

ASX ANNOUNCEMENT 20 December 2017

Telecom Hill Mineral Resource Estimate 2012 JORC Code Update

AustSino Resources Group Limited (ASX: ANS) is pleased to advise that the Company has updated the Telecom Hill magnetite and direct shipping ore (DSO) iron Mineral Resource at the Peak Hill Iron Project in Western Australia after commissioning CSA Global Pty Ltd to reassess the Mineral Resources under the JORC Code (2012) reporting requirements.

<u>Highlights</u>

- Improved confidence in the new resource estimate due to better use of available data;
- Significant mineral resource tonnage of 700Mt <u>above</u> a 15% Mass Recovery of iron;
- Robust magnetite resource, with encouraging predicted concentrate composition;
- An additional 11.5Mt of DSO with upside potential for further discovery

AustSino Executive Director Michael Keemink said, "AustSino are pleased to report the Mineral Resource for the Telecom Hill project in accordance with 2012 JORC Code. The Mineral Resource will provide the Company a platform from which to push ahead with its 2018 work programme. The magnetite deposit remains open along strike to the south-east and between the two zones of mineralisation, and the extensive tenement holding provides great opportunity for further exploration success."

The new estimates were completed by CSA Global Pty Ltd and are reported in accordance with the JORC Code (2012)^[1]. The Mineral Resources are presented in Tables 1 to 3.

LODE	Classification	Million Tonnes	Fe HEAD (%)	SiO₂ HEAD (%)	Al₂O₃ HEAD (%)	MgO HEAD (%)	P HEAD (%)	S HEAD (%)	LOI (%)HEAD
1	Indicated	192	30.0	45.6	1.7	2.1	0.185	0.05	5.52
1	Inferred	250	27.8	46.0	3.0	2.5	0.170	0.04	5.89
2	Inferred	79	21.8	50.8	5.8	2.7	0.257	0.02	4.06
4	Inferred	179	26.8	45.5	4.1	1.8	0.402	0.04	4.63
	Indicated	192	30.0	45.6	1.7	2.1	0.185	0.05	5.52
Total	Inferred	508	26.5	46.6	3.8	2.3	0.265	0.04	5.16
	Total	700	27.5	46.3	3.2	2.2	0.243	0.04	5.26

Table 1 Magnetite Mineral Resource, Telecom Hill. Quoted from blocks where Mass Recovery >15% and fresh rock domain blocks. Head grades reported.

^[1] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).



Table 2 DSO Mineral Resource, Telecom Hill East. Quoted from blocks where Fe>50% and mRL>=470

L	ODE	JORC Classification	Million Tonnes	Fe (%)	SiO2 (%)	Al₂O₃ (%)	P (%)	S (%)	LOI
	1	Inferred	11.5	58.6	9.6	2.3	0.211	0.02	3.12

Table 3 Magnetite Mineral Resource, Telecom Hill. Concentrate grades reported from Mass Recovery > 15% and fresh rock domain blocks. Davis Tube Recovery (DTR) at p80 38µm to liberate the reported concentrate grades

	incentrate g	gruues							
JORC Classification	Million Tonnes	Mass Recovery (%)	Fe CONC (%)	SiO₂ CONC (%)	Al₂O₃ CONC (%)	MgO CONC (%)	P CONC (%)	S CONC (%)	LOI CONC
Indicated	43	22.4	66.8	5.7	0.2	0.2	0.046	0.03	-1.17
Inferred	115	22.6	63.8	9.4	0.4	0.3	0.044	0.02	-0.92
Total	158	22.5	64.6	8.4	0.3	0.3	0.045	0.03	-0.99

The magnetite Mineral Resource was previously reported in accordance with the 2004 edition of the JORC Code and reported above a cut-off grade of 20% Fe, comprising 925 million tonnes with a head grade of 27.2% Fe.

The difference in tonnes is attributable to a CSA Global conclusion that a change in method of reporting the Mineral Resource to one based on the Mass Recovery of iron, rather than *in situ* iron grade, better reflects the processing path required for magnetite iron ore deposits.

The Company concurs that this approach more transparently addresses the "Reasonable Prospects" test as required in the 2012 JORC Code. The change in reporting method, means that (although the same volumes of banded iron formation rock (BIF) is being addressed as in the original work), some of the Mineral Resource previously reported has estimated Mass Recovery values below the threshold for inclusion on the new resource estimate. The Company notes than while the reported Mineral Resource estimate tonnage is smaller, it represents a higher quality and more robust outcome. Furthermore, metallurgical testwork may identify options for including the excluded material in future resource estimates.

A summary of the data and methodologies supporting the Mineral Resource estimates form part of this ASX release, including a project location map and a separate JORC Table 1 in Appendix 1.



Summary of Telecom Hill Mineral Resource Estimates

Geology and Geological Interpretation

The Magnetite Mineral Resource is hosted within magnetite bearing banded iron formations (BIFs), of the Palaeoproterozoic Robinson Range Formation. The Robinson Range Formation in the Project's area comprises multiple BIF units intercalated with shales which have been folded into a series of open folds (Figure 2) which dip steeply to the south-south-west. The units are outcropping over a 10 km striking ridgeline running east west through the project. The BIF units range in thickness from 10 m to 200 m and contain variable concentrations of magnetite.

Four domains of magnetite bearing BIF were modelled, three in Telecom Hill West (THW) and one in Telecom Hill East (THE). The domains were interpreted based upon a combination of lithological logs of drill samples, and where Fe > 20%. One of the THW domains is insufficiently supported by drilling and was not included in the Mineral Resource. A base of complete oxidation surface was interpreted and built into the Mineral Resource model. Oxide material was removed from the Mineral Resource because testwork determined it did not contain sufficient quantities of magnetite.

The hematite – goethite mineralisation supporting the DSO Mineral Resource is located at the eastern end of Telecom Hill. The mineralisation zones are sub-vertical dipping zones and are conformable with BIF stratigraphy in the area. Two domains were interpreted, however only one was intercepted by drilling with sufficient Fe content to consider for reporting as a Mineral Resource.

The Robinson Range Formation is presented in Figure 1. The location of the Mineral Resource and AustSino tenure are also shown. Figure 2 shows the location of the BIF and hematite lodes, with the hematite lode to the immediate south of magnetite lode BIF 4.

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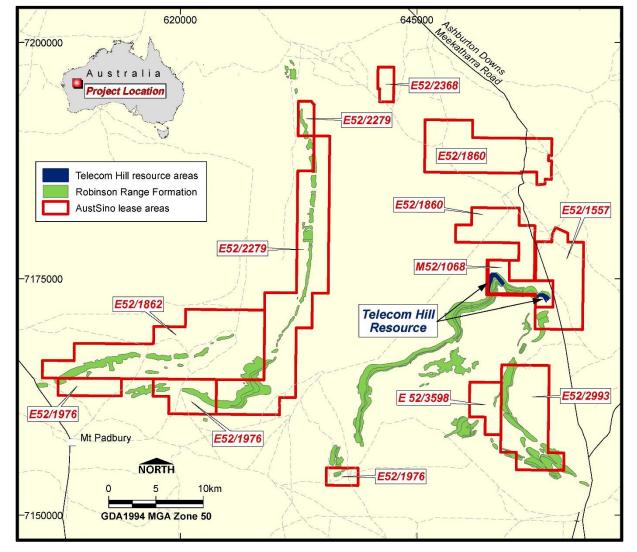


Figure 1 Location of Mineral Resource with respect to Robinson Range Formation.



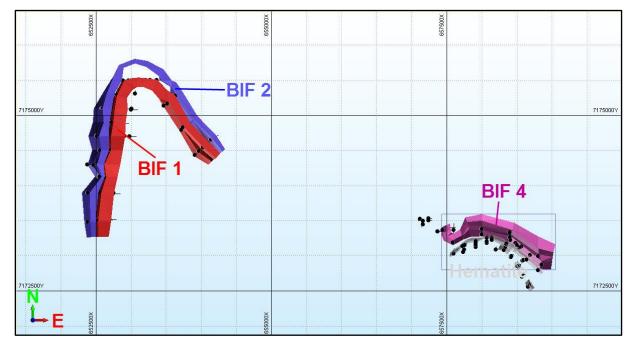


Figure 2 Location of BIF and Hematite lodes supporting the Mineral Resources. Minor grid lines 500 m spacing.

Drilling Techniques

Drill hole data supporting the Magnetite Mineral Resource estimate comprises 128 reverse circulation (RC) and 5 diamond drill (DD) holes for a total of 21,959 m. Not all holes penetrated BIF or hematitegoethite units, with some terminating in the adjacent shale units. The drill data underpinning the Mineral Resource estimated was collected between 2009 and 2012. The DD holes were pre-collared to the fresh rock interface using RC, then diamond drilled using HQ diameter to the end of hole. The core was not oriented. The RC drill holes for the magnetite Mineral Resource typically reached depths varying between 200 m and 250 m, with the deepest hole 315 m. DD holes ranged in depth from 296 m to 338 m.

Drill hole data supporting the hematite-goethite Mineral Resource estimate included 27 RC holes for a total of 2,784 m. These holes were drilled in 2009 and 2011. RC drilling for the hematite-goethite Mineral Resource typically reached depths between 90 m and 120 m, with the deepest hole 246 m.

Sampling and Sub-sampling Techniques

The RC and diamond holes were sampled as 1 m intervals within the mineralisation, and 4 m composited samples in the shale units, at the time of drilling. The RC samples were sub-sampled using a rig mounted cone splitter into a large calico bag. The diamond core was sampled on site using an automatic core saw set to cut one third of the core. The samples were stockpiled on site and dispatched to ALS Laboratories in Perth twice a week for analysis.

Sample Analysis Method

All samples were analysed using fused disc XRF for ALS's standard iron ore suite of analytes (as used in the period 2009 to 2012) with loss on ignition determined at 1000°C by thermogravimetric analysis.



Based on magnetic susceptibility readings, samples for the magnetite Mineral Resource were selected for analysis by Davis Tube Recovery (DTR) and ground to p80 38µm in order to recover a marketable magnetic fraction. The resulting magnetic concentrate and non-magnetic tails were then analysed by fused disc XRF.

Estimation Methodology

Block models were constructed using Datamine software for the THW and THE Magnetite Mineral Resources, and the DSO Mineral Resource. Drill sample grades located within the mineralisation domains were statistically assessed. Composited to 1 m intervals and top cuts applied prior to variography for the key constituent elements. Grades were interpolated using ordinary kriging. The models were validated visually, by comparing mean sample and block grades per domain, and by use of swath plots. Densities were applied based upon data sourced from water immersion testwork, with 62 samples tested. A density of 3.2 t/m³ was applied to the Magnetite lodes and 2.9 t/m³ to the hematite-goethite lode.

Mineral Resource Classification

The Mineral Resources were classified based upon drill hole spacing, quality of sampling and sample analyses, quantity of density measurements, and the relative confidence in the geological interpretation.

The magnetite Mineral Resource is classified as Indicated and Inferred. The hematite-goethite Mineral Resource is classified as Inferred. Both resource models have volumes which are not classified, either the oxide weathering horizon in the Magnetite model, or the deeper volumes of mineralisation domains in both models which are not adequately supported by drilling.

Drill hole distribution is depicted in Figure 2. Drill holes supporting the magnetite Indicated Mineral Resource at Telecom Hill is drilled on a data spacing of 200 m (N) x 80 m (E) to 200 m (N) x 100 m (E). The Inferred magnetite Mineral Resource is supported by a drill spacing of 400 m (N) x 80 m (E) to 400 m (N) x 100 m (E).

The drilling supporting the Inferred Direct Shipping Ore (DSO) Mineral Resource at Telecom Hill East is drilled on a data spacing of 160 m (N) x 50 m (RL) to 200 m (N) x 100 m (RL).

Cut-Off Grades

The magnetite Mineral Resource is reported above a cut-off of 15% Mass Recovery. This cut-off grade is in line with other magnetite Mineral Resources recently reported under the JORC Code (2102). Blocks with <15% Mass Recovery do contain magnetite but the concentration of the magnetite is deemed insufficient to report these blocks as part of the Mineral Resource.

The hematite-goethite Mineral Resource is reported above a cut-off grade of 50% Fe. Most of the volume of the mineralisation domains is reported above this cut-off, with the volumes reporting below this cut-off, representing 1% of the total volume, reporting high SiO2 contents. The 50% Fe reporting cut-off grade is in line with other DSO Mineral Resources reported from the region.



Other Modifying Factors

No additional metallurgical testwork has been carried out to date on Telecom Hill magnetite or hematite mineralisation, apart from the DTR testwork as previously discussed.

Reasonable Prospects

The Competent Person believes given the quality of the concentrate grades achieved from the DTR, the volume of resource and the potential for increasing the resource, there are reasonable prospects for eventual economic extraction of the Mineral Resources based on today's iron ore prices.

Competent Person Statement

The information in this report that relates to Mineral Resources is based on, and fairly reflects, information compiled by Mr David Williams, a Competent Person, who is an employee of CSA Global Pty Ltd and a Member of the Australian Institute of Geoscientists (#4176). Mr. Williams has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Person as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr. Williams consents to the disclosure of information in this report in the form and context in which it appears.

All parties have consented to the inclusion of their work for the purposes of this announcement.

Appendix 1: JORC Code Table 1

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APPENDIX 1: JORC TABLE 1

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information. 	 Drill hole data supporting the Magnetite Mineral Resource estimate (MRE) comprises 128 Reverse Circulation (RC) and 5 diamond drill (DD) holes for a total of 21,959 m. Not all holes penetrated banded iron formation (BIF) or hematite/goethite units. Drilling took place fro 2009 through 2012. Drill hole data supporting the hematite-goethite MRE comprises 27 RC holes for a total of 2,784 m. These holes were drilled in 2009 an 2011. All drilling and sampling was carried out to industry standard, with details discussed later in Section 1. The iron mineralisation is contained within BIF or an enriched versic of BIF where hematite and goethite are derived from magnetite precursor minerals. The BIF units were targeted by the drilling and samples closely inspected by the project geologist for sample recovery and quality.
Drilling techniques	 Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). 	 RC and diamond drilling were used. The DD holes were pre-collare to the fresh rock interface using RC, then diamond drilled using HQ diameter to the end of hole. RC drilling for the magnetite MRE typically reached depths varying between 200 m and 250 m with the deepest hole 315 m. DD holes ranged in depth from 296 m to 338 m. DD core was not oriented. RC drilling for the hematite-goethite MRE typically reached depths varying between 90 m and 120 m with the deepest hole 246 m.

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Criteria	JORC Code explanation	Commentary
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	 RC samples were not directly monitored for sample recovery, however a visual assessment of the quantity of the 4 m samples was made by the project geologist supervising the drilling activity. Where sample recoveries were deemed to be sub-optimal, the geologist discussed this with the driller to attempt to improve sample recoveries. DD core recoveries were calculated by measuring the length of core per drill run and comparing against the length of the run, as per standard industry procedure. The BIF units, especially in the fresh rock zone which hosts the Mineral Resource, are highly competent and conducive to high recovery. There is no relationship between DD recovery and head assay grade. Such a relationship could not be quantified from RC chips due to the lack of recovery data.
Logging	 Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	 A geologist was present at all times during drilling and sampling. Geological logging protocols at the time of drilling were followed to ensure consistency in drill logs between geological staff. RC chips were logged for weathering, lithologies (primary and proto), mineralogy, colour and grainsize. DD core was also logged for structure (alpha and betas, when observed) and photographed. The interpreted BIF and shale domains were logged, as was the oxidation of the samples. These logs were correlated with assays. Magnetic susceptibility (mag sus) readings were taken using a hand- held meter for each sample. The full sample lengths were logged.
Sub-sampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in 	 RC and DD holes were sampled at 1 m intervals within the mineralisation, and 4 m composited samples in the shale units. The samples were sub-sampled using a rig mounted cone splitter into a large calico bag. The samples were stockpiled on site and dispatched to ALS Laboratories in Perth twice a week. For the diamond drilling the RC pre-collars were sampled in the same way as the RC holes. DD core was sampled on site using an automatic core saw set to cut one third of the core. The one third portions were submitted to ALS Laboratories in Perth.

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JORC Code explanation

being sampled.

partial or total.

derivation, etc.

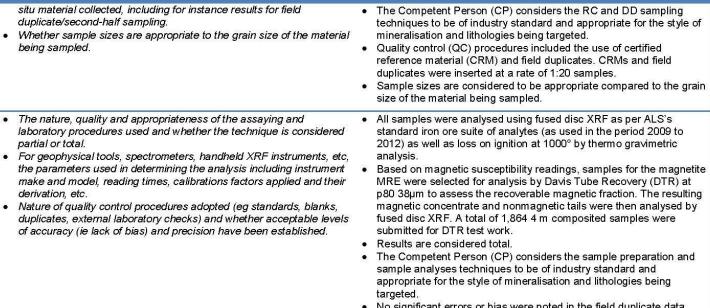
Criteria

Quality of

laboratory

tests

assay data and



Commentary

- No significant errors or bias were noted in the field duplicate data.
- CRM results demonstrate that all but one batch of samples fell inside acceptable control limits. An early batch had a slightly low bias, and the entire batch was re-analysed with results conforming to the required control limits.

Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. 	 Selected BIF intercepts were independently reviewed by alternate geological personnel. Diamond core was reviewed by senior company personnel. The hematite/ goethite intersections were independently inspected by alternate company geologists. No twin drilling has occurred to date. 	
	Discuss any adjustment to assay data.	 Assay, QC and DTR results were emailed to CSA Global as pdf documents and csy files. These were imported into Datashed, a 	



Criteria	JORC Code explanation	Commentary
		 relational database with inbuilt validation procedures. The database was maintained by CSA Global, with data security of paramount importance. The database and files were backed up to a server on a regular basis. Any adjustments made to data were either at the request of the project or company geologist to the database administrator or following a query from the database administrator. Only the database administrator had security privileges to adjust data.
Location of data points	 Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	 All drill holes were surveyed by independent surveying companies, using DGPS to provide accurate surveyed coordinates. Downhole surveys were taken by north seeking Gyroscope tool, with azimuth adjusted to the MGA grid. Where surveys were not taken, the bearing and dip of the holes at the collar were applied to the entire depth of hole. All spatial coordinates are in Map Grid of Australia (MGA) Zone 50 South. The CP considers the topographic survey to be of adequate quality and to support the Mineral Resource.
Data spacing and distribution	 Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	 Drill holes supporting the magnetite Indicated Mineral Resource at Telecom Hill are drilled at a spacing of 200 m (N) x 80 m (E) to 200 m (N) x 100 m (E). The Inferred magnetite Mineral Resource is supported by a drill spacing of 400 m (N) x 80 m (E) to 400 m (N) x 100 m (E). Drill holes supporting the Inferred Direct Shipping Ore (DSO) Mineral Resource at Telecom Hill East are drilled at a spacing of 160 m (N) x 50 m (RL) to 200 m (N) x 100 m (RL). The CP considers the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimation procedure(s) and classifications applied. RC drill samples (1 m) from the magnetite target were composited to 4 m intervals at the drill rig. The RC samples from the DSO sampling were not composited and retained as 1 m samples.



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Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	 Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	 Holes were drilled at a -60° angle and planned to intersect the BIF / hematite units as close to orthogonal as the drilling practice allowed. The azimuth of the holes was varied to intersect the BIFs as close to perpendicular as possible, based upon the geologists interpretation of the subsurface BIF. No material sampling bias was introduced during drilling. Any sampling bias is considered to have minimal impact upon the veracity of the Mineral Resource estimate.
Sample security	• The measures taken to ensure sample security.	 Drill samples were under the care and supervision of company staff at all times in a secure sample compound. Samples were then transported by local couriers to the analytical laboratory in Perth.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• The sampling techniques and data have not undergone any formal review. The Mineral Resource was originally reported under JORC (2004) and appropriate reviews of data were undertaken by the CP at the time (June 2012). Appropriate data and documentation reviews have been undertaken to support the current MRE.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
tenement and land tenure status	 Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	 The Telecom Hill MRE is within mining lease M52/1068, which is contained within exploration leases E52/1860 and E52/1557. M52/1068 was granted on 22/6/2015 for a period of 21 years, and expires on 21/6/2036. It has an area of 1,819.9 Ha. Annual rent of \$32,032 is paid. Annual expenditure is \$182,000. E52/1860 was granted on 25/8/2005 and is due for renewal on 24/8/2018. It has an area of 35 BL. Annual rent of \$18,725 is paid. Annual expenditure is \$105,000. This tenement covers the Telecom Hill West MRE (Lodes 1 and 2). E52/1557 was granted on 9/11/2004 and is due for renewal on 8/11/2018. It has an area of 16 BL. Annual rent of \$8,560 is paid. Annual expenditure is \$70,000. This tenement covers the Telecom Hill East MRE (Magnetite Lode 3) and the DSO MRE.



Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	 The Telecom Hill prospect has been explored for mineral commodities only relatively recently. Padbury Mining has carried out exploration activities across the Peak Hill Iron Ore Project since 1995 Exploration to date has included multiple phases of geological mapping, detailed aeromagnetic surveys, hyperspectral surveying, RC and DD drilling. These programs have delineated two areas with significant tonnages of magnetite bearing BIF, namely Telecom Hill West and East (THW and THE). Geological mapping at THE identified several hematite-goethite bearing outcrops, parallel to magnetite bearing BIF zones. Follow up drilling by Padbury Mining between 2009 and 2012 support this MRE.
Geology	Deposit type, geological setting and style of mineralisation.	 The magnetite and hematite-goethite deposits are hosted within BIFs of the Palaeoproterozoic aged Robinson Range Formation. The Robinson Range Formation in the project area comprises multiple BIF units intercalated with shales which have been folded into a series of open folds dipping steeply to the south-south-west. The units outcrop over a range of 10 km in a large ridge running east-west through the project area. The BIF units range in thickness from 10 m to 200 m with variable magnetite content. The BIF units are comprised of alternating layers of chert and iron oxide minerals, with lesser impurities including sulphides. Iron oxide species are typically magnetite (Fe3O4) and Hematite (Fe2O3), with the BIF units at Telecom Hill containing sufficient concentration of magnetite to support the estimation of a Mineral Resource. Leaching of the magnetite bearing BIFs over long geological time results in the conversion to Hematite, or it's hydrous form (Goethite). This DSO MRE includes this mineralisation.
Drill hole Information	 A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in 	 Information from drill programmes was used to support the Mineral Resource estimate. The locations of drill samples, and the geological logs of these samples were used to build the geological model, and with the sample analyses, support the MRE.





Criteria	JORC Code explanation	Commentary
	 metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	
Data aggregation methods	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	 Exploration results are not reported. All drill hole data from the Telecom Hill Prospect were used to support the Mineral Resource estimate.
Relationship between mineralisation widths and intercept lengths	 These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known'). 	 The BIF units at Telecom Hill are vertical to sub-vertical, and the drill holes were planned to intersect the units as close to orthogonal as possible, within the practical limitations of the drill rig. The BIF units are readily discernable in both RC sample chips and DD core and the geological contacts are relatively straightforward to interpret. The units supporting the Mineral Resource are generally very thick (>20 m, up to 200 m thick) and the relationship between width of mineralisation (the BIF unit) and drill intercept lengths is readily apparent.
Diagrams	 Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	 Plans of the BIF units and drilling are included with this announcement.
Balanced reporting	 Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results. 	 It is considered that all substantive material relevant to the Mineral Resource estimation process has been reported.



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Criteria	JORC Code explanation	Commentary
Other substantive exploration data	 Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. 	 Bulk density testwork was carried out on representative DD core samples from BIF and hematite-goethite zones of mineralisation. The core was wax coated then a density value calculated via the water immersion technique (Archimedes principle). A total of 62 samples support a density of 3.2 t/m³ for magnetite bearing BIF, and 2.9 t/m³ for the hematite-goethite zones. High resolution aeromagnetic surveys were flown in 2011, and the interpreted results were used to assist with drill hole planning.
Further work	 The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	 No further work is planned for the immediate future on the Telecom Hill project, apart from possible desktop studies of geology and data.

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	JORC Code explanation	Commentary
Database integrity	 Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	 Assay, QC and DTR results were emailed to CSA Global as pdf documents and csv files. These were imported into Datashed, a relational database with inbuilt validation procedures. The database was maintained by CSA Global, with data security of paramount importance. Database and files were backed up to a server on a regular basis.
Site visits	 Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	 The Competent Person has not visited site. Alternative CSA Global personnel (Mr. Daniel Wholley) carried out several site inspections during the Mineral Resource drill programmes between 2009 and 2012 and examined the outcrop of BIF and inspected drill sampling procedures.
Geological interpretation	 Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. 	 Interpretation of BIF units is based upon geological mapping of the BIF outcropping at surface, and drill samples intersecting the BIF at variable depths below surface. The BIF lithologies (principally chert and iron oxide) are readily apparent in RC chips and DD core. The magnetite minerals are easily discerned with a hand-held magnet,





Criteria	JORC Code explanation	Commentary
	 The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	 and by recording the magnetic susceptibility of each sample. The alternate shale units are also readily discernible from the drill sample. Interpretation of the geological units are straightforward for an experienced geologist, with the strike and dip of the units interpreted in cross section. Geological maps of surface expression of the units demonstrate the structural complexity of the units, with fold noses and variable strike built into the interpretations. Geological interpretation of the magnetite BIF zones is based upon lithological logs and a lower Fe assay of 20%. SiO₂ and magnetic susceptibility were also used to guide the interpretations. A base of complete oxidation (BOCO) interface was interpreted from lithological logs of drill samples and the magnetic susceptibility of the samples. The BOCO surface varies in depth between 40 m and 80 m below surface. Three BIF units were interpreted supporting the magnetite Mineral Resource. The two THW BIF units are parallel, similar in strike and dip, but have different thicknesses. They are folded into a distinct plunging syncline dipping to the southeast at 70–80°. The BIF 1 Domain consists of a thick planar BIF mineralised lode with relatively higher Fe grades compared with other two. BIF 2 domain is parallel to BIF 1 with lower Fe grades and higher SiO₂ and Al₂O₃ concentrations. The DSO zone, encapsulating hematite-goethite mineralisation zones are sub-vertical and parallel to BIF units which support Inferred magnetite Mineral Resources, as part of this report. The interpreted DSO zones are based upon a nominal lower Fe (%) cut-off grade of 50%, with the lithological logs of drill samples used to support the interpreted based upon grade. A BOCO surface was interpreted based upon lithological logs. One zone of DSO mineralisation was modelled as support for the Mineral Resource.



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		interpretations. The geological understanding of the deeper zones is supported by drill intercepts and there are higher risks associated with the geological interpretations and subsequent tonnages. This is reflected in the Inferred classification assigned to the deeper volumes.
Dimensions	 The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource. 	 The magnetite zones have a strike extent of 4,300 m, a plan width of between 180 m and 250 m, and a depth of 300 m. The DSO zone has a strike extent of 1,500 m, a plan width of between 15 m and 30 m, and a depth of 150 m.
Estimation and modelling techniques	 The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	 Micromine software was used for geological modelling, block model construction and final classification of the Mineral Resources. Datamine software was used for grade interpolation. For the magnetite Mineral Resource, a block model with block sizes 10 m (X) by 10 m (Y) by 10 m (Z) was constructed. Sub celling was used to honour the wireframe boundaries. The block sizes are considered small compared to the typical drill spacing, however the geological and Fe_Head) grades are very continuous. For the DSO Mineral Resource, a block model with block sizes 20 m (X) by 10 m (Y) by 10 m (Z) was constructed. Sub celling was used to honour the wireframe boundaries. For the DSO Mineral Resource, a block model with block sizes 20 m (X) by 10 m (Y) by 10 m (Z) was constructed. Sub celling was used to honour the wireframe boundaries. Blocks were flagged according to the geological and mineralisation envelopes. Drill sample data were flagged by the mineralisation and weathering domain envelopes, with variables LODE and WEATH used. Most drill holes were sampled at 1 m intervals and the drill samples were composited to 1 m lengths. Composited sample data were statistically reviewed to determine appropriate top cuts, with the following top cuts applied: Fe – no top cut applied for magnetite or DSO; SiO2 (60% for Magnetite, and 35% DSO); Al2O3 – no top cut; P (magnetite – no top cut; DSO - 0.5%); S (1% magnetite and 1.1% DSO); LOI – no top cut. Log probability plots were used to determine the top cuts, and the very high-grade samples were reviewed in Datamine to determine if they were clustered with other high-grade samples. The block model and drill sample locations were translated into a







 the fold limbs hosting the magnetite and hematite-goethite mineralisation. The flattened sample locations were used for variogram modeling. For the magnetite Mineral Resource, downhole and directional experimental variograms were modelled for head and concentrate assay grades (derived from analyses of DTR product) for Fe, SiO₂, Al₂O₃, MgO, P, S and LO11000. For the hematite-goethite Mineral Resource, downhole and direction experimental variograms were modelled for Fe, SiO₂, Al₂O₃, MgO, P, S and LO11000. Kriging neighborhood analyses were undertaken to determine the optimal block model size, search ellipse radii, and number of sample to estimate each block. All grades were interpolated by ordinary kriging. A 3-pass estimation strategy was used for both MREs. For the Magnetite MRE, pass 1 used a search ellipse of 110 m (major) by 80 m (semi-major) by 60 m (minor) dimensions. For the hematite-goethite MRE, pass 1 used a search ellipse for 110 m (major) by 60 m (semi-major) by 30 m (minor) dimensions. For both the magnetite and hematite-goethite MREs, a minimum of 4 and maximum of 24 samples from a minimum of 4 drill holes were used to 13, then pass 2 parameters used, which was double the first pass radii with the same sample number limits. If a cell could not be interpolate a cell. Ce discretization of 5x > 5x > 2(X, Y, 2) was employed. Octant based 	Criteria	JORC Code explanation	Commentary
 The mineralisation envelopes were used as hard boundaries during grade interpolation. The Mineral Resources were previously reported in 2012 under the 		JORC Code explanation	 flattened space to simulate an unfolding procedure, to 'straighten out the fold limbs hosting the magnetite and hematite-goethite mineralisation. The flattened sample locations were used for variogram modeling. For the magnetite Mineral Resource, downhole and directional experimental variograms were modelled for head and concentrate assay grades (derived from analyses of DTR product) for Fe, SiO₂, Al₂O₃, MgO, P, S and LO11000. For the nematite-goethite Mineral Resource, downhole and direction experimental variograms were modelled for Fe, SiO₂, Al₂O₃, MgO, P, S and LO11000. For the hematite-goethite Mineral Resource, downhole and direction experimental variograms were modelled for Fe, SiO₂, Al₂O₃, MgO, P S and LO11000. Kriging neighborhood analyses were undertaken to determine the optim al block model size, search ellipse radii, and number of sample to estimate each block. All grades were interpolated by ordinary kriging. A 3-pass estimation strategy was used for both MREs. For the Magnetite MRE, pass 1 used a search ellipse of 200 m (major) by 80 m (semi-major) by 80 m (minor) dimensions. For the hematite-goethite MRE, pass 1 used a search ellipse of 110 m (major) by 60 m (semi-major) by 30 m (minor) dimensions. For both the magnetite and hematite-goethite MREs, a minimum of 24 and maximum of 24 samples from a minimum of 4 drill holes were used to interpolate a cell. If a cell could not be interpolate in pass 2 parameters used, which was double the first pass radii with the same sample number limits. If a cell could not be interpolate in pass 2, then pass 3 parameters were used to interpolate a cell. Ce discretization of 5 x 5 x 2 (X, Y, Z) was employed. Octant based search ellipse radii equivalent to 3.5 times the first pass search ellipse. A minimum of 4 and maximum of 24 samples were used to interpolate a cell. Ce discretization of 5 x 5 x 2 (X, Y, Z) was employed. Octant based search ellipse.



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		 reported tonnages and grades for Indicated and Inferred Mineral Resources. The interpolated grades were validated by way of review of cross sections (block model and drill samples presented with same colour legend), swath plots, and comparison of mean grades from sample data. The deposit has not been mined and there are no reconciliation data to use to reconcile the model with.
Moisture	 Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. 	 Tonnages are estimated on a dry basis.
Cut-off parameters	 The basis of the adopted cut-off grade(s) or quality parameters applied. 	 The Magnetite Mineral Resource is reported above a cut-off grade of 15% Mass Recovery, which is also used as a reporting criterion for other Magnetite Mineral Resources. The magnetite Mineral Resource is reported from blocks within the fresh rock domain. Blocks in the BIF domain coded as being oxidised are excluded from the Mineral Resource. A depth extent of 320 m RL was also used to define the lower limit of Mineral Resources, being approximately 250 m below surface. The hematite-goethite Mineral Resource is reported above a cut-off grade of 50% Fe. Most of the volume of the mineralisation domains is reported above this cut-off, which is in line with other DSO Mineral Resources reported from the region. The lower limit of the DSO Mineral Resource is approximately 200 m below surface.
Mining factors or assumptions	 Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. 	 Mining would be by open cut methods. The widths of the zones of mineralisation would allow a larger scale mining fleet because edge dilution (waste material at the edges of the ore domains being captured in the ore) will be kept to a minimum.







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Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	 David Tube recovery (DTR) testwork (p80 38µm) has been undertaken to assess the recoverable magnetic fraction possible when crushed and ground BIF ore is passed through magnetic separation. The recovered (concentrate) and tails products were analysed for the Fe suite of elements by fused disc XRF, and the concentrate grades were interpolated into the Mineral Resource model with results reported as part of the MRE statement. A total of 1,864 4 m composited samples were submitted for analyses by DTR.
Environmental factors or assumptions	 Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made. 	 The project is located in a semi-arid region of Western Australia, with low annual rainfall. Environmental work at Telecom Hill deposits included the identification and flagging of artefacts to ensure drilling does not disturb any areas of heritage and cultural significance.
Bulk density	 Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	 A total of 64 DD core billets were tested to determine bulk density values for the BIF, hematite-goethite and external shale domains. The density measurements were completed using wax coated core, with the samples weighed in air then in water, with a density value calculated based upon the Archimedes principle. The samples logged as BIF and located within the fresh zone (not oxidised) average 3.20 t/m³. The samples logged as hematite-goethite average 3.01 t/m³. A comparison of the results with the logged core resulted in a decision to lower the average density to 2.90 t/m³, which was used to calculate block tonnages for the Mineral Resource.
Classification	 The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input 	 The Mineral Resources were classified based upon drill hole spacing, quality of sampling and sample analyses, quantity of density measurements, and the relative confidence in the geological interpretation.





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	 data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit. 	 The magnetite Mineral Resource is classified as Indicated and Inferred. The hematite-goethite Mineral Resource is classified as Inferred. Both resource models have volumes which are not classified, either the oxide weathering horizon in the Magnetite model, or the deeper volumes which are not adequately supported by drilling. Drill holes supporting the magnetite Indicated Mineral Resource at Telecom Hill are drilled at a spacing of 200 m (N) x 80 m (E) to 200 m (N) x 100 m (E). The Inferred magnetite Mineral Resource is supported at a drill spacing of 400 m (N) x 80 m (E) to 400 m (N) x 100 m (E). The drilling supporting the Inferred Direct Shipping Ore (DSO) Mineral Resource at Telecom Hill East is drilled at a data spacing of 160 m (N) x 50 m (RL) to 200 m (N) x 100 m (RL). The results appropriately reflect the Competent Person's view of the deposits.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	 The Mineral Resources were reviewed by CSA Global resource geologists as part of the CSA Global peer review process, and any deficiencies were noted and corrected prior to finalisation and reporting of the Mineral Resource. No external audits have been carried out.
Discussion of relative accuracy/ confidence	 Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	 The BIF units supporting the magnetite Mineral Resource are have sufficient width, strike extent and depth extent to minimise geological risk in the interpretation of the geological envelopes. The current drill spacing is not amenable to modelling of internal waste zones. The classification of the Mineral Resource is a fair and reasonable representation of the relative accuracy in grade distribution and the geological domains as modelled.