BLACK CANYON

ASX Announcement

23 September 2021 ASX:BCA

Manganese confirmed at Braeside and Oakover West

HIGHLIGHTS

- **Field assessments at Braeside and Oakover West have confirmed strong zones of manganese mineralisation, which remain largely underexplored with limited drill testing at some targets.**
- **Braeside is located only 60 km along strike from the operating Woodie Woodie Manganese mine. Significant previous drill results include:**
  - **BX1 - 4m @ 30.9% Mn from 1m**
  - **BX10 - 5m @ 41.6% Mn from 5m**
  - **BX44 - 4m @ 31.2% Mn from 1m**
- **Oakover West is located adjacent the historic manganese mines of Davis River, Ant Hill, Sunday Hill and significant manganese occurrences at Bee Hill and Mt Rove.**
- **Historic drill results at Oakover West highlight grade potential for both manganese and iron. Significant previous drill results include:**
  - **BLVR006 - 6m @ 21.4% Mn from 5m**
  - **BLVR028 - 6m @ 17.8% Mn from 24m**
  - **BLVR004 - 8m @ 57.6% Fe from 27m**
  - **BLVR018 - 13m @ 58.2% Fe from 1m**
  - **BLVR029 - 19m @ 62.1% Fe from 10m**

Black Canyon (ASX: BCA) is pleased to advise that a field assessment over the Braeside and Oakover West project areas in the eastern Pilbara has confirmed the presence of manganese mineralisation from previous drilling and surface mapping.

The Braeside and Oakover West projects are located 250-300km southeast of Port Hedland, accessible via the Woodie Woodie to Port Hedland sealed road (Figure 1). The projects are part of the Company's Carawine JV and are subject to a farm-in and joint venture agreement with Carawine Resources Ltd (ASX:CWX), whereby Black Canyon can earn up to a 75% interest in the Carawine Project tenements.

Black Canyon Executive Director Brendan Cummins said: *"Since listing 5 months ago, the Company has now completed site investigations across all four of the Carawine JV project areas and continues to be impressed with the broad range of manganese mineralisation styles.*

"We have the benefit of previous exploration, drill results and access to improved mapping technology that has allowed us to rapidly assess some 800km² of JV tenure. While not considered exhaustive these field evaluations have further highlighted the potential of manganese enriched shale at Flanagan Bore and hydrothermal manganese at Fig Tree.

"However, there still remains many other sediment hosted and structural manganese targets across the tenement packages that we can now rank and plan geophysical surveys, geochemical mapping in the lead up to drill testing of priority targets."

The field assessment completed by Black Canyon has confirmed outcropping manganese-enrichment associated with a number of structural and stratigraphic controls. With the conclusion of the initial field assessment phase across the JV tenements, the Company is refining its target ranking process and planning appropriate exploration programs across the most prospective targets. As such the Flanagan Bore manganese enriched shale prospects remain a high priority with RC drilling planned for early November pending the completion of a scheduled Heritage Survey that is subject to COVID restrictions.

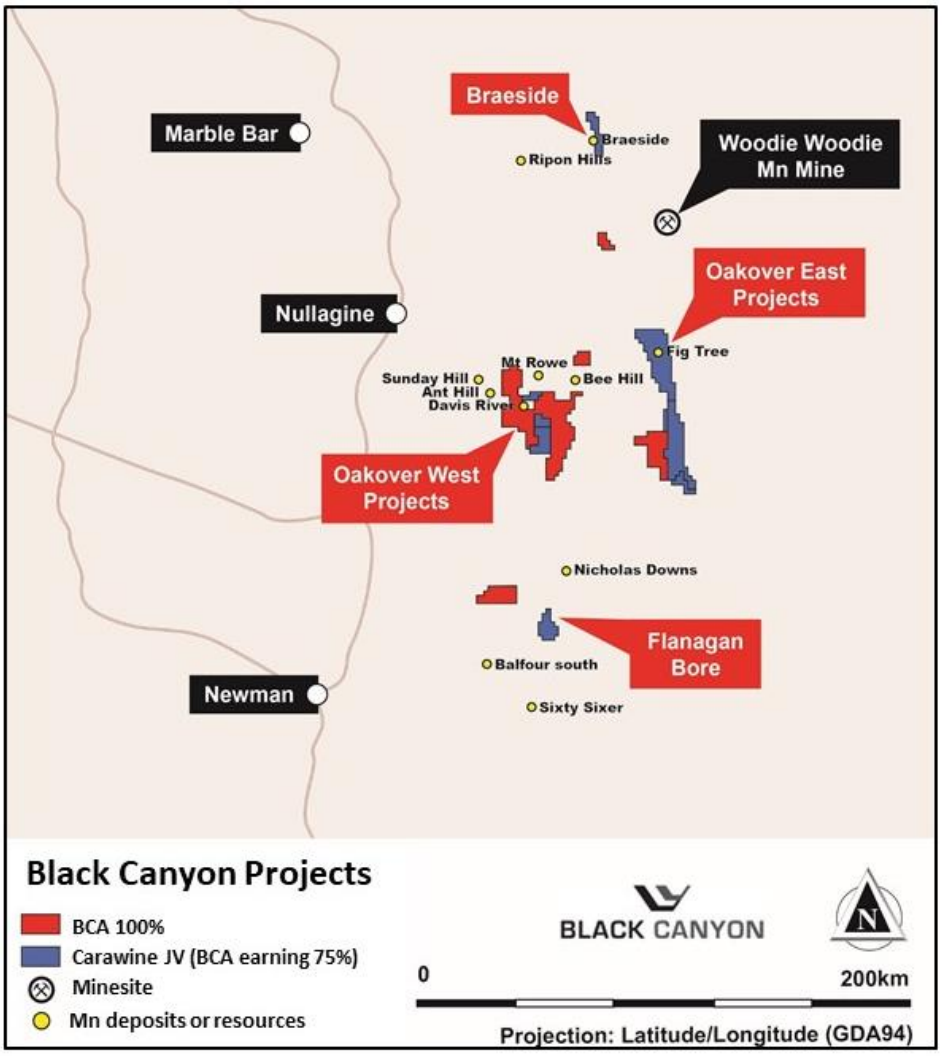

Figure1: Braeside and Oakover West project areas

Braeside Summary

Previous drilling within the Braeside tenement comprised shallow drill holes to depths of between 6m and 12m targeting obvious outcropping manganese mineralisation. The target sizes varied from 100m to 400m long zones of manganese at surface associated with brecciation within the Pinjian Chert or enrichment related to shales (Figure 2).

The drilling was undertaken by Valiant Consolidated Ltd as part of a much larger group of tenements they held between 1996 and 1997. Significant results from the previous drill program include:

- **4m @ 30.9% Mn from 1m (BX1)**
- **5m @ 41.6% Mn from 5m (BX10)**
- **5m @ 20.9% Mn from 4m (BX15)**
- **8m @ 23.6% Mn from 8m (BX17)**
- **4m @ 31.2% Mn from 1m (BX44)**
  (downhole widths, 5% Mn cut-off, 1m internal dilution, refer Appendix 1 for details)

The Braeside tenement is located 60km along strike from the operating Woodie Woodie Manganese Mine and contains similar oriented north to northeast striking faults often associated with high-grade hydrothermal manganese mineralisation. The field trip was beneficial in highlighting the potential of the tenement adjacent the basal Fortescue Group contact. Geophysical surveys are being planned to target drill testing of larger concealed mineralisation below the current shallow drilling.

Figure 2: Typical outcropping manganese mineralisation located on Braeside

Oakover West Summary

The Oakover West project comprises two tenements covering an area of 130km², adjacent to the Sunday and Ant Hill manganese development projects owned by Resource Development Group (ASX:RDG) and the historic Davis River manganese mine.

The geology of the tenements comprises a series of major north-trending fault bounded horst and graben structures with Pinjian Chert forming extensive plateaus and Manganese Group sediments sub-cropping within the open valleys. Manganese across the tenements is associated with sub-horizontal manganese enriched units of the lower Manganese Group sediments and sub-vertical brecciated fault structures (Figure 3).

Figure 3: Bedded manganese enrichment from the E46/1119-I

Stratabound manganese mineralisation in this region of the Oakover Basin is typically associated with elevated iron contents that are commonly equal to or may locally exceed manganese concentrations.

At the Blue Valley (E46/1069-I) prospect, manganese and iron enrichment is encountered across two 500m to 650m long NE- and E-trending zones of prominent surface enrichment.

Significant manganese intervals from previous reverse circulation (RC) drilling at Blue Valley include:

- **6m @ 21.4% Mn from 5m (BLVR006)**
- **9m @ 14.3% Mn from 26m (BLVR022)**
- **11m @ 9.7% Mn from 22m (BLVR024)**
- **6m @ 17.8% Mn from 24m (BLVR028)**

(downhole widths, 5% Mn cut-off, 1m internal dilution, refer Appendix 1 for details)

Significant iron intervals from previous RC drilling at Blue Valley include:

- **8m @ 57.6% Fe from 27m (BLVR004)**
- **9m @ 52.4% Fe from 52m (BLVR012)**
- **13m @ 58.2% Fe from 1m (BLVR018)**
- **7m @ 56.5% Fe from 17m (BLVR024)**
- **19m @ 62.1% Fe from 10m (BLVR029)**

  (downhole widths, 5% Mn cut-off, 1m internal dilution, refer Appendix 1 for details)

The drilling was undertaken by Pilbara Manganese Pty Ltd (Consolidated Minerals Ltd) as part of a much larger group of tenements it explored in 2010.

Figure 4: Blue Valley manganese and iron mineralisation

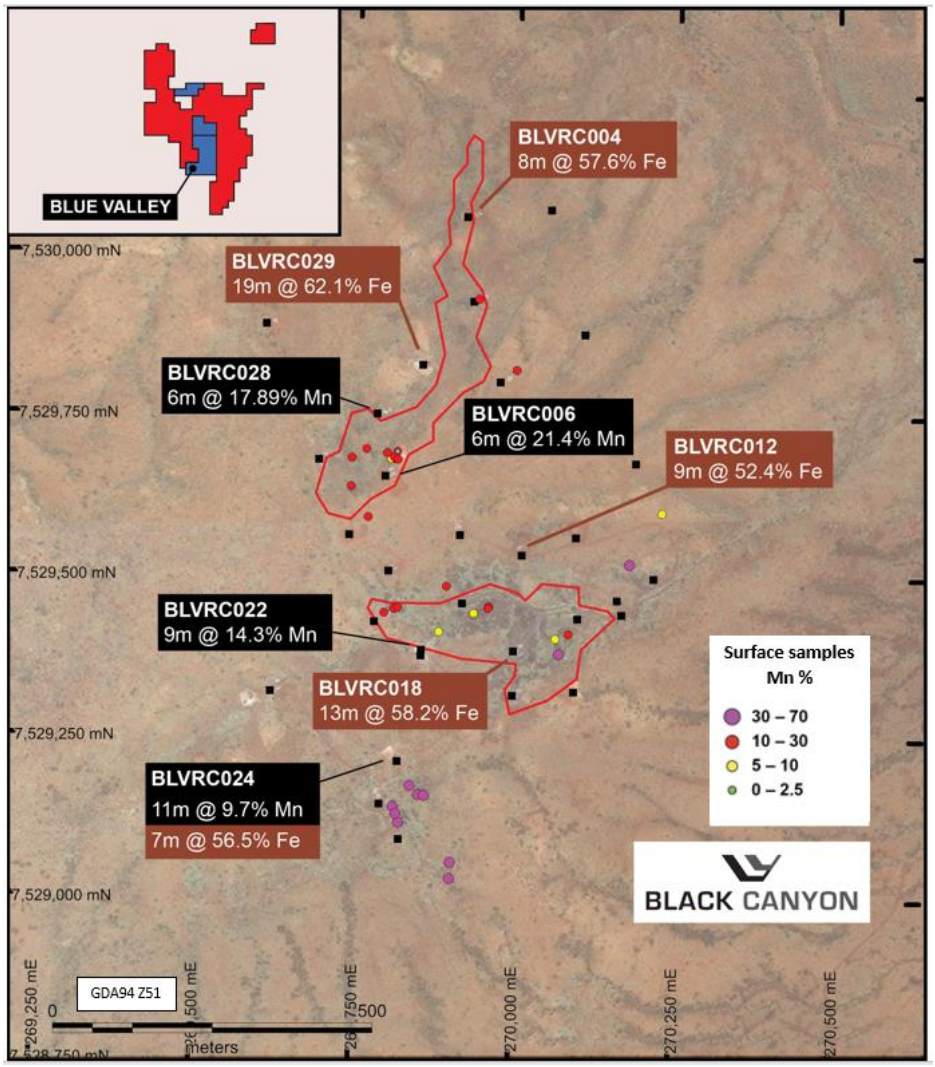

Figure 5: Blue Valley drill collar plan with significant manganese and iron drill intersections (BCA earning 75%)

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

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Competent Person Statement

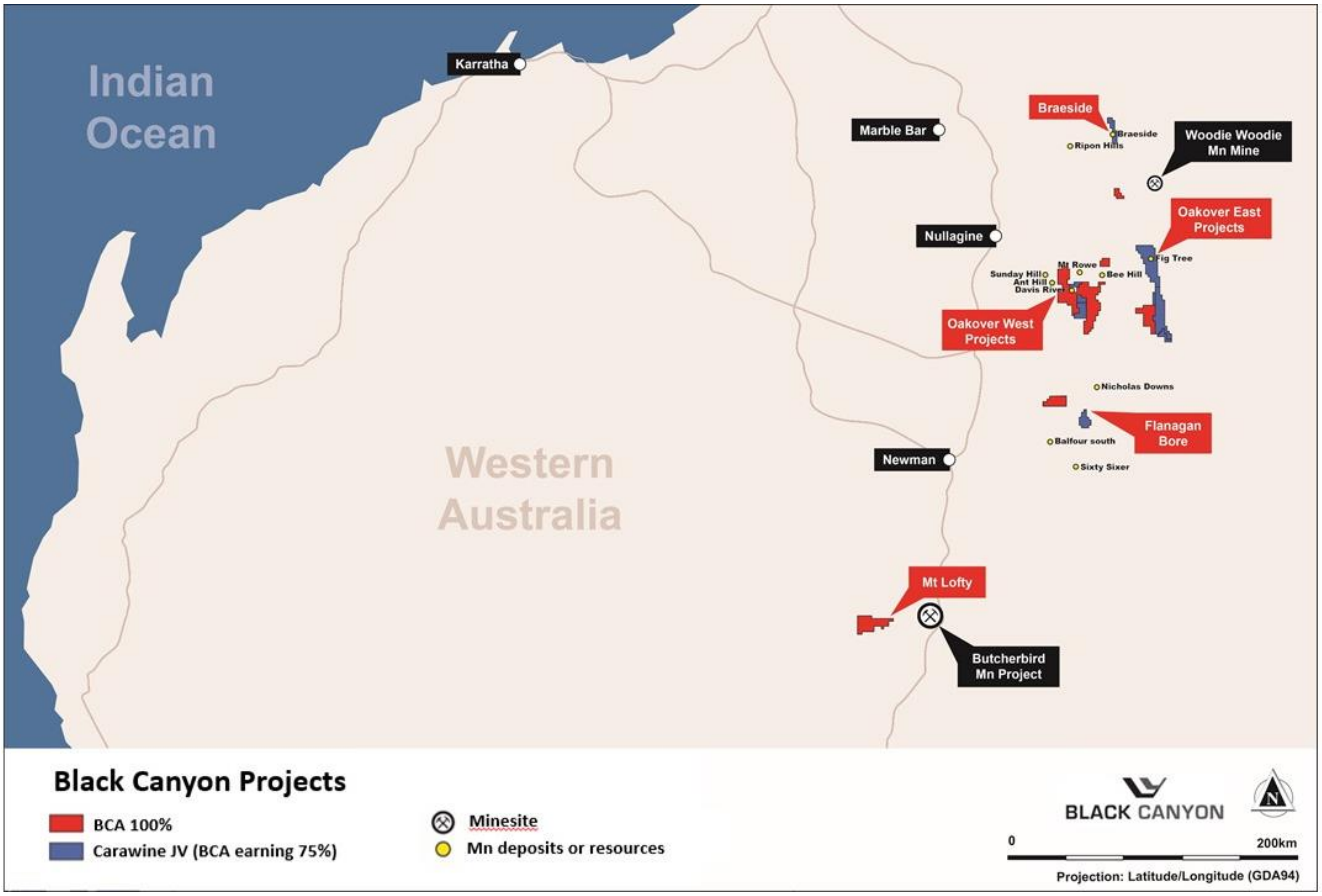
The information in this report that relates to previous Exploration Results is based on, and fairly represents, information and supporting documentation reviewed by Mr Brendan Cummins, Executive Director of Black Canyon Limited. Mr Cummins is a member of the Australian Institute of Geoscientists and 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.

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 800km^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 directly for another exploration license adjacent to the Carawine Project that would increase the total land holdings to over 1950km^2 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 utilization in the battery mineral sector and challenging supply conditions.



APPENDIX 1- Previous RC drill results from within the boundary of tenement E45/4958

Hole id	East (GDA20)	North (GDA20)	Rl	Dip	Azimuth	EOH (m)	From depth	Interval	Tenement
BX1	297331	7658655	300	-90	360	9	1	**4m @ 30.9 % Mn & 15.5% Fe**	E45/4958
BX2	297319	7658521	300	-90	360	9	1	2m @ 30.3 % Mn & 9.9% Fe	E45/4958
BX3	296628	7659873	300	-90	360	9	0	3m @ 32.6 % Mn & 9.7% Fe	E45/4958
BX4	296731	7659728	300	-90	360	9		No significant result	E45/4958
BX5	295496	7661423	300	-90	360	9		No significant result	E45/4958
BX6	295494	7661207	300	-90	360	9		No significant result	E45/4958
BX7	295435	7661542	300	-90	360	9		No significant result	E45/4958
BX8	295428	7661518	300	-90	360	6	0	1m @ 36.4 % Mn & 13.3% Fe	E45/4958
BX9	295422	7661491	300	-90	360	9	5	1m @ 21.3 % Mn & 25.9% Fe	E45/4958
BX10	295425	7661502	300	-90	360	6	0	**5m @ 41.6 % Mn & 3.6% Fe**	E45/4958
BX11	295483	7661630	300	-90	360	6	3	1m @ 31.4 % Mn & 7.7% Fe	E45/4958
BX12	295363	7661716	300	-90	360	9	6	2m @ 14.4 % Mn & 19.9 Fe	E45/4958
BX13	295226	7661808	300	-90	360	6	0	1m @ 24.1 % Mn & 4.2% Fe	E45/4958
BX14	295260	7661833	300	-90	360	6	0	1m @ 19.9 % Mn & 6.3% Fe	E45/4958
BX15	295683	7661619	300	-90	360	13	4	**5m @ 20.9 % Mn & 23.2% Fe**	E45/4958
BX16	295666	7661648	300	-90	360	6		No significant result	E45/4958
BX17	295552	7661683	300	-90	360	12	2	**8m @ 23.6 % Mn & 16.8% Fe**	E45/4958
BX18	295782	7661575	300	-90	360	11	3	2m @ 28.2 % Mn & 14.9 % Fe	E45/4958
							7	2m @ 28.2 % Mn & 10% Fe	
BX19	295300	7661803	300	-90	360	9		No significant result	E45/4958
BX20	295475	7661638	300	-90	360	6		No significant result	E45/4958
BX21	295331	7662812	300	-90	360	9		No significant result	E45/4958
BX22	295419	7662737	300	-90	360	6		No significant result	E45/4958
BX23	295010	7662479	300	-90	360	9		No significant result	E45/4958
BX24	295109	7662416	300	-90	360	6		No significant result	E45/4958
BX25	295141	7662392	300	-90	360	9	6	1m @ 35.4 % Mn & 8.9% Fe	E45/4958
BX30	293352	7664493	300	-90	360	9	0	3m @ 31.8 % Mn & 20.6% Fe	E45/4958
BX32	293427	7664292	300	-90	360	6		No significant result	E45/4958
BX33	293321	7664243	300	-90	360	12		No significant result	E45/4958
BX34	293300	7664224	300	-90	360	9		No significant result	E45/4958
BX35	293364	7664345	300	-90	360	9		No significant result	E45/4958
BX36	293309	7664254	300	-90	360	12	5	6m @ 13.7 % Mn & 14.6% Fe	E45/4958
BX37	293467	7664327	300	-90	360	6		No significant result	E45/4958
BX38	293300	7664461	300	-90	360	6	0	2m @ 15.7 % Mn & 22.3% Fe	E45/4958
BX39	293127	7664552	300	-90	360	9	0	1m @ 25.5 % Mn & 27.7% Fe	E45/4958
BX40	293213	7664596	300	-90	360	9	2	4m @ 21.3 % Mn & 4.5% Fe	E45/4958
BX41	293274	7664504	300	-90	360	9	1	3m @ 11.7 % Mn & 12% Fe	E45/4958
BX42	293669	7666571	300	-90	360	15	0	1m @ 19.4 % Mn & 24.4 % Fe	E45/4958
							3	3m @ 19.2 % Mn & 19.9% Fe	
							8	1m @ 28.1 % Mn & 22.8% Fe	
BX43	293764	7666268	300	-90	360	12	7	3m @ 26.7 % Mn & 18.2% Fe	E45/4958
BX44	293767	7666289	300	-90	360	9	1	**4m @ 31.2 % Mn & 16.5% Fe**	E45/4958
BX45	293767	7666316	300	-90	360	9		No significant result	E45/4958
Note 5% Mn cut-off allowing 1m of internal dilution									

APPENDIX 2- Previous manganese RC drill results from within the boundary of tenement E46/1069

Hole id	East (GDA94)	North (GDA94)	Rl	Dip	Azimuth	EOH (m)	From depth	Interval	Tenement
BLVRC004	269920	7530057	425	-63.5	269.1	100	60	6m @ 9.0 % Mn	E46/1069
BLVRC006	269811	7529680	445	-60	270	100	5	**6m @ 21.4 % Mn**	E46/1069
BLVRC006	269811	7529680	445	-60	270	100	24	4m @ 5.7 % Mn	E46/1069
BLVRC007	269796	7529654	445	-58.8	259.4	100	16	1m @ 5.9 % Mn	E46/1069
BLVRC009	269692	7529678	449	-60	270	76	5	4m @ 14.5 % Mn	E46/1069
BLVRC010	269803	7529507	449	-66.9	264.1	124	31	10m @ 7.4 % Mn	E46/1069
BLVRC010	269803	7529507	449	-66.9	264.1	124	23	1m @ 5.2 % Mn	E46/1069
BLVRC011	269914	7529563	445	-60	180	154	26	10m @ 9.1 % Mn	E46/1069
BLVRC011	269914	7529563	445	-60	180	154	51	1m @ 5.3 % Mn	E46/1069
BLVRC012	270011	7529533	440	-60	180	100	15	9m @ 8.2 % Mn	E46/1069
BLVRC013	270096	7529561	438	-60	180	100	5	5m @ 4.8 % Mn	E46/1069
BLVRC013	270096	7529561	438	-60	180	100	15	2m @ 10.6 % Mn	E46/1069
BLVRC014	270217	7529498	422	-60	270	100	27	3m @ 4.2 % Mn	E46/1069
BLVRC014	270217	7529498	422	-60	270	100	39	1m @ 5.6 % Mn	E46/1069
BLVRC016	270100	7529435	424	-60	270	100	3	2m @ 9.2 % Mn	E46/1069
BLVRC019	269999	7529315	432	-60	0	82	5	10m @ 14.3 % Mn	E46/1069
BLVRC021	269782	7529428	434	-60	270	100	49	2m @ 14.0 % Mn	E46/1069
BLVRC022	269856	7529385	432	-60	0	52	26	**9m @ 14.3 % Mn**	E46/1069
BLVRC023	269856	7529376	432	-63.3	359.8	100	28	9m @ 9.4 % Mn	E46/1069
BLVRC024	269820	7529211	449	-60.2	94	76	22	**11m @ 9.7 % Mn**	E46/1069
BLVRC025	269824	7529091	441	-61	90.8	76	16	2m @ 16.7 % Mn	E46/1069
BLVRC025	269824	7529091	441	-61	90.8	76	20	1m @ 5.5 % Mn	E46/1069
BLVRC025	269824	7529091	441	-61	90.8	76	24	1m @ 5.1 % Mn	E46/1069
BLVRC025	269824	7529091	441	-60.5	87.2	76	30	5m @ 7.3 % Mn	E46/1069
BLVRC026	269793	7529145	442	-61.6	91.4	100	22	7m @ 13.7 % Mn	E46/1069
BLVRC026	269793	7529145	442	-60.9	95.9	100	37	3m @ 9.0 % Mn	E46/1069
BLVRC028	269783	7529750	441	-59.7	273.6	100	12	3m @ 22.6 % Mn	E46/1069
BLVRC028	269783	7529750	441	-59.7	273.6	100	24	**6m @ 17.8 % Mn**	E46/1069
BLVRC030	269974	7529801	439	-60	270	100	53	5m @ 5.1 % Mn	E46/1069
Note 5% Mn cut-off allowing 1m of internal dilution									

APPENDIX 3- Previous iron RC drill results from within the boundary of tenement E46/1069

Hole id	East (GDA94)	North (GDA94)	Rl	Dip	Azimuth	EOH (m)	From depth	Interval	Tenement
BLVRC004	269920	7530057	425	-63.5	269.1	100	27	**8m @ 57.6 % Fe**	E46/1069
BLVRC006	269811	7529680	445	-60	270	100	0	5m @ 53.4 % Fe	E46/1069
BLVRC007	269796	7529654	445	-60.2	266.1	100	6	5m @ 52.5 % Fe	E46/1069
BLVRC008	269741	7529562	455	-61.7	263.2	100	58	1m @ 59.0 % Fe	E46/1069
BLVRC009	269692	7529678	449	-61.5	263.1	76	0	5m @ 55.2 % Fe	E46/1069
BLVRC010	269803	7529507	449	-66.9	264.1	124	18	1m @ 52.5 % Fe	E46/1069
BLVRC010	269803	7529507	449	-66.9	264.1	124	36	2m @ 51.4 % Fe	E46/1069
BLVRC010	269803	7529507	449	-63.7	264.7	124	61	4m @ 58.3 % Fe	E46/1069
BLVRC012	270011	7529533	440	-60	180	100	14	4m @ 49.3 % Fe	E46/1069
BLVRC012	270011	7529533	440	-60	180	100	52	**9m @ 52.4 % Fe**	E46/1069
BLVRC013	270096	7529561	438	-60	180	100	21	1m @ 50.3 % Fe	E46/1069
BLVRC013	270096	7529561	438	-60	180	100	27	3m @ 57.0 % Fe	E46/1069
BLVRC013	270096	7529561	438	-60	180	100	53	1m @ 54.2 % Fe	E46/1069
BLVRC014	270217	7529498	422	-60	270	100	14	4m @ 55.4 % Fe	E46/1069
BLVRC014	270217	7529498	422	-60	270	100	34	15m @ 54.8 % Fe	E46/1069
BLVRC014	270217	7529498	422	-60	270	100	58	1m @ 57.2 % Fe	E46/1069
BLVRC016	270100	7529435	424	-66.9	273.4	100	1	1m @ 52.6 % Fe	E46/1069
BLVRC016	270100	7529435	424	-66.9	273.4	100	10	2m @ 52.7 % Fe	E46/1069
BLVRC017	269919	7529457	427	-63	273.6	100	14	1m @ 51.4 % Fe	E46/1069
BLVRC018	270000	7529384	430	-61.8	10.3	100	1	**13m @ 58.2 % Fe**	E46/1069
BLVRC018	270000	7529384	430	-60	0	100	28	5m @ 53.1 % Fe	E46/1069
BLVRC019	269999	7529315	432	-63.3	4.8	82	28	4m @ 57.0 % Fe	E46/1069
BLVRC019	269999	7529315	432	-64.7	4.1	82	38	1m @ 52.3 % Fe	E46/1069
BLVRC022	269856	7529385	432	-60	0	52	14	2m @ 54.8 % Fe	E46/1069
BLVRC022	269856	7529385	432	-60	0	52	22	2m @ 54.6 % Fe	E46/1069
BLVRC022	269856	7529385	432	-60	0	52	35	1m @ 50.4 % Fe	E46/1069
BLVRC024	269820	7529211	449	-60.2	94	76	17	**7m @ 56.5 % Fe**	E46/1069
BLVRC026	269793	7529145	442	-61.6	91.4	100	17	2m @ 57.8 % Fe	E46/1069
BLVRC027	269620	7529319	441	-60.9	268.2	100	3	1m @ 50.1 % Fe	E46/1069
BLVRC027	269620	7529319	441	-61	264.7	100	7	1m @ 50.7 % Fe	E46/1069
BLVRC028	269783	7529750	441	-59.7	273.6	100	3	1m @ 53.1 % Fe	E46/1069
BLVRC029	269853	7529827	433	-61.7	95.1	76	10	**19m @ 62.1 % Fe**	E46/1069
Note 50% Fe cut-off allowing 2m of internal dilution									

APPENDIX 4- JORC Table 1 for previous RC drill results

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 historic data is reported to the Western Australian Mines Department, and it is a condition of the license (under the Mining Act) that the Tenement holder report information in sufficient detail to enable subsequent parties to reliably use the information. • Historic reports have then been accessed from WAMEX and raw files retrieved and entered into a drill data base. • The information describes RC drilling and sampling. • In all cases industry standard methods of sample collection appropriate to the period were employed. • In many cases sampling methods are not reported in detail, however it is not expected that measures of representivity are material to the context in which historic results are reported and can be relied upon • The majority of the drilling reported was completed by Consolidated Minerals through old subsidiaries such as Valiant Consolidated Ltd and Pilbara Manganese Ltd which are considered a leader in the exploration and mining of manganese ores
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 referred to in the historic reports is Reverse Circulation (RC) • Where the drill diameter is not reported in the text, it is not considered material to the reader's understanding of the results given the context in which historic results are reported.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Historic reports of results refer to industry standard methods of sample collection appropriate to the period were employed. • In most cases measures relating to sample recovery are not reported, however these are not expected to materially affect the understanding of the historic results given the context in which they are reported. • Cavities encountered during drilling have been reported in the drill logs
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.*	• The historic drill results were downloaded and provided detailed drill logs and legends so the geology could be interpreted. • Where relevant to the understanding of the results reported, results of geological logging have been included in the text of the release.
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.*	• Unless stated otherwise it is assumed that industry standard methods appropriate to the period were used. This would involve collecting a large bulk sample from the cyclone and 2 smaller splits collected in calico bags for submission to the laboratory. • The majority of the drilling reported was completed by Consolidated Minerals which are considered a leader in the exploration and mining of manganese ores

Criteria	JORC Code explanation	Commentary
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.*	• Historic reports of results refer to industry standard assay procedures and methods used, appropriate to the period to which the data relate, and that this has resulted in appropriate levels of accuracy and precision in the data, especially in regard to the context in which the results have been reported. • The author has not been able to view original document or assay files but 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	• *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.*	• Unless otherwise stated, the reported intersections from historic drilling have been repeated from the original technical reports as referenced in the text, and where possible verified from accompanying raw data, although in all cases this was not possible. • No historic assay data has been adjusted.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Unless otherwise stated the accuracy and quality of location data for drill holes is assumed to be sufficient for the form and context in which the data has been reported. • Field validation of drill holes has been undertaken at Blue Valley and the drill collars were all located
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.*	• Where relevant and material to the understanding of the results these have included in the body of the release. • The results as presented are not intended to imply sufficient quality for the estimation of a Mineral Resources
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.*	• Where considered material to the understanding of the results reported, this information has been included in the body of the release.
Sample security	• *The measures taken to ensure sample security.*	• No information regarding sample security is reported, however given the Projects' locations this is not considered a high risk in the context in which the results are reported.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Other than internal review by Company geologists and in the preparation of the IGR (as part of the IPO), no audits have been completed. • Beyond that completed to date, further audits are not considered to be required given the context in which the historic data is reported, or the stage of the Projects development.

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 previous drill holes reported are located within the boundaries of the license E45/4958 and E46/1069. • Black Canyon has a farm-in and joint venture agreement with Carawine Resources Ltd (ASX:CWX), giving Black Canyon the right to earn an initial 51% interest and up to 75% in the Carawine Projects that includes E45/4958 and E46/1069 • The tenements from which the drill holes were completed were and continue to be subject to a native title Heritage Agreement with the Njamal and Palyku People and access

Criteria	JORC Code explanation	Commentary
		has been previously provided for drilling activities.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The exploration data reported was primarily gathered and validated by Valiant and Pilbara Manganese between 1996-1997 and 2010 for each Company respectively • The WAMEX ID's for Valiant are 50829 & 64433 • The WAMEX ID for Pilbara is A89318
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The geology and mineralisation is described in the body of the release
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.*	• Where selected anomalous drill hole intervals are included, they are included to provide information relating to the tenor of the mineralisation as reported by the previous explorers, based on the opinion of the author of the historic report. • They are not intended to represent an entire description of the mineralisation
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.*	• Only length (1m) weighted intervals are included in the text of this release. • Manganese intervals have been reported at 5% Mn cut off allowing 1 m of dilution (<5% Mn) • Iron intervals have been reported at 50% Mn cut off allowing 2 m of dilution (<5% Mn) • No metal equivalent values are used.
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').*	• Unless otherwise stated down hole widths are reported and noted in proximity to the result in the text of the release. • The historic explorers overtime utilised a number of drill dip angles and azimuths at various prospects and the author considers the drill direction and dips to be appropriate for early-stage evaluation of surface or modelled IP targets
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.*	• 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	• *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.*	• Information considered material to the reader's understanding of the Exploration Results has been reported. In the body of the text significant results have selectively reported to provide the reader with the potential tenor and widths of the mineralisation • APPENDIX 1- Previous RC drill results from within the boundary of tenement E45/4958 • APPENDIX 2- Previous manganese RC drill results from within the boundary of tenement E46/1069 • APPENDIX 3- Previous iron RC drill results from within the boundary of tenement E46/1069
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*	• All information considered material to the reader's understanding and context of the historic RC Exploration Results have been reported.

Criteria	JORC Code explanation	Commentary
	contaminating substances.	
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 to continue evaluating the prospects at the Braeseide and Blue Valley tenements that will involve more prospecting, geophysics and drilling