BROCKMAN MINING LIMITED
布萊克萬礦業有限公司*
(incorporated in Bermuda with limited liability)
(SEHK Stock Code: 159)
(ASX Stock Code: BCK)

ANNOUNCEMENT

DUCK CREEK MINERAL RESOURCES UPGRADED TO JORC 2012

HIGHLIGHTS

- The Duck Creek Mineral Resources have been updated in accordance with the JORC Code (2012 Edition) and now stand at 21.6 Million tonnes grading 55.9% Fe.
- Compared to the previous estimation which was by simple polygonal methods, the new Mineral Resource is estimated using an inverse distance weighting within mineralisation wireframes in block models.
- Other than these changes, the Mineral Resources are based on the same drilling data as the earlier estimate.

Brockman Mining Limited is pleased to announce an upgrade to the JORC 2012 Code for the Mineral Resources for its 100% owned Duck Creek Iron Ore Project located in the West Pilbara of Western Australia.

MINERAL RESOURCE

This mineral resource estimate has been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 Edition (JORC 2012). The mineral resource has been estimated within the channel-iron deposits hosted in the Duck Creek paleochannels using a lower-cut grade of 52% Fe and is tabulated in **Table 1**.

Table 1 Duck Creek (E47/1725) CID Mineral Resource Summary

Deposit	Class	Mt*	Fe (%)	Al_2O_3 (%)	SiO_2 (%)	P (%)	S (%)	LOI (%)
Mesa 1	Inferred	4.5	55.50	2.86	4.75	0.033	0.025	11.71
Mesa 2	Inferred	7.9	55.56	2.97	4.19	0.037	0.058	11.79
Mesa 3	Inferred	2.6	55.84	4.41	6.02	0.065	0.021	8.85
Mesa 4	Inferred	1.5	55.31	3.58	7.42	0.076	0.015	9.12
Mesa 5	Inferred	3.0	56.08	4.16	6.54	0.068	0.020	8.35
Mesa 6	Inferred	2.2	58.17	3.22	4.92	0.106	0.016	7.62
Total	**Inferred**	**21.6**	**55.91**	**3.35**	**5.15**	**0.053**	**0.034**	**10.35**

The above Mineral Resources supersedes what were previously reported (i.e., 18.3 Mt of Inferred Mineral Resources at 56.5% Fe, 3.20% Al_2O_3, 4.90% SiO_2, 0.059% P, 0.038% S and 10.01% LOI) under the JORC 2004 Code and released to the market on 15 May 2013 by Brockman Mining Limited.

The Duck Creek Project, consisting of a single Exploration Licence E47/1725, is located approximately 130 kilometres northwest of Paraburdoo in the West Pilbara region of Western Australia. The project area can be accessed via the sealed Nanutarra Road and station or exploration tracks (**Figure 1**).

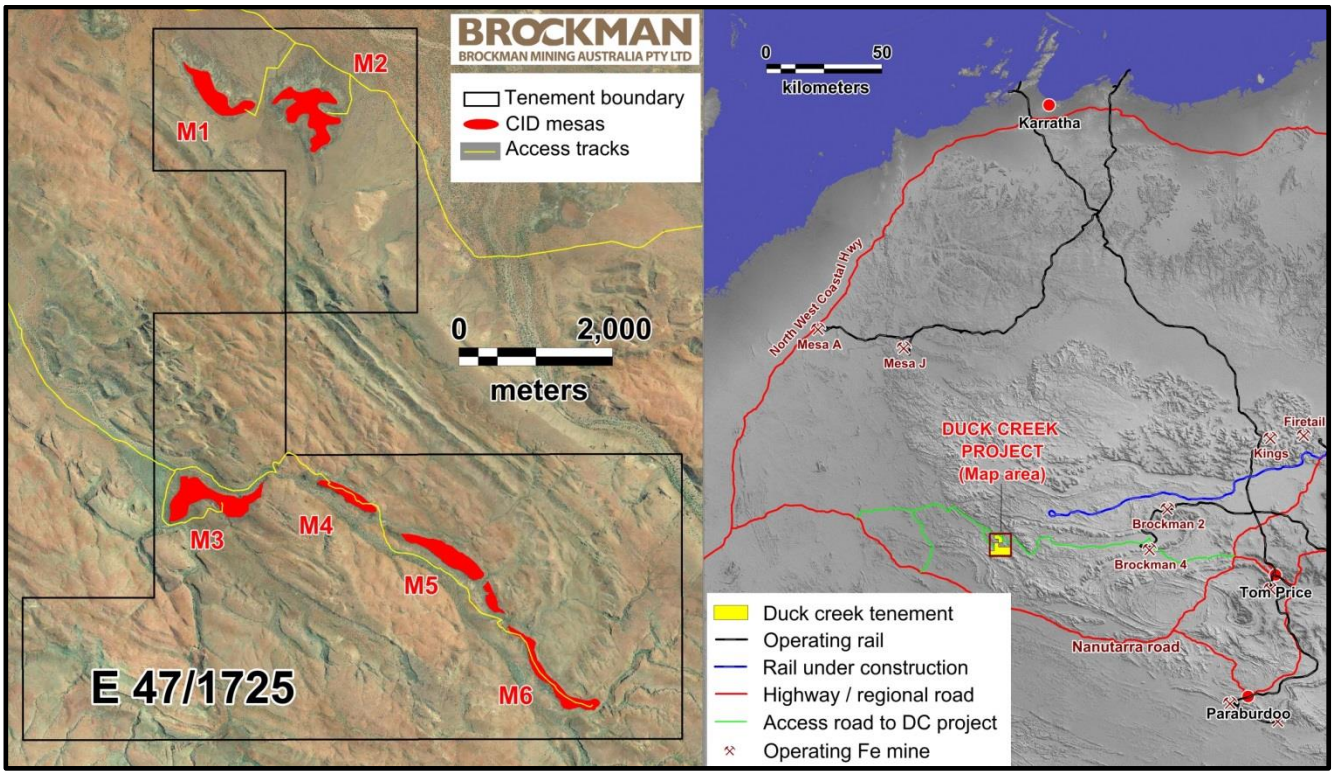

Figure 1 Location of the Duck Creek deposits

Mineral Resource Estimation

The mineral resource estimation has been compiled in-house by the Competent Person, Mr A Zhang who is the full-time employee of Brockman Mining Australia Pty Ltd.

The Duck Creek deposits comprise six channel iron deposits (CID) where iron mineralisation is hosted in sub-horizontal CID beds in two separate paleochannels which have been eroded to leave their current form as remnant and disjointed mesas denoted Mesa 1 to 6.

The resource estimated is primarily based on reverse circulation (RC) drilling data supported by geological mapping and surface sampling data. Drilling comprises 45 RC holes for 1,657m of drilling and 1,315 assay samples. A nominal drill-hole pattern of 160-320m x 40m-80m was used for all the mesas except for Mesa 2 where a pattern of approximately 320 x 320m was used due to its size and shape.

Since the previously reported JORC 2004 Mineral Resource estimate, Brockman has carried out no additional exploration drilling or other technical studies. The main difference between this estimate and the earlier estimate is that the old estimate was based on a 2D polygonal estimation technique whereas the JORC 2012 estimate is based on 3D orebody wireframes and block modelling techniques with the following data and assumptions:

- All of the available drilling data to date was used for the Mineral Resource estimate. This data was collected by Brockman in the 2010 exploration drilling campaign;
- The collar positions were surveyed using differential global positioning system by an external surveying contactor, and are considered adequate for the purposes of this resource estimate;
- Although no down-hole surveys were conducted for any of the RC holes, down-hole deviation is considered insignificant in affecting the estimation;

- The topography of the CID mesas is based on a Fugro digital terrain model (DEM) that has a vertical accuracy of ±1m. Consequently, the elevation of the DEM of each CID mesa was adjusted with respect to the RLs of the DGPS-surveyed drillhole collars and access tracks;
- The sampling programme was conducted in accordance to Brockman's sampling quality assurance and quality control (QAQC) procedures. QAQC samples include field duplicates (one per hole) and company standards including blanks which were submitted at a rate of 1 in 25 of all assayed samples. Analysis of the QAQC data indicates that drill hole samples were prepared and analysed with acceptable quality for this Mineral Resource estimate;
- As there is no bulk density data obtained from the RC drilling samples, an average value of 2.7 has been used as the dry bulk density for the estimation of the Mineral Resource at the Duck Creek deposit; and
- The location of all drill holes and interpreted main CID zones of each deposit are shown in **Figure 2**

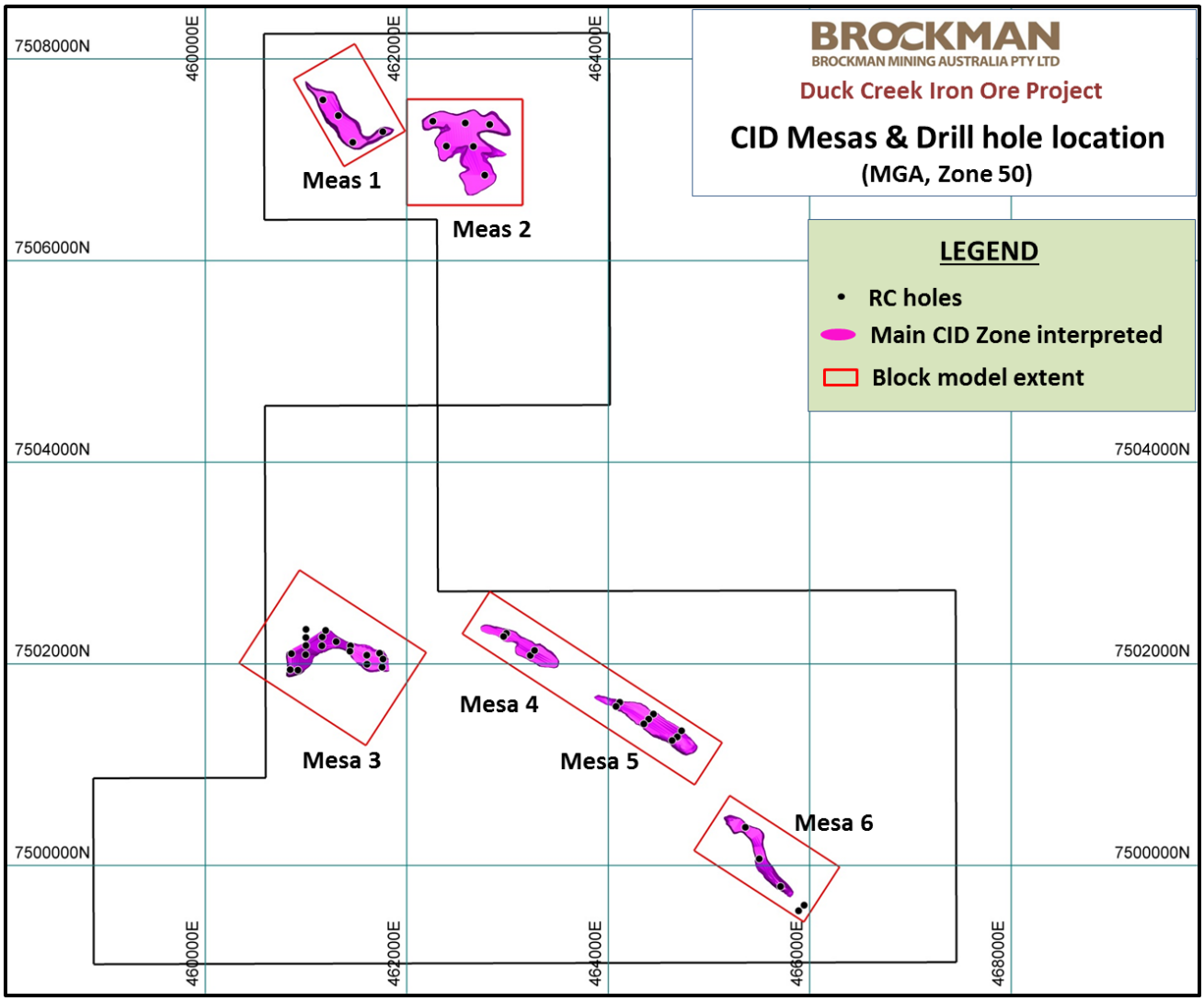

Figure 2 Location of RC drill holes and the interpreted CID main zones

Estimation Methodology

Validated drill-hole sample data were flagged with geological domain codes using interpreted 3D mineralisation and geological wireframes and surfaces. For the purpose of grade estimation, the original 1m sample data was composited at 2m intervals within each geological domain with a minimum length of 1m and residuals less than 1m discarded. Intervals with no assay were excluded from the compositing process.

There are six individual CID mesas within E47/1725. Considering the varied orientations of these mesas and their spatial location, five block models including a combined block model for Mesas 4 and 5, in three different coordinate grid systems were created with varied parent block sizes (from 100x50x2m to 50x25x2m).

Grade estimation using Inverse Distance Weighting method was completed for both the mineralised CID zone (i.e., the ore zones) and the waste materials. Up to four search passes were completed for large geological domains that are intersected by drill holes on multiple sections which mainly include the main CID zones as well as the waste materials. Hard boundaries were applied between all geological domains and each of the structural sub-domains used the same search ellipsoid.

The orebody interpretation, Mineral Resource classes, and a typical block model cross-section showing the result of grade interpolation for each CID deposit are shown in Figures 3 to 5.

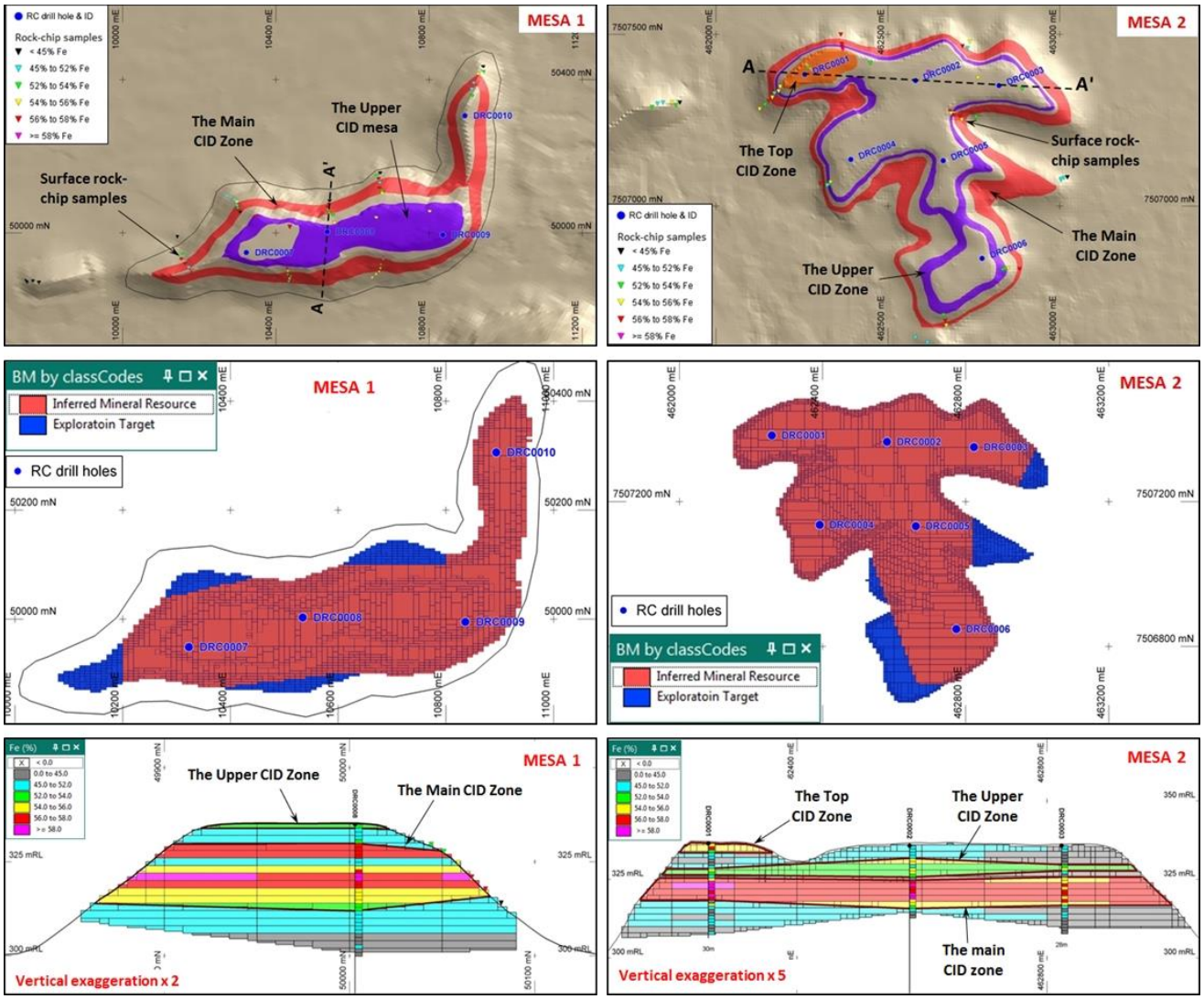

Figure 3 CID orebody, Mineral Resource classes, and a typical block model cross-section of Mesas 1 & 2

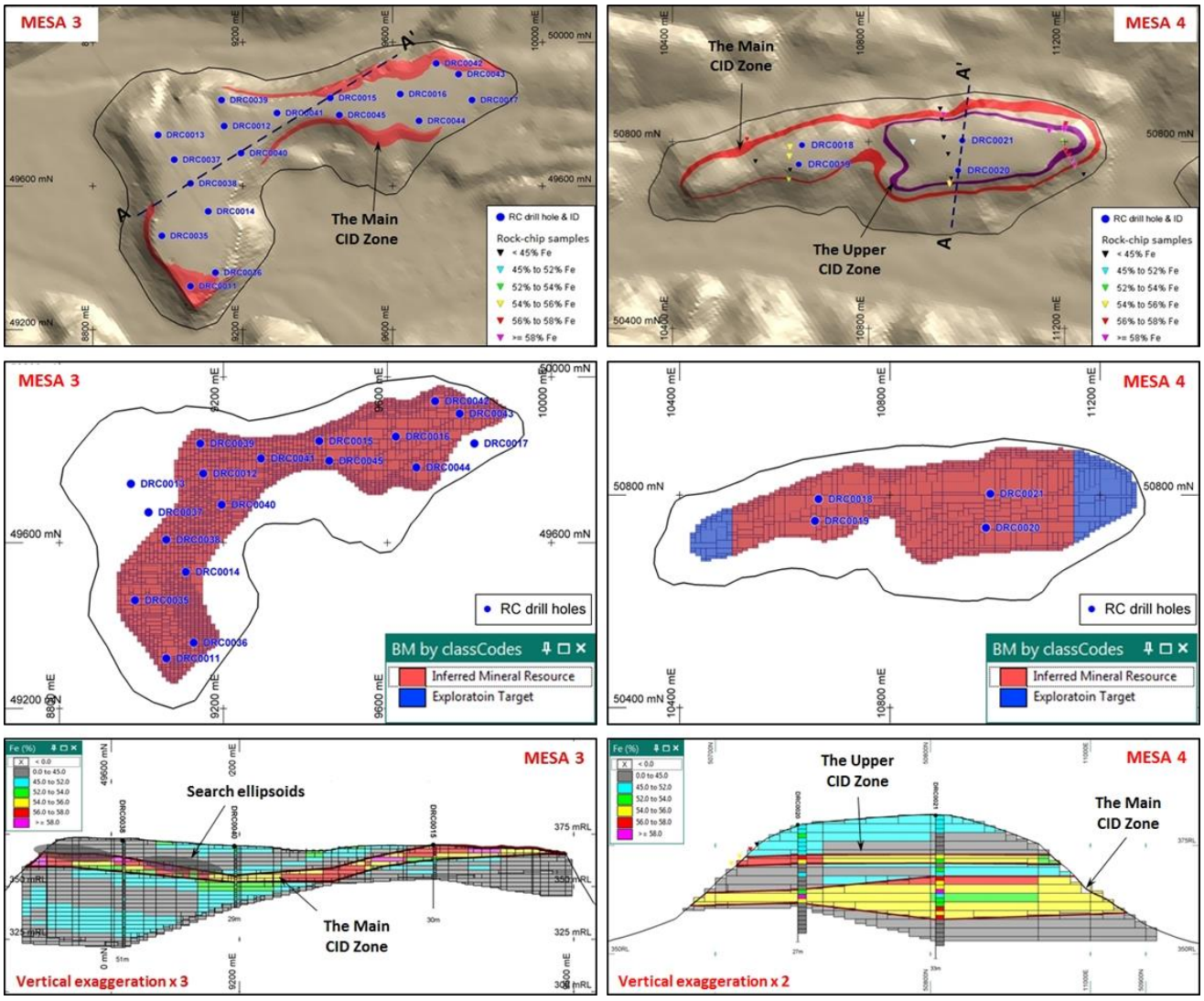

Figure 4 CID orebody, Mineral Resource classes, and a typical block model cross-section of Mesas 3 & 4

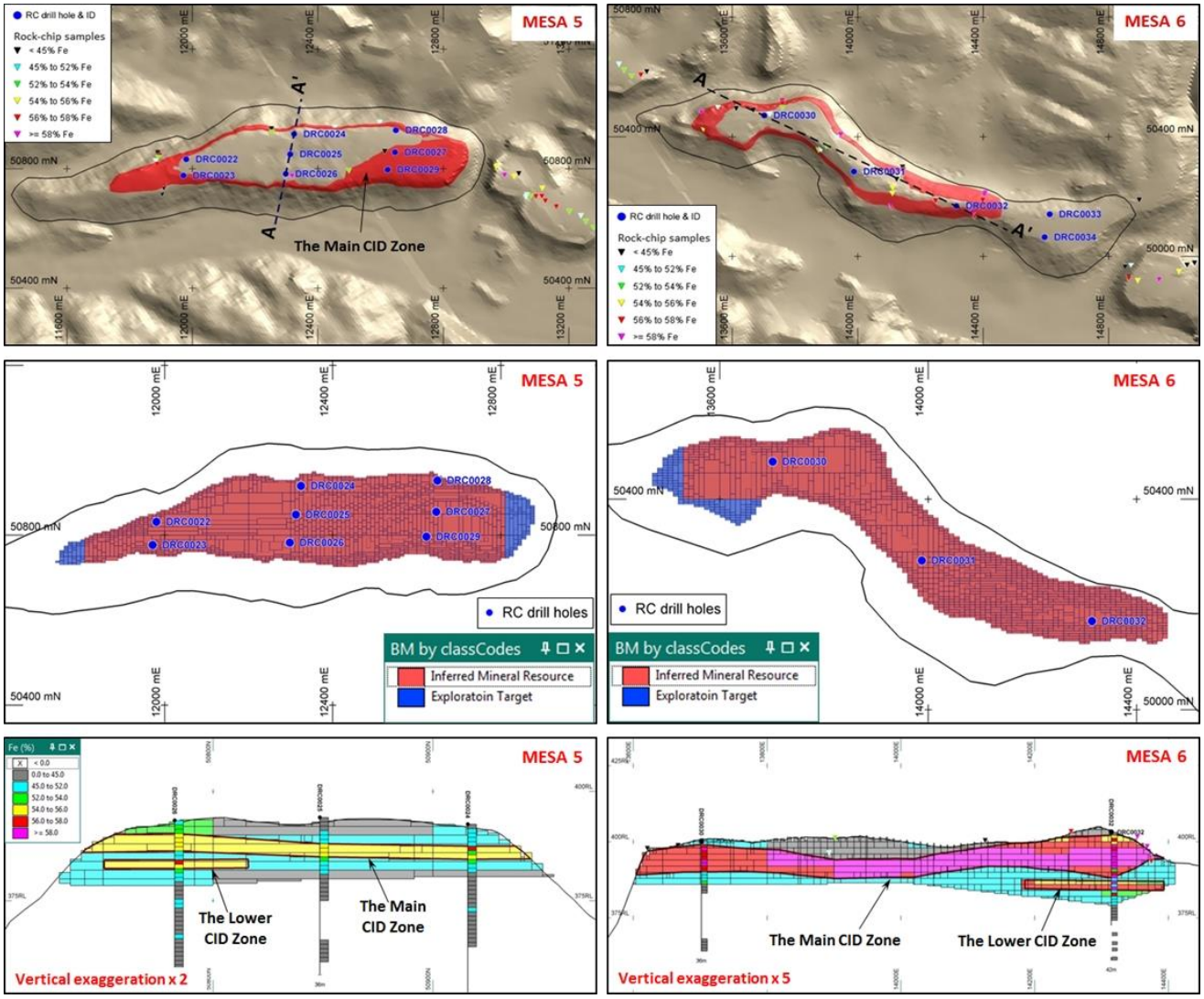

Figure 5 CID orebody, Mineral Resource classes, and a typical block model cross-section of Mesas 5 & 6

RESOURCE CLASSIFICATION AND STATEMENT

Mineral Resource Classification

Although the RC drilling data have confirmed the continuity of the main mineralised CID zones in all six mesas, the low density of drilling and the lack of diamond core drilling for verifying the RC sample quality and obtaining necessary metallurgical data (including bulk density data) are the primary factors that dictate the current Mineral Resource classification.

The Mineral Resource is classified as Inferred where the continuity of mineralisation has been confirmed by drilling on multiple sections, blocks were estimated within the first three passes during the grade estimation process, and the maximum distance of extrapolation from drilling is approximately half of the nominal section spacing, usually around 160m.

The Exploration Target is based on blocks which were estimated either by a single drill hole, or were estimated during pass 4 of the grade estimation. For spatial consistency or integrity, the Exploration Target blocks are constrained by solid wireframes which were created based on the extent of the blocks estimated during the Pass 4 estimation run.

Mineral Resource Statement

The classification of the CID Mineral Resources within Exploration Licence E47/1725 was made in accordance with guidelines provided in the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC Code, 2012). It was based principally on geological confidence criteria from the available RC drilling data, supported by geological observation during mapping and the surface rock-chip sampling results.

At a reporting cut-off grade of 52% Fe, a total of 21.6 Mt of Inferred Mineral Resource has been estimated to be present in Exploration Licence E47/1725. Details are summarised in **Table 2** below.

Table 2 Duck Creek (E47/1725) CID Mineral Resource Summary

Deposit	Class	Mt*	Fe (%)	Al_2O_3 (%)	SiO_2 (%)	P (%)	S (%)	LOI (%)
Mesa 1	Inferred	4.5	55.50	2.86	4.75	0.033	0.025	11.71
Mesa 2	Inferred	7.9	55.56	2.97	4.19	0.037	0.058	11.79
Mesa 3	Inferred	2.6	55.84	4.41	6.02	0.065	0.021	8.85
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Mesa 6	Inferred	2.2	58.17	3.22	4.92	0.106	0.016	7.62
Total	**Inferred**	**21.6**	**55.91**	**3.35**	**5.15**	**0.053**	**0.034**	**10.35**

In addition, a total of 1 to 1.6Mt of Exploration Target averaging 55 to 55.8% Fe, 3.6% to 4.5% Al2O3, 5.6% to 7.5% SiO2, 0.06% - 0.10% P, 0.03% to 0.05% S and 8.1 % to 11.8% LOI may also be present in the six CID mesas.

Compliance with the JORC Code (2012) Assessment Criteria

The Mineral Resource estimate reported in this document was based on the assessment criteria set out in JORC Code (2012). These criteria and their explanation are provided in the **Appendix A** (JORC Code (2012) Table 1).

COMPETENT PERSON'S STATEMENT

The information in this report that relates to Mineral Resources and Exploration Targets that relates to the Duck Creek CID deposits is based on information compiled by Mr Aning Zhang.

Mr Zhang, who is a Member of the Australasian Institute of Mining and Metallurgy and a full-time employee of Brockman Mining Australia Pty Ltd, completed the geological interpretations and the Mineral Resource estimation. Mr Zhang has sufficient experience that is relevant to the style of mineralisation, type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration, Results, Mineral Resource and Ore Reserves. Mr Zhang consents to the inclusion in this report of the matters based on his information in the form and context that the information appears.

By order of the Board
Brockman Mining Limited
Chan Kam Kwan, Jason
Company Secretary

Hong Kong, 31 August 2020

As at the date of this announcement, the board of directors of the Company comprises Mr. Kwai Sze Hoi (Chairman), Mr. Liu Zhengui (Vice Chairman) and Mr. Ross Stewart Norgard as non-executive directors; Mr. Chan Kam Kwan, Jason (Company Secretary), Mr. Kwai Kwun, Lawrence and Mr. Colin Paterson as executive directors; Mr. Yap Fat Suan, Henry, Mr. Choi Yue Chun, Eugene and Mr. David Rolf Welch as independent non-executive directors.

FURTHER INFORMATION:

Colin Paterson Executive Director Tel: +61 8 9389 3000

Appendix 1: JORC 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 (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *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 (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• The deposits were sampled using Reverse Circulation (RC) drilling technique. A total of 1315 samples were collected from 45 holes for a total of 1657m drilled. All holes were drilled vertically to intersect flat-lying mineralised zones. • Drill hole collars were surveyed by survey contractors using an Ashtec Dual Frequency DGPS survey grade equipment and calibrated using several existing state survey control points. All sampling of the RC chips was carried out in accordance to Brockman's sampling protocol and QAQC procedure which conforms to the industry best practices. • All material aspects that are material to the Public Reporting are covered in various sub-sections below.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• All the holes were drilled with an Orbit Drilling RC rig (Rig 7 Hydco 40) with a 132mm diameter face-sampling hammer. No diamond core drilling was undertaken as it is still in the early stage of exploration.
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.*	• RC sample recovery was recorded as volumetric percentage estimated to the nearest 5% by field geologists. • Sample quality was continuously monitored during drilling by experienced company field staff to ensure that sample recovery was maximised and that samples were representative.

	• *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.*	• All samples were dry as the drilling was above the water table. The average estimated sample recovery through the CID ore zone is 61% and as such no significant sample recovery issues were encountered.
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.*	• All of the RC holes were geologically logged at 1m interval corresponding to the intervals of bulk rejects. The level of detail of logging was appropriate for the type of drilling and supports the requirement of Mineral Resource estimation. • The geological logging is qualitative except for logging the sample recoveries which are quantitative visual estimates in volumetric percentage term. • Whole hole including CID intersections is 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 was representative of the in situ material collected, including field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Not applicable. • Not applicable. • RC drilling samples are collected in pre-labelled bags via a multi-level riffle splitter system mounted directly below the cyclone. With drilling all above water table, all samples were able to be split through the rig splitter. • All sampled were processed using the standard Ultra Trace robotic sample preparation system. After the samples are sorted and dried, each whole sample is crushed, then riffle-split to obtain a sub sample, which is in turn pulverised in a vibrating pulveriser. • Field duplicate was taken at a rate of one per hole and field standards were inserted every 25th sample. Four different standards with varied iron content levels from high to low as GIOP-14 (61.36% Fe), GIOP-21 (53.60% Fe), GIOP-27 (45.67% Fe) and GBAP-6 (4.77% Fe) were used.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• All samples were submitted to Ultra Trace Laboratory (Bureau Veritas) in Perth which is a NATA accredited laboratory with ISO17025. They were analysed via fused bead X-Ray Fluorescence (XRF) for a Brockman Iron ore suite of elements including: Fe, SiO2, Al2O3, TiO2, MnO, CaO, P, S, MgO, & K2O. Multi-point Loss-on-Ignition (LOI) was

	• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established*	determined at 400, 650 and 1000°C using thermogravimetric analysis (TGA). • No geophysical tools as described were used. • Laboratory repeats were taken at a rate of 1 in 20 samples. Laboratory standards of various iron contents (4 types in total) were also inserted randomly also a rate of 1 in 20 samples. Analysis of the field duplicates show that high level of precision has been achieved for the majority of samples, especially for CID samples with Fe grades over 52%. Assays of all field standards are all within the acceptable tolerance limits and no material bias is evident.
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.* • *Discuss any adjustment to assay data.*	• All significant intersections reported have been verified by company geologists. • No twinned holes have been drilled as the project is still in a relatively early exploration stage. • Primary data are captured on paper (hard copy logs) as well as in Toughbook laptops (digital logs) using Ocris software that has built-in validation routines to prevent data entry errors. All field data sent by Brockman's field geologists during drilling, as well as assay data from the laboratory were loaded into a secured SQL database managed by Expedio – a Perth-based database management company. • All geological and assay data used in the estimate were validated by Brockman and no adjustments or modifications were necessary.
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.*	• All collars were initially surveyed by Brockman personnel using a hand held GPS, and later by Down Under Surveys (a Perth-based contract surveying company) using an Ashtec Dual Frequency DGPS Survey Grade Equipment with a nominal horizontal and vertical accuracy of 15cm. No down-hole deviation surveys were conducted as all holes are shallow vertical holes and most of the CID mineralisation is within 20 m of the surface.

	• *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• All the drill holes have been surveyed in MGA grid in Zone 50 and the vertical datum is AHD. For the purpose of resource modelling, all the CID mesas except Mesa 2 are in local grids. While Mesa 1 has its own local grid (local grid north: 060°, Mesas 3 to 6 are in the same local grid (local grid north: 033°). Mesa 2 is in MGA grid. • The Digital Terrain Model (DEM) used in the estimation was Landgate data acquired through Fugro Spatial Solutions. It has a vertical accuracy of 1m with unknown horizontal accuracy. Comparing with 1288 DPGS-surveyed points along the access tracks including the drill hole collar pickups, the acquired DEM on average is about 1m higher and has been modified locally for each of the six mesas for use in the resource modelling. Based on the statistics, the DEM elevation for Mesas 1, 2, 3 to 5, and 6 was reduced by 1m, 0.5m, 1.2m and 0.7m respectively.
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*	• A nominal drill-hole pattern of 160-320m x 40m-80m was used for the RC drilling. Mesa 2 was drilled at a pattern of approximately 320 x 320m due to its size, Mesa 3 was drilled at a nominal 160m x 40m-80m pattern, and the rest of the mesas (M1, and M4 to 5) were drilled at a nominal 320 x 40m-80m pattern. The actual hole-spacing across each of the mesas varies depending on the width of each mesa. • The sample data spacing and distribution were considered appropriate for the Inferred category Mineral Resource classified under the 2012 JORC code. • All holes were sampled at 1m downhole and composited to 2m for the resource modelling.
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*	• The orientation (i.e., the drilling grid pattern) is considered suitable for the CID mineralisation for each mesa. All CID beds are sub-horizontal and iron mineralisation is more continuous along the length, as oppose to across the breadth and the thickness, of each mesa. • As such, there is no base for concern of a sampling bias.

	have introduced a sampling bias, this should be assessed and reported if material.	
Sample security	• *The measures taken to ensure sample security.*	• The chain of custody of all assay samples is managed by Brockman. Assay samples in calico bags were packed into polyweave bags and stored in large heavy-duty bulka bags on site. Periodically the filled-up bulka bags were picked up from site by a local transport company and deposited with Regal Transport in Newman, who delivered the samples to the laboratory. In total 7 despatches were made for the drilling program. Once received at the laboratory, the samples were sorted and securely stored until analysis. No loss or damage of samples occurred during storage or transit.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The database is stored in Micromine GBIS data management system which is maintained by Expedio contracted by Brockman. Routine checks and validations were carried out by Expedio consultants. Brockman has conducted its internal validation of the database before carrying out the mineralisation interpretation. No formal external audits or reviews have been undertaken.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral 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 CID deposits of the Duck Creek Iron Ore Project are located within Exploration Licence 47/1725 which is 100% own by Brockman Exploration Pty Ltd, a subsidiary of Brockman Mining Australia Ltd. E47/1725 is located about 130 km northwest of the Paraburdoo Township in the West Pilbara region of Western Australia. The tenement lies within the PKK People and Pinikura People Native Title Determination area. Brockman has a current Heritage Agreement in place. • The tenement has been approved with a 2-year extension of Term till 17/12/2021 and there are no impediments to obtaining a licence to operate in the region including the project area.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• There was little record of any previous exploration in the tenement when it was granted to Brockman in December 2007.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The iron ore mineralisation of the CID mesas is of a typical Channel Iron Deposit (CID) style, which was once part of the Rover River Pisolite CID system that was eroded to form chains of disconnected CID mesas. There are six mesas in total in two separate locations within E47/1725. The Northern Mesas consist of Mesa 1 and 2, and the Southern Mesas consist of Mesa 3 to 6. Detailed surface mapping and sampling has confirmed the presence of multiple well mineralised CID bands or layers separated by low-grade CID which is marked by significant increase of silica content. Each mesa has a main CID zone (CIDMZ) which is often accompanied by a thinner and less upper extensive upper CID zone (CIDUZ), as in the cases of Mesas 1 to 4. The upper CID zone is absent in Mesa 5 and 6. All the CID beds observed during the geological mapping appear to be sub-horizontal with thickness of individual beds

		ranging from a few meters to 15m thick. However, RC drilling at Mesa 3 has indicated that the main CID zone dips approximately 5 degrees to SSE where the mesa changes its orientation from NNE to ESE. Mineral compositions change from hematite-goethite dominated to goethite-limonite dominated. Ore texture varies from near massive cemented pisolite to porous, vuggy varieties.
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 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.*	• No exploration results being reported.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.*	• No exploration results being reported.
Relationship between mineralisation widths and	• *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.*	• No exploration results being reported.

intercept lengths	• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	
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.*	• Refer to figures in main report.
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.*	• No exploration results being reported.
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.*	• No other substantive exploration data to report.
Further work	• *The nature and scale of planned further work (e.g. 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.*	• Further work required include infill RC drilling on most of the mesas are required to improve confidence level to Indicated Mineral Resource status or better and some diamond drilling for bulk density determination and metallurgical testwork. • The areas of possible extension of future Mineral Resources are shown as the 'Exploration Target' in the report.

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

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.*	• Database integrity has been maintained in every stage of the drill hole data management system from the initial collection to the final exported data for use for Mineral Resource estimation purpose. • Data validation data management routine: Data entry: Digital geology and sampling data were captured using Ocris which has built-in look-up codes (same as the ones used in the database) and validation rules to prevent data entry errors. Export of primary data: the Ocris logs need to be validated before they can be exported as a single Ocris native OXO file, using built-in functionalities in Ocris. Import of primary data into the database: the Ocris OXO file is loaded into the centralised SQL database by Expedio through a seamless importing routine within GBIS. Export of secondary data from the database: automated data-export SQL queries were developed within GBIS and used for exporting drill-hole data for use in Mineral Resource estimation.
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 visited site and inspected the exploration field operations including logging and sampling processes.
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 confidence in the geological interpretation is reflected in the Mineral Resource classification. All materials reported are as either Inferred Mineral Resource or Exploration Target primarily due to the drill-hole spacing. • The geological domains which comprise from top downward a low-grade CID zone (LGC), upper CID zone (CIDUZ), main CID Zone (CIDMZ), lower CID zone and basal CID zone were interpreted on cross sections based on drill-hole data and extended in most cases horizontally to the edge of each

		mesa. This is supported by geological observation and surface sampling results. The final wireframes of the geological domains were produced from the intersection with the topographic DEM.
	• *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.*	• Technique of multiple orientation sections was used for the interpretation of the Main CID zone in Mesa 3. • The currently preserved CID mesa is the relict of more extensive paleochannel system known as the 'Robe River Pisolite' in the West Pilbara region. The extrapolation of any interpreted CID bed from the drill hole to the edge of each mesa is made based on the strength of the drill intersection concerned as well as its continuity along the mesa indicated by current drilling and surface sampling results if available. Surface sampling information was used in confirming the general continuity of CID mineralisation but was not used in the resource modelling.
	• *The factors affecting continuity both of grade and geology.*	• It is well-known that CID mineralisation in terms of its quality (grades) and quantity (length and thickness) is best developed in the middle of large deep-cut paleochannels. However, due to the severe erosion, it is impossible to ascertain the location of the Duck Creek mesas in the profile of the local paleochannel in the project area and have the knowledge used in the interpretation.
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.*	• Being the relict of once more extensive channel iron deposits, the true extent of the CID mineralisation in the Duck Creek Project area is not known. The extent of CID mineralisation within the current mesas varies in sizes and is controlled by the geomorphology of each mesa. Apart from Mesa 2 where CID mineralisation is known to be present approximately 800m along both east-west (the perceived direction of the main paleochannel in the area) and north-south, the main CID zones of the rest of the mesas ranges from 800m to 1km long and 50m (Mesa 6) to 200m (Mesa 3) wide. Most of the RC holes did not reach the bottom of the CID paleochannels. The mesas are up to approximately 50 m

		deep at Mesa 3 where a lower CID zone of 7m @ 56.5% Fe was intersected from 39m to 46m. Most of the CID mineralisation, however, was intersected from surface to about 10m downhole with thickness ranging from 2m to 14m.
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 current Mineral Resource estimate uses Micromine Inverse distance Weighting (IDW) which is considered appropriate for grade estimation of the CID mineralisation contained within each of the six mesas studied as the limited drilling data and the elongated drill-hole pattern used for each of the CID mesas are not suitable for Kriging. The maximum distance of extrapolation from data points is between 160m to 170m, which is the half of the maximum section spacing. A cut-off grade (LCG) of 52% Fe was determined from statistical analysis and was used in the interpretation of the CID mineralisation boundary. No top-cut Fe grade was applied as there were no statistical outliers of extreme grade. Validated drill-hole sample data were flagged with geological domain codes using interpreted 3D mineralisation and geological wireframes and surfaces. For the purpose of grade estimation, the original 1m sample data was composited at 2m intervals within each geological domain with a minimum length of 1m and residuals less than 1m discarded. Intervals with no assay were excluded from the compositing process. Geometrical and geochemical (mainly Fe grades) characteristics of the main CID zone of each mesa CID mesa were studied and structural sub-domains were created if required (i.e., all the mesas except Mesa 4). For each sub-domain, a search ellipsoid was created in 3D space using the Micromine interactive search ellipsoid tool. The geometry of each search ellipsoid varied and was optimised depending on drill hole spacing and pattern. Except for Mesa 2 where spheroids were used for all sub-domains where no apparent continuity orientation of the CID mineralisation is displayed, all other mesas used search ellipsoids with varied ratios of the radius of the first and second axes.

		Up to four search passes were completed for large geological domains which include the main CID zones as well as other geological domains. Hard boundaries were applied between all geological domains. The factors with which the radii of search ellipsoids were increased for each pass were 1, 1.5, 2 and 4. The factors were so chosen that the radius of Axis 1 of the search ellipsoid for the third pass approximately equalled to the half of the nominal section spacing (usually around 160m). The CID blocks estimated in Passes 1 to 3 are the basis for Inferred Mineral Resource classification, whereas the CID blocks estimated in the 4th pass are Exploration Target. Due to the sparsity of the drill hole samples, no minimum sample number is enforced.
	• *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 current block estimation is an update of the previous estimation using polygonal method reported under JORC 2004 in February 2013. The overall tonnages and grades for each mesa reported using the same lower cut-off grade (i.e., 54% Fe) are comparable. A comparison of grade estimation using an Inverse Power of 2 and 3 (IDW2 or IDW3) was completed. The results have indicated little difference between the two estimates in terms of both overall tonnages and grades. For conservatism the results of IDW3 have been reported for the final model.
	• *The assumptions made regarding recovery of by-products.*	• The iron ore is the only product of interest, i.e., there are no by-products.
	• *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. 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.*	• In addition to Fe, the same search ellipsoids are also used for the estimation of the other 8 elements including Al2O3, SiO2, P, S, LOI1000, TiO2, MgO, and CaO. • Five block models have been created. Apart from M4 and 5 which are included in one block model due to their proximity to each other, all the other four mesas has its own block model. All the block models, except for M3, are set up with a parent block size of 100mN x 50mE x 2mRL with a sub-blocking of 10mN x 5mE x 0.5mRL to suit a nominal drill-hole pattern of 320 x 80m-160m. The Parent block size for M3 is 50mN x 25mE x 2mRL with a sub-blocking of 10mN x 5mE x

	• *Any assumptions behind modelling of selective mining units.* • *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.* • *metal*	0.5mRL, due to a smaller nominal drilling grid of 160m x 40m-80m. • No selective mining units were assumed in this estimate. • Although the inverse correlation between Fe and SiO2 grades exists in the sample data, no assumption of correlation between elements was used as a basis in this estimate. • The control of geological interpretation on this resource estimation is mainly reflected in the use of geologically interpreted CID mineralisation to constrain numerical modelling as described above. • No top-cut grades are used in this estimated due to the low coefficient of variance (0.04) in the result of the statistical analysis of the Fe grades in the CID zones in the Duck Creek mesas. • The results of the grade estimation of all the block models created have been checked and validated both graphically and statistically to ensure their accurate representation of the drilling data. The check process includes global mean comparison, volume comparison between the block models and the CID mineralisation wireframes used, as well as visually inspection of the model slices in plan, section and long section views, etc. All the results are within acceptable limits. No reconciliation data are available as no mining has taken place.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• All tonnages have been estimated as dry tonnages.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• A lower cu-off grade of 52% Fe is used in the interpretation of the CID mineralisation on sections.
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*	• It is assumed that conventional drill and blast open cut mining methods will be used. The waste will be stripped off first before mining the ore, therefore less constraint on minimum mining thickness requirement.

	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.	
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.*	• No metallurgical factors are used or any assumptions made for the current resource estimate. It is assumed that the Duck Creek CID ore has similar metallurgical properties to what have been currently mined at Robe River-Deepdale Operations.
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.*	• Based on publically available information, it can be assumed that no environmental factors which would prevent the eventual economic extraction of the CID ores from these deposits. The company will conduct any required environmental surveys and assessment as a part of future mining feasibility studies.
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 (vughs, 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.*	• As there has been no diamond core drilling in any of the CID deposits, a nominal bulk density vale of 2.7 (t/m^3) has been used for the current estimation based on publically available information on similar deposits nearby. • Not applicable. • As a comparison, the CID mineralisation at the Company's Marillana iron ore project has used an average bulk density of 2.8 t/m^3 based on measurement using diamond cores and down-hole wireline density survey.

Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	• The basis of the Inferred Mineral Resources and Exploration targets are in the accordance with Australasian Code for the reporting of Identified Mineral Resources and Ore Reserves 2012 Edition (JORC, 2012). The Inferred Mineral Resources are areas that have been tested on multiple drill sections where the continuity of mineralisation has been demonstrated. In this estimation, they are classified within the Inferred Resource wireframe based on the estimated CID blocks of Passes 1 to 3 of the grade estimation runs. The Exploration Targets are blocks estimated based on a single drill hole, or extended from the drill-hole data to the edge of the CID mesa with a distance more than half of the maximum drilling section spacing. In this estimation, they are represented by all the CID blocks outside the Inferred CID wireframe and include, not limited to, the estimated blocks of Pass 4 of the grade estimation runs.
	• *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*	• The above classification was considered appropriate on the basis of data density and quality, representativeness of sampling, geological confidence criteria.
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• This estimation is made by the Competent Person who participated in the initial geological mapping, surface rock-chip sampling, and some supervision of the original RC drilling.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• No audit or reviews have been undertaken on this Mineral Resource estimate.
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*	• The accuracy of Inferred Mineral Resource estimates is reflected in its classification discussed above and is in line with the acceptable industry standards. At the current sparse drill-hole density, the use of Inverse Distance Weighting estimation as oppose to Krigging is considered both appropriate and adequate.

	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.*	• This is estimated locally, i.e., by numerical modelling in block models. The relevant tonnes and grades of classified Mineral Resources are stated in Table 1 of the report. • No production data is available for comparison with the Mineral Resource estimate at this stage.