



# BLACK CANYON

## ASX Announcement



17 July 2023

ASX:BCA

## RC drilling commences across Balfour Manganese Field Targets

- Black Canyon has commenced an initial RC drilling program targeting multiple outcropping manganese prospects across the Balfour Manganese Field.
- The drill program is focussing on previously undrilled manganese enriched shale targets providing an opportunity for Black Canyon to discover and deliver additional Mineral Resources on 100% owned tenure.
- High purity manganese sulphate (HPMSM) variability samples have also been collected from some of these drill targets to investigate their hydrometallurgical amenability to leaching, purification and crystallisation.
- The drill program is to evaluate multiple targets for a potential hub and spoke mining and processing model, building on the successful delineation of a significant Mineral Resource at Flanagan Bore.
- Further discoveries could provide additional feedstocks for manganese oxide concentrates used as alloys in the steel industry as well as downstream production of HPMSM subject to further metallurgical testwork.
- The initial program is targeting the Balfour and KR1 targets as part of the strategic Panther<sup>1</sup> and E46/1383 Tenement<sup>2</sup> acquisitions respectively.

Australian manganese explorer and developer, Black Canyon Limited (**Black Canyon** or the **Company**) (ASX: BCA) is pleased to announce drilling activities have started to test multiple drill targets within the Balfour Mineral Field, located in the Pilbara region of Western Australia. The initial drilling is planned to test the KR1 and Balfour prospects for mineral resource potential (Figure 1).

**Black Canyon's Executive Director Brendan Cummins said:** "The Company is excited to commence drilling across these new key targets and based on our experience in the region, we believe there is high potential to discover and delineate substantial Mineral Resources confirming the manganese endowment of this globally significant region."

Note 1 ASX release 07/03/2022 - BCA Completes Acquisition of Panther Exploration.

Note 2 ASX Release 14/06/2023 - Black Canyon completes strategic tenement acquisition.

ASX Code: **BCA**

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“The identification of multiple targets with mineral resource potential provides the Company with options to consider a long life, potentially larger throughput hub and spoke mining and processing model that will access ores from multiple deposits including those on 100% owned Black Canyon projects.”

“The drill program will also allow the Company to delineate mineral resources across targets already identified as having potential to produce HPMSM feedstock. In the short term this may allow the Company to develop a low impact mining facility that could be permitted and approved relatively quickly. This could reduce the timeframes for Black Canyon to supply manganese oxide feedstock to a downstream HPMSM facility.”

“We are confident that this targeted drill program can demonstrate the scale potential of the Balfour Manganese Field and we look forward to announcing the assay results as they become available over the coming months.”

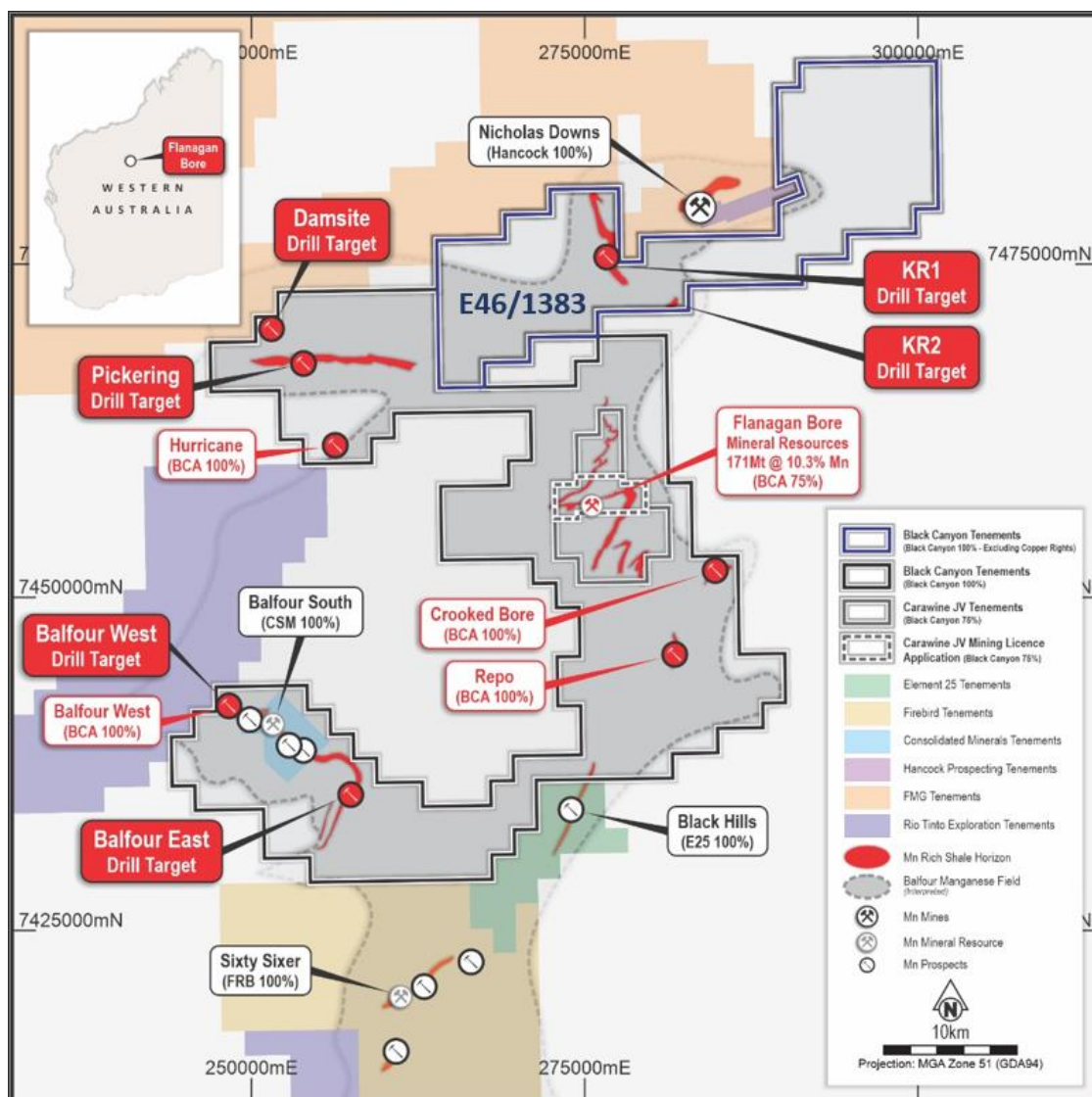


Figure 1. Location of the main drill targets across the Balfour Manganese Field and manganese shale horizon (red solid outlines).



*Figure 2. RC drill rig drilling on the KR1 target overlying outcropping manganese enriched shale within recently acquired license E46/1383*

### **Balfour Manganese Field Exploration Drill Program**

The overall RC drill program has been designed to drill test several high-quality targets across Black Canyon's 100% owned tenements within the Balfour Manganese Field over the 2023 field season. However, the initial drill program is commencing on the strategic Panther and E46/1383 tenement acquisitions, specifically on the following targets:

1. KR1 - a previously undrilled 2,500m section of outcropping supergene mineralisation will be drill tested using 200m spaced lines which includes a prominent 900m long section of manganese enriched shale.
2. Balfour West target - a 1,500m long horizon that is interpreted to extend from outcropping manganese enriched shales under thin cover.
3. Balfour East - several wide spaced stratigraphic drill lines are planned to intersect subcropping and thinly covered manganese enriched shales over several kilometres of strike.

Should the full RC program be completed, further drilling is planned for the KR2, Pickering and Damsite prospects. At KR2, a previously undrilled subcropping to outcropping 900m long zone of manganese enriched shale will be drill tested using 200m spaced lines. At Pickering a previously undrilled 2,000m long section of the subcropping manganese enriched calcareous shales will be drill tested using 400m spaced lines. The overall length of the Pickering target is 10km. At the Damsite prospect, a previously undrilled 500m long subcropping to outcropping zone of manganese enriched shale will also be drill tested.

Up to 7,500m of RC drilling is planned for the full program with assay results to be received over the coming months.

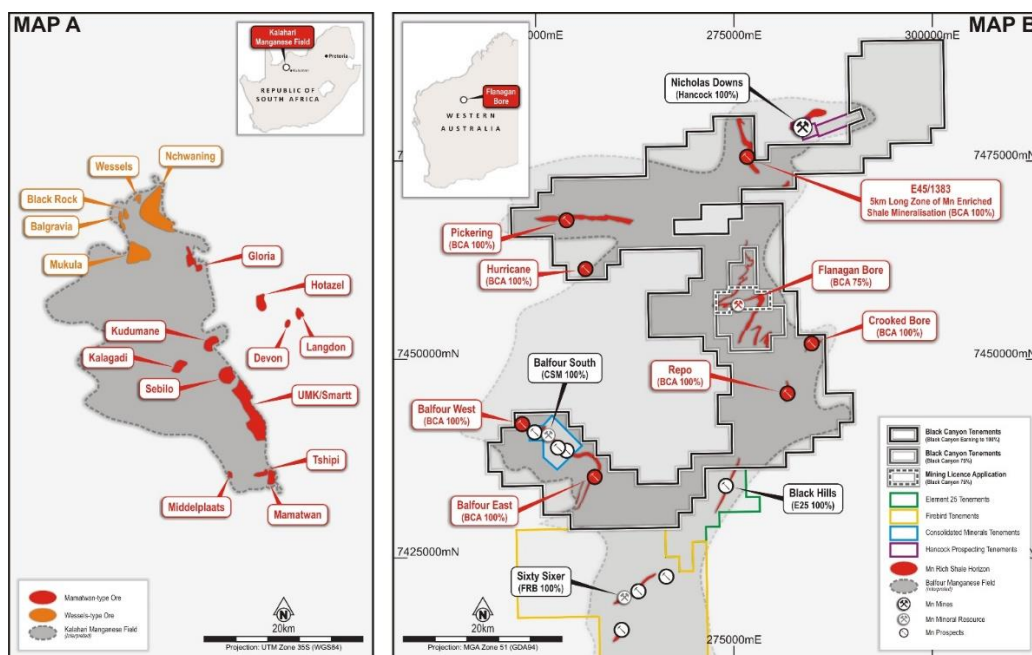
### Discussion on the significance of the Balfour Manganese Field

As the geological understanding and Mineral Resource potential of the Balfour Manganese Field increases, a number of high-level comparatives to the Tier 1 Kalahari Mineral Field located in South Africa are summarised in Table 1.

*Table 1. Kalahari and Balfour Mineral Field Comparative Table*

Parameter	Kalahari Mineral Field	Balfour Mineral Field
<b>Basin Scale</b>	35km x 15km	70km x 30km
<b>Manganese Ore type</b>	Carbonate & Oxide	Oxide
<b>Benchmark Price (CIF) (12 months to Feb 2023 IMNL)</b>	36-38% Mn US\$4.60 DMTU	44% Mn US\$5.80 DMTU
<b>Mine establishment date</b>	1960's to 2010 (> 20 mines)	2010 (1 mine)
<b>Development stage</b>	Mature	Emerging
<b>Mineral Resource Grades</b>	33-44% Mn	10-20% Mn
<b>Ore Processing</b>	Limited requirement	Beneficiation required such as DMS
<b>Concentrate Grade</b>	37% Mn	30-33% Mn
<b>Mine depths</b>	100 to 300m (Open Pit & Underground)	0 to 40m (Open Pit)
<b>Distance from Port</b>	1000km	600km
<b>Transport logistics</b>	Train and Truck	Truck

In 2022, global manganese ore production totalled 58.9 Mt with African based manganese ore suppliers accounting for approximately 62% of supply and the prolific Kalahari Mineral field accounting for approximately half of all the manganese ore exported from Africa. The 2022 average global grade of manganese concentrates was approximately 36% Mn with the majority of the manganese concentrate grades ranging between 30 and 44% Mn (Source: Confidential - IMNL March 2023 presentation – Latest developments in the global Manganese ore market).



**Figure 3. Comparative image at the same scale showing the mines and extents of the Kalahari Mineral Field (Map A) and for the Balfour Mineral Field (Map B)**



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The emerging potential for the Balfour Mineral Field is evident by the size of the geological basin, mineral resources identified to date, distance from port, potential for shallow open pit mining and a likely beneficiated Mn oxide concentrate grade product between 30 and 33% Mn.

Black Canyon has established a dominant footprint in the region and is confident that over time the Balfour Manganese Field will yield further, globally significant discoveries as exploration continues.

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

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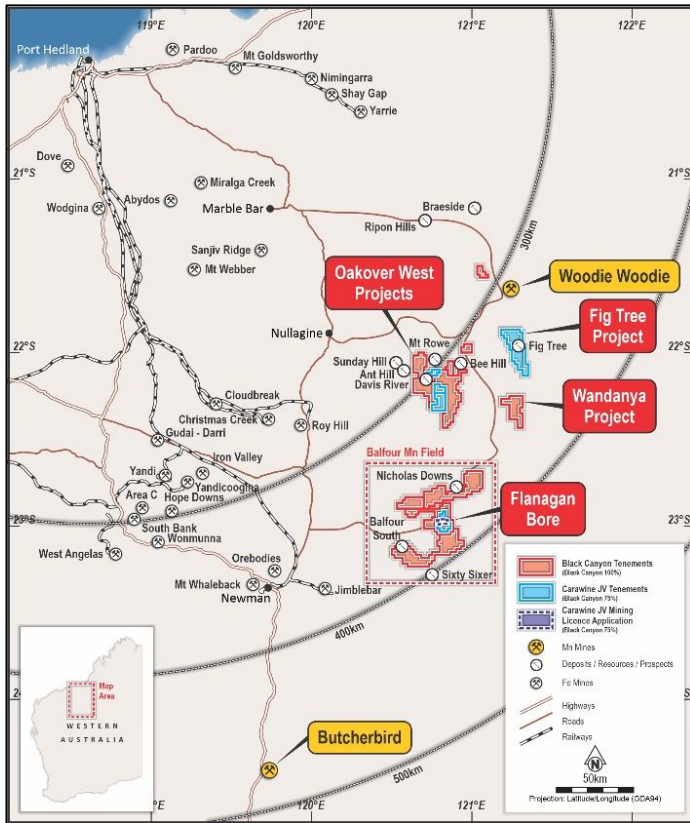
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## About Black Canyon



Black Canyon has consolidated a significant land holding in the underexplored Balfour Manganese Field and across the Oakover Basin.

The emerging potential for the Balfour Manganese Field is evident by the size of the geological basin, mineral resources identified to date, distance from port, potential for shallow open pit mining and a likely beneficiated Mn oxide concentrate product grading between 30 and 33% Mn. Black Canyon holds several exploration licenses 100% within the Balfour Manganese Field along with a 75% interest in the Carawine Joint Venture with ASX listed Carawine Resources Limited. A Mineral Resource (Measured and Indicated) of 171Mt @ 10.3% Mn has been defined at Flanagan Bore which is part of the Carawine JV<sup>3</sup>. In total the projects cover approximately 2,400km<sup>2</sup> of tenure in Western Australia, providing a dominant footprint in a proven and producing manganese belt.

Manganese continues to have attractive fundamentals where it is essential and non-substitutable in the manufacturing of alloys for the steel industry and a critical mineral in the cathodes of Li-ion batteries.

## 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.

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, 7 September 2022, 15 September 2022, 11 October, 21 & 24 November 2022, 5 December 2022, 28 December 2022, 14 February 2023, 27 March 2023, June 1 and June 14 2023 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.

Note 3 ASX release 24/11/2022 Mineral Resource increases by 64% at Flanagan Bore.