



BLACK CANYON

ASX Announcement



2 March 2022

ASX:BCA

Manganese Discovery at FB3, Flanagan Bore Project

HIGHLIGHTS

- Assay results received from the December 2021 reverse circulation (RC) drill program have confirmed a new manganese discovery at FB3 within the Flanagan Bore Project
- The drill program at FB3 encountered thick manganese intervals including shallow high grade zones from surface with the following significant results:
 - 39m @ 13.5% Mn from surface (FBRC060)
 - Including 15m @ 15.8% Mn from surface
 - 40m @ 11.9% Mn from surface (FBRC061)
 - Including 13m @ 14.1% Mn from surface
 - 29m @ 14.5% Mn from surface (FBRC066)
 - Including 10m @ 19.2% Mn from surface
 - 34m @ 13.7% Mn from surface (FBRC068)
 - Including 8m @ 17.5% Mn from surface
 - 36m @ 11.6% Mn from surface (FBRC075)
 - Including 14m @ 13.5% Mn from 9m
- A 1000m x 1000m Manganese enriched shale footprint extending over the FB3 synclinal structure has now been outlined
- The exceptional drill results pave the way for a maiden Mineral Resource to be estimated at FB3, in conjunction with the expanded mineral resource estimate at LR1 located 4km to the west, with results of this work due in April 2022
- Updated Mineral Resources from FB3 and LR1 are expected to significantly increase the current Inferred Mineral Resource estimate for the project of 15Mt @ 11.3% Mn and provide a solid platform to underpin the current Scoping Study

Australian manganese explorer, Black Canyon Limited (the **Company**)(ASX:BCA), is pleased to announce the discovery of thick, shallow manganese enriched shales at the FB3 prospect at Flanagan Bore. The assay results from the FB3 RC drill program completed in December 2021 have been received and

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demonstrate widespread manganese mineralisation with several high-grade intersections reported from surface. The drill results will now be incorporated into a maiden Mineral Resource Estimate for FB3 in addition to the anticipated mineral resource upgrade to increase the current mineral resource at LR1 comprising 15Mt @ 11.3% Mn¹. This will significantly increase the global Mineral Resource at Flanagan Bore.

Black Canyon’s Executive Director, Brendan Cummins, said “The Flanagan Bore Project has delivered further outstanding and continuous zones of manganese enriched shale containing shallow high-grade intervals. The discovery of the complementary mineralisation at FB3, located only 4km to the west of LR1 will help to build mineral resources and adds significant value to the Flanagan Bore Project due to the shallow nature of the high-grade intersections.

The Company is in an enviable position to accelerate mineral resource estimates for the FB3 and LR1 deposits, with results due in April to set up a solid foundation to underpin the current Scoping Study and developing production targets”.

Located 120km north-east of Newman, Black Canyon’s Flanagan Bore tenement is part of the Company’s Carawine Project and is subject to a farm-in and joint venture agreement (the Agreement) with Carawine Resources Ltd (ASX:CWX) whereby Black Canyon can earn up to a 75% interest in the Carawine JV Project tenements.

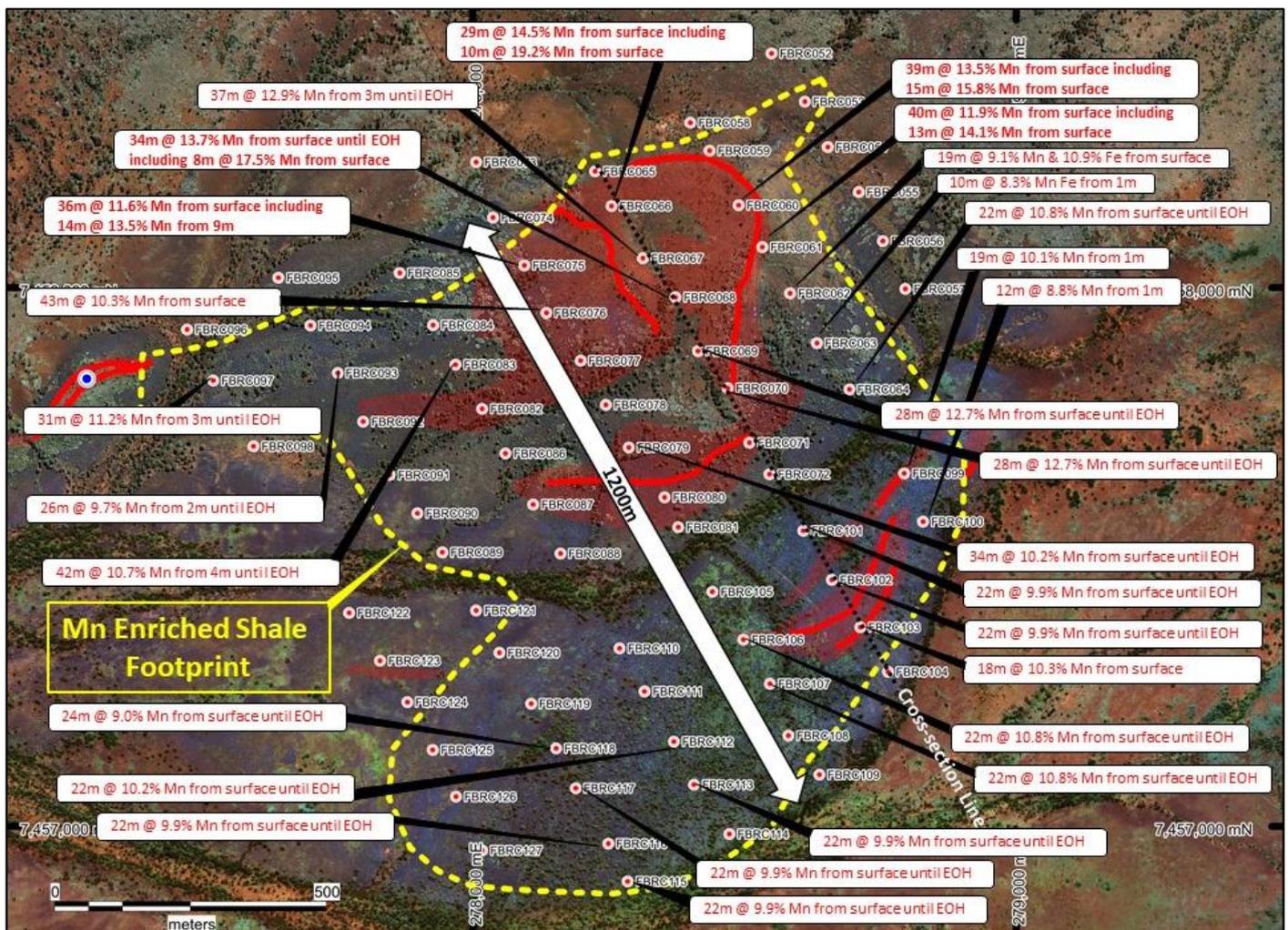


Figure 1. FB3 deposit drill plan showing the latest significant assay results, cross section line (Figure 2) and outline of the Mn enriched shale footprint (BCA earning 75%)

Flanagan Bore Drill Program Summary

A total of 168 RC drill holes were completed for 5,569 metres and 13 PQ diamond drill core holes were completed for 477 metres. The Company has received and compiled the assay results from the first 127 RC drill holes from the LR1 and FB3/FB4 deposit areas. A summary of the significant results is provided below and collar details for the drill program completed at FB3 are presented in Appendix 1.

FB3/FB4 Prospects

A total of 82 holes for 2,148m were drilled into the FB3 and adjacent FB4 prospects.

The RC drilling program encountered widespread manganese mineralisation across both the FB3 and FB4 prospects covering an area 1000m x 1000m, using a broad 200m x 100m grid drill pattern. There had been no previous drilling at FB3/FB4 and the assays results have now confirmed the discovery of thick manganese enriched shales at FB3/FB4. Several holes ended in mineralisation and remain open at depth. Future RC drill programs will be drilled deeper to determine the full extents of the manganese enriched shales down hole and down plunge.

Structurally the mineralisation found within the FB3 prospect is defined within an open southwest plunging synclinal fold. The northern limb appears to be dipping slightly steeper than the southern limb which is close to flat. Higher manganese grade zones are coincident with an increase in topography across the fold nose and northern limb.

Significant results for the FB3/FB4 prospects are shown in plan and cross-section in Figures 1 & 2 respectively and are also listed below:

- **39m @ 13.5% Mn & 14.2% Fe from surface**
 - **including 15m @ 15.8% Mn and 13.1% Fe from surface (FBRC060)**
- **40m @ 11.9% Mn & 12.9% Fe from surface**
 - **including 13m @ 14.1% Mn and 12.7% Fe from surface (RBRC061)**
- **29m @ 14.5% Mn & 12.2% Fe from surface**
 - **including 10m @ 19.2% Mn and 12.4% Fe from surface (FBRC066)**
- **34m @ 13.7% Mn & 12.2% Fe from surface until EOH**
 - **including 8m @ 17.5% Mn and 13.7% Fe from surface (FBRC068)**
- **36m @ 11.6% Mn & 10.8% Fe from surface**
 - **including 14m @ 13.5% Mn and 11.4 % Fe from 9m (FBRC075)**

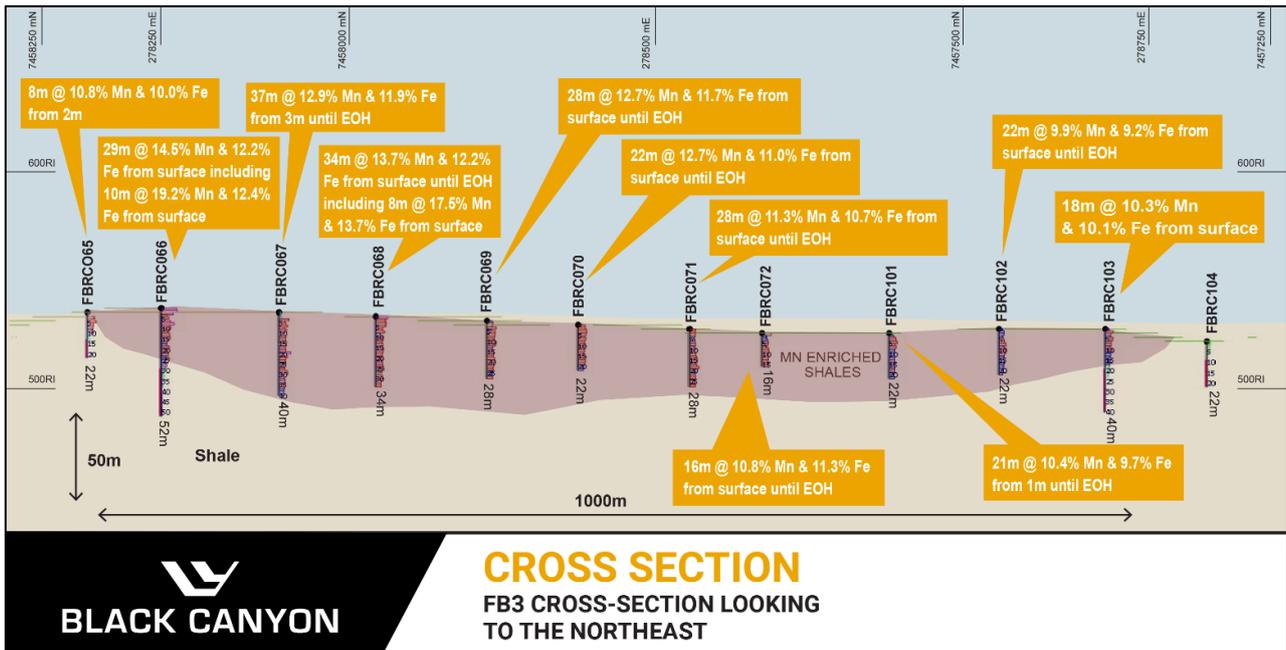


Figure 2. FB3 cross-section looking to the northeast (vertical exaggeration = 2)

LR1 Mineral Resource Extension Assay Results

A 900m x 200m zone was historically drill tested in 2013 and an Inferred Mineral Resource estimated, comprising 15Mt @ 11.3% Mn¹.

As previously reported (see ASX announcements dated 8 and 21 February 2022), the assays received from the RC drill program at LR1 confirmed extensions to the mineralisation to the southwest with 400m to 600m additional cross-strike width now defined. The mineralisation footprint is 1100m long and up to 800m wide based on the results received from the RC drilling program. The mineralisation is open to the west but appears to be offset to the NE which will require additional drilling to confirm. Infill drilling is planned and will be undertaken during the 2022 field season

Significant results from LR1 are listed below and cross-section provided in Figure 3:

- **40m @13.4% Mn & 8.7% Fe from surface**
 - Incl. 11m @ 20.4% Mn & 8.6% Fe from 10m (FBRC018)
- **47m @10.6% Mn & 8.5% Fe from 10m**
 - Incl. 10m @ 14.5% Mn & 10.8% Fe from 13m (FBRC001)
- **35m @ 11.7% Mn & 9.4% Fe from surface**
 - Incl. 15m @ 14.7% Mn & 9.7% Fe from 10m (FBRC35)
- **40m @ 11.0% Mn & 8.2% Fe from surface until EOH**
 - Incl. 10m @ 17.4% Mn & 9.6% Fe from 15m (FBRC44)
- **23m @ 11.7% Mn & 8.9% Fe from surface**
 - Incl. 4m @ 14.6% Mn and 7.6% Fe from surface (FBRC22)

¹ ASX:BCA Announcement 5 October 2021 - Maiden Manganese Resource for LR1 Prospect at Flanagan Bore

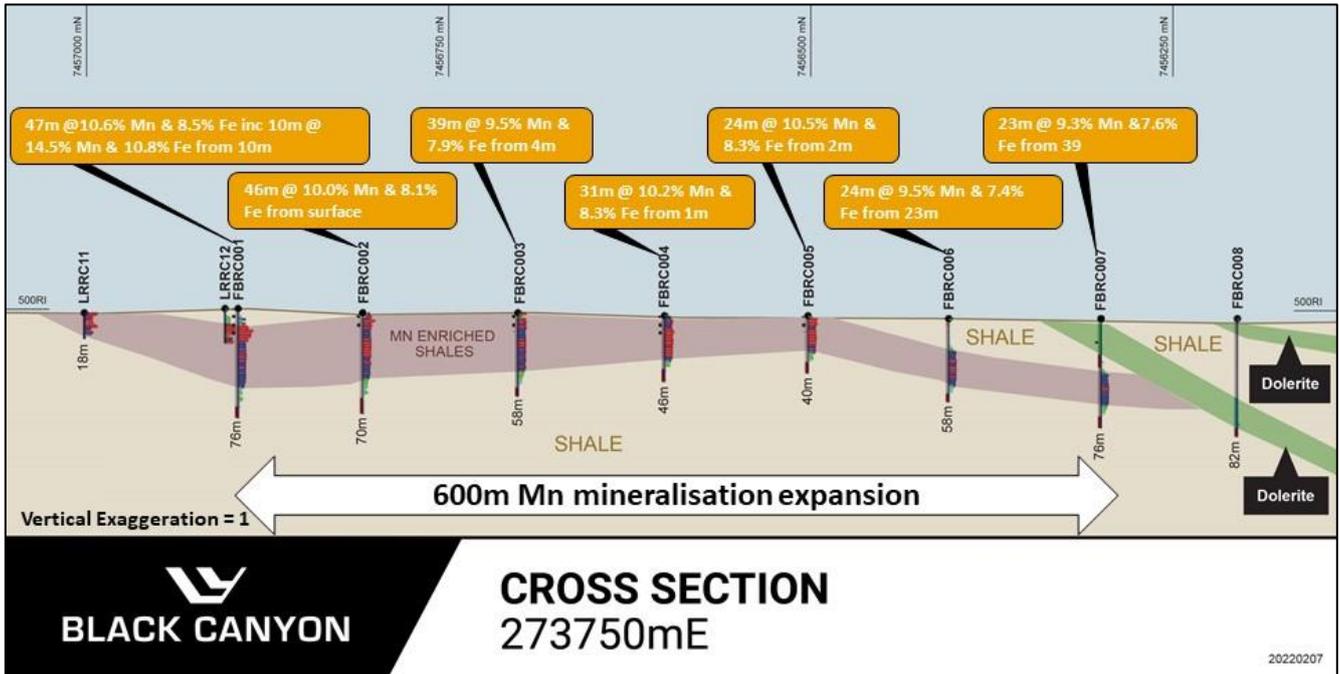


Figure 3. LR1 deposit cross section 273,750mE showing significant intersections (looking east)

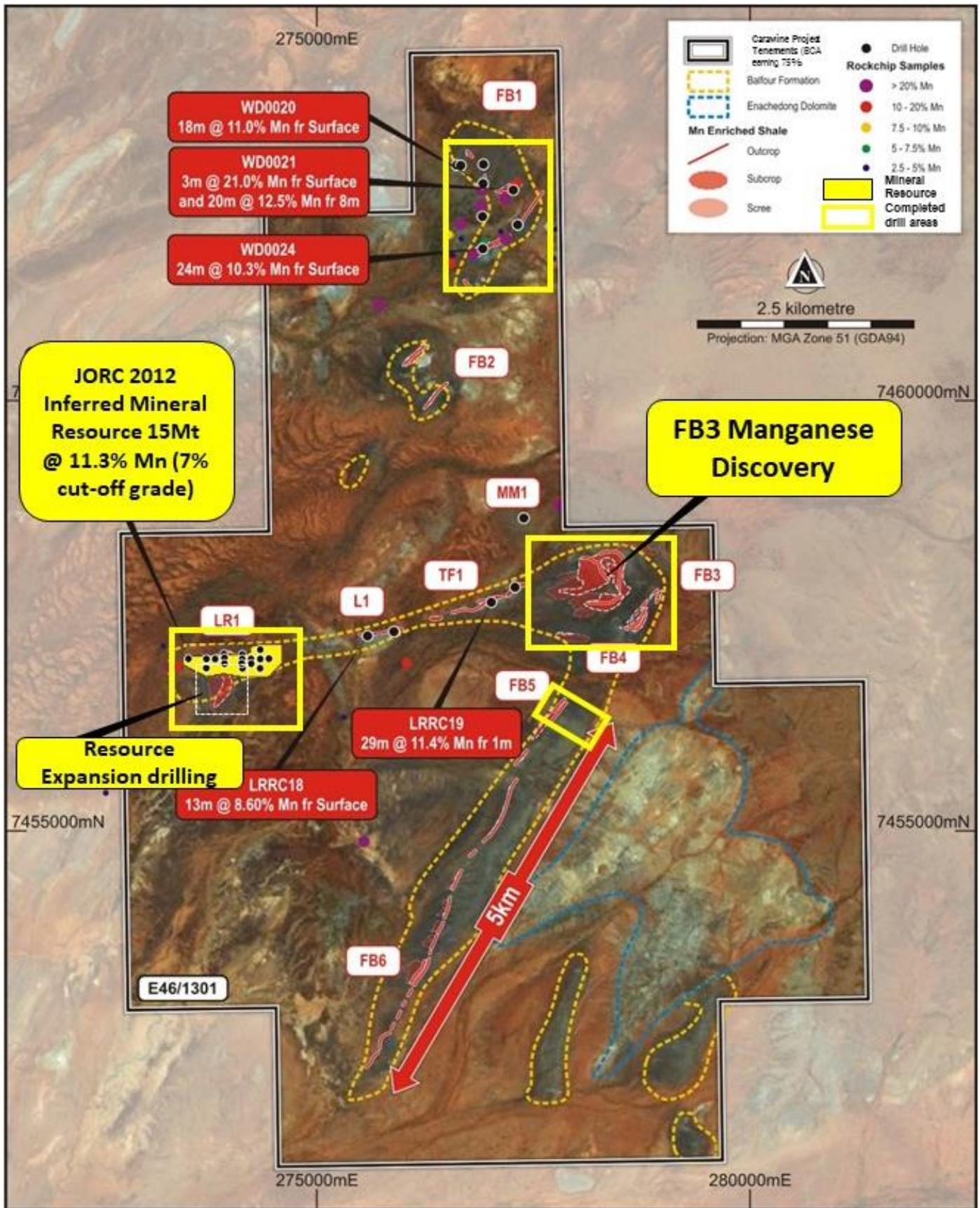


Figure 4. Flanagan Bore Project with the LR1 MRE outline and 2021 drill areas, prospective manganese targets and FB3 Manganese Discovery (Black Canyon Earning to 75%)

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

For further details:

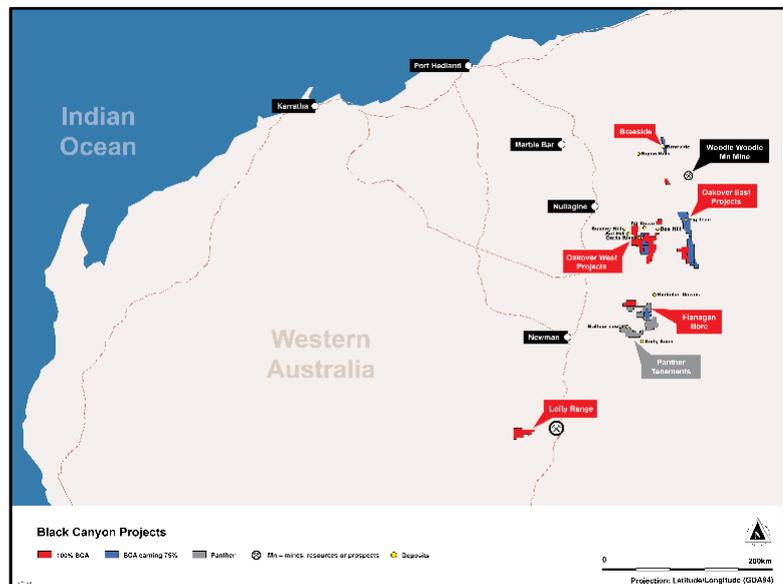
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About Black Canyon

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 Project in Western Australia. The Carawine Project covers approximately 800km² 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 acquired other exploration licenses adjacent to the Carawine Project that would increase the total land holdings to over 2500km² on grant. 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.



The Company has also secured the Lofty Range manganese project located immediately to the west of the Butcherbird manganese deposit being developed by Element 25.

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.

For further information, please refer to ASX announcements dated 17 May 2021, 10 June 2021, 7 July 2021, 5 October 2021, 4 January, 8 and 21 February 2022, which are available from the ASX Announcement web page on the Company’s website. The Company confirms that there is no new



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information or data that materially affects the information presented in the JORC Table 1 appendices that relate to Exploration Results and Mineral Resources in the original market announcements.

Appendix 1. Flanagan Bore drill collar information and assay results from FB3/FB4

Hole id	Prospect	East (GDA94)	North (GDA94)	RI	EOH (m)	Dip	Azimuth	From (m)	To (m)	Interval (m)	Mn (%)	Fe (%)	Results
FBRC052	FB3	278550	7458438	530	22	-90	360			0			NSR
FBRC053	FB3	278611	7458348	530	22	-90	360	0	2	2	22.6	11.7	2m @ 22.6% Mn & 11.7% Fe from surface
FBRC054	FB3	278653	7458264	532	22	-90	360			0			NSR
FBRC055	FB3	278710	7458180	528	22	-90	360			0			NSR
FBRC056	FB3	278755	7458089	526	22	-90	360			0			NSR
FBRC057	FB3	278796	7458000	524	22	-90	360			0			NSR
FBRC058	FB3	278400	7458309	532	22	-90	360			0			NSR
FBRC059	FB3	278436	7458257	534	22	-90	360	0	4	4	13.6	8.3	4m @ 13.6% Mn & 8.3% Fe from surface
FBRC060	FB3	278489	7458156	534	58	-90	360	0	39	39	13.5	14.2	39m @ 13.5% Mn & 14.2% Fe from surface including 15m @ 15.8% Mn & 13.1% Fe from surface
FBRC061	FB3	278533	7458078	532	46	-90	360	0	40	40	11.9	12.9	40m @ 11.9% Mn & 12.9% Fe from surface including 13m @ 14.1% Mn & 12.7% Fe from surface
FBRC062	FB3	278584	7457992	528	34	-90	360	0	19	19	9.1	10.9	19m @ 9.1% Mn & 10.9% Fe from surface
FBRC063	FB3	278633	7457900	524	28	-90	360	1	11	10	8.3	11.8	10m @ 8.3% Mn & 11.8% Fe from 1m
FBRC064	FB3	278693	7457814	524	22	-90	360	0	22	22	10.8	9.8	22m @ 10.8% Mn & 9.8% Fe from surface until EOH
FBRC065	FB3	278225	7458219	532	22	-90	360	2	10	8	10.8	10	8m @ 10.8% Mn & 10.0% Fe from 2m
FBRC066	FB3	278255	7458154	534	52	-90	360	0	29	29	14.5	12.2	29m @ 14.5% Mn & 12.2% Fe from surface including 10m @ 19.2% Mn & 12.4% Fe from surface
FBRC067	FB3	278313	7458057	532	40	-90	360	3	40	37	12.9	11.9	37m @ 12.9% Mn & 11.9% Fe from 3m until EOH
FBRC068	FB3	278373	7457985	530	34	-90	360	0	34	34	13.7	12.2	34m @ 13.7% Mn & 12.2% Fe from surface until EOH including 8m @ 17.5% Mn & 13.7% Fe from surface
FBRC069	FB3	278414	7457885	528	28	-90	360	0	28	28	12.7	11.7	28m @ 12.7% Mn & 11.7% Fe from surface until EOH
FBRC070	FB3	278469	7457816	526	22	-90	360	0	22	22	12.7	11	22m @ 12.7% Mn & 11.0% Fe from surface until EOH
FBRC071	FB3	278509	7457715	524	28	-90	360	0	28	28	11.3	10.7	28m @ 11.3% Mn & 10.7% Fe from surface until EOH
FBRC072	FB3	278546	7457656	522	16	-90	360	0	16	16	10.8	11.3	16m @ 10.8% Mn & 11.3% Fe from surface until EOH
FBRC073	FB3	278006	7458236	522	22	-90	360			0			NSR
FBRC074	FB3	278037	7458133	524	40	-90	360			0			NSR
FBRC075	FB3	278095	7458044	524	40	-90	360	1	37	36	11.6	10.8	36m @ 11.6% Mn & 10.8% Fe from surface including 14m @ 13.5% Mn & 11.4% Fe from 9m
FBRC076	FB3	278135	7457956	526	46	-90	360	0	43	43	10.3	10.2	43m @ 10.3% Mn & 10.2% Fe from surface
FBRC077	FB3	278198	7457867	524	22	-90	360	0	22	22	11.2	10.5	22m @ 11.2% Mn & 10.5% Fe from surface until EOH
FBRC078	FB3	278245	7457785	524	22	-90	360	0	22	22	11.7	11.2	22m @ 11.7% Mn & 11.2% Fe from surface until EOH
FBRC079	FB3	278287	7457706	524	34	-90	360	0	34	34	10.2	10.9	34m @ 10.2% Mn & 10.9% Fe from surface until EOH
FBRC080	FB3	278353	7457613	520	22	-90	360	0	22	22	10.6	11.2	22m @ 10.6% Mn & 11.2% Fe from surface until EOH
FBRC081	FB3	278378	7457558	520	16	-90	360	0	16	16	10.6	10.5	16m @ 10.6% Mn & 10.5% Fe from surface until EOH
FBRC082	FB3	278017	7457778	520	16	-90	360	0	16	16	9.2	9.7	16m @ 9.2% Mn & 9.7% Fe from surface until EOH
FBRC083	FB3	277968	7457860	520	46	-90	360	4	46	42	10.7	10.3	42m @ 10.7% Mn & 10.3% Fe from 4m until EOH
FBRC084	FB3	277927	7457933	520	40	-90	360	0	25	25	10.8	9.9	25m @ 10.8% Mn & 9.9% Fe from surface
FBRC085	FB3	277865	7458030	518	22	-90	360			0			NSR
FBRC086	FB3	278060	7457695	522	22	-90	360	1	22	21	9.4	9.8	21m @ 9.4% Mn & 9.8% Fe from 1m until EOH
FBRC087	FB3	278111	7457600	520	22	-90	360	0	22	22	9.3	9.6	22m @ 9.3% Mn & 9.6% Fe from surface until EOH
FBRC088	FB3	278161	7457509	518	22	-90	360	7	22	15	9.9	9.6	15m @ 9.9% Mn & 9.6% Fe from 7m until EOH
FBRC089	FB3	277944	7457511	516	28	-90	360	19	28	9	9.4	9.3	9m @ 9.4% Mn & 9.3% Fe from 19m until EOH
FBRC090	FB3	277898	7457584	516	28	-90	360	18	28	10	8.6	8.9	10m @ 8.6% Mn & 8.9% Fe from 18m until EOH
FBRC091	FB3	277847	7457655	516	28	-90	360	20	28	8	8.5	8.8	8m @ 8.5% Mn & 8.8% Fe from 20m until EOH



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FBRC092	FB3	277798	7457754	516	28	-90	360	23	28	5	8.6	9.7	5m @ 8.6% Mn & 9.7% Fe from 23m until EOH
FBRC093	FB3	277751	7457844	516	28	-90	360	2	28	26	9.7	9.5	26m @ 9.7% Mn & 9.5% Fe from 2m until EOH
FBRC094	FB3	277701	7457932	518	28	-90	360	0	12	12	7.6	9.1	12m @ 7.6% Mn & 9.1% Fe from surface
FBRC095	FB3	277642	7458021	516	28	-90	360			0			NSR
FBRC096	FB3	277474	7457925	516	22	-90	360			0			NSR
FBRC097	FB3	277522	7457830	516	34	-90	360	3	34	31	11.2	10	31m @ 11.2% Mn & 10% Fe from 3m until EOH
FBRC098	FB3	277596	7457708	514	34	-90	360			0			NSR
FBRC099	FB3	278794	7457658	524	28	-90	360	1	20	19	10.1	10.1	19m @ 10.1% Mn & 10.1% Fe from 1m
FBRC100	FB3	278829	7457568	522	22	-90	360	1	13	12	8.8	10.1	12m @ 8.8% Mn & 10.1% Fe from 1m
FBRC101	FB3	278608	7457551	522	22	-90	360	1	22	21	10.4	9.7	21m @ 10.4% Mn & 9.7% Fe from 1m until EOH
FBRC102	FB3	278661	7457460	524	22	-90	360	0	22	22	9.9	9.2	22m @ 9.9% Mn & 9.2% Fe from surface until EOH
FBRC103	FB3	278713	7457372	524	40	-90	360	0	18	18	10.3	10.1	18m @ 10.3% Mn & 10.1% Fe from surface
FBRC104	FB3	278764	7457289	518	22	-90	360			0			NSR
FBRC105	FB4	278441	7457438	520	22	-90	360	0	22	22	10.7	9.7	22m @ 10.7% Mn & 9.7% Fe from surface until EOH
FBRC106	FB4	278498	7457349	522	22	-90	360	0	22	22	10.8	9.5	22m @ 10.8% Mn & 9.5% Fe from surface until EOH
FBRC107	FB4	278547	7457267	520	22	-90	360	0	22	22	9.8	9.2	22m @ 9.8% Mn & 9.2% Fe from surface until EOH
FBRC108	FB4	278581	7457171	520	22	-90	360	0	12	12	9.3	9.7	12m @ 9.3% Mn & 9.7% Fe from surface
FBRC109	FB4	278638	7457098	518	22	-90	360			0			NSR
FBRC110	FB4	278270	7457333	520	22	-90	360	0	22	22	9	9.4	22m @ 9.0% Mn & 9.4% Fe from surface until EOH
FBRC111	FB4	278316	7457253	520	22	-90	360	0	22	22	9.7	9.7	22m @ 9.7% Mn & 9.7% Fe from surface until EOH
FBRC112	FB4	278370	7457160	520	22	-90	360	0	22	22	10.2	9.4	22m @ 10.2% Mn & 9.4% Fe from surface until EOH
FBRC113	FB4	278407	7457080	522	22	-90	360	0	22	22	9.9	9	22m @ 9.9% Mn & 9.0% Fe from surface until EOH
FBRC114	FB4	278472	7456988	520	22	-90	360	0	15	15	9.5	9.2	15m @ 9.5% Mn & 9.2% Fe from surface
FBRC115	FB4	278285	7456900	516	22	-90	360	0	22	22	9.9	9	22m @ 9.9% Mn & 9.0% Fe from surface until EOH
FBRC116	FB4	278249	7456970	516	22	-90	360	0	22	22	9.9	9.5	22m @ 9.9% Mn & 9.5% Fe from surface until EOH
FBRC117	FB4	278189	7457073	518	22	-90	360	0	22	22	9.5	10	22m @ 9.5% Mn & 10.0% Fe from surface until EOH
FBRC118	FB4	278153	7457147	518	24	-90	360	0	24	24	9	9.1	24m @ 9.0% Mn & 9.1% Fe from surface until EOH
FBRC119	FB4	278107	7457230	518	22	-90	360	8	22	14	8.9	9.2	14m @ 8.9% Mn & 9.2% Fe from 8m until EOH
FBRC120	FB4	278049	7457325	518	22	-90	360	17	22	5	9	9.4	5m @ 9.0% Mn & 9.4% Fe from 17m until EOH
FBRC121	FB4	278006	7457403	516	22	-90	360			0			NSR
FBRC122	FB4	277772	7457399	516	22	-90	360			0			NSR
FBRC123	FB4	277829	7457310	518	22	-90	360			0			NSR
FBRC124	FB4	277879	7457233	516	22	-90	360			0			NSR
FBRC125	FB4	277926	7457144	516	28	-90	360	23	28	5	9.7	9.1	5m @ 9.7% Mn & 9.1% Fe from 23m until EOH
FBRC126	FB4	277969	7457058	516	22	-90	360	14	22	8	9.5	9.3	8m @ 9.5% Mn & 9.3% Fe from 14m until EOH
FBRC127	FB4	278017	7456958	516	22	-90	360	0	22	22	8.7	9.5	22m @ 8.7% Mn & 9.5% Fe from surface until EOH

NSR – refers to No Significant Result

Appendix 2. 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The samples were collected using industry standard Reverse Circulation (RC) drill methods . Drilling was completed by McKays Drilling who completed the entire RC drill program – 168 holes for 5569m There was limited water encountered during the drill program The drilling and sample techniques are considered representative for the style of mineralisation utilising 1m sample intervals gathered directly from the RC drill rig using an adjustable cone splitter from a levelled drill rig. The target sample weight was between 2-3kg which is appropriate for the style of mineralisation
Drilling techniques	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> The drill type is Reverse Circulation (RC) drilling vertical holes The drill diameter us 5 ¼ inch RC using a face sampling hammer
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Sample recovery was estimated 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 with supervision of the sampling at the cone splitter No sample bias due to sample loss is evident from the observed sample recoveries The samples were drilled mostly dry again minimising sample bias
Logging	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Drillhole logging was completed at the drill rig recording lithology, texture, grain size and colour. 1m chip trays were also collected in site, photographed and used to further detailed logging post the drill program The logging was considered appropriate for exploration reporting and eventually Mineral Resource Estimation Every 1m interval as logged and sieved for inspection – 5569m
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The 1m RC samples were gathered by using a levelled cone splitter of the side of the rig The samples were dominantly dry Black Canyon inserted Certified Reference Material (CRM) at a rate of 1/50, blanks at a rate of 1/50 and field duplicates from the cone splitter at a rate of 1/50 for a total insertion rate of QA/QC materials at 6% The sub sampling technique and quality control procedures is considered appropriate to ensure sample representivity The sample size is considered appropriate for the grainsize and style of mineralisation
Quality of assay data	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and 	<ul style="list-style-type: none"> The samples were submitted to NATA accredited ALSChemex in Wangara



Criteria	JORC Code explanation	Commentary
and laboratory tests	<p>whether the technique is considered partial or total.</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The 2 – 3kg samples was sub-split to 750gram and pulverised with 85% passing 75µm The sample was then analysed using method ME-XRF26s for manganese ores using fusion disc XRF for Fe, SiO₂, Mn, Al₂O₃, TiO₂, P₂O₅, S, MgO, K₂O, Na₂O, CaO, BaO, Cr₂O₃ and ZrO₂ Review of the quality control results received to date that include CRM, blanks, duplicates show an acceptable level of accuracy (lack of bias) and precision has been achieved. In addition ALSCHEMEX has undertaken its own internal QAQC checks using CRM, Blanks and pulp duplicates and no issues have been reported or identified The CP is satisfied that the analysis was completed to an acceptable standard in the context in which the results have been reported
Verification of sampling and assaying	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The significant intersections have not been verified by independent personnel but have been peer reviewed internally for accuracy Two of the RC drill holes completed in 2021 were designed to twin the 2012 generation of drilling. The results do not show evidence of bias and no assay data has been adjusted
Location of data points	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Once a drill hole was completed the drill collar was located using a GARMIN handheld GPS with an accuracy of +/- 5m The drill collars will be eventually located using a DGPS system once a suitable contractor has been engaged The grid system is UTM zone 51, 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The drill spacing of the RC drill program was approximately 200m line spacing with holes drill 100m apart The drill hole spacing is considered appropriate for this stage of initial exploration with further infill drilling planned to increase geological and mineralisation confidence No sample compositing has been applied
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The 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 drill hole orientation otherwise is suitable for this style of mineralisation and considered appropriate and unlikely to introduce sample bias
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> The samples were collected into bulka bags, sealed with cable ties and stored on site until the drill program was completed The samples were then trucked to Perth in two consignments and delivered directly to ALSCHEMEX in Wangara. The .bulka bags were inspected and audited by ALSCHEMEX who did not report any suspicious or tampered samples
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Other than internal review by Company staff no audits have been completed. The CP was on site for the duration of the RC drill program and considers the sampling and sub 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	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, 	<ul style="list-style-type: none"> 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), giving Black



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land tenure status	<p>partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</p> <ul style="list-style-type: none"> 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. 	<p>Canyon the right to earn an initial 51% interest and up to 75% in the Carawine Projects that includes E45/1301</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> 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 LR1 prospect 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 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	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Refer to Appendix 1 for a complete listing of the RC drill holes completed at FB3 by Black Canyon
Data aggregation methods	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Only length (1m) weighted intervals are included in the text of this release. Manganese intervals have been reported at 7% Mn cut off allowing 1 m of dilution (<7% Mn)



Criteria	JORC Code explanation	Commentary
	<p><i>and should be stated.</i></p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Iron intervals have been reported as they coincide with the Mn intervals and no cut offs are applied No metal equivalent values are used.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> 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'). 	<ul style="list-style-type: none"> The region 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 FB3 prospect is primarily strata bound striking approximately 80 to 90 degrees, gently dipping to the southwest about a regional syncline. The drill results reported are interpreted to represent close to true widths of the mineralisation
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> These have been included in the body of the release where relevant and material to the reader's understanding of the results in regard to the context in which they have been reported.
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Information considered material to the reader's understanding of the Exploration Results has been reported. in the body of the text and significant results have selectively been reported to provide the reader with the potential tenor and widths of the mineralisation APPENDIX 1- contains the results of the holes drilled into FB3. Holes denoted with NSR describes holes without significant manganese results.
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All information considered material to the reader's understanding and context of the RC Exploration Results have been reported.
Further work	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Further work is planned that includes: metallurgical testwork on diamond drill core and down hole geophysical surveys for density and lithological mapping The Company is intending to undertake a Mineral Resource Update over LR1 once all of the drill information has been received and interpreted