BLACK CANYON

ASX Announcement

November 21 2022 ASX:BCA

Mining Lease Application submitted for Flanagan Bore

- Mining lease application submitted over the FB3 and LR1 manganese deposits, to encompass proposed process infrastructure, laydowns, accommodation village and tails storage facility.
- Feasibility studies progressing well with the engagement of several contributing consultants across various disciplines. Highlights include:
  - Detailed metallurgical testwork commenced to further evaluate scrubbing/washing intensity, and dense media separation techniques
  - Hydrological drilling has identified a potential process water supply and the collection of baseline hydrological data is underway
  - Desktop and field based environmental studies initiated including flora and vegetation and preparation for sub-terranean and terranean fauna surveys
- Flanagan Bore Mineral Resource update to confirm key parameters of grade, continuity and an increase in scale with the discovery of further mineralisation along the L1 to TF trend is on schedule for completion by the end of November 2022
- High purity manganese sulphate (HPMSM) strategy advancing to scoping level as hydrometallurgical testwork continues

Australian manganese explorer, Black Canyon Limited (**Black Canyon** or **the Company**) (ASX:**BCA**), is pleased to announce the submission of a Mining Lease application, and in parallel mark the commencement of the mine approval process while providing an update on Feasibility Study related activities.

Black Canyon Executive Director, Brendan Cummins, said: *"The mining lease application represents a significant milestone achievement for the Company within 8 months of announcing the discovery of FB3 and only 3 months after completion of the Scoping Study. The Company is confident that based on the quality of the Mineral Resources we have discovered and the positive Scoping Study results we are well placed to continue feasibility studies and commence the approvals process required to develop a mine."*

"Black Canyon continues to progress development across multiple fronts as we improve knowledge and de-risk aspects of the project. We have increased our knowledge of the orebody with the completion of infill drilling and subsequent geological and geochemical domaining. This information has been used as a basis to select several metallurgical composites from our existing diamond drill core that will be processed

to further optimise scrubbing and washing, screen selections, crushing and manganese concentration using heavy liquid separation (HLS) as a proxy for dense media separation (DMS).”

“Of critical importance was the discovery of a potential process water aquifer on our tenure which adds significant value and provides a local target area for further hydrological investigation. Baseline environmental studies are advancing well with engagement of key consultants, the completion of a number of desktop evaluations and field surveys currently underway. Activities will continue to ramp up over the coming months in preparation for engagement with key stakeholders and regulatory government authorities.”

“In parallel we continue to progress the development of a HPMSM pathway to add further downstream value which may ultimately help to diversify the current critical cathode mineral supply chain to US and Europe based end users.”

Flanagan Bore is part of the Company’s Carawine JV and is subject to a farm-in and joint venture agreement with Carawine Resources Ltd (ASX:CWX). Having earned a 51% interest, Black Canyon is now earning up to 75% in the Carawine Project tenements by sole-funding an additional $2.5m of exploration expenditure. The Flanagan Bore Project is located approximately 400 km southeast of Port Hedland in the east Pilbara region of Western Australia

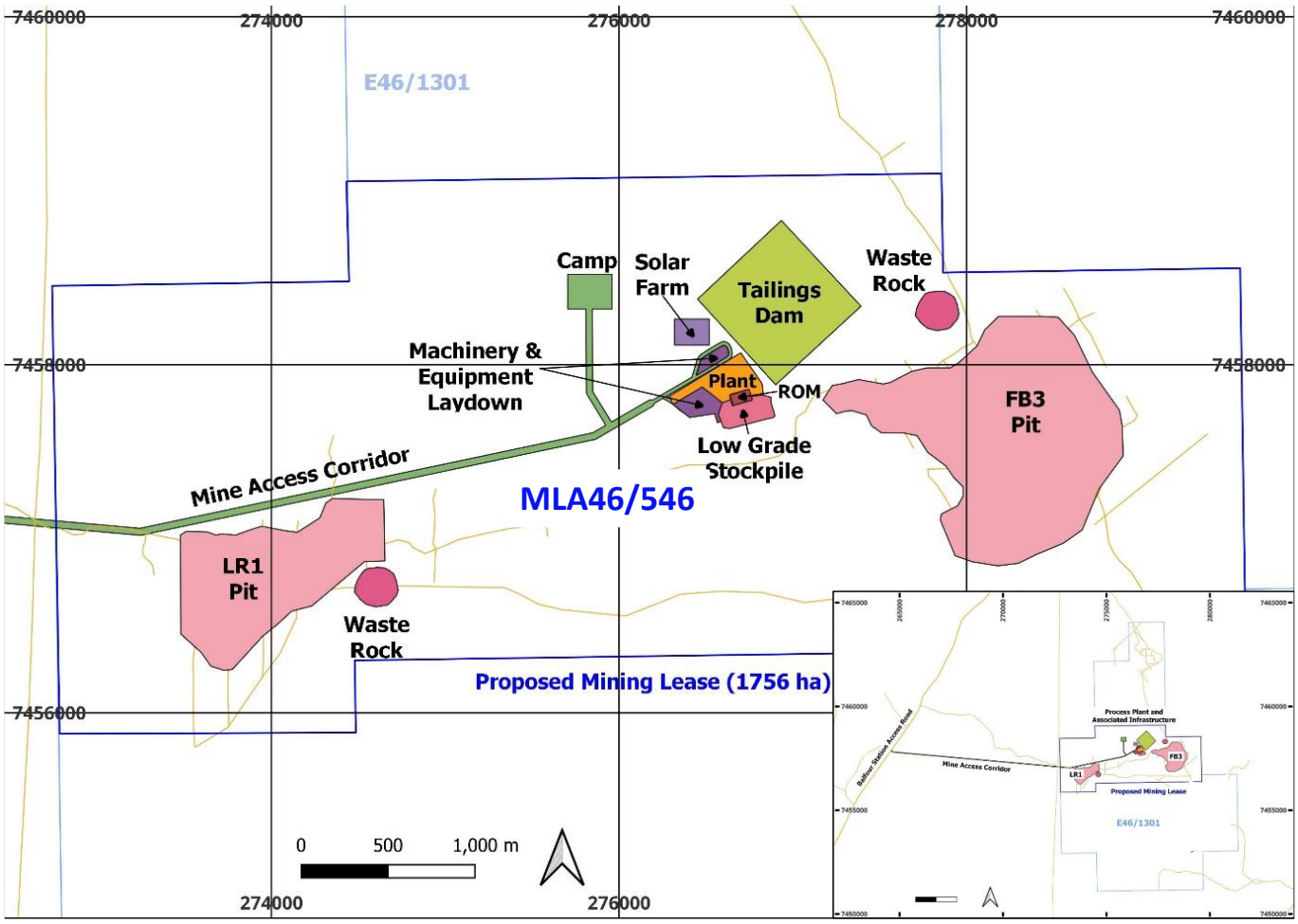

Figure 1. Mining Lease application (MLA46/546) over Flanagan Bore Project and key site infrastructure

Mining Lease Application

Black Canyon and JV partner Carawine Resources have submitted an application for a Mining Lease (MLA46/546) over the Flanagan Bore manganese deposits that include FB3 and LR1 and also extending over the recent discoveries at L1 and TF1. The application comprises 1756 Ha to ensure sufficient area is under tenure to locate the open pits, stockpiles, tails storage facility and build site infrastructure including roads, accommodation village, process plant, laydowns, offices and solar array. Miscellaneous licenses will be lodged at the appropriate time to cover the mine access road, construction borrow pits and planned production water bore locations and supporting power and pipelines.

Detailed Metallurgical Program

A total of 4 composites have been selected from 1.4t of PQ diamond core (whole core) from 10 drillholes drilled in December 2021 (refer to Table 1 for collar information) in preparation for more detailed metallurgical testwork. This program will advance the findings from the initial sighter level testwork undertaken for the Scoping Study that examined both ore sorting and density separation techniques. It was concluded in the Scoping Study that density-based techniques offered a more robust and reliable processing route for the beneficiation of manganese enriched shales.

The drill core has been examined and composited into an LR1 upper, LR1 lower, FB3 and FB3 lower grade domains to examine variability in mineralisation style and grade across the various orebodies. The program of work planned includes comminution, scrubbing/screening, benchtop dense media assessments using heavy liquid separation and mineralogy. An area of focus is understanding the intensity of scrubbing and washing which from past testwork was able to significantly and cheaply upgrade manganese content with the removal of clay/shale and some of the iron oxides. The high grade nature of the outcropping Flanagan Bore deposits supports a higher feed-grade which can be significantly upgraded with simple scrubbing and washing. This is a cost effective means of removing barren mass allowing density separation techniques to provide the final beneficiated grade increase.

Figure 2. PQ core from the FB3 deposit showing zones of manganese enrichment and interstitial clays and weathered shales from surface to 5m depth from diamond core hole DDFB302

Hydrological Investigation and Water Exploration Program

A total of nine exploration holes were drilled approximately 4 to 5 km from the proposed ore processing facility located to the west of the FB3 deposit. The area was targeted based on a review of the region to discover aquifers of sufficient size and recharge with adequate quality suitable for processing requirements. The holes were drilled into structurally dislocated carbonates units with five holes showing positive water supply indications. As anticipated a number of field water quality tests showed the water has low salinity and acceptable pH range. A number of the bore holes were converted to long term monitoring bores for the gathering of baseline data and will also enable future sampling for sub-terranean fauna for environmental impact studies.

Based on the encouraging results to date further hydrological drilling will be undertaken to delineate the aquifer potential of the carbonate units that will enable modelling to understand recharge and long term sustainability of supply.

Figure 3. Drill rig air lifting an exploration hole that encountered water at Flanagan Bore.

Environmental and Social Studies

In preparation for the baseline and approval information required by the environmental regulators Black Canyon has engaged Preston Consulting to provide advice on project approval pathway and management of key consultants.

The Company has also now directly engaged a number of primary consultants who specialise in the design and implementation of studies across the disciplines of flora/vegetation, fauna (subterranean and terranean) hydrology and social surroundings. To date desktop and field based environmental studies have been initiated with more detailed field surveys planned after the wet season.

This announcement has been approved by the Board of Black Canyon Limited.

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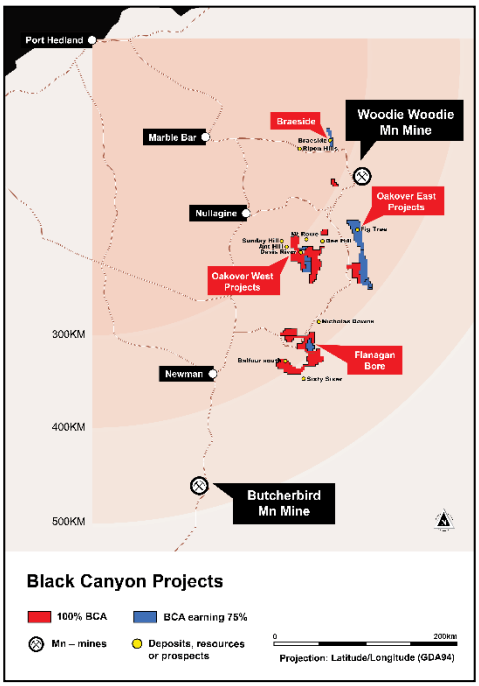
About Black Canyon

Black Canyon has entered into a farm-in and joint venture with ASX listed Carawine Resources Limited (ASX:CWX) to acquire a majority interest in the Carawine JV Project in Western Australia. The Carawine Project covers approximately 800 km^2 of tenure located south of the operating Woodie-Woodie manganese mine, providing a large footprint in a proven and producing manganese belt. Black Canyon has also applied for, and had granted other exploration licenses adjacent to the Carawine Project that increases the total land holdings to over 2400 km^2. In addition to manganese, the Carawine Project also hosts multiple copper occurrences including the Western Star prospect which comprises a large zone of surface copper enrichment.



Manganese and copper continue to have attractive fundamentals with growing utilisation in the battery mineral sector and challenging supply conditions.

Compliance Statements

Reporting of Exploration Results and Previously Reported Information

The information in this report that relates to Exploration Results is based on, and fairly represents, information and supporting documentation reviewed by Mr Brendan Cummins, Executive Director of Black Canyon Limited. Mr Cummins is a member of the Australian Institute of Geoscientists, and he has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which has been undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Cummins consents to the inclusion in this release of the matters based on the information in the form and context in which they appear. Mr Cummins is a shareholder of Black Canyon Limited.

The information in this report that relates to metallurgical testwork results is based on information reviewed by Mr David Pass, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Pass is an employee of BatteryLimits and consultant to Black Canyon Limited. Mr Pass has sufficient experience relevant to the mineralogy and type of deposit under consideration and the typical beneficiation thereof to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 Edition). Mr Pass consents to the inclusion in the report of the matters based on the reviewed information in the form and context in which it appears

For further information, please refer to ASX announcements dated 17 May 2021, 10 June 2021, 7 July 2021, 5 October 2021, 4 January 2022, 8 February 2022, 21 February 2022, 2 March 2022, 23 March 2022,13 April 2022, 9 June 2022 and 7 September 2022 which are available from the ASX Announcement web page on the Company's website. The Company confirms that there is no new information or data that materially affects the information presented in this release that relate to Exploration Results and Mineral Resources in the original market announcements

Table 1 Flanagan Bore diamond drill core collar information for composite samples for the LR1 and FB3 deposits

Hole ID	Deposit	East (GDA94)	North (GDA94)	Rl	Survey Method	EOH (m)	Dip	Azimuth
DDLR01	LR1	274351	7456998	509	GPS	42.4	-90	360
DDLR02	LR1	274135	7456947	512	GPS	22.2	-90	360
DDLR03	LR1	274155.8	7456803	500.6	DGPS	42.8	-90	360
DDLR03B	LR1	273945.4	7456800	499.9	DGPS	30.2	-90	360
DDLR04	LR1	273957	7456935	509	GPS	32.1	-90	360
DDFB301	FB3	278491.6	7458158	533.9	DGPS	54.6	-90	360
DDFB302	FB3	278255.4	7458158	532.6	DGPS	50.2	-90	360
DDFB303	FB3	278138.3	7457953	521.8	DGPS	44.1	-90	360
DDFB304	FB3	277963.7	7457859	517.3	DGPS	42.7	-90	360
DDFB305	FB3	278286	7457706	520.8	DGPS	30.6	-90	360

Appendix 1- JORC 2012 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.*	• The samples were collected using industry standard PQ diamond core drill methods . • Drilling was completed by Topdrive who completed the entire DD drill program – 13 PQ holes for 477m • There was limited water encountered during the drill program • The drilling and sample techniques are considered appropriate for the style of mineralisation • The target sample weight per metre was approximately 9kg
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).*	• The drill type is diamond core (DD) drilling using vertical holes • The drill diameter us 80mm using a PQ core drill bit
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• Sample recovery was calculated measuring the core retrieved from each core run which was estimated by the

Criteria	JORC Code explanation	Commentary
	• *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.*	driller and confirmed by the geologist on the rig and secondly by assessing the weight of the representative samples delivered to laboratory • The drill recoveries were deemed acceptable using triple tube • No significant sample bias due to sample loss is evident from the observed sample recoveries
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.*	• Drillhole logging was completed on site recording lithology, texture, grain size and colour. • The core was also photographed and used to further detailed logging post the drill program • The logging was considered appropriate for exploration • Every 1m interval was logged – 477m
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 situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• The diamond core was not cut for assay. The entire cored material was used for test work. • The diamond holes were however twinned with RC drill holes which has been previously been reported
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.* • *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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• The diamond core was not cut for assay. The entire cored material was used for test work. • The diamond holes were however twinned with RC drill holes which has been previously been reported • Twinning holes is an acceptable proxy for assaying the diamond core
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.*	• The diamond core was not cut for assay. The entire cored material was used for test work. • The diamond holes were however twinned with RC drill holes which has been previously been reported
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*	• Once a drill hole was completed the drill collar was located using a GARMIN handheld GPS with an accuracy of +/- 5m • At LR1 and FB3 a the drill collars were also picked with a DGPS • The grid system is UTM zone 51,

Criteria	JORC Code explanation	Commentary
	control.	GDA94 datum • The topography is quite flat reflecting the underlying stratigraphy. The holes are shallow and downhole deviation is not considered material in the context of these results
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.*	• The drill spacing for the DD core program is irregular but is considered representative of the geology and grade of a potential life of mine sample • The drill hole spacing is considered appropriate for this stage of advanced exploration with a high level of geological and mineralisation confidence
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.*	• The LR1 deposit is flat and gently plunging. Drill logs and assay data have identified cross cutting dolerite dykes that may have intruded into zones of structural weakness which does appear at this early stage to terminate the prospective horizon to the south • The FB3 deposit is gently folded and plunging shallowly to the south west. It is generally flat lying and openly folded. • The drill hole orientation otherwise is suitable for this style of mineralisation and considered appropriate and unlikely to introduce sample bias
Sample security	• *The measures taken to ensure sample security.*	• The drill core samples were stored on site and then transported to the laboratory for further processing. • The core trays were inspected and audited by the laboratory who did not report any suspicious or tampered samples
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Other than internal review by Company staff no audits have been completed. • The CP was on site for parts of the DD drill program and considers drilling and sampling techniques to be equal to industry standard and appropriate for the style of mineralisation and the results being reported.

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 drilling was undertaken on granted tenement E46/1301 • Black Canyon has a farm-in and joint venture agreement with Carawine Resources Ltd (ASX:CWX), Black Canyon has earnt an initial 51% interest and is now earning up to 75% in the Carawine Projects that includes E46/1301 • The tenement has a native title Heritage Protection Agreement with the Karlka Nyiyaparli People that required a Heritage Survey to be undertaken prior to ground disturbing activities. To this end an Ethnographic and Archeologic survey was completed prior to commencement of site activities • There are no other known impediments to exploring E46/1301
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Previous work on the tenure Includes exploration by Sentinel Mining Company carried out in 1968 in the general area of Balfour Downs. The exploration work included rock chip sampling from the southern edge of E46/784 which returned three samples with manganese values of 21.6 %, 25.7% and 11.4% Mn within manganese surface enrichment of Balfour Shales. • Consolidated Global investment Pty Limited ('CGI') owned tenement E46/784 between 2010 and 2015 and carried out exploration work. • Early reconnaissance work completed by CGI delineated many occurrences of manganese enriched outcroppings of the Balfour Formation. These north south striking outcrops were continuous over a distance of 1 km with widths of 50 m to 90 m in the LR1 Prospect area. Further exploration work completed by CGI included identification of prospective area using google images and remote sensing, a heritage survey and clearance for drilling using local Martu consultants. CGI completed a reverse circulation drilling programme of 22 holes in July 2012 on E46/784.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Flanagan Bore tenement is located within the Oakover Basin, the edges of which are defined by the Neoarchaean Fortescue Group. Most of the tenement is covered by quaternary alluvium, sheetwash and outcrop only exists within the southern part and consists of rocks of the Manganese Group, mainly the Encheddong Dolomite and Balfour Formation. The tenement contains widespread manganese scree associated with manganese enriched Balfour Formation shales • The prospects can be separated into three primary units, the upper unmineralised Balfour shale, the mineralised Balfour shale and the lower basal shale unit. The upper unmineralised shale is brown grey in

Criteria	JORC Code explanation	Commentary
		colour and occurs from surface up to 10 m in depth intermittently across the project area. • The manganiferous shale unit contains a supergene enriched manganiferous horizon which exhibits thickness range between 15 m to 37 m depth gently dipping to the south, progressively thickening to the east-south-east. The manganese layers are confined to distinct banding within the Balfour and there are also minor occurrences of interbedded red/brown shales intermixed within saprolitic clay bands.
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.*	• Refer to Table 1 for a listing of the DD drill holes used for the metallurgical testwork.
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.*	• No exploration results are reported
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 deposit is mostly flat lying exhibiting a gentle dip of mineralisation to the south, south-west therefore 90 degree angled (vertical) drill holes considered appropriate. • The mineralisation of the LR1 prospect is primarily strata bound striking approximately 80 to 90 degrees, gently dipping to the south • The core drill holes are interpreted to represent close to true widths of the mineralisation
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.*	• No maps or sections are relevant to the reporting of the leaching results
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable,*	• Information considered material to the reader's understanding of the leaching

Criteria	JORC Code explanation	Commentary
	representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	has been reported in the body of the text
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.*	• All information considered material to the reader's understanding and context of the metallurgical testwork programs have been reported.
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.*	• Further work is planned that includes: environmental and hydrogeological investigations • The Company is intending to update the Mineral Resource Estimates over the LR1 and FB3 deposits