of the option agreement with Vale.

MINERAL RESOURCE

The 2020 Antas North Mineral Resource as at 30 June 2020 has been estimated at 1.9 million tonnes of mineralisation grading 0.7 per cent copper and 0.3 grams per tonne gold. This estimate includes mineralisation from in situ sources at both the Antas and Azevedo deposits and from Surface Stocks of copper mineralisation and marginally copper mineralised materials at the Antas North site. Further to this, the Mineral Resources are inclusive of the Ore Reserves.

The updated Antas North Mineral Resource estimate includes, where applicable, additional delineation and grade control drilling completed since the cut-off date of the previous Mineral Resource release, reflects geological interpretation adjustments and improved classification confidence, and mining depletion.

The Mineral Resource estimate is summarised in Table 1.

Changes in the Mineral Resource Estimate

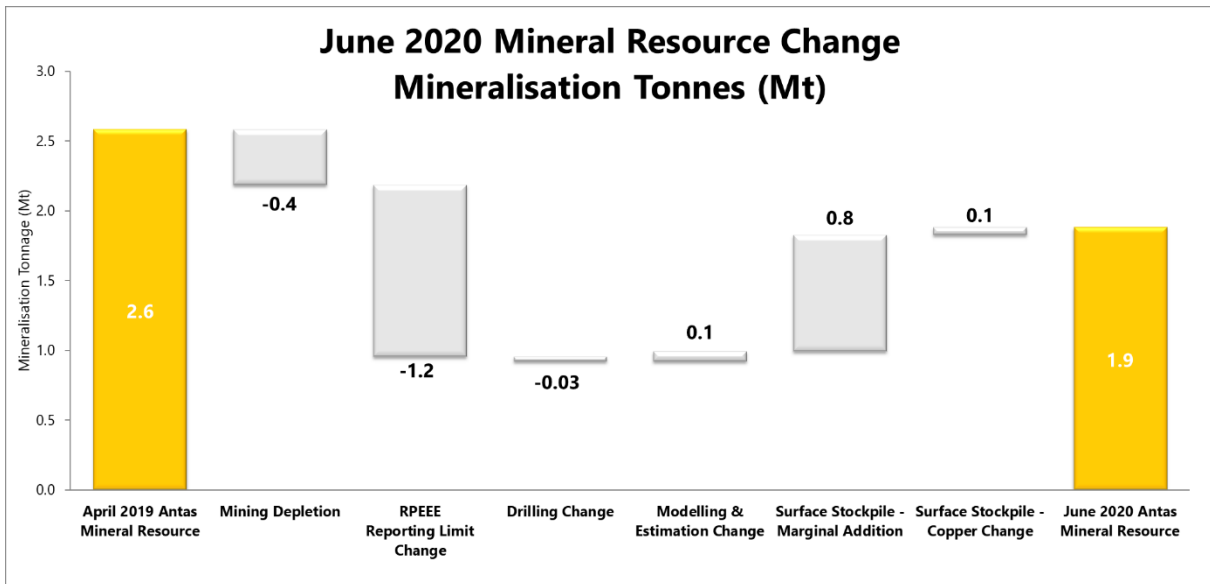
The 2020 Antas North Mineral Resource decreased by ~0.7 million tonnes (~27 per cent), ~18 thousand tonnes of copper metal (~59 per cent) and ~14 thousand ounces of gold metal (~49 per cent) relative to the 2019 Mineral Resource estimate. The magnitude of the changes estimated in the Mineral Resource should be considered with appreciation given to the small mass and metal volumes that they relate to and the limited remaining operational life of the mining project.

Comparing the 2019 Mineral Resource Estimate to the 2020 Mineral Resource estimate:

- Decrease of the in situ Mineral Resources due to the revision of the previous reasonable prospects of eventual economic extraction limits for in situ mineralisation at both Antas and Azevedo, additional infill drilling into the remaining mineralisation of both deposits and depletion due to ongoing mining of the Antas open pit Mineral Resource.
- Increase in the Mineral Resource surface stockpiles due to successful test work showing potential positive value for the processing and recovery from the marginally copper mineralised material (not previously part of the Mineral Resources) and growth in the operating ROM copper stockpiles actively feeding the Antas North processing facility.

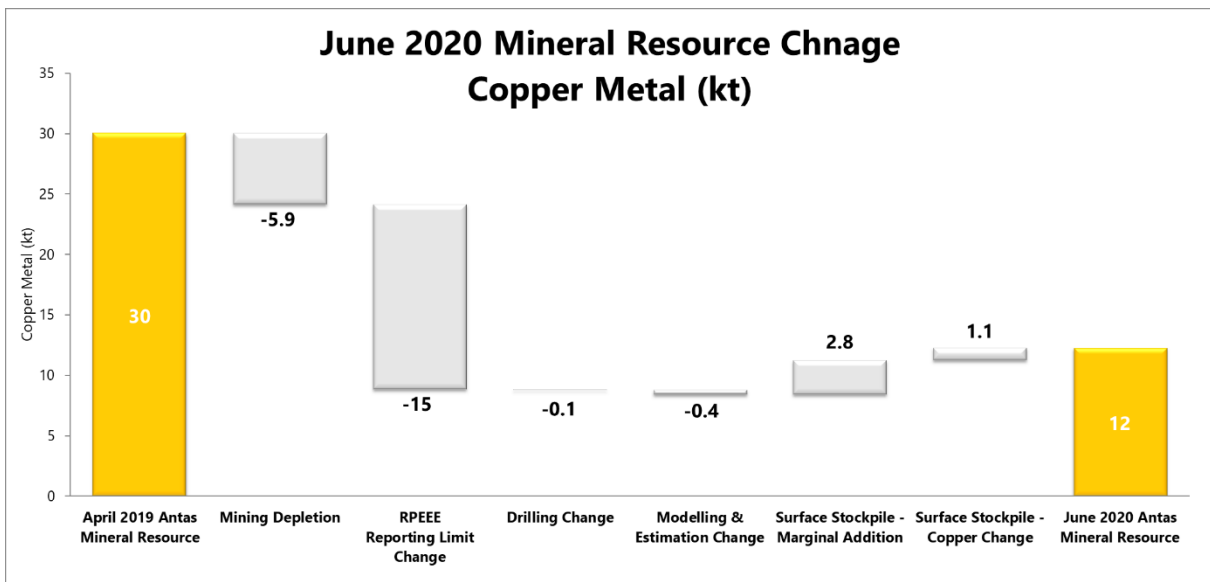
Detailed outlines of changes in reported tonnage and contained copper and gold metal relative to the April 2019 Antas North Mineral Resource estimate are presented in Figure 2, Figure 3 and Figure 4.

Figure 2: Tonnage change in 30 June 2020 Antas North Mineral Resource estimate *



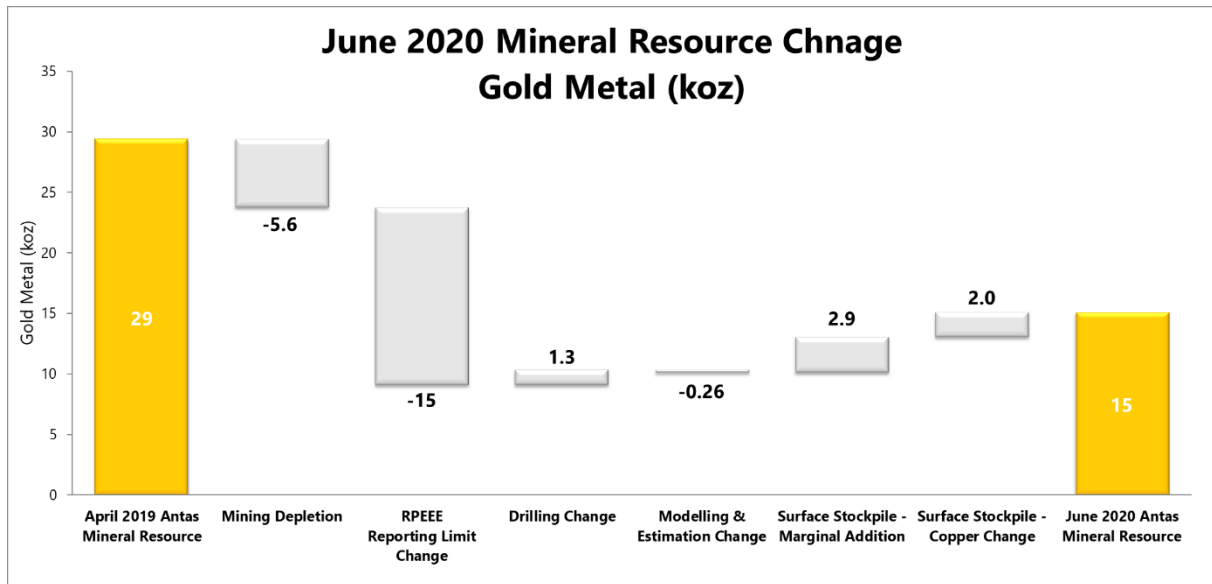
*Totals subject to rounding. Data includes Measured, Indicated and Inferred Mineral Resources.

Figure 3: Copper metal change in 30 June 2020 Antas North Mineral Resource estimate *



*Totals subject to rounding. Data includes Measured, Indicated and Inferred Mineral Resources.

Figure 4: Gold metal change in 30 June 2020 Antas North Mineral Resource estimate *



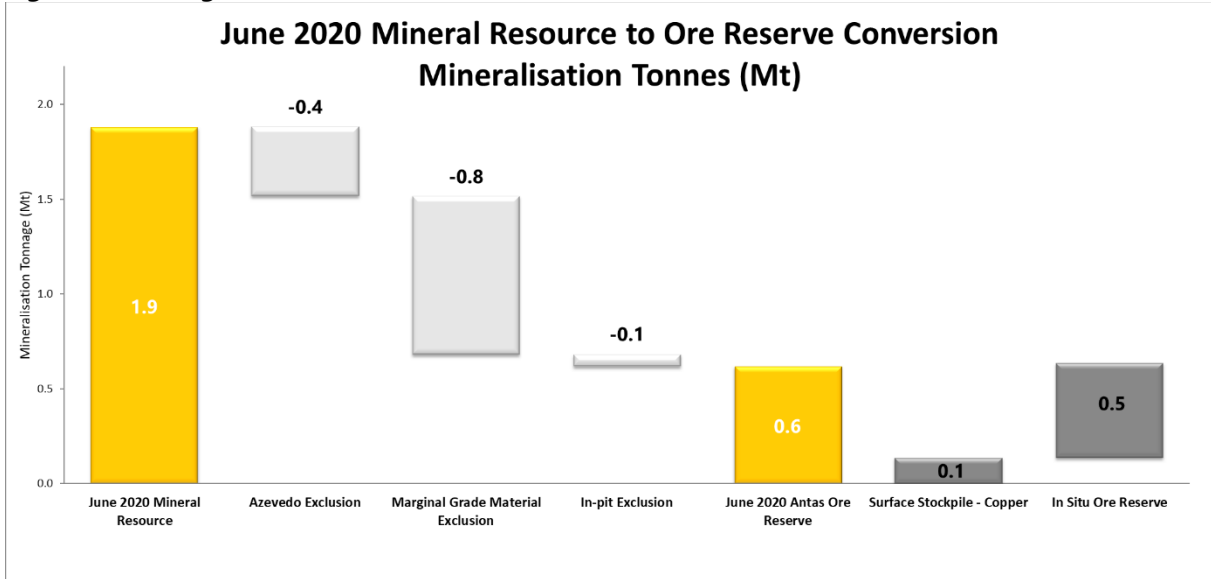
*Totals subject to rounding. Data includes Measured, Indicated and Inferred Mineral Resources.

ORE RESERVE

The 2020 Antas North Ore Reserves as at 30 June 2020 have been estimated at 0.6 million tonnes grading 0.9 per cent copper and 0.4 grams per tonne gold. This estimate includes Ore Reserves between the closing 30 June 2020 excavated mine surface and the optimised final Antas open pit design and includes closing ROM surface stockpiles. The Ore Reserve estimate is based on the geological block models finalised in July 2020. The geological block models and their construction are described in the Mineral Resource estimate section of this report.

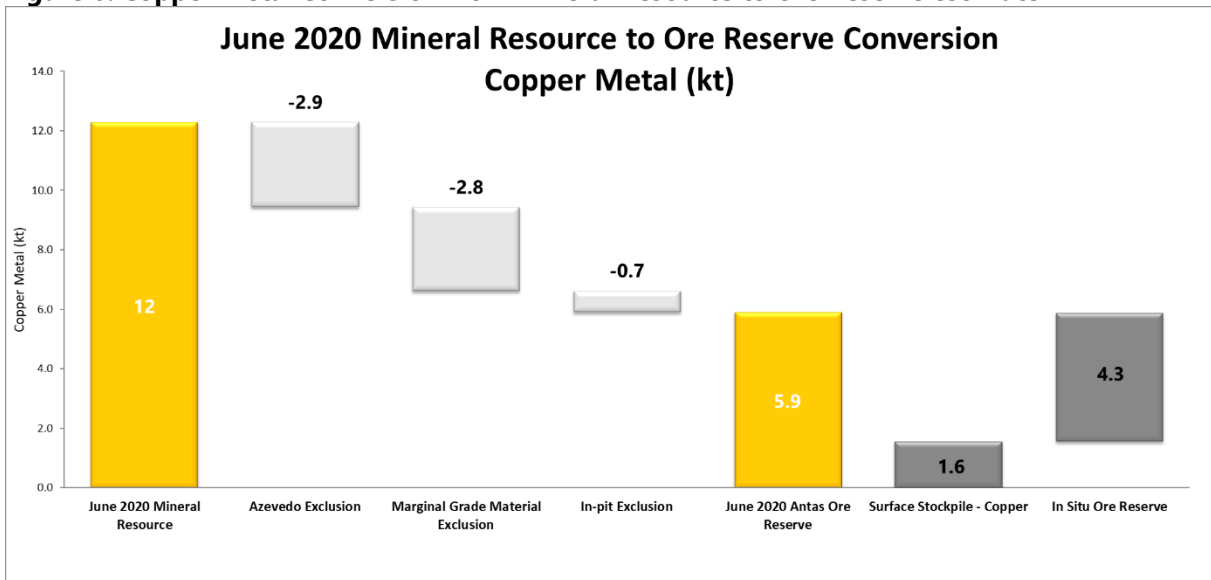
The Ore Reserve estimates are summarised in Table 2 and waterfall charts showing the conversion of the Mineral Resource to the Ore Reserve are provided in Figure 5 to Figure 7.

Figure 5: Tonnage Conversion from Mineral Resource to Ore Reserve estimate*



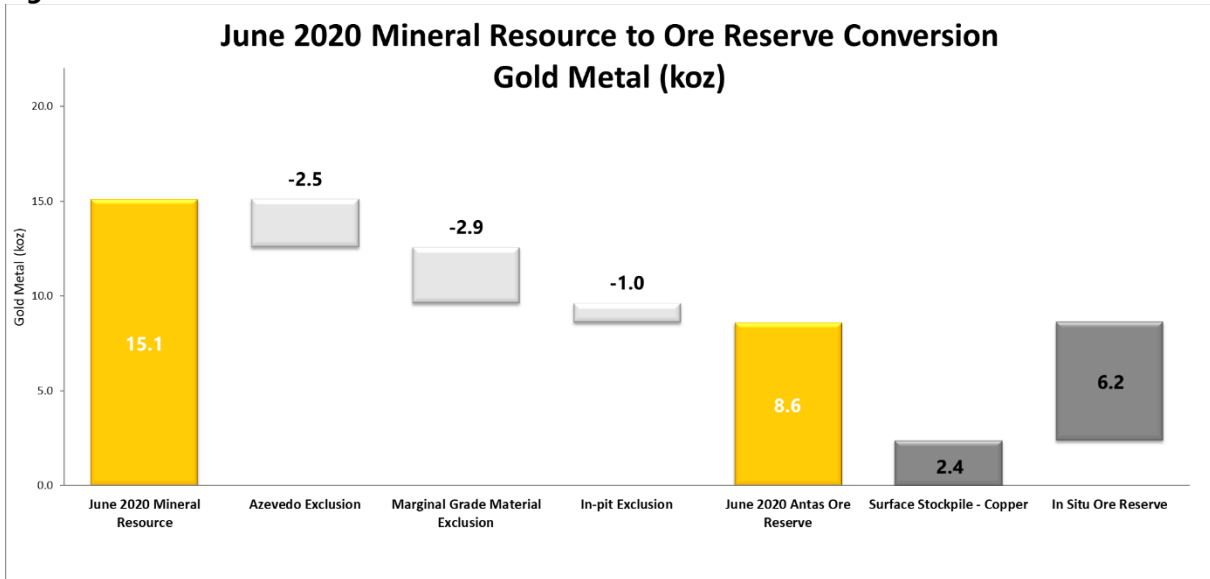
*Totals subject to rounding. Data includes Measured, Indicated and Inferred Mineral Resources.

Figure 6: Copper Metal Conversion from Mineral Resource to Ore Reserve estimate*



*Totals subject to rounding. Data includes Measured, Indicated and Inferred Mineral Resources.

Figure 7: Gold Metal Conversion from Mineral Resource to Ore Reserve estimate*



*Totals subject to rounding. Data includes Measured, Indicated and Inferred Mineral Resources.

Changes in the Ore Reserve Estimate

No ore reserve was estimated in 2019 due to the Competent Person not being able to form the opinion, in accordance with the JORC Code, 2012, that the project was economically viable, after taking into account material relevant Modifying Factors. Despite this position, mining and processing operations have and still continue from the Antas open pit and at the Antas North processing facility.

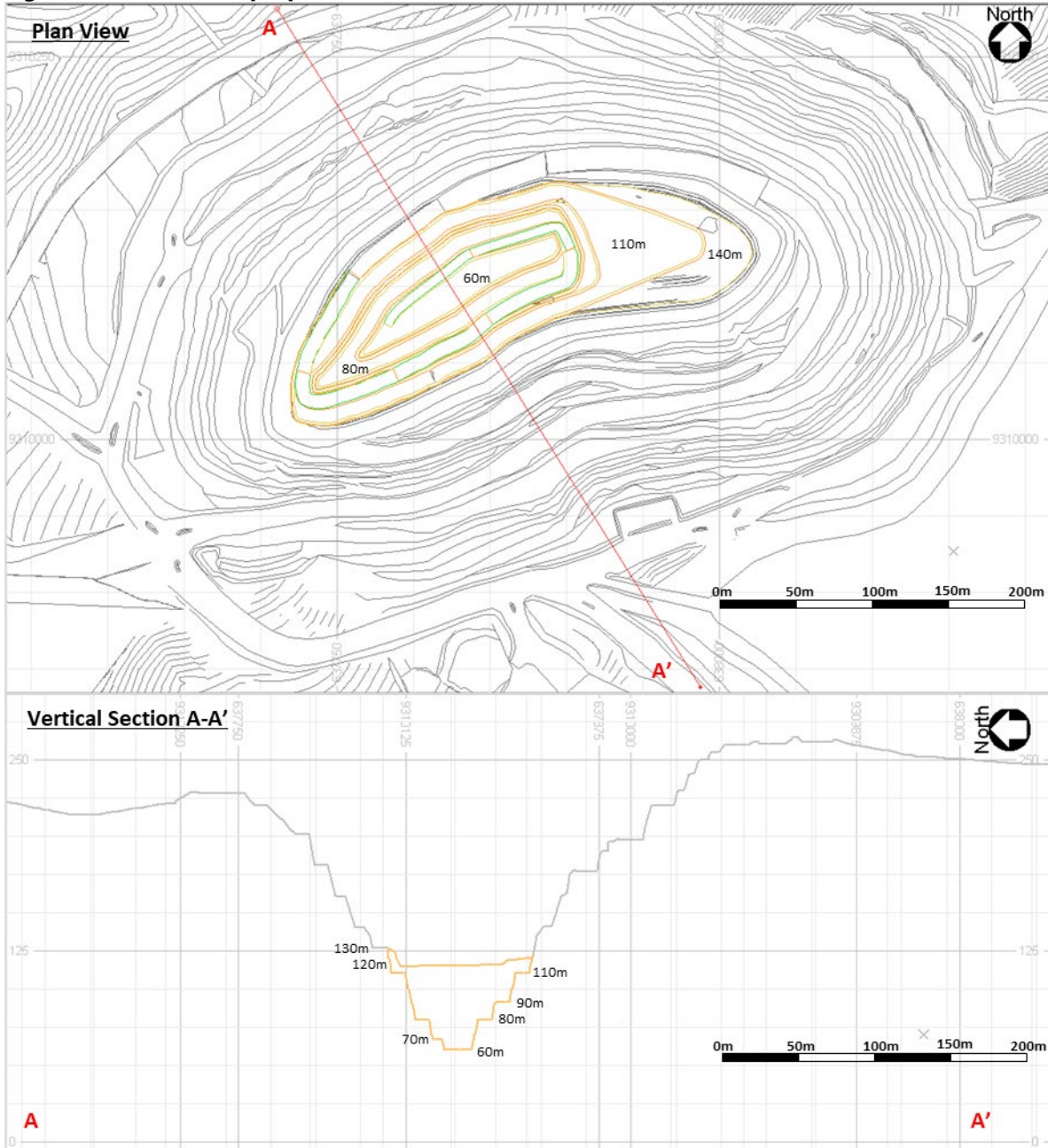
For the 2020 Ore Reserve estimate, a mine plan was produced with the required design and schedule detail to support the definition of an Ore Reserve. Modifying Factors were derived from past performance and reconciliation of the Antas North operation. Supporting studies relating to geotechnical and hydrogeological characterisation, metallurgical performance and marketing plans were all assessed on an integrated basis.

All required legal, operational and environmental permits were reviewed and confirmed to be in place and social aspects were reviewed and determined to be in good standing.

A financial model based on the ore reserve plan was produced to assess the economic feasibility of the operation. The financial analysis, rendered positive economic results.

A final pit plan and section are provided in Figure 8.

Figure 8: Antas North pit plan and section.



JORC 2012 EDITION, TABLE 1
SECTION 1 Sampling Techniques and Data

| Criteria | Comments |
|------------------------------|--|
| Sampling techniques | <p>Diamond drill core samples were taken from NQ and HQ diamond drill core and cut longitudinally in half using a core saw. Samples were typically 1 metre in length, but where required, sample lengths were adjusted to avoid samples crossing changes in lithology, mineralisation or alteration. Drill core recovery was typically good (>99 per cent) in unweathered primary material and sample masses of half core ranged from 3 to 5 kilograms. Drill core was crushed to a nominal 2 millimetre (95% passing) particle size and a ¼ sub-sample was taken via a Jones splitter to obtain a 750 to 1250 gram for pulverisation.</p> <p>RC samples were 1m in length and samples were split using a riffle splitter to obtain a 1/8 split weighing 3 to 5 kilograms which was sent to the laboratory for sample preparation and assaying.</p> <p>Sample intervals in both diamond and reverse circulation drilling were selected from the zones where prospective geology and/or visible sulphides were apparent. Unsampled intervals are expected to be unmineralised.</p> <p>Samples were pulverized to ensure 85% of sample passed a 100# particle size. A pulp-sample of approximately 150 grams was then obtained from the pulverised material. Two sub-samples were taken from each pulp sample. A 0.25 gram sub-sample was selected for aqua-regia digestion and subsequent assay for Cu by Atomic Absorption Spectrometry (AAS). A 50 gram sub-sample was selected for Fire Assay analysis of Au.</p> <p>All historic and recent drilling and sampling activities were overseen by a qualified geologist.</p> |
| Drilling techniques | <p>Drilling at Antas North has been completed by standard tube diamond drilling (HQ and NQ diameter) and reverse circulation drilling methods. A total of 164 diamond drill holes totalling 32,707m have been drilled at the Antas North deposit. The majority of these drill holes (153 drill holes) were drilled by Avanco Resources/OZ Minerals between 2008 and 2019.</p> <p>In addition to the diamond drilling completed at the Antas North deposits a number of programs of Reverse Circulation (RC) drilling were completed using 4 to 5 inch face sampling hammers. As of August 2019, a total of 1,474 RC drill holes totalling 48,516 m had been drilled into the Antas North deposits.</p> <p>Orientation measurements on diamond drill core were not completed as a standard practice.</p> |
| Drill sample recovery | <p>Diamond core was reconstructed into continuous runs on an angled iron cradle for recovery measurement and core orientation and drill core recovery was calculated as a percentage of the recovered interval (Recovered Interval/ Total length interval*100).</p> <p>Diamond core recovery was logged for all Avanco and OZ Minerals Resources diamond drill holes (AAND-001 to AAND-157) and drill core recovery results were recorded either on hard copy or into a digital database. Statistical analysis of drill core recovery data contained within the digital database highlighted that core recovery was excellent particularly in fresh rock, so no further effort was considered necessary to increase core recovery</p> <p>Drill core recovery data for historic drilling completed by Barrick and Noranda was not present within the available digital database records and has therefore not been reviewed. This data represents approximately 9 per cent of the available diamond drilling core dataset</p> <p>RC sample recovery data or sample mass data was not recorded to the drill hole database.</p> <p>There was no apparent relationship between sample recovery and grade. The very high core recovery implies that any effect of sample recovery losses would be negligible if such a relationship existed. No data was available on the sample recovery and grade relationship for reverse circulation drilling or the Barrick and Noranda drilling programs.</p> |

| Criteria | Comments |
|---|---|
| Logging | <p>Drill core and reverse circulation chips were qualitatively logged for lithology, weathering, mineralogy, mineralisation, colour and alteration. Quantitative logging of structure was completed for geotechnical purposes. Logging was completed to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</p> <p>Core was photographed both wet and dry and core photography was stored on the server at the Antas North mine.</p> <p>All drill holes were logged in full from start to finish of the drill hole.</p> |
| Sub-sampling techniques and sample preparation | <p>Diamond drill core samples were sawn longitudinally in half. Typically, half core samples were collected for analysis.</p> <p>RC samples were collected at one metre intervals and were split using either a riffle splitter to obtain a 1/8 split, or passed directly through a cone splitter on the drilling rig. Reverse circulation samples weighed 3 to 5 kilograms.</p> <p>Drill core was crushed to a nominal 2 millimetre (95% passing) particle size and a ¼ sub-sample was taken via a Jones splitter to obtain a 750 to 1250 gram for pulverisation. All core sub-samples and reverse circulation samples were pulverized to ensure 85% of sample passed a 100# particle size. A pulp-sample of approximately 150 grams was then obtained from the pulverised material. Two sub-samples were taken from each pulp sample. A 0.25 gram sub-sample was selected for aqua-regia digestion and subsequent assay for Cu by Atomic Absorption Spectrometry (AAS). A 50 gram sub-sample was selected for Fire Assay analysis of Au.</p> <p>A quality assurance program for drilling at the Antas North deposit has been in place since the commencement of drilling by Avanco Resources in 2008. The quality assurance program included insertion of certified reference material and blank material to monitor contamination in sample preparation and the accuracy of analytical techniques. Certified reference material samples were inserted at an approximate rate of one control sample per 20 normal samples. Blank samples were inserted at an approximate rate of one control sample per 40 normal samples.</p> <p>Insertion of field duplicate samples (1/4 core samples) to monitor sampling activities and to ascertain whether representative samples were being attained from sampling activities. Duplicate samples were inserted at an approximate rate of one control sample per 40 normal samples.</p> <p>Check assaying was completed on historic diamond drill core by an independent third-party laboratory. This was at an approximate rate of 1 control sample per 20 normal samples, or a minimum of 3 umpire check samples per drill hole.</p> <p>The sample preparation technique is considered to be of an acceptable quality for iron oxide copper gold style mineralisation. The sample sizes used are believed to be appropriate to the grain size of the material being sampled.</p> |
| Quality of assay data and laboratory tests | <p>Assaying of drill core samples was initially completed by SGS-Geosol's laboratory in Belo Horizonte (AAND-01 to AAND-011) and then by ALS laboratory in Contagem through to 2012. All samples thereafter were analysed by Intertek at their laboratory in Parauapebas.</p> <p>The analytical process completed by Intertek for copper used a 0.25 gram aqua-regia digestion with an AAS finish. Analysis for gold was completed using a 50-gram fire assay with an AAS finish.</p> <p>Certified reference material samples were inserted at an approximate rate of one control sample per 20 normal samples. Blank samples were inserted at an approximate rate of one control sample per 40 normal samples. Results of certified reference material show that the assaying process has been accurate across all grade ranges for drilling between 2008 and 2019.</p> |

| Criteria | Comments |
|--|--|
| | <p>Field duplicate samples (1/4 core samples) were inserted at an approximate rate of one control sample per 40 normal samples. Review of results indicated that a notable scatter of results was present. Concern arises over whether ¼ core sampling of NQ core produces a representative sample for assaying for the style of mineralisation present. Future sampling programs will require minimum half core sampling for field duplicates.</p> <p>External check assaying results were robust with 88 percent of samples presenting below 5 percent difference to original assays.</p> <p>An external audit was completed in August 2018, which reviewed the Intertek laboratory activities and associated documentation. It found that there were a number of areas for improvement but believed assay results were appropriate for use in Mineral Resource estimation.</p> <p>Review of the quality control procedures adopted have lead to the conclusion that acceptable levels of accuracy and precision have been established.</p> |
| Verification of sampling and assaying | <p>Visual verification of drill core and core photography by a trained geologist occurred for significant assay results. A check assaying program by an independent 3rd party laboratory on selected samples (1 control sample per 20 samples) was also completed.</p> <p>A small number of drill holes were twinned or lie in close proximity to adjacent drill holes. A review of drill hole grades and overall thickness of the interpreted mineralised zone between nearby or twin diamond drill holes has shown good comparison taking into account the inherent grade variability present within this style of deposit.</p> <p>Assay data are supplied to the database within Microsoft Excel spreadsheets. Geological and structural logging are recorded on paper and subsequently reviewed and transferred to Microsoft Excel spreadsheets for future reference. All drill hole related information was transferred, validated, compiled, and managed by the Company's in-house database manager in a relational database. All drill hole related data are stored on a central server, kept in a secure and environmentally controlled room at the Antas North mine. Automated tape back-up occurs on a nightly basis and duplicate back-ups are regularly rotated "off-site" as a secondary precaution in case a complete failure of the Server occurs at the Antas North mine site.</p> <p>No adjustments or calibrations are made to assay data.</p> |
| Location of data points | <p>All drill holes were pegged and surveyed with handheld GPS using the MGA coordinate system GDA94 Zone 22S. Following completion of the drill hole, the drill hole ID number and depth were written on the survey peg and on the drill hole plug. A handheld GPS reading was recorded as a backup and for validation against the planned and surveyed coordinates.</p> <p>Collar surveying was then completed by qualified local survey contractors, who used a Trimble 5700 DGPS, tied into the State Survey Datum using true Sea Level RL's, with accuracy of +/- 5 mm and the data was supplied to Avanco Resources Database Manager in Microsoft Access format. The contractor maintains a network of local survey marks onsite at topographic highs, tied to the State Survey Datum.</p> <p>Downhole surveys were completed using a Maxibor digital down-hole tool with readings every 3 m. The electronic multishot cameras used for the downhole surveys, had a reported accuracy of ± 0.3 degrees in Azimuth and ± 0.3 degrees in dip. No check surveys using an alternate downhole surveying technique have been completed.</p> <p>The topography surface for the Antas North mine and surrounding area have been surveyed using a Drone Survey Aircraft by a local survey contractor. The topographic survey data was post processed into Digital Terrain Models which were contoured into 1.0m spaced contour lines.</p> |

| Criteria | Comments |
|--|---|
| | A review of the supplied topographic surface against drill hole collar co-ordinates highlights a good correlation for all drill holes which were drilled on the natural surface. |
| Data spacing and distribution | <p>The current drill spacing at Antas North is nominally 50 by 50 metre. The Drill spacing is variable and ranges from tight spaced (10 by 5 metre) RC grade control drilling to widely spaced (up to 100 metre spaced) diamond drilling targeting down dip or along strike extensions of the Mineral Resource. Diamond drilling targeting the main zone of mineralisation has been completed in places down to a drill spacing of 25 by 25 metre. It is considered that a 25 by 25 metre drill spacing is appropriate to accurately demarcate the boundaries and grade of mineralisation to a level which supports the application of a Measured resource classification.</p> <p>Identified mineralised zones have been sampled predominantly on one metre intervals, but where required, sample lengths were adjusted to avoid samples crossing changes in lithology, mineralisation or alteration. A review of sample lengths highlights that a total of 486 or ~1% of mineralised samples have a sample length which are greater than one metre. Assay data within each domain were composited to a sample length of one metre to provide consistent sample 'support' (or weighting) for univariate and spatial analysis and grade estimation. The compositing algorithm employed weighted assays by sample length and ensured all small <0.5 metre sample lengths were merged into the above sample interval in order to obtain equal sample support.</p> |
| Orientation of data in relation to geological structure | Geology and mineralisation at Antas North is approximately sub-vertical. Drilling has been predominantly been completed at low angles (~50° to 60°) in order to achieve intersections at the most optimal angle possible. A number of drill holes have been drilled vertically. All drill holes were reviewed in section against interpreted mineralised domains. Any drill hole which was drilled down the dip of mineralisation was added to an exclusion list and was subsequently not used in Mineral Resource estimation. |
| Sample security | All drill core samples were received intact and in their entirety in their core trays at Avanco Resources secure core yard in Parauapebas, Pará, Brazil. All sampling and work on the drill core samples was carried out within the confines of this secure facility. Samples were delivered by Avanco/OZ Minerals personnel directly to the laboratory in Parauapebas and thus at no point did the samples leave the possession of Avanco/OZ Minerals staff prior to arriving at the Intertek laboratory. |
| Audits or reviews | <p>In February 2012, CSA Global Pty Ltd ('CSA') completed a site visit and undertook an independent review of data collection and QA/QC procedures. CSA also visited the Intertek Laboratory in Parauapebas (sample preparation laboratory) and the Intertek Laboratory in Sao Paulo (assay laboratory). CSA considered the procedures adequate and appropriate to obtain robust datasets for use in Mineral Resource estimation.</p> <p>Xstract Mining Consultants completed a site visit in August 2018 and completed a Mineral Resource audit which included a review of all inputs (drilling, sampling, assaying, geological modelling, estimation and resource classification) into the Mineral Resource estimation process. The visit included a site visit to the Antas North mine, Pantera deposit, Pedra Branca deposit and Centro Gold deposit to review drilling, sampling and logging practices. A visit to Intertek's laboratory facilities in Parauapebas was also undertaken. A number of recommendations were made to improve current practices but no 'Fatal Flaws' were identified in the drilling, sampling, assaying and data management practices employed by Avanco Resources personnel.</p> <p>No additional review have been completed since August 2018.</p> |

SECTION 2 Reporting of Exploration Results

| Criteria | Comments |
|---|---|
| Mineral tenement and land tenure status | <p>Antas North operates bound by the mining title, Portaria de Lavra, number 853.714/1993 from the Brazilian Agência Nacional de Mineração (ANM), the national mining authority in Brazil, and the operation licence (Licença de Operação) number 8796/2014, renewed in March 2016 by the Pará state Environment and Sustainability agency (SEMAS/PA). All current tenements are outside military or government reserves and outside of National Park or State Forests. They are fully contained on a freehold cattle-grazing property with secure tenure for OZ Minerals. There are no known historic sites or registered sites within the Antas North tenement package.</p> <p>AVB MINERAÇÃO Ltda, a wholly owned Brazilian subsidiary of OZ Minerals holds the rights to 100% of tenement 853.714/1993.</p> |
| Exploration done by other parties | <p>Exploration around the Antas North deposit initially commenced in 1997 when Brilasa applied for an exploration concession. A Joint Venture (JV) with Barrick occurred in 1997 and Barrick completed a program of work between 1997 to 2001, which consisted of soil sampling, geological mapping and geophysical surveys. A total of 8 RC drillholes and 16 diamond drillholes ('RVD' series) were reportedly drilled by Barrick. In 2001, Barrick entered into a JV with Noranda who conducted further exploration including trenching, petrographic studies, geophysical surveying and diamond drilling. Noranda reportedly completed a total of 32 diamond drillholes (NRV prefix) around the Antas North deposit between 2001 and 2002.</p> <p>In 2002 the project was acquired by Apoquindo (a junior Chilean company) who completed no work on the project through to 2007, when Avanco Resources acquired the project.</p> |
| Geology | <p>The Antas North deposit is a structurally controlled iron oxide copper gold deposit which is spatially related to (WNW-ESE) regional shear zones, specifically the Carajás fault and the Cinzento shear system.</p> <p>Mineralisation is hosted within hydrothermal brecciated and altered felsic and mafic volcanic units. Mineralised fluids have been sourced from nearby large granitoid bodies and have been focussed along structural conduits resulting in the deposition of high grade (greater than 10 per cent copper) massive sulfide zones immediately adjacent to or within the interpreted main structural zone. These high-grade massive sulfide zones are commonly 2 to 5 metres wide and are surrounded by a broader zone of lower grade disseminated mineralisation grading 0.2 to 2.0 per cent copper.</p> <p>The main zone of mineralisation at the Antas North mine has been defined over 350 metres along strike, 300 metres down dip and can be up to 35 metres wide. Mineralisation contains variable proportions of chalcopyrite, pyrrhotite, and magnetite. Mineralisation in the eastern part of the pit is offset and truncated by late stage dykes which, during emplacement, have remobilised mineralisation locally along dyke margins.</p> |
| Drill hole Information | This section is not relevant as Exploration Results are not being separately reported. |
| Data aggregation methods | No Exploration Results have been reported in this release, therefore there is no aggregated drill hole information to report. |
| Relationship between mineralisation widths and intercept lengths | Geology and mineralisation at Antas North is approximately sub-vertical, dipping slightly to the North. The majority of drilling is angled to the south, dipping as low as possible (typically -50° to 60°) in order to achieve intersections at the most optimal angle possible. |
| Diagrams | This section is not applicable as Exploration Results are not being reported. |
| Balanced reporting | Not applicable. Exploration Results are not being reported. |
| Other substantive exploration data | This section is not applicable as no exploration data or results of a meaningful or material nature are not being reported. |
| Further work | No further works are planned at this time. |

SECTION 3 Estimation and Reporting of Mineral Resources

| Criteria | Comments |
|----------------------------------|--|
| Database integrity | <p>Data from the laboratory was manually entered into Microsoft Excel workbooks and sent to the Database Manager at the Antas North mine to load into Microsoft Access Database. Some validation queries are used in access database for overlapping and final depth checks; however, no documented procedure for database validation exists.</p> <p>A user login and password are required for accessing the Microsoft Access Database, but any database user can manipulate and potentially delete data. No tracking report can be issued regarding insertion/deletion of data. Backups of the project databases are made to the server at the Antas North mine every 24 hours and a backup to an external hard drive located offsite occurs on a monthly basis.</p> |
| Site visits | <p>The Competent Person has undertaken multiple visits to the Antas North site. Visits included field observations of reverse circulation drill hole sampling and diamond drilling activities. Inspection of recent diamond drill core and associated core logging activities were also undertaken at the site-based processing facility.</p> <p>Field based observations were used to provide feedback to the onsite geologists relating to opportunities to streamline and improve reverse circulation sample collection quality.</p> |
| Geological interpretation | <p>Mineralisation is hosted within hydrothermal brecciated and altered felsic and mafic volcanic units. Mineralised fluids have been sourced from nearby large granitoid bodies and have been focussed along structural conduits resulting in the deposition of high grade (greater than 10 per cent copper) massive sulfide zones immediately adjacent to or within the interpreted main structural zone.</p> <p>The main zone of mineralisation at the Antas North mine has been defined over 350 metres along strike, 300 metres down dip and can be up to 35 metres wide. Mineralisation contains variable proportions of chalcopyrite, pyrrhotite, and magnetite. Mineralisation in the eastern part of the pit is offset and truncated by late stage dykes which, during emplacement, have remobilised mineralisation locally along dyke margins.</p> <p>Drill hole data, including assays, logging and photos have been used to guide the geological interpretation. Extrapolation of mineralisation beyond drilling has been assumed up to a maximum of 50m where the mineralisation is open.</p> <p>Geological domain modelling was based primarily on analytical data for copper and gold but was supported by geological logging and mapping data where present. Domain boundaries for the high-grade massive sulfide domains are distinct from a grade perspective from the low-grade domains. The lower grade disseminated mineralisation / waste boundary has a more gradational nature but can be quite distinct too. Ongoing development of interpreted domain solids will occur with any additional drilling, structural interpretation and in-pit geological mapping.</p> <p>Alternative interpretations on a global scale are unlikely due to the current well-defined interpretation, however alternative localised differences in the interpretation are possible along strike and down dip of the deposits.</p> <p>Weathering domains were developed in 2014, to demarcate oxide material from saprolite material from primary material. No further development of weathering domains over the main Antas deposit was undertaken for this Mineral Resource update. Following infill drilling across the Azevedo deposit, a localised updated oxidation surface was prepared for use with Mineral Resource reporting.</p> |

| Criteria | Comments |
|--|---|
| Dimensions | <p>The main zone of reported mineralisation at the Antas North mine has been defined over 300 metres along strike, 200 metres down dip and can be up to 35 metres wide. Extensions of mineralisation along strike and down plunge to the west are considered possible. Economic mineralisation has also been identified near surface at the Azevedo deposit which is located 300 metres from the current Antas North pit limits. Azevedo mineralisation has currently reported over a 140 metre strike length and a down dip extent of 80 to 100 metres. The mineralisation at Azevedo is typically lower grade and thinner (up to 10 metres wide) than mineralisation inside the Antas North pit.</p> |
| Estimation and modelling techniques | <p>Geological modelling has been based primarily on analytical data for copper and gold but was supported by geological logging and mapping data where present.</p> <p>Domains consisted of 8 mineralisation domains (2 high-grade and 6 low-grade mineralisation domains) were updated from those used in the 2019 Mineral Resource update. Low-grade domains generally used a 0.3 percent cut-off and accepts a significant quantity of internal waste (up to six consecutive metres) to capture outlining higher-grade intervals. High-grade domains generally use a 2 per cent cut-off and are restricted to areas where infill grade control drilling supports the interpretation of grade continuity.</p> <p>Estimations used a combination of Ordinary Kriging and Inverse Distance Squared estimation in Maptek Vulcan software. Samples were composited to one metre lengths. Variography was modelled using Snowden Supervisor software for both copper and gold where sufficient data was available to produce robust outputs. Ordinary kriging estimation for copper and gold used up to three passes, having search ellipsoids of 30m×30m×10m, 50m×50m×15m and 100m×100m×30m. For pass one, a minimum of eight samples and a maximum of 24 samples were allowed, with at most four samples per drill hole. For pass two, a minimum of six samples and a maximum of 24 samples were allowed, with at most four samples per drill hole. For pass three a minimum of four and a maximum of 24 samples were allowed with no limitation on samples per drill hole.</p> <p>Inverse distance estimation for copper and gold used up to three passes, having search ellipsoids of 25m×25m×5m, 50m×50m×10m and 75m×75m×15m. For pass one, a minimum of eight samples and a maximum of 24 samples were allowed, with at most four samples per drill hole. For pass two, a minimum of six samples and a maximum of 24 samples were allowed, with at most four samples per drill hole. For pass three a minimum of four and a maximum of 24 samples were allowed with no limitation on samples per drill hole.</p> <p>Inverse distance estimation for density used up to two passes, having search ellipsoids of 25m×25m×5m and 75m×75m×15m. All passes used a minimum of three samples and a maximum of 24 samples with no limitation on samples per drill hole. In areas where estimation of density was not possible due to a lack of density data, an assigned density value was applied to blocks taking into account the correlation with estimated block copper grades. Blocks which did not receive an estimated density value but had an estimated block Cu grade of < 2.0% Cu were assigned the domain average density value.</p> <p>Grade caps were applied based on statistical analysis of the input composite data per domain. The number of samples impacted by grade capping was low.</p> <p>Copper and gold grades, and density were estimated into 10mX by 5mY by 10mZ blocks. A sub-cell of 0.25mX by 0.25mY by 0.25mZ was used to honour wireframe boundaries. The block size is considered to be appropriate given the dominant drill hole spacing and style of mineralisation. No assumptions were made regarding selective mining units. Sub-cells were assigned parent cell grades. Parent cell discretization of 4x4x4 was used.</p> <p>Previous estimates were available and their approaches to estimation have been considered. The current estimate closely reflects the approach used in the 2019 estimate.</p> |

| Criteria | Comments |
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| | <p>A statistical comparison was completed between the global mean grades of the declustered and top-cut composite data and the block estimates was performed to ensure the global grade estimate was unbiased. General grade trends were validated using 'swath plot' comparisons between input data and block grade means in section and plan 'slices' of varying width. Input data was also declustered to indicate any local bias introduced by irregular drill spacing.</p> <p>Local grade variability was also validated by comparing composite and block grades visually in cross-section and long-section and plan.</p> <p>Final reporting of the Mineral Resources involved reporting mineralised domains within the ultimate open pit design.</p> <p>The comparison of the operational grade control designed mineralisation to the mineral resource shows close adherence between the grade control and mineral resource definitions for tonnes and copper grade. Operational mining execution has been identified as introducing significant dilution, coupled with additional zones of mineralisation outside of the mineral resource, obscuring any meaningful assessment of mineral resource reconciliation.</p> <p>Copper and gold are assumed to be recoverable, and this is supported by metallurgical studies. There are no penalty elements or gangue minerals of significance, hence there was no additional estimations.</p> |
| Moisture | Tonnages are estimated on a dry basis. All drill hole samples are dried at the laboratory prior to sample preparation and analysis. |
| Cut-off parameters | The Mineral Resource has been reported at a 0.3 per cent copper cut-off. The cut-off criteria matches the current operating cut-off for the lowest grade of ore sent to the Antas North ROM pad for processing. The cut-off is based on the open pit mining costs, actual processing costs and metallurgical recovery results from the Antas North mine in recent years. The Mineral Resources meet 'reasonable prospects of economic extraction' as described by the JORC Code (JORC, 2012). |
| Mining factors or assumptions | <p>Antas North is an on-going open pit mining operation which will have approximate dimensions at completion of 650m length, 500m width and 200m depth.</p> <p>Current open pit mining comprises conventional loader/excavator load and haul methods, with ore being mined in 5 metre benches on 2.5 meter fitches.</p> <p>The reported Mineral Resource includes in situ materials which fall within the ultimate Antas pit design (developed using well understood mining and processing costs derived from the last 5 years of mining), and within the area of the Azevedo deposit. Reported Mineral Resources also included "Surface Stocks – Copper", which are ROM stockpile materials accumulated during the last 12 months and the previously sub-economic "Surface Stocks – Marginal" material which has now been determined to have potential for economic recovery using pre-concentration using "Steinert" ore sorting technology.</p> |
| Metallurgical factors or assumptions | <p>Metallurgical assumptions for ore sorting are based on testwork undertaken with Steinert Latinoamericana. The sorting processing uses a combined laser scanning and XRT method to identify selected particles and air jets to separate material into pre-concentrated and waste streams. The test work has allowed definition of preconcentrate recoveries for both tonnage and contained copper metal (contained gold metal relationship is variable and lower than the copper recovery).</p> <ul style="list-style-type: none"> • 40% mass recovery • 73% copper metal recovery • Approximately 50% gold metal recovery |

| Criteria | Comments |
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| | <p>Metallurgical assumptions for flotation are based on comprehensive metallurgical test work that has been completed for the Antas North deposit and reconciliation results.</p> <p>Metallurgical flotation recovery is reported by the operation on a monthly basis and has been shown to average 84% for gold and 97% for copper.</p> <p>Analysis of concentrate material developed at the Antas mine highlights that the concentrate typically averages ~27% Cu to 28%Cu and is low in deleterious elements (As, Bi, F, Hg and U) and is a desirable high quality saleable concentrate on the global market. OZ Minerals currently have sales contracts in place for 100% of production from the Antas North mine.</p> |
| Environmental factors or assumptions | <p>Environmental impacts are continuously assessed and monitored. There are no known environmental factors that impact the estimates and reporting of the Mineral Resource.</p> <p>Antas North operates bound operation licence (Licença de Operação) number 8796/2014, renewed in March 2016 by the Pará state Environment and Sustainability agency (SEMAS/PA). This is one of the main permitting processes for mining in Brazil and requires continuous monitoring and updates along with the permitting agencies for inspections and statutory reporting.</p> <p>Additional permitting is in place for tailings disposal and water collection at the Itaboca creek and associated freshwater wells.</p> <p>Tailings disposal permitting by the Brazilian mining authority (ANM) is regularly updated with minimum annual inspections and stability reviews certifying the tailings storage system integrity. The last annual review was in September 2020. The tailings storage facility also has dedicated permitting along with the State of Pará environmental agency (SEMAS/PA) under the operation license number 10402/2017.</p> <p>All known permitting documentation was verified and is in good standing as part of the Ore Reserve assessment.</p> <p>Acid drainage generation potential was assessed in 2016 for various potential sources (SRK Consulting). The waste rock was assessed to be predominantly low potential for acid drainage generation due to self-neutralization. The "Surface Stocks – Marginal" material, which is stockpiled separately may require further testing in the future. Process tailings were also characterized as non-potential acid generating.</p> |
| Bulk density | <p>Density data has been collected from diamond drill core, and all density test work has been performed by the Intertek laboratory in Parauapebas.</p> <p>The Antas North drill database includes 2,134 density measurements.</p> <p>Data has been selected to cover different mineralisation types and rock types and density samples selected for test work are spread spatially throughout the deposit.</p> <p>An external review of the density testing procedure in 2018 highlighted that the procedure was appropriate and density results obtained from the method were accurate and appropriate for use in resource estimation.</p> <p>Statistical analysis of density data shows unmineralised material has a bulk density of approximate 2.95 g/cm³.</p> <p>Dry bulk density estimates were completed using an Inverse Distance Squared ('ID2') estimation approach. In areas where estimation of density was not possible due to a lack of density data, an assigned density value was applied to blocks taking into account the correlation with estimated block copper grades (refer to section 15.2.1 of report). Blocks which did not receive an estimated density value but had an estimated block Cu grade of <3.0% Cu were assigned the domain average density value.</p> |

| Criteria | Comments |
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| Classification | <p>The Antas Mineral Resources were classified under the guiding principles of the JORC Code (2012). In particular, drill spacing, estimation search pass, and geological / grade continuity were taken into account in the generation of resource classification wireframes of Measured, Indicated and Inferred material. Areas within the reported Mineral Resource which had limited density data, QAQC data and/or performed poorly statistically were critically reviewed and if required a downgrade in resource classification was applied.</p> <p>The final classification results appropriately reflect the Competent Person's view of the deposit.</p> |
| Audits or reviews | <p>The current Mineral Resource estimate has been internally reviewed at a high level by the OZ Minerals Mineral Resource and Ore Reserve Committee. The preceding 2019 Mineral Resource estimate, which was the foundation of the current updated was internally peer reviewed by Xstract Mining Consultants and externally reviewed by AMC.</p> |
| Discussion of relative accuracy / confidence | <p>The Antas North deposit as per most IOCG deposits shows notable grade variation on a local basis. Low grade or unmineralised host rocks can be present within the interpreted mineralised shear / breccia zone. Barren host rock clasts can lie adjacent to high grade massive sulphides. Furthermore, mineralisation is focussed along structural corridors which are faulted and intersected by cross cutting dykes.</p> <p>Accurate demarcation of massive high sulphides and cross cutting waste dykes requires tight spaced drilling and the collection of structural data from drill core.</p> <p>Drilling targeting the remaining Open Pit Mineral Resource at the Antas North deposit highlights notable grade variation is present between drill holes both along strike and down dip. Drill spacing across the deposit is variable and ranges from 25m by 25m near the base of the current pit to 50m by 50m spaced drilling at depth and as a result has driven the assignment of an Indicated resource classification to the majority of Mineral Resources that remain within the ultimate pit shell.</p> <p>Reconciliation comparison of mine production data to both the operational grade control design and this Mineral Resource estimate shows significantly more tonnes mined at lower grade than either prediction. This is indicative of significant operational dilution being introduced during the mining process. Comparison of the grade control design to the Mineral Resource estimate shows close adherence between the grade control and mineral resource definitions in the range of ± 10 per cent for tonne, copper grade and copper metal.</p> <p>Based on the comparisons it is believed that the Mineral Resource performs adequately, however significant improvement is required in the grade control adherence to understand where any true reconciliation issue exists in the Antas pit.</p> |

SECTION 4 Estimation and Reporting of Ore Reserves

| Criteria | Comments |
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| Mineral Resource estimate for conversion to Ore Reserves | <p>The Mineral Resource estimate was compiled by Colin Lollo, BSc. (Geol), MAusIMM, a full-time employee of OZ Minerals Limited who is the Competent Person for Mineral Resources and has over 20 years' experience as a geologist in exploration, resource development and mining which includes over ten years in Iron-Oxide-Copper-Gold style deposits and resource estimation of precious metal deposits.</p> <p>The details of the development of the Mineral Resource estimates are described in the preceding Sections.</p> <p>The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserve.</p> |
| Site visits | <p>The Competent Person visited the Antas North site in January 2020 and in October 2020.</p> |

| Criteria | Comments | | | | | | | | | | | | |
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| Study status | <p>Antas North is a producing mine since 2017, the Modifying Factors are mostly derived from historic performance and reconciliation and their projections have the required confidence to declare ore reserves.</p> <p>Geology and Mineral Resource estimates were the primary basis for the mine plan, geotechnical and hydrogeological characterization, metallurgical performance, marketing and financials as well as legal and permitting, social, were also assessed in an integrated basis.</p> | | | | | | | | | | | | |
| Cut-off parameters | <p>The cut-off used for the Ore Reserve estimate is based on a Net Smelter Return (NSR), revenue in USD/tonne terms with provision for the feed grade, recovery, freight and commercial terms for treatment and refining charges.</p> <p>The assumptions for metal prices are shown in Table 3:</p> <p>Table 3: COG Assumptions for metal prices</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Variable</th> <th style="text-align: left;">Unit</th> <th style="text-align: left;">Value</th> </tr> </thead> <tbody> <tr> <td colspan="3">Metal Prices</td> </tr> <tr> <td>Cu</td> <td>US\$/lb</td> <td>2.66</td> </tr> <tr> <td>Au</td> <td>US\$/oz</td> <td>1,691</td> </tr> </tbody> </table> <p>The block model was coded with NSR values and the NSR cut-off grade was defined as USD \$17/tonne. The Ore Reserve break-even cut-off covers the operational costs for processing and G&A.</p> <p>Metals prices TCs and RCs are projected by OZ Minerals as discussed under Market assessment. Metal recoveries are estimated based on historic performance. Royalties are detailed in Table 5.</p> | Variable | Unit | Value | Metal Prices | | | Cu | US\$/lb | 2.66 | Au | US\$/oz | 1,691 |
| Variable | Unit | Value | | | | | | | | | | | |
| Metal Prices | | | | | | | | | | | | | |
| Cu | US\$/lb | 2.66 | | | | | | | | | | | |
| Au | US\$/oz | 1,691 | | | | | | | | | | | |
| Mining factors or assumptions | <p>Antas is an on-going operation. The topography at the reporting date was matched to the Mineral Resource inventory for the conversion to Ore Reserve after pit optimization and detailed mine design. A mine plan was produced with the required detail to complete the definition of the Modifying Factors to Ore Reserve standards.</p> <p>The orebody characterization was combined with the required production targets as of 0.8 Mta for the ore with total movements at a ratio of 2.5 Mta (for an average strip ratio as of 2.2) to define the Antas North open pit operation parameters. Hard rock mining equipment is a composition of 45 t and 100 t backhoes matched to 30 t trucks and assorted support equipment used to mine 10 m benches configurations with double and triple benches at the pit bottom. Production drilling is executed in 76 mm diameter holes in a typical 2.8 m x 3.2 m pattern, emulsion explosives and non-electrical detonating systems are applied for rock blasting.</p> <p>The ore is categorized according to the copper grade in three ranges for short-term planning and blending: high, medium and low grade, ranging from 0.5% Cu to 1% Cu, 1% Cu to 3 % Cu and above 3% Cu, respectively. Blasted ore is transported to the short-term stockpiles at the ROM pad, adjacent to the primary crusher and blended to feed the plant.</p> <p>The waste rock, below 0.5% Cu, is also stockpiled separately, according to whether it is mineralized or not. Ore sorting testwork is underway to be potentially applied to the mineralized waste to be fed to the plant at the end of the mine life.</p> <p>The Mineral Resource information is detailed by reverse circulation drilling with drill spacings from 10 m to 5 m to produce the grade control model, used for short-term planning.</p> <p>Geomechanical stability analyses and follow-up are performed in regular basis and their guidance has been relied upon for the pit optimization, design and scheduling for the Ore Reserve as well as operations. Particularly, the pit bottom has been implemented with steeper slope angles in double and triple benches configurations of 20 m and 30 m high benches,</p> | | | | | | | | | | | | |

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| | <p>respectively. This results a significant reduction of the strip ratio and positively impacts the financial performance for the Antas North operation, on the other hand, geomechanical risks are increased and require close monitoring and control.</p> <p>The pit optimization was run with average 63 degrees for the inter-ramp slopes for the fresh rock pit bottom – the overall slope for the 170 m deep pit is 58 degrees. After the selection of the optimum pit, detailed design was completed with 10 m high benches, finalized in double and triple benches configurations at the pit bottom and ramps grading maximum 14%, with 9 m final berms. The minimum operational width at the pit bottom is 15 m. The detailed pit design was used to define the life-of-mine schedule for the Ore Reserve and further financial analysis.</p> <p>Operational dilution is projected as of 6%. Reconciliation analysis show that operational dilution is an issue of concern and must be closely followed-up for adjustments as necessary. For mixed blasts, with ore and waste, the ore type and waste are painted on the blasted material to identify the destination for the excavator operators and truck drivers.</p> <p>Mine recovery is estimated as of 95%.</p> <p>For determining the Ore Reserve estimate, Measured and Indicated Mineral Resources, only, were assigned economic value in the pit optimization, with Inferred Resources assigned zero NSR value, with their corresponding mining costs retained.</p> <p>Additional Mineral Resources are planned to be mined in conjunction with the Ore Reserve, which represent a supplementary approximately 0.1 Mt @ 0.9 % Cu and 0.2 g/t Au, plus low-grade material accounting for approximately 0.1 Mt @ 0.2 % Cu and 0.1 g/t Au. Future grade control drilling will target the former resources for upgrading to ore reserves. Ore sorting technology under trials may render the later economic, as well, in the future. The financial analysis of the Ore Reserve, only, exclusive of these materials, demonstrated positive economic results.</p> |
| Metallurgical factors or assumptions | <p>IOCG deposits such as Antas North are amenable for the production of copper and gold concentrates via conventional and well-established flotation routes in the existing plant.</p> <p>The plant capacity at Antas North is 0.8 Mtpa, used as an assumption for the production plan.</p> <p>Metallurgical assumptions are based on comprehensive metallurgical test work that has been completed for the Antas North deposit and reconciliation results.</p> <p>Metal recovery estimates are based on actual performance: Copper and Gold recoveries are estimated by equations with the life of mine averaging 97% for Copper and the 84% for Gold, respectively.</p> <p>The Antas North concentrate typically averages approximately 27% Cu and has low concentrations of deleterious elements (such as As, Bi, F, Hg and U); it is a desirable high-quality saleable concentrate on the global market. OZ Minerals currently have sales contracts in place for 100% of production from the Antas North Mine.</p> <p>Treatment and refining charges for the concentrate reflect average industry commercial terms and conditions, according to the concentrate quality.</p> <p>Ore sorting testwork is underway to eventually apply the technology to the low-grade material that is stockpiled at the end of mine life.</p> |
| Environmental | <p>Legal, permitting, environmental and social aspects were addressed in the signoff process: the social licence to operate is in good standing and all the required permits are in place.</p> <p>Environmental impacts are continuously assessed and monitored. There are no known environmental factors that impact the estimates and reporting of the Ore Reserve.</p> <p>Antas North operates bound by the mining title, Portaria de Lavra, number 853.714/1993 from the Brazilian Agência Nacional de Mineração (ANM), the national mining authority in Brazil,</p> |

| Criteria | Comments | | | | | | | | | | | | |
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| | <p>and the operation licence (Licença de Operação) number 8796/2014, renewed in March 2016 by the Pará state Environment and Sustainability agency (SEMAS/PA). These constitute the main permitting processes for mining in the Country and require continuous monitoring and updates along with the permitting agencies for inspections and statutory reporting.</p> <p>Additional permitting is required for tailings disposal and water collection at the Itaboca creek and the site fresh water wells.</p> <p>In relation to tailings disposal, the Brazilian mining authority (ANM) requires dedicated permitting and follow-up, with minimum annual inspections and stability reviews certifying the tailings storage system integrity. The last annual review was in September 2020 by Geohydrotech Engenharia and has been relied upon for the Ore Reserve assessment. The tailings storage facility also has dedicated permitting along with the State of Pará environmental agency (SEMAS/PA) under the operation license number 10402/2017.</p> <p>The Antas North site is contained on a freehold cattle-grazing property with secure tenure for OZ Minerals.</p> <p>All known permitting documentation was verified and is in good standing.</p> <p>Acid drainage generation potential was assessed for various potential sources (SRK Consulting): the waste rock has predominantly low potential for acid drainage generation due to self-neutralization. The "Surface Stocks – Marginal" material, which is stockpiled separately needs further testing – this material might be eventually sorted and fed to the plant at the end of mine life. Process tailings were also characterized as non-potential acid generating.</p> | | | | | | | | | | | | |
| Infrastructure | <p>The Project is located in the Carajás mineral district in Brazil where large iron ore and base metals mines have operated since the 1980s.</p> <p>The site is accessible by paved state roads and a well-maintained 12 km dedicated unpaved road, well passable all year around. Electricity is sourced from the high voltage state grid to the 2 MW substation at the plant site.</p> <p>Water is primarily sourced from the tailings storage facility circulation meeting the site water requirements and virtually eliminating the use of fresh water from other sources. Additional permits to collect water at the Itaboca creek and three wells are a backup.</p> <p>The site industrial infrastructure is composed by the open pit mine and its roads, the ROM pad, the low-grade stockpiles and waste deposits, the plant, the tailings storage facility, workshop and fuelling and storage station, laboratory, warehouses, explosives preparation area, the fresh water and sewage treatment facilities. The industrial infrastructure is complemented by a number of administrative buildings.</p> <p>Under a logistics agreement with Vale, the copper concentrate from the Mine is transported to the nearby Vale Copper Terminal in Parauapebas, where it is forwarded through the Vale rail, port and transport logistics structure.</p> | | | | | | | | | | | | |
| Costs | <p>Capital expenses were accounted for to cover residual sustaining capital to be spent to the end of mine life, including closure and rehabilitation costs.</p> <p>The operational costs estimates are projected from historic mining, processing and G&A (overhead) unit costs matched to the production plan.</p> <p>Operational costs are detailed in Table 4:</p> <p>Table 4: Operational costs estimates</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Item</th> <th style="text-align: left;">Unit</th> <th style="text-align: left;">Costs</th> </tr> </thead> <tbody> <tr> <td>Mine</td> <td>(USD/t moved)</td> <td>2.5</td> </tr> <tr> <td>Plant</td> <td>(USD/t ROM)</td> <td>10.5</td> </tr> <tr> <td>G&A</td> <td>(USD/t ROM)</td> <td>6.9</td> </tr> </tbody> </table> | Item | Unit | Costs | Mine | (USD/t moved) | 2.5 | Plant | (USD/t ROM) | 10.5 | G&A | (USD/t ROM) | 6.9 |
| Item | Unit | Costs | | | | | | | | | | | |
| Mine | (USD/t moved) | 2.5 | | | | | | | | | | | |
| Plant | (USD/t ROM) | 10.5 | | | | | | | | | | | |
| G&A | (USD/t ROM) | 6.9 | | | | | | | | | | | |

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| | <p>The exchange rate for the costs estimates was projected as 4.68 USD/BRL, according to OZ Minerals corporate assumptions based on consensus values.</p> <p>Royalties payable to government and private royalties are detailed below:</p> <p>Table 5: Royalties</p> <hr/> <p>Cu Royalties</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">State & Federal royalty</td> <td style="text-align: right;">2.0%</td> </tr> <tr> <td>Landowner royalty</td> <td style="text-align: right;">1.0%</td> </tr> <tr> <td>Investor royalty</td> <td style="text-align: right;">2.0%</td> </tr> </table> <hr/> <p>Au Royalties</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">State & Federal royalty</td> <td style="text-align: right;">1.5%</td> </tr> <tr> <td>Landowner royalty</td> <td style="text-align: right;">1.0%</td> </tr> <tr> <td>Investor royalty</td> <td style="text-align: right;">25.0%</td> </tr> </table> | State & Federal royalty | 2.0% | Landowner royalty | 1.0% | Investor royalty | 2.0% | State & Federal royalty | 1.5% | Landowner royalty | 1.0% | Investor royalty | 25.0% |
| State & Federal royalty | 2.0% | | | | | | | | | | | | |
| Landowner royalty | 1.0% | | | | | | | | | | | | |
| Investor royalty | 2.0% | | | | | | | | | | | | |
| State & Federal royalty | 1.5% | | | | | | | | | | | | |
| Landowner royalty | 1.0% | | | | | | | | | | | | |
| Investor royalty | 25.0% | | | | | | | | | | | | |
| Revenue factors | <p>Detailed feed grades were derived from the mine plan. Financial assumptions, metal prices, exchange rates and NSR elements, treatment and refining charges are derived from OZ Minerals' corporate economic assumptions. These economic assumptions are based in relevant industry references such as analyst forecasts and industry commercial terms for similar products.</p> <p>The Antas North concentrate has well-desired quality at the market and is free of penalty concentrations for deleterious elements.</p> <p>Inland concentrate transport, export duties and ocean freight of the concentrate are based on the existing terms for transport through the Vale agreement to international destinations.</p> <p>NSR elements including treatment and refining charges and adjustments for deleterious elements result from OZ Minerals' corporate economic assumptions. These assumptions are derived from relevant industry references such as analyst forecasts and industry commercial terms for similar products.</p> | | | | | | | | | | | | |
| Market assessment | <p>The copper concentrate is sold on the open concentrate market to international customers. OZ Minerals has secured contracts for all the Antas North operation concentrates to the end of the mine life.</p> <p>The cost of sales includes the transport costs from mine to customer, the smelter treatment and refining charges and any commercial adjustments for deleterious elements. The smelter treatment and refining charges are typically negotiated on an annual basis directly with customers with regard to industry benchmark terms.</p> <p>Revenue is determined by the metal content, metal payable scales negotiated for the product and price assumptions.</p> | | | | | | | | | | | | |
| Economic | <p>The financial exercise to support the economic feasibility of the Ore Reserve was based in the estimates for the production plan, revenue and costs for the operation. The financial analysis rendered positive economic results.</p> <p>A detailed financial analysis was produced, rendering a positive net present value.</p> <p>Gross revenue was estimated based on production schedule yearly quantities, grades and metallurgical recoveries, at an average price of US\$ 2.62/lb for copper and US\$ 1,691/oz for gold.</p> <p>Operational costs estimates are detailed in Table 4.</p> <p>Capitalized expenses were accounted for to cover residual sustaining capital to be spent to the end of mine life, including closure and rehabilitation costs.</p> <p>A discount rate of 10% was used in the analysis.</p> <p>The project Net Present Value (NPV) is sensitive to the metal prices for Copper and Gold and to the exchange rate fluctuations, and, to a lesser extent, to the metallurgical recoveries, and</p> | | | | | | | | | | | | |

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| | operational costs. Considering the accuracy of the projections of the Modifying Factors in face of the short life of the asset, no sensitivities were completed for the financial analysis. |
| Social | <p>The Antas North site lies in the municipality of Curionópolis approximately 40 km South of Parauapebas, the main city in the region. The operation and its infrastructure are contained in a relatively isolated farming area.</p> <p>The Carajás region, where Parauapebas is the main hub, is a well-established mining region, which includes a number of operating mines. Local towns and cities provide support services for the mining operations. The mines are one of the major employers of the region and are well supported by the populace and the municipalities. The workforce will be mainly sourced from the local population that reside in these towns, supplemented by some experienced external operational and technical staff as required.</p> <p>The social impact of the operation is positive as a result of additional funds via taxes which are applied locally, as well as for job opportunities and the development of the personnel skills. With a workforce of approximately 300 persons, the operation provides direct employment and stimulates the local economy creating a number of indirect employment and business opportunities.</p> <p>Community relations are in good standing and OZ Minerals is perceived as a welcome corporate citizen by the neighbouring communities of Curionópolis and the Parauapebas region.</p> <p>No further licenses than those indicated under the Environmental section are believed to be contingent to the project operation.</p> |
| Other | <p>The naturally occurring risks have been identified and have been addressed by the engineering processes where applicable.</p> <p>Legal and environmental licences and agreements are in place as described under the Environmental section.</p> <p>Marketing arrangements provide contracts to sell the Antas concentrate to the end of mine life.</p> <p>The project financial outcomes are dependent and sensitive to the exchange rate fluctuations: since costs are mostly in Brazilian Reais and revenues are in US Dollars, a US Dollar appreciation or devaluation can impact the operation economic results. Estimates for marketing conditions and prices are based on marketing projections and may be affected by externalities beyond the control of the mine operator.</p> |
| Classification | <p>The Ore Reserve estimates are based on the Mineral Resource estimates classified as Measured and Indicated after consideration of all Modifying Factors such as legal, environmental, geological, geotechnical, mining, metallurgical, social, economic and financial parameters.</p> <p>All Proved Ore Reserves were derived from the Measured Mineral Resources and all Probable Ore Reserves were derived from the Indicated Mineral Resources.</p> <p>The Ore Reserve classification reflects the Competent Persons' view of the deposits.</p> |
| Audits or reviews | No independent or third-party reviews or audits have been completed on the current Ore Reserve estimate. |
| Discussion of relative accuracy/ confidence | <p>The Ore Reserve estimates are supported by appropriate legal and environmental considerations as well as engineering design, scheduling, marketing and financial analysis.</p> <p>The Ore Reserve estimate consists of 8% Proved and 92% Probable Ore Reserves.</p> <p>Antas is a producing mine since 2017, continuous operation and historic data and reconciliation support the estimates of the Modifying Factors, which qualify to declare the Ore Reserve in the opinion of the Competent Person.</p> |

| Criteria | Comments |
|----------|---|
| | <p>No further statistical procedures were used to quantify the accuracy of the Ore Reserve estimate.</p> <p>Following the Mineral Resource, the Ore Reserve is a global estimate, derived from a block model that has sufficient local accuracy to be used for the mining studies and the derivation of the Modifying Factors to acceptable Ore Reserve levels of confidence.</p> <p>Given the current Ore Reserve inventory and capacity, the Antas North orebody will be in operation for 9 months, only, after the effective date of this report. The short life, per se, decreases the uncertainty on the forecasts of the Modifying Factors.</p> <p>Nevertheless, marketing conditions and prices have a material impact on the asset financial performance and are beyond the control of the mine operator.</p> <p>A number of the Modifying Factors, including geotechnical parameters, mining dilution and metallurgical assumptions are projections and their performance may influence the accuracy of the Ore Reserve.</p> <p>From a technical standpoint, the major uncertainty on the estimates of the Modifying Factors is related to the pit geotechnical risks and the mine dilution.</p> <p>The application of aggressive slopes to the pit bottom is based on sound geomechanical engineering and follow-up and has significantly decreased the strip ratio, positively impacting the financials for the Antas North operation. Nevertheless, the double and triple benches configurations at the pit bottom increase geotechnical stability risks which need to be closely monitored and maintained under control, as recommended by geotechnical guidance. Additional berms might be necessary to secure stability as the pit deepens and their implementation will have an impact on the Ore Reserve</p> <p>As for the mine dilution, while reconciliation data show adherence between the grade control projections and mineral resource estimates for tonnage and grades, they also account for significantly more tonnage mined at lower grades than predicted. This is attributed to operational dilution above the projections, understood as a consequence of the low resolution of the grade control model vis a vis the ore geometry in the pit, where the ore lenses are not represented to sufficient detail, especially for additional zones of mineralisation outside of the mineral resource, only found when mining takes place, and for the ore lenses at the edges of the orebodies. Dilution control is a point of concern and opportunity, as it defines the quality of the ore feed and has a material impact on the operation financial performance.</p> |

COMPETENT PERSON' STATEMENTS

Competent Person's Statement – Mineral Resource

The information in this report that relates to Mineral Resources is based on and fairly represents information and supporting documentation compiled by Colin Lollo, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM Membership No. 225331). Colin Lollo is a full-time employee of OZ Minerals Limited. He is a shareholder in OZ Minerals Limited and is entitled to participate in the OZ Minerals Performance Rights Plan and STI programs.

Colin Lollo has sufficient experience that is relevant to the style of mineralisation and 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' (JORC 2012). Colin Lollo consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

This Mineral Resource Statement has been compiled in accordance with the guidelines defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition).

Colin Lollo
OZ Minerals Ltd

Competent Person’s Statement – Ore Reserves

The information reported on the Ore Reserve is based on and fairly represents information and supporting documentation compiled by Ruy Lacourt, mining engineer, MSc, a Competent Person as a Registered Member of the Society for Mining, Metallurgy and Exploration, Inc. (SME), in the United States of America (SME 4172669RM). Mr. Lacourt is an independent consultant mining engineer at Re Metallica Associates, Brazil, and does not have any direct interest in OZ Minerals or its subsidiaries, and does not beneficially own, directly or indirectly, securities of OZ Minerals.

Mr. Lacourt has sufficient experience that is relevant to the style of mineralisation and 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’ (JORC 2012). Mr. Lacourt consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Mr. Lacourt has over 33 years of experience as a mining engineer, including over 15 years in project development for gold and base metals mines and over 20 years in operations as a geotechnical engineer, mining engineer and manager in metalliferous mining.

This Ore Reserve Statement has been compiled in accordance with the guidelines defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition).

Ruy Lacourt Rodrigues
Consultant mining engineer
Re Metallica Associates

Subject Matter Experts

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| Legal and Permitting, Environmental | - Bianca Cabral, OZ Minerals - Frederico Campos Torquato, FFA Legal |
| In-pit Geomechanical Engineering and support | - Gabriel Rezende Freire, Geotech Consulting |
| Ore Processing and Metallurgy | - Heitor Camelo, OZ Minerals |
| Tailings Engineering and support | - Paulo Roberto de Paiva, Geohyrotech Consulting |
| Financial Analysis | - Luiz Eduardo Batista, Opmen Consultoria |

Ruy Lacourt is responsible for the Ore Reserve estimate and relied on, checked and reviewed, data and advice from OZ Minerals and its experts.

